



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **TICTAC** Certificate Number **090010**  
 Sail Nr **JPN 6370** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1123.2</b>	<b>915.1</b>	<b>810.6</b>	<b>762.4</b>	<b>733.9</b>	<b>716.4</b>	<b>701.3</b>
52°	<b>722.5</b>	<b>603.9</b>	<b>552.1</b>	<b>523.2</b>	<b>511.0</b>	<b>504.3</b>	<b>498.4</b>
60°	<b>675.6</b>	<b>577.9</b>	<b>530.0</b>	<b>504.5</b>	<b>495.6</b>	<b>489.7</b>	<b>483.5</b>
75°	<b>640.0</b>	<b>559.1</b>	<b>512.3</b>	<b>492.5</b>	<b>475.2</b>	<b>464.8</b>	<b>454.8</b>
90°	<b>631.8</b>	<b>544.8</b>	<b>501.1</b>	<b>479.4</b>	<b>467.2</b>	<b>458.5</b>	<b>432.8</b>
110°	<b>654.5</b>	<b>560.4</b>	<b>510.5</b>	<b>485.6</b>	<b>458.8</b>	<b>435.7</b>	<b>412.6</b>
120°	<b>699.1</b>	<b>581.7</b>	<b>524.8</b>	<b>494.3</b>	<b>469.8</b>	<b>443.6</b>	<b>396.2</b>
135°	<b>807.9</b>	<b>642.1</b>	<b>563.9</b>	<b>516.2</b>	<b>491.0</b>	<b>467.3</b>	<b>419.3</b>
150°	<b>963.6</b>	<b>751.3</b>	<b>628.0</b>	<b>562.0</b>	<b>517.6</b>	<b>492.8</b>	<b>447.1</b>
Run VMG	<b>1112.7</b>	<b>867.5</b>	<b>724.0</b>	<b>631.9</b>	<b>573.1</b>	<b>529.6</b>	<b>481.5</b>

### Selected Courses

Windward / Leeward	<b>1137.7</b>	<b>905.7</b>	<b>779.4</b>	<b>706.5</b>	<b>661.0</b>	<b>630.1</b>	<b>598.4</b>
Circular Random	<b>917.6</b>	<b>737.8</b>	<b>640.8</b>	<b>584.0</b>	<b>548.5</b>	<b>524.9</b>	<b>494.1</b>
Ocean for PCS	<b>980.3</b>	<b>771.4</b>	<b>655.0</b>	<b>583.9</b>	<b>537.2</b>	<b>503.8</b>	<b>455.5</b>
Non Spinnaker	<b>990.4</b>	<b>788.7</b>	<b>678.3</b>	<b>612.6</b>	<b>571.4</b>	<b>544.4</b>	<b>511.5</b>

### 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>44.2°</b>	<b>42.9°</b>	<b>40.7°</b>	<b>38.8°</b>	<b>37.6°</b>	<b>37.0°</b>	<b>36.7°</b>
Beat VMG	<b>3.21</b>	<b>3.93</b>	<b>4.44</b>	<b>4.72</b>	<b>4.91</b>	<b>5.03</b>	<b>5.13</b>
52°	<b>4.98</b>	<b>5.96</b>	<b>6.52</b>	<b>6.88</b>	<b>7.04</b>	<b>7.14</b>	<b>7.22</b>
60°	<b>5.33</b>	<b>6.23</b>	<b>6.79</b>	<b>7.14</b>	<b>7.26</b>	<b>7.35</b>	<b>7.45</b>
75°	<b>5.62</b>	<b>6.44</b>	<b>7.03</b>	<b>7.31</b>	<b>7.58</b>	<b>7.75</b>	<b>7.92</b>
90°	<b>5.70</b>	<b>6.61</b>	<b>7.18</b>	<b>7.51</b>	<b>7.71</b>	<b>7.85</b>	<b>8.32</b>
110°	<b>5.50</b>	<b>6.42</b>	<b>7.05</b>	<b>7.41</b>	<b>7.85</b>	<b>8.26</b>	<b>8.73</b>
120°	<b>5.15</b>	<b>6.19</b>	<b>6.86</b>	<b>7.28</b>	<b>7.66</b>	<b>8.11</b>	<b>9.09</b>
135°	<b>4.46</b>	<b>5.61</b>	<b>6.38</b>	<b>6.97</b>	<b>7.33</b>	<b>7.70</b>	<b>8.59</b>
150°	<b>3.74</b>	<b>4.79</b>	<b>5.73</b>	<b>6.41</b>	<b>6.96</b>	<b>7.30</b>	<b>8.05</b>
Run VMG	<b>3.24</b>	<b>4.15</b>	<b>4.97</b>	<b>5.70</b>	<b>6.28</b>	<b>6.80</b>	<b>7.48</b>
Gybe Angles	<b>144.2°</b>	<b>147.7°</b>	<b>152.8°</b>	<b>163.5°</b>	<b>170.1°</b>	<b>171.8°</b>	<b>175.2°</b>



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## ORC Club Certificate Appendix

### BOAT

Name **ALBIREO 5** Certificate Number **090020**  
 Sail Nr **JPN 5175** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>898.5</b>	<b>742.0</b>	<b>674.5</b>	<b>638.1</b>	<b>616.1</b>	<b>602.7</b>	<b>594.4</b>
52°	<b>580.4</b>	<b>496.3</b>	<b>465.1</b>	<b>450.0</b>	<b>441.5</b>	<b>436.3</b>	<b>431.6</b>
60°	<b>545.6</b>	<b>474.9</b>	<b>448.5</b>	<b>436.5</b>	<b>428.6</b>	<b>423.0</b>	<b>417.6</b>
75°	<b>522.1</b>	<b>460.9</b>	<b>432.9</b>	<b>418.0</b>	<b>408.1</b>	<b>400.9</b>	<b>392.9</b>
90°	<b>526.5</b>	<b>461.1</b>	<b>428.6</b>	<b>412.4</b>	<b>393.0</b>	<b>382.8</b>	<b>370.2</b>
110°	<b>549.2</b>	<b>474.0</b>	<b>438.0</b>	<b>410.4</b>	<b>385.1</b>	<b>369.8</b>	<b>348.6</b>
120°	<b>585.7</b>	<b>495.7</b>	<b>451.1</b>	<b>424.4</b>	<b>396.8</b>	<b>369.1</b>	<b>331.5</b>
135°	<b>693.3</b>	<b>554.2</b>	<b>487.1</b>	<b>448.8</b>	<b>424.5</b>	<b>399.9</b>	<b>345.8</b>
150°	<b>839.5</b>	<b>658.6</b>	<b>553.3</b>	<b>491.9</b>	<b>453.6</b>	<b>429.5</b>	<b>384.1</b>
Run VMG	<b>969.4</b>	<b>760.4</b>	<b>638.9</b>	<b>562.1</b>	<b>507.2</b>	<b>467.7</b>	<b>419.8</b>

### Selected Courses

Windward / Leeward	<b>951.7</b>	<b>764.8</b>	<b>666.2</b>	<b>607.4</b>	<b>568.2</b>	<b>541.3</b>	<b>512.7</b>
Circular Random	<b>770.4</b>	<b>623.3</b>	<b>544.3</b>	<b>498.0</b>	<b>468.5</b>	<b>448.4</b>	<b>421.7</b>
Ocean for PCS	<b>824.3</b>	<b>652.4</b>	<b>556.7</b>	<b>497.8</b>	<b>458.3</b>	<b>429.7</b>	<b>388.1</b>
Non Spinnaker	<b>824.0</b>	<b>660.5</b>	<b>571.5</b>	<b>518.7</b>	<b>485.3</b>	<b>462.8</b>	<b>434.1</b>

### 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>44.1°</b>	<b>41.8°</b>	<b>38.8°</b>	<b>37.4°</b>	<b>36.4°</b>	<b>35.8°</b>	<b>35.8°</b>
Beat VMG	<b>4.01</b>	<b>4.85</b>	<b>5.34</b>	<b>5.64</b>	<b>5.84</b>	<b>5.97</b>	<b>6.06</b>
52°	<b>6.20</b>	<b>7.25</b>	<b>7.74</b>	<b>8.00</b>	<b>8.15</b>	<b>8.25</b>	<b>8.34</b>
60°	<b>6.60</b>	<b>7.58</b>	<b>8.03</b>	<b>8.25</b>	<b>8.40</b>	<b>8.51</b>	<b>8.62</b>
75°	<b>6.89</b>	<b>7.81</b>	<b>8.32</b>	<b>8.61</b>	<b>8.82</b>	<b>8.98</b>	<b>9.16</b>
90°	<b>6.84</b>	<b>7.81</b>	<b>8.40</b>	<b>8.73</b>	<b>9.16</b>	<b>9.40</b>	<b>9.73</b>
110°	<b>6.55</b>	<b>7.59</b>	<b>8.22</b>	<b>8.77</b>	<b>9.35</b>	<b>9.73</b>	<b>10.33</b>
120°	<b>6.15</b>	<b>7.26</b>	<b>7.98</b>	<b>8.48</b>	<b>9.07</b>	<b>9.75</b>	<b>10.86</b>
135°	<b>5.19</b>	<b>6.50</b>	<b>7.39</b>	<b>8.02</b>	<b>8.48</b>	<b>9.00</b>	<b>10.41</b>
150°	<b>4.29</b>	<b>5.47</b>	<b>6.51</b>	<b>7.32</b>	<b>7.94</b>	<b>8.38</b>	<b>9.37</b>
Run VMG	<b>3.71</b>	<b>4.73</b>	<b>5.63</b>	<b>6.40</b>	<b>7.10</b>	<b>7.70</b>	<b>8.57</b>
Gybe Angles	<b>140.7°</b>	<b>144.3°</b>	<b>150.1°</b>	<b>159.2°</b>	<b>166.0°</b>	<b>171.6°</b>	<b>173.9°</b>



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## ORC Club Certificate Appendix

### BOAT

Name **AZUSA** Certificate Number **090030**  
 Sail Nr **JPN 2221** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>966.2</b>	<b>791.4</b>	<b>720.8</b>	<b>683.2</b>	<b>660.5</b>	<b>646.7</b>	<b>635.9</b>
52°	<b>627.8</b>	<b>535.6</b>	<b>499.4</b>	<b>482.9</b>	<b>472.9</b>	<b>466.6</b>	<b>461.2</b>
60°	<b>591.3</b>	<b>515.6</b>	<b>481.0</b>	<b>466.6</b>	<b>457.1</b>	<b>450.7</b>	<b>444.7</b>
75°	<b>568.8</b>	<b>503.1</b>	<b>467.0</b>	<b>444.8</b>	<b>433.8</b>	<b>425.9</b>	<b>416.9</b>
90°	<b>572.0</b>	<b>495.4</b>	<b>456.4</b>	<b>437.9</b>	<b>421.5</b>	<b>405.0</b>	<b>390.1</b>
110°	<b>586.6</b>	<b>509.8</b>	<b>469.6</b>	<b>437.4</b>	<b>407.4</b>	<b>388.0</b>	<b>364.0</b>
120°	<b>626.6</b>	<b>531.7</b>	<b>484.2</b>	<b>452.4</b>	<b>422.1</b>	<b>389.0</b>	<b>342.5</b>
135°	<b>735.3</b>	<b>589.0</b>	<b>520.3</b>	<b>479.9</b>	<b>450.8</b>	<b>423.8</b>	<b>362.4</b>
150°	<b>883.2</b>	<b>697.4</b>	<b>584.0</b>	<b>522.2</b>	<b>483.3</b>	<b>455.1</b>	<b>404.0</b>
Run VMG	<b>1019.8</b>	<b>805.3</b>	<b>673.3</b>	<b>592.2</b>	<b>535.3</b>	<b>495.5</b>	<b>442.2</b>

### Selected Courses

Windward / Leeward	<b>1011.8</b>	<b>812.6</b>	<b>707.5</b>	<b>645.5</b>	<b>605.0</b>	<b>577.5</b>	<b>544.2</b>
Circular Random	<b>823.1</b>	<b>665.5</b>	<b>580.8</b>	<b>530.8</b>	<b>498.8</b>	<b>476.7</b>	<b>446.6</b>
Ocean for PCS	<b>879.3</b>	<b>695.8</b>	<b>593.5</b>	<b>530.3</b>	<b>487.7</b>	<b>456.3</b>	<b>410.4</b>
Non Spinnaker	<b>883.9</b>	<b>708.0</b>	<b>612.3</b>	<b>555.4</b>	<b>519.2</b>	<b>494.7</b>	<b>462.5</b>

### 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>42.9°</b>	<b>41.2°</b>	<b>38.4°</b>	<b>37.2°</b>	<b>36.2°</b>	<b>35.6°</b>	<b>35.3°</b>
Beat VMG	<b>3.73</b>	<b>4.55</b>	<b>4.99</b>	<b>5.27</b>	<b>5.45</b>	<b>5.57</b>	<b>5.66</b>
52°	<b>5.73</b>	<b>6.72</b>	<b>7.21</b>	<b>7.45</b>	<b>7.61</b>	<b>7.72</b>	<b>7.81</b>
60°	<b>6.09</b>	<b>6.98</b>	<b>7.48</b>	<b>7.71</b>	<b>7.88</b>	<b>7.99</b>	<b>8.09</b>
75°	<b>6.33</b>	<b>7.16</b>	<b>7.71</b>	<b>8.09</b>	<b>8.30</b>	<b>8.45</b>	<b>8.64</b>
90°	<b>6.29</b>	<b>7.27</b>	<b>7.89</b>	<b>8.22</b>	<b>8.54</b>	<b>8.89</b>	<b>9.23</b>
110°	<b>6.14</b>	<b>7.06</b>	<b>7.67</b>	<b>8.23</b>	<b>8.84</b>	<b>9.28</b>	<b>9.89</b>
120°	<b>5.75</b>	<b>6.77</b>	<b>7.43</b>	<b>7.96</b>	<b>8.53</b>	<b>9.25</b>	<b>10.51</b>
135°	<b>4.90</b>	<b>6.11</b>	<b>6.92</b>	<b>7.50</b>	<b>7.99</b>	<b>8.50</b>	<b>9.94</b>
150°	<b>4.08</b>	<b>5.16</b>	<b>6.16</b>	<b>6.89</b>	<b>7.45</b>	<b>7.91</b>	<b>8.91</b>
Run VMG	<b>3.53</b>	<b>4.47</b>	<b>5.35</b>	<b>6.08</b>	<b>6.73</b>	<b>7.27</b>	<b>8.14</b>
Gybe Angles	<b>142.1°</b>	<b>145.5°</b>	<b>152.2°</b>	<b>162.7°</b>	<b>168.7°</b>	<b>173.1°</b>	<b>173.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **G4** Certificate Number **090040**  
 Sail Nr **JPN 4010** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>979.1</b>	<b>806.4</b>	<b>722.7</b>	<b>682.3</b>	<b>658.2</b>	<b>643.3</b>	<b>631.7</b>
52°	<b>636.7</b>	<b>534.0</b>	<b>490.9</b>	<b>472.5</b>	<b>461.9</b>	<b>455.5</b>	<b>450.3</b>
60°	<b>594.8</b>	<b>511.9</b>	<b>471.8</b>	<b>455.4</b>	<b>446.3</b>	<b>440.4</b>	<b>435.0</b>
75°	<b>563.0</b>	<b>496.1</b>	<b>459.6</b>	<b>437.3</b>	<b>425.6</b>	<b>418.7</b>	<b>411.0</b>
90°	<b>567.6</b>	<b>488.5</b>	<b>449.6</b>	<b>430.4</b>	<b>421.1</b>	<b>404.6</b>	<b>391.3</b>
110°	<b>582.5</b>	<b>501.7</b>	<b>460.5</b>	<b>433.2</b>	<b>409.2</b>	<b>391.6</b>	<b>374.6</b>
120°	<b>624.0</b>	<b>522.7</b>	<b>474.2</b>	<b>444.6</b>	<b>420.2</b>	<b>397.1</b>	<b>359.0</b>
135°	<b>719.4</b>	<b>579.3</b>	<b>509.7</b>	<b>469.2</b>	<b>442.9</b>	<b>420.9</b>	<b>378.4</b>
150°	<b>862.0</b>	<b>683.7</b>	<b>572.8</b>	<b>511.6</b>	<b>472.7</b>	<b>446.8</b>	<b>405.9</b>
Run VMG	<b>995.3</b>	<b>789.4</b>	<b>661.4</b>	<b>580.2</b>	<b>525.4</b>	<b>485.9</b>	<b>437.0</b>

### Selected Courses

Windward / Leeward	<b>1006.3</b>	<b>810.4</b>	<b>702.8</b>	<b>639.3</b>	<b>598.7</b>	<b>571.0</b>	<b>540.1</b>
Circular Random	<b>816.7</b>	<b>659.5</b>	<b>574.9</b>	<b>525.3</b>	<b>494.2</b>	<b>473.4</b>	<b>447.0</b>
Ocean for PCS	<b>872.5</b>	<b>689.7</b>	<b>587.7</b>	<b>525.0</b>	<b>483.5</b>	<b>453.8</b>	<b>412.4</b>
Non Spinnaker	<b>876.9</b>	<b>701.8</b>	<b>606.1</b>	<b>549.2</b>	<b>513.3</b>	<b>489.6</b>	<b>460.2</b>

### 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>43.4°</b>	<b>43.7°</b>	<b>40.3°</b>	<b>38.6°</b>	<b>37.8°</b>	<b>37.3°</b>	<b>36.9°</b>
Beat VMG	<b>3.68</b>	<b>4.46</b>	<b>4.98</b>	<b>5.28</b>	<b>5.47</b>	<b>5.60</b>	<b>5.70</b>
52°	<b>5.65</b>	<b>6.74</b>	<b>7.33</b>	<b>7.62</b>	<b>7.79</b>	<b>7.90</b>	<b>8.00</b>
60°	<b>6.05</b>	<b>7.03</b>	<b>7.63</b>	<b>7.91</b>	<b>8.07</b>	<b>8.17</b>	<b>8.28</b>
75°	<b>6.39</b>	<b>7.26</b>	<b>7.83</b>	<b>8.23</b>	<b>8.46</b>	<b>8.60</b>	<b>8.76</b>
90°	<b>6.34</b>	<b>7.37</b>	<b>8.01</b>	<b>8.36</b>	<b>8.55</b>	<b>8.90</b>	<b>9.20</b>
110°	<b>6.18</b>	<b>7.18</b>	<b>7.82</b>	<b>8.31</b>	<b>8.80</b>	<b>9.19</b>	<b>9.61</b>
120°	<b>5.77</b>	<b>6.89</b>	<b>7.59</b>	<b>8.10</b>	<b>8.57</b>	<b>9.07</b>	<b>10.03</b>
135°	<b>5.00</b>	<b>6.21</b>	<b>7.06</b>	<b>7.67</b>	<b>8.13</b>	<b>8.55</b>	<b>9.51</b>
150°	<b>4.18</b>	<b>5.27</b>	<b>6.28</b>	<b>7.04</b>	<b>7.62</b>	<b>8.06</b>	<b>8.87</b>
Run VMG	<b>3.62</b>	<b>4.56</b>	<b>5.44</b>	<b>6.20</b>	<b>6.85</b>	<b>7.41</b>	<b>8.24</b>
Gybe Angles	<b>142.2°</b>	<b>147.7°</b>	<b>150.3°</b>	<b>161.7°</b>	<b>167.8°</b>	<b>172.1°</b>	<b>175.0°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>GEFION</b>	Certificate Number <b>090051</b>
Sail Nr <b>JPN 5955</b>	Issued On <b>4/17/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1121.9</b>	<b>906.2</b>	<b>810.8</b>	<b>764.7</b>	<b>736.9</b>	<b>719.5</b>	<b>703.4</b>
52°	<b>713.0</b>	<b>595.1</b>	<b>553.4</b>	<b>532.0</b>	<b>519.8</b>	<b>512.0</b>	<b>504.3</b>
60°	<b>659.8</b>	<b>571.7</b>	<b>534.9</b>	<b>513.4</b>	<b>502.7</b>	<b>495.9</b>	<b>488.6</b>
75°	<b>621.1</b>	<b>554.6</b>	<b>514.6</b>	<b>496.1</b>	<b>483.8</b>	<b>474.2</b>	<b>464.2</b>
90°	<b>607.1</b>	<b>540.0</b>	<b>505.1</b>	<b>483.9</b>	<b>468.9</b>	<b>460.8</b>	<b>446.3</b>
110°	<b>630.9</b>	<b>555.9</b>	<b>517.4</b>	<b>491.5</b>	<b>469.3</b>	<b>449.1</b>	<b>422.0</b>
120°	<b>682.4</b>	<b>574.9</b>	<b>530.9</b>	<b>501.9</b>	<b>480.0</b>	<b>457.8</b>	<b>421.1</b>
135°	<b>805.2</b>	<b>633.8</b>	<b>563.6</b>	<b>525.4</b>	<b>499.0</b>	<b>478.1</b>	<b>438.1</b>
150°	<b>964.4</b>	<b>747.9</b>	<b>621.1</b>	<b>562.0</b>	<b>526.1</b>	<b>500.6</b>	<b>460.6</b>
Run VMG	<b>1113.6</b>	<b>863.5</b>	<b>716.2</b>	<b>626.9</b>	<b>572.4</b>	<b>536.1</b>	<b>489.4</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1136.6</b>	<b>900.5</b>	<b>775.7</b>	<b>705.2</b>	<b>662.5</b>	<b>634.8</b>	<b>602.2</b>
Circular Random	<b>912.1</b>	<b>735.8</b>	<b>641.7</b>	<b>587.4</b>	<b>554.0</b>	<b>532.0</b>	<b>503.7</b>
Ocean for PCS	<b>976.8</b>	<b>770.4</b>	<b>656.4</b>	<b>587.7</b>	<b>543.2</b>	<b>511.9</b>	<b>468.2</b>
Non Spinnaker	<b>979.7</b>	<b>782.2</b>	<b>675.1</b>	<b>612.4</b>	<b>573.7</b>	<b>548.5</b>	<b>517.5</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>45.8°</b>	<b>44.6°</b>	<b>41.1°</b>	<b>38.9°</b>	<b>37.7°</b>	<b>36.9°</b>	<b>36.3°</b>
Beat VMG	<b>3.21</b>	<b>3.97</b>	<b>4.44</b>	<b>4.71</b>	<b>4.89</b>	<b>5.00</b>	<b>5.12</b>
52°	<b>5.05</b>	<b>6.05</b>	<b>6.51</b>	<b>6.77</b>	<b>6.93</b>	<b>7.03</b>	<b>7.14</b>
60°	<b>5.46</b>	<b>6.30</b>	<b>6.73</b>	<b>7.01</b>	<b>7.16</b>	<b>7.26</b>	<b>7.37</b>
75°	<b>5.80</b>	<b>6.49</b>	<b>7.00</b>	<b>7.26</b>	<b>7.44</b>	<b>7.59</b>	<b>7.76</b>
90°	<b>5.93</b>	<b>6.67</b>	<b>7.13</b>	<b>7.44</b>	<b>7.68</b>	<b>7.81</b>	<b>8.07</b>
110°	<b>5.71</b>	<b>6.48</b>	<b>6.96</b>	<b>7.32</b>	<b>7.67</b>	<b>8.02</b>	<b>8.53</b>
120°	<b>5.28</b>	<b>6.26</b>	<b>6.78</b>	<b>7.17</b>	<b>7.50</b>	<b>7.86</b>	<b>8.55</b>
135°	<b>4.47</b>	<b>5.68</b>	<b>6.39</b>	<b>6.85</b>	<b>7.21</b>	<b>7.53</b>	<b>8.22</b>
150°	<b>3.73</b>	<b>4.81</b>	<b>5.80</b>	<b>6.41</b>	<b>6.84</b>	<b>7.19</b>	<b>7.82</b>
Run VMG	<b>3.23</b>	<b>4.17</b>	<b>5.03</b>	<b>5.74</b>	<b>6.29</b>	<b>6.71</b>	<b>7.36</b>
Gybe Angles	<b>143.8°</b>	<b>146.9°</b>	<b>152.1°</b>	<b>165.1°</b>	<b>172.5°</b>	<b>174.6°</b>	<b>176.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>PICARO</b>	Certificate Number <b>090060</b>
Sail Nr <b>JPN 6161</b>	Issued On <b>2009/03/28</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>950.3</b>	<b>776.1</b>	<b>686.4</b>	<b>642.1</b>	<b>616.1</b>	<b>599.7</b>	<b>583.4</b>
52°	<b>603.5</b>	<b>498.1</b>	<b>462.0</b>	<b>443.9</b>	<b>432.5</b>	<b>425.2</b>	<b>417.5</b>
60°	<b>555.9</b>	<b>474.8</b>	<b>444.1</b>	<b>427.0</b>	<b>417.5</b>	<b>411.3</b>	<b>404.1</b>
75°	<b>514.9</b>	<b>458.9</b>	<b>430.5</b>	<b>412.3</b>	<b>400.6</b>	<b>393.4</b>	<b>384.2</b>
90°	<b>517.8</b>	<b>457.7</b>	<b>424.7</b>	<b>406.7</b>	<b>397.4</b>	<b>387.9</b>	<b>369.8</b>
110°	<b>543.8</b>	<b>464.7</b>	<b>431.6</b>	<b>409.4</b>	<b>392.5</b>	<b>377.5</b>	<b>360.0</b>
120°	<b>581.4</b>	<b>480.7</b>	<b>443.0</b>	<b>417.7</b>	<b>399.3</b>	<b>382.3</b>	<b>352.8</b>
135°	<b>678.1</b>	<b>539.3</b>	<b>471.6</b>	<b>439.4</b>	<b>416.6</b>	<b>399.6</b>	<b>367.2</b>
150°	<b>819.5</b>	<b>643.7</b>	<b>535.6</b>	<b>476.4</b>	<b>444.5</b>	<b>421.5</b>	<b>389.3</b>
Run VMG	<b>946.2</b>	<b>743.3</b>	<b>618.5</b>	<b>544.1</b>	<b>493.9</b>	<b>459.9</b>	<b>415.8</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>965.5</b>	<b>771.0</b>	<b>663.1</b>	<b>600.7</b>	<b>561.7</b>	<b>535.8</b>	<b>504.4</b>
Circular Random	<b>771.9</b>	<b>622.1</b>	<b>541.5</b>	<b>494.5</b>	<b>465.3</b>	<b>445.9</b>	<b>420.9</b>
Ocean for PCS	<b>827.1</b>	<b>651.8</b>	<b>554.2</b>	<b>494.8</b>	<b>455.9</b>	<b>428.4</b>	<b>389.3</b>
Non Spinnaker	<b>836.8</b>	<b>667.0</b>	<b>574.0</b>	<b>518.6</b>	<b>483.8</b>	<b>460.8</b>	<b>432.5</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>45.9°</b>	<b>46.4°</b>	<b>42.1°</b>	<b>39.5°</b>	<b>38.0°</b>	<b>37.0°</b>	<b>36.1°</b>
Beat VMG	<b>3.79</b>	<b>4.64</b>	<b>5.24</b>	<b>5.61</b>	<b>5.84</b>	<b>6.00</b>	<b>6.17</b>
52°	<b>5.97</b>	<b>7.23</b>	<b>7.79</b>	<b>8.11</b>	<b>8.32</b>	<b>8.47</b>	<b>8.62</b>
60°	<b>6.48</b>	<b>7.58</b>	<b>8.11</b>	<b>8.43</b>	<b>8.62</b>	<b>8.75</b>	<b>8.91</b>
75°	<b>6.99</b>	<b>7.85</b>	<b>8.36</b>	<b>8.73</b>	<b>8.99</b>	<b>9.15</b>	<b>9.37</b>
90°	<b>6.95</b>	<b>7.87</b>	<b>8.48</b>	<b>8.85</b>	<b>9.06</b>	<b>9.28</b>	<b>9.73</b>
110°	<b>6.62</b>	<b>7.75</b>	<b>8.34</b>	<b>8.79</b>	<b>9.17</b>	<b>9.54</b>	<b>10.00</b>
120°	<b>6.19</b>	<b>7.49</b>	<b>8.13</b>	<b>8.62</b>	<b>9.01</b>	<b>9.42</b>	<b>10.20</b>
135°	<b>5.31</b>	<b>6.68</b>	<b>7.63</b>	<b>8.19</b>	<b>8.64</b>	<b>9.01</b>	<b>9.80</b>
150°	<b>4.39</b>	<b>5.59</b>	<b>6.72</b>	<b>7.56</b>	<b>8.10</b>	<b>8.54</b>	<b>9.25</b>
Run VMG	<b>3.80</b>	<b>4.84</b>	<b>5.82</b>	<b>6.62</b>	<b>7.29</b>	<b>7.83</b>	<b>8.66</b>
Gybe Angles	<b>140.4°</b>	<b>144.8°</b>	<b>146.9°</b>	<b>156.6°</b>	<b>166.6°</b>	<b>171.8°</b>	<b>175.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **MATENROW** Certificate Number **090070**  
 Sail Nr **JPN 6012** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>993.8</b>	<b>812.3</b>	<b>736.0</b>	<b>697.9</b>	<b>675.5</b>	<b>662.5</b>	<b>653.6</b>
52°	<b>642.8</b>	<b>547.2</b>	<b>507.8</b>	<b>492.0</b>	<b>482.9</b>	<b>477.3</b>	<b>473.2</b>
60°	<b>605.6</b>	<b>527.2</b>	<b>489.9</b>	<b>476.3</b>	<b>467.5</b>	<b>461.6</b>	<b>456.8</b>
75°	<b>580.8</b>	<b>514.8</b>	<b>478.6</b>	<b>454.9</b>	<b>444.0</b>	<b>436.7</b>	<b>429.2</b>
90°	<b>579.6</b>	<b>503.8</b>	<b>465.9</b>	<b>449.1</b>	<b>433.9</b>	<b>416.9</b>	<b>404.3</b>
110°	<b>593.3</b>	<b>518.1</b>	<b>479.3</b>	<b>446.6</b>	<b>417.7</b>	<b>402.5</b>	<b>381.0</b>
120°	<b>629.1</b>	<b>538.1</b>	<b>492.7</b>	<b>462.6</b>	<b>431.7</b>	<b>399.6</b>	<b>361.5</b>
135°	<b>735.8</b>	<b>591.4</b>	<b>525.6</b>	<b>487.8</b>	<b>460.7</b>	<b>434.4</b>	<b>376.7</b>
150°	<b>888.1</b>	<b>692.6</b>	<b>585.5</b>	<b>526.7</b>	<b>490.4</b>	<b>464.4</b>	<b>416.1</b>
Run VMG	<b>1025.5</b>	<b>799.8</b>	<b>674.2</b>	<b>594.3</b>	<b>539.5</b>	<b>501.9</b>	<b>452.0</b>

### Selected Courses

Windward / Leeward	<b>1028.0</b>	<b>821.7</b>	<b>715.6</b>	<b>654.2</b>	<b>614.8</b>	<b>588.7</b>	<b>558.1</b>
Circular Random	<b>836.1</b>	<b>676.1</b>	<b>590.7</b>	<b>540.9</b>	<b>509.6</b>	<b>488.5</b>	<b>460.6</b>
Ocean for PCS	<b>893.4</b>	<b>707.0</b>	<b>603.7</b>	<b>540.6</b>	<b>498.7</b>	<b>468.2</b>	<b>424.3</b>
Non Spinnaker	<b>900.5</b>	<b>721.2</b>	<b>623.9</b>	<b>566.5</b>	<b>530.5</b>	<b>506.7</b>	<b>476.5</b>

### 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>44.4°</b>	<b>41.8°</b>	<b>39.2°</b>	<b>37.6°</b>	<b>36.7°</b>	<b>36.1°</b>	<b>35.8°</b>
Beat VMG	<b>3.62</b>	<b>4.43</b>	<b>4.89</b>	<b>5.16</b>	<b>5.33</b>	<b>5.43</b>	<b>5.51</b>
52°	<b>5.60</b>	<b>6.58</b>	<b>7.09</b>	<b>7.32</b>	<b>7.45</b>	<b>7.54</b>	<b>7.61</b>
60°	<b>5.94</b>	<b>6.83</b>	<b>7.35</b>	<b>7.56</b>	<b>7.70</b>	<b>7.80</b>	<b>7.88</b>
75°	<b>6.20</b>	<b>6.99</b>	<b>7.52</b>	<b>7.91</b>	<b>8.11</b>	<b>8.24</b>	<b>8.39</b>
90°	<b>6.21</b>	<b>7.15</b>	<b>7.73</b>	<b>8.02</b>	<b>8.30</b>	<b>8.63</b>	<b>8.90</b>
110°	<b>6.07</b>	<b>6.95</b>	<b>7.51</b>	<b>8.06</b>	<b>8.62</b>	<b>8.95</b>	<b>9.45</b>
120°	<b>5.72</b>	<b>6.69</b>	<b>7.31</b>	<b>7.78</b>	<b>8.34</b>	<b>9.01</b>	<b>9.96</b>
135°	<b>4.89</b>	<b>6.09</b>	<b>6.85</b>	<b>7.38</b>	<b>7.81</b>	<b>8.29</b>	<b>9.56</b>
150°	<b>4.05</b>	<b>5.20</b>	<b>6.15</b>	<b>6.84</b>	<b>7.34</b>	<b>7.75</b>	<b>8.65</b>
Run VMG	<b>3.51</b>	<b>4.50</b>	<b>5.34</b>	<b>6.06</b>	<b>6.67</b>	<b>7.17</b>	<b>7.96</b>
Gybe Angles	<b>141.9°</b>	<b>145.9°</b>	<b>153.4°</b>	<b>163.4°</b>	<b>169.8°</b>	<b>173.7°</b>	<b>174.0°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SAMOA** Certificate Number **090080**  
 Sail Nr **JPN 3055** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>991.2</b>	<b>815.4</b>	<b>746.1</b>	<b>709.5</b>	<b>687.7</b>	<b>674.7</b>	<b>665.9</b>
52°	<b>641.0</b>	<b>553.6</b>	<b>518.3</b>	<b>503.2</b>	<b>494.1</b>	<b>488.4</b>	<b>483.8</b>
60°	<b>606.5</b>	<b>534.3</b>	<b>500.7</b>	<b>487.4</b>	<b>478.3</b>	<b>472.1</b>	<b>466.6</b>
75°	<b>584.5</b>	<b>522.2</b>	<b>488.2</b>	<b>464.9</b>	<b>453.7</b>	<b>445.7</b>	<b>436.8</b>
90°	<b>590.1</b>	<b>517.0</b>	<b>478.8</b>	<b>456.6</b>	<b>441.0</b>	<b>423.6</b>	<b>408.7</b>
110°	<b>607.0</b>	<b>531.7</b>	<b>493.2</b>	<b>461.4</b>	<b>428.3</b>	<b>404.4</b>	<b>379.5</b>
120°	<b>646.5</b>	<b>552.9</b>	<b>506.5</b>	<b>475.9</b>	<b>445.3</b>	<b>411.3</b>	<b>355.8</b>
135°	<b>760.6</b>	<b>608.3</b>	<b>540.7</b>	<b>501.6</b>	<b>473.3</b>	<b>445.4</b>	<b>383.8</b>
150°	<b>915.0</b>	<b>716.0</b>	<b>601.3</b>	<b>540.8</b>	<b>503.4</b>	<b>476.3</b>	<b>423.6</b>
Run VMG	<b>1056.6</b>	<b>826.7</b>	<b>691.8</b>	<b>608.6</b>	<b>552.1</b>	<b>513.5</b>	<b>461.4</b>

### Selected Courses

Windward / Leeward	<b>1043.0</b>	<b>836.6</b>	<b>729.6</b>	<b>667.3</b>	<b>627.3</b>	<b>600.7</b>	<b>569.0</b>
Circular Random	<b>850.5</b>	<b>689.1</b>	<b>602.8</b>	<b>552.3</b>	<b>520.1</b>	<b>497.9</b>	<b>467.7</b>
Ocean for PCS	<b>908.7</b>	<b>720.5</b>	<b>616.0</b>	<b>551.9</b>	<b>508.9</b>	<b>477.3</b>	<b>430.9</b>
Non Spinnaker	<b>907.3</b>	<b>728.6</b>	<b>631.9</b>	<b>575.0</b>	<b>539.1</b>	<b>515.0</b>	<b>483.5</b>

### 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>43.8°</b>	<b>41.1°</b>	<b>38.6°</b>	<b>37.3°</b>	<b>36.3°</b>	<b>35.8°</b>	<b>35.7°</b>
Beat VMG	<b>3.63</b>	<b>4.41</b>	<b>4.83</b>	<b>5.07</b>	<b>5.23</b>	<b>5.34</b>	<b>5.41</b>
52°	<b>5.62</b>	<b>6.50</b>	<b>6.95</b>	<b>7.15</b>	<b>7.29</b>	<b>7.37</b>	<b>7.44</b>
60°	<b>5.94</b>	<b>6.74</b>	<b>7.19</b>	<b>7.39</b>	<b>7.53</b>	<b>7.63</b>	<b>7.72</b>
75°	<b>6.16</b>	<b>6.89</b>	<b>7.37</b>	<b>7.74</b>	<b>7.93</b>	<b>8.08</b>	<b>8.24</b>
90°	<b>6.10</b>	<b>6.96</b>	<b>7.52</b>	<b>7.89</b>	<b>8.16</b>	<b>8.50</b>	<b>8.81</b>
110°	<b>5.93</b>	<b>6.77</b>	<b>7.30</b>	<b>7.80</b>	<b>8.40</b>	<b>8.90</b>	<b>9.49</b>
120°	<b>5.57</b>	<b>6.51</b>	<b>7.11</b>	<b>7.56</b>	<b>8.08</b>	<b>8.75</b>	<b>10.12</b>
135°	<b>4.73</b>	<b>5.92</b>	<b>6.66</b>	<b>7.18</b>	<b>7.61</b>	<b>8.08</b>	<b>9.38</b>
150°	<b>3.93</b>	<b>5.03</b>	<b>5.99</b>	<b>6.66</b>	<b>7.15</b>	<b>7.56</b>	<b>8.50</b>
Run VMG	<b>3.41</b>	<b>4.35</b>	<b>5.20</b>	<b>5.92</b>	<b>6.52</b>	<b>7.01</b>	<b>7.80</b>
Gybe Angles	<b>142.2°</b>	<b>145.4°</b>	<b>153.7°</b>	<b>164.8°</b>	<b>170.7°</b>	<b>174.5°</b>	<b>174.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **GREAT PEOPLE** Certificate Number **090090**  
 Sail Nr **JPN 2677** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>998.7</b>	<b>821.9</b>	<b>749.0</b>	<b>710.3</b>	<b>687.8</b>	<b>674.7</b>	<b>666.1</b>
52°	<b>649.3</b>	<b>555.1</b>	<b>517.5</b>	<b>501.1</b>	<b>491.0</b>	<b>484.6</b>	<b>479.9</b>
60°	<b>614.0</b>	<b>535.2</b>	<b>498.6</b>	<b>483.4</b>	<b>473.5</b>	<b>467.1</b>	<b>461.7</b>
75°	<b>590.9</b>	<b>523.1</b>	<b>485.4</b>	<b>459.7</b>	<b>448.2</b>	<b>440.0</b>	<b>431.1</b>
90°	<b>590.9</b>	<b>513.8</b>	<b>472.2</b>	<b>451.2</b>	<b>436.7</b>	<b>416.7</b>	<b>401.1</b>
110°	<b>608.0</b>	<b>528.9</b>	<b>487.7</b>	<b>453.5</b>	<b>419.9</b>	<b>397.2</b>	<b>371.5</b>
120°	<b>647.3</b>	<b>550.2</b>	<b>502.9</b>	<b>469.1</b>	<b>437.2</b>	<b>401.3</b>	<b>346.3</b>
135°	<b>757.7</b>	<b>609.1</b>	<b>537.9</b>	<b>497.7</b>	<b>466.9</b>	<b>438.4</b>	<b>372.9</b>
150°	<b>909.4</b>	<b>715.3</b>	<b>601.7</b>	<b>538.4</b>	<b>500.0</b>	<b>470.4</b>	<b>416.4</b>
Run VMG	<b>1050.1</b>	<b>825.9</b>	<b>692.4</b>	<b>608.4</b>	<b>550.0</b>	<b>511.1</b>	<b>455.9</b>

### Selected Courses

Windward / Leeward	<b>1043.8</b>	<b>838.9</b>	<b>731.3</b>	<b>667.6</b>	<b>626.4</b>	<b>599.5</b>	<b>565.9</b>
Circular Random	<b>850.9</b>	<b>688.4</b>	<b>601.0</b>	<b>549.5</b>	<b>516.5</b>	<b>493.6</b>	<b>462.5</b>
Ocean for PCS	<b>908.8</b>	<b>719.5</b>	<b>614.0</b>	<b>548.8</b>	<b>504.6</b>	<b>472.0</b>	<b>423.9</b>
Non Spinnaker	<b>912.4</b>	<b>731.4</b>	<b>633.0</b>	<b>574.7</b>	<b>537.6</b>	<b>512.6</b>	<b>479.8</b>

### 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>43.2°</b>	<b>41.1°</b>	<b>39.1°</b>	<b>37.8°</b>	<b>36.7°</b>	<b>36.0°</b>	<b>35.7°</b>
Beat VMG	<b>3.60</b>	<b>4.38</b>	<b>4.81</b>	<b>5.07</b>	<b>5.23</b>	<b>5.34</b>	<b>5.40</b>
52°	<b>5.54</b>	<b>6.49</b>	<b>6.96</b>	<b>7.18</b>	<b>7.33</b>	<b>7.43</b>	<b>7.50</b>
60°	<b>5.86</b>	<b>6.73</b>	<b>7.22</b>	<b>7.45</b>	<b>7.60</b>	<b>7.71</b>	<b>7.80</b>
75°	<b>6.09</b>	<b>6.88</b>	<b>7.42</b>	<b>7.83</b>	<b>8.03</b>	<b>8.18</b>	<b>8.35</b>
90°	<b>6.09</b>	<b>7.01</b>	<b>7.62</b>	<b>7.98</b>	<b>8.24</b>	<b>8.64</b>	<b>8.97</b>
110°	<b>5.92</b>	<b>6.81</b>	<b>7.38</b>	<b>7.94</b>	<b>8.57</b>	<b>9.06</b>	<b>9.69</b>
120°	<b>5.56</b>	<b>6.54</b>	<b>7.16</b>	<b>7.67</b>	<b>8.23</b>	<b>8.97</b>	<b>10.39</b>
135°	<b>4.75</b>	<b>5.91</b>	<b>6.69</b>	<b>7.23</b>	<b>7.71</b>	<b>8.21</b>	<b>9.65</b>
150°	<b>3.96</b>	<b>5.03</b>	<b>5.98</b>	<b>6.69</b>	<b>7.20</b>	<b>7.65</b>	<b>8.64</b>
Run VMG	<b>3.43</b>	<b>4.36</b>	<b>5.20</b>	<b>5.92</b>	<b>6.55</b>	<b>7.04</b>	<b>7.90</b>
Gybe Angles	<b>142.6°</b>	<b>146.2°</b>	<b>153.9°</b>	<b>163.2°</b>	<b>170.3°</b>	<b>173.7°</b>	<b>173.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>NJORD</b>
Certificate Number	<b>090100</b>
Sail Nr	<b>JPN 6378</b>
Issued On	<b>2009/03/28</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1029.5</b>	<b>840.8</b>	<b>751.4</b>	<b>711.7</b>	<b>688.0</b>	<b>673.6</b>	<b>663.1</b>
52°	<b>665.9</b>	<b>560.1</b>	<b>514.9</b>	<b>495.6</b>	<b>485.4</b>	<b>479.4</b>	<b>474.5</b>
60°	<b>620.2</b>	<b>538.8</b>	<b>498.0</b>	<b>478.6</b>	<b>470.0</b>	<b>464.4</b>	<b>459.2</b>
75°	<b>588.1</b>	<b>523.3</b>	<b>486.2</b>	<b>464.5</b>	<b>449.0</b>	<b>441.9</b>	<b>434.0</b>
90°	<b>588.2</b>	<b>513.6</b>	<b>475.5</b>	<b>453.0</b>	<b>443.4</b>	<b>432.2</b>	<b>413.8</b>
110°	<b>605.8</b>	<b>527.3</b>	<b>487.0</b>	<b>461.0</b>	<b>436.3</b>	<b>415.0</b>	<b>395.7</b>
120°	<b>651.3</b>	<b>547.3</b>	<b>499.9</b>	<b>471.2</b>	<b>447.9</b>	<b>424.5</b>	<b>380.8</b>
135°	<b>754.8</b>	<b>601.2</b>	<b>533.5</b>	<b>493.9</b>	<b>468.6</b>	<b>447.1</b>	<b>405.6</b>
150°	<b>904.9</b>	<b>710.3</b>	<b>592.2</b>	<b>533.3</b>	<b>495.8</b>	<b>471.0</b>	<b>430.4</b>
Run VMG	<b>1044.9</b>	<b>820.1</b>	<b>683.1</b>	<b>599.3</b>	<b>545.1</b>	<b>506.9</b>	<b>460.2</b>
Selected Courses							
Windward / Leeward	<b>1056.1</b>	<b>843.8</b>	<b>729.1</b>	<b>664.0</b>	<b>623.8</b>	<b>596.9</b>	<b>567.6</b>
Circular Random	<b>855.0</b>	<b>690.4</b>	<b>602.2</b>	<b>551.0</b>	<b>519.3</b>	<b>498.3</b>	<b>471.6</b>
Ocean for PCS	<b>913.8</b>	<b>722.0</b>	<b>615.7</b>	<b>551.1</b>	<b>508.8</b>	<b>478.8</b>	<b>436.2</b>
Non Spinnaker	<b>918.6</b>	<b>734.5</b>	<b>634.4</b>	<b>575.4</b>	<b>538.8</b>	<b>514.9</b>	<b>485.8</b>

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>43.9°</b>	<b>43.5°</b>	<b>40.0°</b>	<b>38.3°</b>	<b>37.4°</b>	<b>36.9°</b>	<b>36.6°</b>
Beat VMG	<b>3.50</b>	<b>4.28</b>	<b>4.79</b>	<b>5.06</b>	<b>5.23</b>	<b>5.34</b>	<b>5.43</b>
52°	<b>5.41</b>	<b>6.43</b>	<b>6.99</b>	<b>7.26</b>	<b>7.42</b>	<b>7.51</b>	<b>7.59</b>
60°	<b>5.81</b>	<b>6.68</b>	<b>7.23</b>	<b>7.52</b>	<b>7.66</b>	<b>7.75</b>	<b>7.84</b>
75°	<b>6.12</b>	<b>6.88</b>	<b>7.40</b>	<b>7.75</b>	<b>8.02</b>	<b>8.15</b>	<b>8.30</b>
90°	<b>6.12</b>	<b>7.01</b>	<b>7.57</b>	<b>7.95</b>	<b>8.12</b>	<b>8.33</b>	<b>8.70</b>
110°	<b>5.94</b>	<b>6.83</b>	<b>7.39</b>	<b>7.81</b>	<b>8.25</b>	<b>8.68</b>	<b>9.10</b>
120°	<b>5.53</b>	<b>6.58</b>	<b>7.20</b>	<b>7.64</b>	<b>8.04</b>	<b>8.48</b>	<b>9.45</b>
135°	<b>4.77</b>	<b>5.99</b>	<b>6.75</b>	<b>7.29</b>	<b>7.68</b>	<b>8.05</b>	<b>8.87</b>
150°	<b>3.98</b>	<b>5.07</b>	<b>6.08</b>	<b>6.75</b>	<b>7.26</b>	<b>7.64</b>	<b>8.36</b>
Run VMG	<b>3.45</b>	<b>4.39</b>	<b>5.27</b>	<b>6.01</b>	<b>6.60</b>	<b>7.10</b>	<b>7.82</b>
Gybe Angles	<b>142.5°</b>	<b>147.4°</b>	<b>151.7°</b>	<b>164.3°</b>	<b>170.4°</b>	<b>173.6°</b>	<b>175.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **PASTIME 2** Certificate Number **090110**  
 Sail Nr **JPN 6293** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1091.5</b>	<b>890.0</b>	<b>804.6</b>	<b>767.7</b>	<b>746.0</b>	<b>733.4</b>	<b>726.4</b>
52°	<b>706.6</b>	<b>608.4</b>	<b>560.5</b>	<b>543.6</b>	<b>535.6</b>	<b>530.8</b>	<b>527.7</b>
60°	<b>665.7</b>	<b>588.2</b>	<b>545.6</b>	<b>529.1</b>	<b>521.1</b>	<b>515.5</b>	<b>511.0</b>
75°	<b>641.7</b>	<b>573.1</b>	<b>533.6</b>	<b>513.7</b>	<b>495.4</b>	<b>487.5</b>	<b>479.6</b>
90°	<b>635.4</b>	<b>559.2</b>	<b>524.5</b>	<b>497.5</b>	<b>486.3</b>	<b>471.9</b>	<b>452.4</b>
110°	<b>655.9</b>	<b>576.8</b>	<b>535.6</b>	<b>506.3</b>	<b>474.4</b>	<b>446.9</b>	<b>423.1</b>
120°	<b>699.0</b>	<b>598.4</b>	<b>546.8</b>	<b>518.7</b>	<b>487.8</b>	<b>457.0</b>	<b>400.7</b>
135°	<b>815.3</b>	<b>650.1</b>	<b>581.3</b>	<b>540.2</b>	<b>514.1</b>	<b>485.0</b>	<b>426.7</b>
150°	<b>975.8</b>	<b>756.9</b>	<b>637.3</b>	<b>577.4</b>	<b>539.7</b>	<b>514.6</b>	<b>461.0</b>
Run VMG	<b>1126.7</b>	<b>874.0</b>	<b>728.3</b>	<b>641.0</b>	<b>584.9</b>	<b>546.2</b>	<b>496.1</b>

### Selected Courses

Windward / Leeward	<b>1128.6</b>	<b>898.3</b>	<b>779.1</b>	<b>713.5</b>	<b>673.3</b>	<b>646.9</b>	<b>617.4</b>
Circular Random	<b>920.7</b>	<b>745.3</b>	<b>652.0</b>	<b>598.1</b>	<b>564.7</b>	<b>542.3</b>	<b>512.3</b>
Ocean for PCS	<b>983.0</b>	<b>778.7</b>	<b>666.3</b>	<b>598.4</b>	<b>553.8</b>	<b>521.6</b>	<b>474.5</b>
Non Spinnaker	<b>985.4</b>	<b>790.1</b>	<b>684.8</b>	<b>623.4</b>	<b>585.6</b>	<b>560.9</b>	<b>530.1</b>

### 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>43.8°</b>	<b>41.2°</b>	<b>38.4°</b>	<b>36.9°</b>	<b>36.2°</b>	<b>35.9°</b>	<b>35.9°</b>
Beat VMG	<b>3.30</b>	<b>4.05</b>	<b>4.47</b>	<b>4.69</b>	<b>4.83</b>	<b>4.91</b>	<b>4.96</b>
52°	<b>5.09</b>	<b>5.92</b>	<b>6.42</b>	<b>6.62</b>	<b>6.72</b>	<b>6.78</b>	<b>6.82</b>
60°	<b>5.41</b>	<b>6.12</b>	<b>6.60</b>	<b>6.80</b>	<b>6.91</b>	<b>6.98</b>	<b>7.04</b>
75°	<b>5.61</b>	<b>6.28</b>	<b>6.75</b>	<b>7.01</b>	<b>7.27</b>	<b>7.39</b>	<b>7.51</b>
90°	<b>5.67</b>	<b>6.44</b>	<b>6.86</b>	<b>7.24</b>	<b>7.40</b>	<b>7.63</b>	<b>7.96</b>
110°	<b>5.49</b>	<b>6.24</b>	<b>6.72</b>	<b>7.11</b>	<b>7.59</b>	<b>8.06</b>	<b>8.51</b>
120°	<b>5.15</b>	<b>6.02</b>	<b>6.58</b>	<b>6.94</b>	<b>7.38</b>	<b>7.88</b>	<b>8.99</b>
135°	<b>4.42</b>	<b>5.54</b>	<b>6.19</b>	<b>6.66</b>	<b>7.00</b>	<b>7.42</b>	<b>8.44</b>
150°	<b>3.69</b>	<b>4.76</b>	<b>5.65</b>	<b>6.23</b>	<b>6.67</b>	<b>7.00</b>	<b>7.81</b>
Run VMG	<b>3.20</b>	<b>4.12</b>	<b>4.94</b>	<b>5.62</b>	<b>6.16</b>	<b>6.59</b>	<b>7.26</b>
Gybe Angles	<b>143.9°</b>	<b>147.5°</b>	<b>157.2°</b>	<b>169.3°</b>	<b>172.6°</b>	<b>176.4°</b>	<b>175.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>FUJI 7</b>
Certificate Number	<b>090120</b>
Sail Nr	<b>JPN 2112</b>
Issued On	<b>2009/03/28</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>989.4</b>	<b>797.1</b>	<b>691.0</b>	<b>640.5</b>	<b>611.2</b>	<b>592.7</b>	<b>573.4</b>
52°	<b>627.1</b>	<b>508.1</b>	<b>462.2</b>	<b>441.4</b>	<b>429.3</b>	<b>421.4</b>	<b>412.9</b>
60°	<b>579.0</b>	<b>480.9</b>	<b>445.1</b>	<b>424.7</b>	<b>414.4</b>	<b>407.8</b>	<b>400.4</b>
75°	<b>540.6</b>	<b>463.5</b>	<b>430.5</b>	<b>411.6</b>	<b>398.5</b>	<b>391.3</b>	<b>383.1</b>
90°	<b>531.7</b>	<b>451.1</b>	<b>417.8</b>	<b>399.9</b>	<b>391.4</b>	<b>385.4</b>	<b>370.5</b>
110°	<b>544.0</b>	<b>461.1</b>	<b>427.2</b>	<b>404.3</b>	<b>387.5</b>	<b>372.8</b>	<b>355.7</b>
120°	<b>585.6</b>	<b>479.7</b>	<b>439.8</b>	<b>413.8</b>	<b>395.4</b>	<b>379.6</b>	<b>351.3</b>
135°	<b>694.6</b>	<b>549.2</b>	<b>472.9</b>	<b>437.9</b>	<b>413.7</b>	<b>396.2</b>	<b>365.7</b>
150°	<b>843.4</b>	<b>655.8</b>	<b>544.5</b>	<b>478.3</b>	<b>443.7</b>	<b>419.4</b>	<b>386.7</b>
Run VMG	<b>973.8</b>	<b>757.3</b>	<b>628.7</b>	<b>549.1</b>	<b>496.6</b>	<b>460.9</b>	<b>414.7</b>

Selected Courses							
Windward / Leeward	<b>997.9</b>	<b>788.2</b>	<b>670.7</b>	<b>602.7</b>	<b>560.6</b>	<b>532.7</b>	<b>498.8</b>
Circular Random	<b>788.1</b>	<b>630.1</b>	<b>544.5</b>	<b>494.4</b>	<b>463.3</b>	<b>442.9</b>	<b>417.1</b>
Ocean for PCS	<b>844.8</b>	<b>660.4</b>	<b>557.4</b>	<b>494.7</b>	<b>454.2</b>	<b>426.1</b>	<b>387.8</b>
Non Spinnaker	<b>867.3</b>	<b>685.5</b>	<b>584.9</b>	<b>524.5</b>	<b>486.3</b>	<b>461.1</b>	<b>430.4</b>

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>45.8°</b>	<b>45.1°</b>	<b>42.9°</b>	<b>39.9°</b>	<b>38.0°</b>	<b>36.9°</b>	<b>35.8°</b>
Beat VMG	<b>3.64</b>	<b>4.52</b>	<b>5.21</b>	<b>5.62</b>	<b>5.89</b>	<b>6.07</b>	<b>6.28</b>
52°	<b>5.74</b>	<b>7.09</b>	<b>7.79</b>	<b>8.16</b>	<b>8.39</b>	<b>8.54</b>	<b>8.72</b>
60°	<b>6.22</b>	<b>7.49</b>	<b>8.09</b>	<b>8.48</b>	<b>8.69</b>	<b>8.83</b>	<b>8.99</b>
75°	<b>6.66</b>	<b>7.77</b>	<b>8.36</b>	<b>8.75</b>	<b>9.03</b>	<b>9.20</b>	<b>9.40</b>
90°	<b>6.77</b>	<b>7.98</b>	<b>8.62</b>	<b>9.00</b>	<b>9.20</b>	<b>9.34</b>	<b>9.72</b>
110°	<b>6.62</b>	<b>7.81</b>	<b>8.43</b>	<b>8.90</b>	<b>9.29</b>	<b>9.66</b>	<b>10.12</b>
120°	<b>6.15</b>	<b>7.50</b>	<b>8.19</b>	<b>8.70</b>	<b>9.10</b>	<b>9.48</b>	<b>10.25</b>
135°	<b>5.18</b>	<b>6.56</b>	<b>7.61</b>	<b>8.22</b>	<b>8.70</b>	<b>9.09</b>	<b>9.85</b>
150°	<b>4.27</b>	<b>5.49</b>	<b>6.61</b>	<b>7.53</b>	<b>8.11</b>	<b>8.58</b>	<b>9.31</b>
Run VMG	<b>3.70</b>	<b>4.75</b>	<b>5.73</b>	<b>6.56</b>	<b>7.25</b>	<b>7.81</b>	<b>8.68</b>
Gybe Angles	<b>141.1°</b>	<b>144.0°</b>	<b>145.4°</b>	<b>154.2°</b>	<b>164.0°</b>	<b>169.5°</b>	<b>173.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **U.L.A.L.A** Certificate Number **090130**  
 Sail Nr **JPN 6426** Issued On **3/29/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1008.7</b>	<b>824.4</b>	<b>750.1</b>	<b>711.9</b>	<b>689.9</b>	<b>677.2</b>	<b>670.2</b>
52°	<b>654.0</b>	<b>558.4</b>	<b>519.7</b>	<b>503.2</b>	<b>492.9</b>	<b>486.6</b>	<b>482.2</b>
60°	<b>619.3</b>	<b>539.5</b>	<b>500.2</b>	<b>484.9</b>	<b>474.9</b>	<b>468.5</b>	<b>463.6</b>
75°	<b>596.8</b>	<b>528.9</b>	<b>487.2</b>	<b>460.0</b>	<b>448.8</b>	<b>441.0</b>	<b>433.0</b>
90°	<b>595.6</b>	<b>518.3</b>	<b>472.2</b>	<b>452.6</b>	<b>435.4</b>	<b>417.8</b>	<b>403.7</b>
110°	<b>613.3</b>	<b>535.4</b>	<b>492.8</b>	<b>455.1</b>	<b>418.5</b>	<b>399.3</b>	<b>374.6</b>
120°	<b>651.7</b>	<b>556.9</b>	<b>508.7</b>	<b>473.6</b>	<b>440.1</b>	<b>401.2</b>	<b>349.3</b>
135°	<b>765.2</b>	<b>613.9</b>	<b>544.3</b>	<b>503.3</b>	<b>471.6</b>	<b>443.1</b>	<b>378.5</b>
150°	<b>921.5</b>	<b>718.6</b>	<b>605.9</b>	<b>544.1</b>	<b>505.4</b>	<b>475.1</b>	<b>422.0</b>
Run VMG	<b>1064.0</b>	<b>829.8</b>	<b>696.2</b>	<b>612.5</b>	<b>555.0</b>	<b>516.2</b>	<b>460.4</b>

### Selected Courses

Windward / Leeward	<b>1055.1</b>	<b>843.1</b>	<b>733.9</b>	<b>670.6</b>	<b>630.0</b>	<b>603.3</b>	<b>570.4</b>
Circular Random	<b>858.0</b>	<b>693.2</b>	<b>604.6</b>	<b>552.5</b>	<b>519.3</b>	<b>496.6</b>	<b>466.1</b>
Ocean for PCS	<b>916.5</b>	<b>724.5</b>	<b>617.5</b>	<b>551.6</b>	<b>507.3</b>	<b>474.7</b>	<b>427.2</b>
Non Spinnaker	<b>919.6</b>	<b>736.6</b>	<b>637.1</b>	<b>578.1</b>	<b>540.8</b>	<b>515.7</b>	<b>482.8</b>

### 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>43.8°</b>	<b>41.0°</b>	<b>38.9°</b>	<b>37.4°</b>	<b>36.3°</b>	<b>35.8°</b>	<b>35.7°</b>
Beat VMG	<b>3.57</b>	<b>4.37</b>	<b>4.80</b>	<b>5.06</b>	<b>5.22</b>	<b>5.32</b>	<b>5.37</b>
52°	<b>5.50</b>	<b>6.45</b>	<b>6.93</b>	<b>7.15</b>	<b>7.30</b>	<b>7.40</b>	<b>7.47</b>
60°	<b>5.81</b>	<b>6.67</b>	<b>7.20</b>	<b>7.42</b>	<b>7.58</b>	<b>7.68</b>	<b>7.77</b>
75°	<b>6.03</b>	<b>6.81</b>	<b>7.39</b>	<b>7.83</b>	<b>8.02</b>	<b>8.16</b>	<b>8.31</b>
90°	<b>6.04</b>	<b>6.95</b>	<b>7.62</b>	<b>7.95</b>	<b>8.27</b>	<b>8.62</b>	<b>8.92</b>
110°	<b>5.87</b>	<b>6.72</b>	<b>7.31</b>	<b>7.91</b>	<b>8.60</b>	<b>9.02</b>	<b>9.61</b>
120°	<b>5.52</b>	<b>6.46</b>	<b>7.08</b>	<b>7.60</b>	<b>8.18</b>	<b>8.97</b>	<b>10.31</b>
135°	<b>4.70</b>	<b>5.86</b>	<b>6.61</b>	<b>7.15</b>	<b>7.63</b>	<b>8.13</b>	<b>9.51</b>
150°	<b>3.91</b>	<b>5.01</b>	<b>5.94</b>	<b>6.62</b>	<b>7.12</b>	<b>7.58</b>	<b>8.53</b>
Run VMG	<b>3.38</b>	<b>4.34</b>	<b>5.17</b>	<b>5.88</b>	<b>6.49</b>	<b>6.97</b>	<b>7.82</b>
Gybe Angles	<b>142.4°</b>	<b>146.1°</b>	<b>154.8°</b>	<b>164.8°</b>	<b>170.9°</b>	<b>173.7°</b>	<b>173.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **ZETA 12** Certificate Number **090140**  
 Sail Nr **JPN 6255** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>987.0</b>	<b>811.5</b>	<b>742.4</b>	<b>705.6</b>	<b>684.1</b>	<b>671.6</b>	<b>664.1</b>
52°	<b>639.9</b>	<b>550.2</b>	<b>515.5</b>	<b>499.8</b>	<b>490.1</b>	<b>484.0</b>	<b>479.6</b>
60°	<b>606.4</b>	<b>531.1</b>	<b>497.0</b>	<b>482.6</b>	<b>472.9</b>	<b>466.6</b>	<b>461.5</b>
75°	<b>584.2</b>	<b>519.4</b>	<b>482.5</b>	<b>458.5</b>	<b>447.3</b>	<b>439.1</b>	<b>430.3</b>
90°	<b>586.8</b>	<b>511.5</b>	<b>470.6</b>	<b>450.8</b>	<b>432.5</b>	<b>414.9</b>	<b>399.5</b>
110°	<b>602.8</b>	<b>526.5</b>	<b>486.1</b>	<b>451.2</b>	<b>416.5</b>	<b>395.4</b>	<b>369.0</b>
120°	<b>640.6</b>	<b>547.6</b>	<b>501.0</b>	<b>467.5</b>	<b>434.4</b>	<b>396.3</b>	<b>343.3</b>
135°	<b>753.8</b>	<b>604.8</b>	<b>535.9</b>	<b>496.2</b>	<b>465.4</b>	<b>435.9</b>	<b>366.8</b>
150°	<b>907.0</b>	<b>710.6</b>	<b>598.3</b>	<b>536.6</b>	<b>498.6</b>	<b>469.1</b>	<b>413.2</b>
Run VMG	<b>1047.3</b>	<b>820.6</b>	<b>688.4</b>	<b>605.7</b>	<b>548.3</b>	<b>509.6</b>	<b>454.2</b>

### Selected Courses

Windward / Leeward	<b>1036.2</b>	<b>831.6</b>	<b>725.8</b>	<b>663.8</b>	<b>623.6</b>	<b>597.1</b>	<b>564.2</b>
Circular Random	<b>844.8</b>	<b>683.8</b>	<b>597.6</b>	<b>546.7</b>	<b>514.1</b>	<b>491.4</b>	<b>460.2</b>
Ocean for PCS	<b>902.4</b>	<b>714.9</b>	<b>610.5</b>	<b>545.9</b>	<b>502.2</b>	<b>469.7</b>	<b>421.3</b>
Non Spinnaker	<b>905.0</b>	<b>726.0</b>	<b>628.9</b>	<b>571.4</b>	<b>534.9</b>	<b>510.2</b>	<b>477.4</b>

### 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>43.5°</b>	<b>40.8°</b>	<b>38.8°</b>	<b>37.3°</b>	<b>36.3°</b>	<b>35.8°</b>	<b>35.7°</b>
Beat VMG	<b>3.65</b>	<b>4.44</b>	<b>4.85</b>	<b>5.10</b>	<b>5.26</b>	<b>5.36</b>	<b>5.42</b>
52°	<b>5.63</b>	<b>6.54</b>	<b>6.98</b>	<b>7.20</b>	<b>7.35</b>	<b>7.44</b>	<b>7.51</b>
60°	<b>5.94</b>	<b>6.78</b>	<b>7.24</b>	<b>7.46</b>	<b>7.61</b>	<b>7.72</b>	<b>7.80</b>
75°	<b>6.16</b>	<b>6.93</b>	<b>7.46</b>	<b>7.85</b>	<b>8.05</b>	<b>8.20</b>	<b>8.37</b>
90°	<b>6.14</b>	<b>7.04</b>	<b>7.65</b>	<b>7.99</b>	<b>8.32</b>	<b>8.68</b>	<b>9.01</b>
110°	<b>5.97</b>	<b>6.84</b>	<b>7.41</b>	<b>7.98</b>	<b>8.64</b>	<b>9.10</b>	<b>9.76</b>
120°	<b>5.62</b>	<b>6.57</b>	<b>7.19</b>	<b>7.70</b>	<b>8.29</b>	<b>9.09</b>	<b>10.49</b>
135°	<b>4.78</b>	<b>5.95</b>	<b>6.72</b>	<b>7.26</b>	<b>7.74</b>	<b>8.26</b>	<b>9.81</b>
150°	<b>3.97</b>	<b>5.07</b>	<b>6.02</b>	<b>6.71</b>	<b>7.22</b>	<b>7.67</b>	<b>8.71</b>
Run VMG	<b>3.44</b>	<b>4.39</b>	<b>5.23</b>	<b>5.94</b>	<b>6.57</b>	<b>7.06</b>	<b>7.93</b>
Gybe Angles	<b>142.1°</b>	<b>145.0°</b>	<b>154.0°</b>	<b>163.7°</b>	<b>170.5°</b>	<b>174.0°</b>	<b>173.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>BASIC</b>
Sail Nr	<b>JPN 3387</b>
Certificate Number	<b>090151</b>
Issued On	<b>4/3/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>989.8</b>	<b>825.8</b>	<b>754.3</b>	<b>717.3</b>	<b>695.3</b>	<b>682.1</b>	<b>672.2</b>
52°	<b>646.6</b>	<b>559.1</b>	<b>522.9</b>	<b>508.0</b>	<b>499.3</b>	<b>493.9</b>	<b>489.2</b>
60°	<b>613.0</b>	<b>538.7</b>	<b>506.0</b>	<b>493.3</b>	<b>484.8</b>	<b>478.8</b>	<b>473.0</b>
75°	<b>588.9</b>	<b>524.9</b>	<b>493.9</b>	<b>473.3</b>	<b>461.5</b>	<b>453.8</b>	<b>445.3</b>
90°	<b>589.6</b>	<b>516.8</b>	<b>483.8</b>	<b>463.3</b>	<b>451.5</b>	<b>435.9</b>	<b>421.7</b>
110°	<b>606.4</b>	<b>530.8</b>	<b>494.5</b>	<b>464.7</b>	<b>437.5</b>	<b>418.0</b>	<b>396.3</b>
120°	<b>642.6</b>	<b>551.6</b>	<b>506.5</b>	<b>478.0</b>	<b>448.7</b>	<b>420.8</b>	<b>377.6</b>
135°	<b>747.9</b>	<b>606.7</b>	<b>539.1</b>	<b>501.8</b>	<b>475.1</b>	<b>448.3</b>	<b>393.7</b>
150°	<b>904.8</b>	<b>705.5</b>	<b>599.1</b>	<b>538.9</b>	<b>503.2</b>	<b>477.6</b>	<b>428.0</b>
Run VMG	<b>1044.7</b>	<b>814.6</b>	<b>688.8</b>	<b>605.7</b>	<b>549.7</b>	<b>512.2</b>	<b>462.6</b>

Selected Courses							
Windward / Leeward	<b>1037.0</b>	<b>835.9</b>	<b>731.7</b>	<b>669.9</b>	<b>630.0</b>	<b>603.8</b>	<b>572.7</b>
Circular Random	<b>850.0</b>	<b>690.5</b>	<b>605.7</b>	<b>556.4</b>	<b>525.4</b>	<b>504.3</b>	<b>476.0</b>
Ocean for PCS	<b>907.8</b>	<b>721.8</b>	<b>619.1</b>	<b>556.5</b>	<b>514.9</b>	<b>484.7</b>	<b>440.9</b>
Non Spinnaker	<b>906.7</b>	<b>729.9</b>	<b>634.6</b>	<b>578.6</b>	<b>543.6</b>	<b>520.2</b>	<b>490.3</b>

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>43.7°</b>	<b>41.0°</b>	<b>38.9°</b>	<b>37.3°</b>	<b>36.5°</b>	<b>35.9°</b>	<b>35.8°</b>
Beat VMG	<b>3.64</b>	<b>4.36</b>	<b>4.77</b>	<b>5.02</b>	<b>5.18</b>	<b>5.28</b>	<b>5.36</b>
52°	<b>5.57</b>	<b>6.44</b>	<b>6.88</b>	<b>7.09</b>	<b>7.21</b>	<b>7.29</b>	<b>7.36</b>
60°	<b>5.87</b>	<b>6.68</b>	<b>7.11</b>	<b>7.30</b>	<b>7.43</b>	<b>7.52</b>	<b>7.61</b>
75°	<b>6.11</b>	<b>6.86</b>	<b>7.29</b>	<b>7.61</b>	<b>7.80</b>	<b>7.93</b>	<b>8.08</b>
90°	<b>6.11</b>	<b>6.97</b>	<b>7.44</b>	<b>7.77</b>	<b>7.97</b>	<b>8.26</b>	<b>8.54</b>
110°	<b>5.94</b>	<b>6.78</b>	<b>7.28</b>	<b>7.75</b>	<b>8.23</b>	<b>8.61</b>	<b>9.08</b>
120°	<b>5.60</b>	<b>6.53</b>	<b>7.11</b>	<b>7.53</b>	<b>8.02</b>	<b>8.56</b>	<b>9.53</b>
135°	<b>4.81</b>	<b>5.93</b>	<b>6.68</b>	<b>7.17</b>	<b>7.58</b>	<b>8.03</b>	<b>9.14</b>
150°	<b>3.98</b>	<b>5.10</b>	<b>6.01</b>	<b>6.68</b>	<b>7.15</b>	<b>7.54</b>	<b>8.41</b>
Run VMG	<b>3.45</b>	<b>4.42</b>	<b>5.23</b>	<b>5.94</b>	<b>6.55</b>	<b>7.03</b>	<b>7.78</b>
Gybe Angles	<b>141.8°</b>	<b>147.4°</b>	<b>155.0°</b>	<b>164.8°</b>	<b>171.1°</b>	<b>175.2°</b>	<b>174.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>STARDUST</b>
Certificate Number	<b>090160</b>
Sail Nr	<b>JPN 6404</b>
Issued On	<b>2009/03/28</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1169.3</b>	<b>940.2</b>	<b>813.7</b>	<b>755.7</b>	<b>722.7</b>	<b>701.6</b>	<b>680.0</b>
52°	<b>746.0</b>	<b>602.9</b>	<b>550.1</b>	<b>523.4</b>	<b>508.0</b>	<b>498.5</b>	<b>488.5</b>
60°	<b>691.9</b>	<b>571.7</b>	<b>531.5</b>	<b>506.2</b>	<b>490.2</b>	<b>482.1</b>	<b>473.6</b>
75°	<b>650.2</b>	<b>551.9</b>	<b>513.6</b>	<b>490.7</b>	<b>475.8</b>	<b>464.5</b>	<b>452.6</b>
90°	<b>630.7</b>	<b>537.5</b>	<b>500.2</b>	<b>477.8</b>	<b>465.2</b>	<b>458.9</b>	<b>442.5</b>
110°	<b>655.7</b>	<b>549.2</b>	<b>508.7</b>	<b>481.5</b>	<b>463.0</b>	<b>446.5</b>	<b>424.5</b>
120°	<b>702.0</b>	<b>568.7</b>	<b>520.9</b>	<b>489.7</b>	<b>468.8</b>	<b>451.1</b>	<b>419.2</b>
135°	<b>812.3</b>	<b>637.9</b>	<b>551.8</b>	<b>513.3</b>	<b>485.8</b>	<b>466.6</b>	<b>431.3</b>
150°	<b>971.2</b>	<b>751.5</b>	<b>620.7</b>	<b>550.9</b>	<b>514.7</b>	<b>488.0</b>	<b>452.0</b>
Run VMG	<b>1121.4</b>	<b>867.8</b>	<b>716.7</b>	<b>621.4</b>	<b>563.3</b>	<b>526.3</b>	<b>478.1</b>

Selected Courses							
Windward / Leeward	<b>1163.9</b>	<b>916.6</b>	<b>777.9</b>	<b>698.3</b>	<b>650.9</b>	<b>620.8</b>	<b>584.4</b>
Circular Random	<b>927.1</b>	<b>740.6</b>	<b>639.9</b>	<b>581.3</b>	<b>545.4</b>	<b>522.0</b>	<b>492.8</b>
Ocean for PCS	<b>991.2</b>	<b>774.9</b>	<b>654.5</b>	<b>581.8</b>	<b>535.3</b>	<b>503.3</b>	<b>460.0</b>
Non Spinnaker	<b>1011.2</b>	<b>799.0</b>	<b>682.1</b>	<b>612.6</b>	<b>569.2</b>	<b>541.1</b>	<b>506.9</b>

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>44.9°</b>	<b>44.0°</b>	<b>42.4°</b>	<b>39.7°</b>	<b>38.0°</b>	<b>36.9°</b>	<b>35.8°</b>
Beat VMG	<b>3.08</b>	<b>3.83</b>	<b>4.42</b>	<b>4.76</b>	<b>4.98</b>	<b>5.13</b>	<b>5.29</b>
52°	<b>4.83</b>	<b>5.97</b>	<b>6.54</b>	<b>6.88</b>	<b>7.09</b>	<b>7.22</b>	<b>7.37</b>
60°	<b>5.20</b>	<b>6.30</b>	<b>6.77</b>	<b>7.11</b>	<b>7.34</b>	<b>7.47</b>	<b>7.60</b>
75°	<b>5.54</b>	<b>6.52</b>	<b>7.01</b>	<b>7.34</b>	<b>7.57</b>	<b>7.75</b>	<b>7.95</b>
90°	<b>5.71</b>	<b>6.70</b>	<b>7.20</b>	<b>7.54</b>	<b>7.74</b>	<b>7.84</b>	<b>8.14</b>
110°	<b>5.49</b>	<b>6.55</b>	<b>7.08</b>	<b>7.48</b>	<b>7.78</b>	<b>8.06</b>	<b>8.48</b>
120°	<b>5.13</b>	<b>6.33</b>	<b>6.91</b>	<b>7.35</b>	<b>7.68</b>	<b>7.98</b>	<b>8.59</b>
135°	<b>4.43</b>	<b>5.64</b>	<b>6.52</b>	<b>7.01</b>	<b>7.41</b>	<b>7.72</b>	<b>8.35</b>
150°	<b>3.71</b>	<b>4.79</b>	<b>5.80</b>	<b>6.53</b>	<b>6.99</b>	<b>7.38</b>	<b>7.96</b>
Run VMG	<b>3.21</b>	<b>4.15</b>	<b>5.02</b>	<b>5.79</b>	<b>6.39</b>	<b>6.84</b>	<b>7.53</b>
Gybe Angles	<b>143.4°</b>	<b>146.8°</b>	<b>148.7°</b>	<b>160.8°</b>	<b>170.5°</b>	<b>173.8°</b>	<b>176.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **ODIN** Certificate Number **090171**  
 Sail Nr **JPN 6229** Issued On **4/3/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>976.3</b>	<b>808.6</b>	<b>735.5</b>	<b>695.1</b>	<b>671.4</b>	<b>657.4</b>	<b>647.0</b>
52°	<b>633.2</b>	<b>541.1</b>	<b>503.3</b>	<b>486.2</b>	<b>475.5</b>	<b>468.7</b>	<b>463.2</b>
60°	<b>597.6</b>	<b>519.6</b>	<b>483.7</b>	<b>468.1</b>	<b>457.8</b>	<b>451.1</b>	<b>445.1</b>
75°	<b>572.5</b>	<b>506.0</b>	<b>469.1</b>	<b>444.2</b>	<b>433.0</b>	<b>425.0</b>	<b>416.0</b>
90°	<b>577.3</b>	<b>499.6</b>	<b>458.5</b>	<b>436.8</b>	<b>421.2</b>	<b>403.2</b>	<b>388.4</b>
110°	<b>592.0</b>	<b>513.7</b>	<b>473.0</b>	<b>439.5</b>	<b>408.4</b>	<b>386.4</b>	<b>362.6</b>
120°	<b>628.2</b>	<b>534.6</b>	<b>488.2</b>	<b>454.9</b>	<b>424.2</b>	<b>391.8</b>	<b>339.4</b>
135°	<b>733.7</b>	<b>592.7</b>	<b>522.9</b>	<b>483.4</b>	<b>453.3</b>	<b>426.3</b>	<b>366.8</b>
150°	<b>883.7</b>	<b>694.5</b>	<b>587.0</b>	<b>524.4</b>	<b>486.6</b>	<b>457.5</b>	<b>407.2</b>
Run VMG	<b>1020.4</b>	<b>801.9</b>	<b>676.0</b>	<b>594.6</b>	<b>537.1</b>	<b>498.6</b>	<b>444.5</b>

### Selected Courses

Windward / Leeward	<b>1017.7</b>	<b>819.9</b>	<b>715.7</b>	<b>652.9</b>	<b>611.6</b>	<b>584.4</b>	<b>550.6</b>
Circular Random	<b>828.8</b>	<b>670.5</b>	<b>585.3</b>	<b>534.8</b>	<b>502.4</b>	<b>480.0</b>	<b>449.6</b>
Ocean for PCS	<b>885.4</b>	<b>701.0</b>	<b>597.9</b>	<b>533.9</b>	<b>490.5</b>	<b>458.5</b>	<b>411.7</b>
Non Spinnaker	<b>885.5</b>	<b>710.5</b>	<b>615.1</b>	<b>558.3</b>	<b>522.0</b>	<b>497.5</b>	<b>465.2</b>

### 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>43.8°</b>	<b>41.6°</b>	<b>40.0°</b>	<b>38.5°</b>	<b>37.3°</b>	<b>36.6°</b>	<b>36.1°</b>
Beat VMG	<b>3.69</b>	<b>4.45</b>	<b>4.89</b>	<b>5.18</b>	<b>5.36</b>	<b>5.48</b>	<b>5.56</b>
52°	<b>5.69</b>	<b>6.65</b>	<b>7.15</b>	<b>7.40</b>	<b>7.57</b>	<b>7.68</b>	<b>7.77</b>
60°	<b>6.02</b>	<b>6.93</b>	<b>7.44</b>	<b>7.69</b>	<b>7.86</b>	<b>7.98</b>	<b>8.09</b>
75°	<b>6.29</b>	<b>7.12</b>	<b>7.67</b>	<b>8.10</b>	<b>8.32</b>	<b>8.47</b>	<b>8.65</b>
90°	<b>6.24</b>	<b>7.21</b>	<b>7.85</b>	<b>8.24</b>	<b>8.55</b>	<b>8.93</b>	<b>9.27</b>
110°	<b>6.08</b>	<b>7.01</b>	<b>7.61</b>	<b>8.19</b>	<b>8.81</b>	<b>9.32</b>	<b>9.93</b>
120°	<b>5.73</b>	<b>6.73</b>	<b>7.37</b>	<b>7.91</b>	<b>8.49</b>	<b>9.19</b>	<b>10.61</b>
135°	<b>4.91</b>	<b>6.07</b>	<b>6.88</b>	<b>7.45</b>	<b>7.94</b>	<b>8.44</b>	<b>9.81</b>
150°	<b>4.07</b>	<b>5.18</b>	<b>6.13</b>	<b>6.86</b>	<b>7.40</b>	<b>7.87</b>	<b>8.84</b>
Run VMG	<b>3.53</b>	<b>4.49</b>	<b>5.33</b>	<b>6.05</b>	<b>6.70</b>	<b>7.22</b>	<b>8.10</b>
Gybe Angles	<b>141.9°</b>	<b>146.2°</b>	<b>153.5°</b>	<b>162.0°</b>	<b>169.4°</b>	<b>173.3°</b>	<b>173.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>LADY LAHAINA</b>
Certificate Number	<b>090181</b>
Sail Nr	<b>JPN 6184</b>
Issued On	<b>4/3/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>986.4</b>	<b>812.4</b>	<b>735.9</b>	<b>695.6</b>	<b>671.5</b>	<b>657.1</b>	<b>645.5</b>
52°	<b>639.5</b>	<b>545.7</b>	<b>504.9</b>	<b>487.8</b>	<b>477.1</b>	<b>470.2</b>	<b>464.0</b>
60°	<b>602.9</b>	<b>524.6</b>	<b>486.9</b>	<b>470.3</b>	<b>460.0</b>	<b>453.1</b>	<b>446.4</b>
75°	<b>577.9</b>	<b>511.3</b>	<b>474.9</b>	<b>448.9</b>	<b>435.7</b>	<b>427.5</b>	<b>417.9</b>
90°	<b>578.8</b>	<b>502.4</b>	<b>462.3</b>	<b>439.7</b>	<b>429.0</b>	<b>408.4</b>	<b>391.3</b>
110°	<b>593.6</b>	<b>516.4</b>	<b>476.7</b>	<b>444.5</b>	<b>414.2</b>	<b>390.5</b>	<b>367.2</b>
120°	<b>630.5</b>	<b>537.2</b>	<b>491.1</b>	<b>459.3</b>	<b>429.8</b>	<b>398.5</b>	<b>345.0</b>
135°	<b>737.3</b>	<b>594.1</b>	<b>525.3</b>	<b>486.3</b>	<b>457.4</b>	<b>431.3</b>	<b>374.7</b>
150°	<b>888.1</b>	<b>696.9</b>	<b>588.2</b>	<b>526.5</b>	<b>489.1</b>	<b>461.1</b>	<b>412.4</b>
Run VMG	<b>1025.5</b>	<b>804.7</b>	<b>677.4</b>	<b>595.9</b>	<b>538.9</b>	<b>500.6</b>	<b>448.2</b>

Selected Courses							
Windward / Leeward	<b>1024.9</b>	<b>823.2</b>	<b>716.9</b>	<b>653.8</b>	<b>612.6</b>	<b>585.3</b>	<b>551.8</b>
Circular Random	<b>833.7</b>	<b>674.1</b>	<b>588.3</b>	<b>537.5</b>	<b>505.1</b>	<b>482.6</b>	<b>452.3</b>
Ocean for PCS	<b>890.7</b>	<b>704.8</b>	<b>601.1</b>	<b>536.9</b>	<b>493.6</b>	<b>461.7</b>	<b>415.2</b>
Non Spinnaker	<b>894.0</b>	<b>716.4</b>	<b>619.6</b>	<b>562.0</b>	<b>525.4</b>	<b>500.7</b>	<b>468.6</b>

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>43.8°</b>	<b>41.6°</b>	<b>39.7°</b>	<b>38.2°</b>	<b>37.1°</b>	<b>36.4°</b>	<b>35.9°</b>
Beat VMG	<b>3.65</b>	<b>4.43</b>	<b>4.89</b>	<b>5.18</b>	<b>5.36</b>	<b>5.48</b>	<b>5.58</b>
52°	<b>5.63</b>	<b>6.60</b>	<b>7.13</b>	<b>7.38</b>	<b>7.55</b>	<b>7.66</b>	<b>7.76</b>
60°	<b>5.97</b>	<b>6.86</b>	<b>7.39</b>	<b>7.66</b>	<b>7.83</b>	<b>7.95</b>	<b>8.06</b>
75°	<b>6.23</b>	<b>7.04</b>	<b>7.58</b>	<b>8.02</b>	<b>8.26</b>	<b>8.42</b>	<b>8.61</b>
90°	<b>6.22</b>	<b>7.17</b>	<b>7.79</b>	<b>8.19</b>	<b>8.39</b>	<b>8.81</b>	<b>9.20</b>
110°	<b>6.06</b>	<b>6.97</b>	<b>7.55</b>	<b>8.10</b>	<b>8.69</b>	<b>9.22</b>	<b>9.80</b>
120°	<b>5.71</b>	<b>6.70</b>	<b>7.33</b>	<b>7.84</b>	<b>8.38</b>	<b>9.03</b>	<b>10.44</b>
135°	<b>4.88</b>	<b>6.06</b>	<b>6.85</b>	<b>7.40</b>	<b>7.87</b>	<b>8.35</b>	<b>9.61</b>
150°	<b>4.05</b>	<b>5.17</b>	<b>6.12</b>	<b>6.84</b>	<b>7.36</b>	<b>7.81</b>	<b>8.73</b>
Run VMG	<b>3.51</b>	<b>4.47</b>	<b>5.31</b>	<b>6.04</b>	<b>6.68</b>	<b>7.19</b>	<b>8.03</b>
Gybe Angles	<b>142.0°</b>	<b>146.1°</b>	<b>153.4°</b>	<b>162.8°</b>	<b>169.7°</b>	<b>173.6°</b>	<b>174.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **MIO II** Certificate Number **090190**  
 Sail Nr **JPN 4469** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1159.1</b>	<b>944.1</b>	<b>844.2</b>	<b>798.8</b>	<b>771.5</b>	<b>754.3</b>	<b>738.8</b>
52°	<b>747.7</b>	<b>627.0</b>	<b>584.3</b>	<b>558.3</b>	<b>545.3</b>	<b>537.3</b>	<b>529.6</b>
60°	<b>693.4</b>	<b>604.6</b>	<b>565.7</b>	<b>539.5</b>	<b>527.3</b>	<b>520.5</b>	<b>513.0</b>
75°	<b>653.4</b>	<b>587.9</b>	<b>548.5</b>	<b>523.3</b>	<b>509.5</b>	<b>496.5</b>	<b>485.6</b>
90°	<b>651.0</b>	<b>578.9</b>	<b>539.4</b>	<b>515.0</b>	<b>495.0</b>	<b>483.7</b>	<b>467.2</b>
110°	<b>684.2</b>	<b>595.0</b>	<b>552.0</b>	<b>523.7</b>	<b>501.5</b>	<b>478.7</b>	<b>442.8</b>
120°	<b>739.6</b>	<b>614.1</b>	<b>566.3</b>	<b>533.1</b>	<b>510.5</b>	<b>488.1</b>	<b>446.7</b>
135°	<b>851.1</b>	<b>673.7</b>	<b>598.7</b>	<b>557.6</b>	<b>528.8</b>	<b>507.6</b>	<b>466.1</b>
150°	<b>1012.1</b>	<b>788.8</b>	<b>653.9</b>	<b>594.1</b>	<b>555.8</b>	<b>528.6</b>	<b>487.4</b>
Run VMG	<b>1168.7</b>	<b>910.6</b>	<b>752.7</b>	<b>654.8</b>	<b>600.1</b>	<b>562.6</b>	<b>514.4</b>

### Selected Courses

Windward / Leeward	<b>1184.4</b>	<b>942.4</b>	<b>811.3</b>	<b>737.2</b>	<b>693.8</b>	<b>665.7</b>	<b>633.1</b>
Circular Random	<b>959.4</b>	<b>774.6</b>	<b>675.9</b>	<b>618.7</b>	<b>583.4</b>	<b>560.1</b>	<b>529.9</b>
Ocean for PCS	<b>1025.1</b>	<b>809.8</b>	<b>690.7</b>	<b>618.7</b>	<b>571.8</b>	<b>538.8</b>	<b>492.5</b>
Non Spinnaker	<b>1017.7</b>	<b>814.8</b>	<b>705.0</b>	<b>640.8</b>	<b>601.2</b>	<b>575.4</b>	<b>543.3</b>

### 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>44.0°</b>	<b>44.0°</b>	<b>40.2°</b>	<b>38.0°</b>	<b>36.9°</b>	<b>36.1°</b>	<b>35.8°</b>
Beat VMG	<b>3.11</b>	<b>3.81</b>	<b>4.26</b>	<b>4.51</b>	<b>4.67</b>	<b>4.77</b>	<b>4.87</b>
52°	<b>4.82</b>	<b>5.74</b>	<b>6.16</b>	<b>6.45</b>	<b>6.60</b>	<b>6.70</b>	<b>6.80</b>
60°	<b>5.19</b>	<b>5.95</b>	<b>6.36</b>	<b>6.67</b>	<b>6.83</b>	<b>6.92</b>	<b>7.02</b>
75°	<b>5.51</b>	<b>6.12</b>	<b>6.56</b>	<b>6.88</b>	<b>7.07</b>	<b>7.25</b>	<b>7.41</b>
90°	<b>5.53</b>	<b>6.22</b>	<b>6.67</b>	<b>6.99</b>	<b>7.27</b>	<b>7.44</b>	<b>7.71</b>
110°	<b>5.26</b>	<b>6.05</b>	<b>6.52</b>	<b>6.87</b>	<b>7.18</b>	<b>7.52</b>	<b>8.13</b>
120°	<b>4.87</b>	<b>5.86</b>	<b>6.36</b>	<b>6.75</b>	<b>7.05</b>	<b>7.37</b>	<b>8.06</b>
135°	<b>4.23</b>	<b>5.34</b>	<b>6.01</b>	<b>6.46</b>	<b>6.81</b>	<b>7.09</b>	<b>7.72</b>
150°	<b>3.56</b>	<b>4.56</b>	<b>5.51</b>	<b>6.06</b>	<b>6.48</b>	<b>6.81</b>	<b>7.39</b>
Run VMG	<b>3.08</b>	<b>3.95</b>	<b>4.78</b>	<b>5.50</b>	<b>6.00</b>	<b>6.40</b>	<b>7.00</b>
Gybe Angles	<b>145.2°</b>	<b>151.3°</b>	<b>153.0°</b>	<b>168.6°</b>	<b>174.6°</b>	<b>175.5°</b>	<b>177.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **PRONTO**  
Sail Nr **JPN 5533**

Certificate Number **090201**  
Issued On **4/3/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>994.6</b>	<b>816.0</b>	<b>743.9</b>	<b>706.7</b>	<b>684.3</b>	<b>670.6</b>	<b>659.4</b>
52°	<b>642.4</b>	<b>553.6</b>	<b>516.4</b>	<b>500.8</b>	<b>491.9</b>	<b>486.2</b>	<b>481.1</b>
60°	<b>605.2</b>	<b>533.9</b>	<b>499.3</b>	<b>486.2</b>	<b>477.5</b>	<b>471.3</b>	<b>465.1</b>
75°	<b>581.8</b>	<b>520.1</b>	<b>488.2</b>	<b>466.4</b>	<b>454.4</b>	<b>446.3</b>	<b>437.1</b>
90°	<b>586.9</b>	<b>516.0</b>	<b>481.0</b>	<b>457.0</b>	<b>445.5</b>	<b>427.2</b>	<b>412.0</b>
110°	<b>606.7</b>	<b>531.3</b>	<b>492.8</b>	<b>464.5</b>	<b>435.0</b>	<b>409.8</b>	<b>384.7</b>
120°	<b>649.1</b>	<b>552.5</b>	<b>505.3</b>	<b>477.2</b>	<b>448.7</b>	<b>419.6</b>	<b>364.5</b>
135°	<b>764.4</b>	<b>608.0</b>	<b>540.3</b>	<b>500.6</b>	<b>474.8</b>	<b>448.3</b>	<b>393.0</b>
150°	<b>920.5</b>	<b>717.8</b>	<b>600.6</b>	<b>540.4</b>	<b>502.3</b>	<b>477.3</b>	<b>427.9</b>
Run VMG	<b>1063.0</b>	<b>828.9</b>	<b>691.7</b>	<b>607.3</b>	<b>551.3</b>	<b>512.2</b>	<b>463.0</b>

### Selected Courses

Windward / Leeward	<b>1047.5</b>	<b>837.8</b>	<b>728.6</b>	<b>665.4</b>	<b>625.0</b>	<b>598.0</b>	<b>567.0</b>
Circular Random	<b>851.7</b>	<b>689.5</b>	<b>602.9</b>	<b>552.3</b>	<b>520.3</b>	<b>498.4</b>	<b>468.8</b>
Ocean for PCS	<b>910.4</b>	<b>721.1</b>	<b>616.3</b>	<b>552.3</b>	<b>509.7</b>	<b>478.7</b>	<b>433.9</b>
Non Spinnaker	<b>906.4</b>	<b>727.4</b>	<b>630.5</b>	<b>573.6</b>	<b>537.9</b>	<b>514.1</b>	<b>483.5</b>

### 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>43.9°</b>	<b>41.4°</b>	<b>38.6°</b>	<b>37.1°</b>	<b>36.1°</b>	<b>35.7°</b>	<b>35.4°</b>
Beat VMG	<b>3.62</b>	<b>4.41</b>	<b>4.84</b>	<b>5.09</b>	<b>5.26</b>	<b>5.37</b>	<b>5.46</b>
52°	<b>5.60</b>	<b>6.50</b>	<b>6.97</b>	<b>7.19</b>	<b>7.32</b>	<b>7.40</b>	<b>7.48</b>
60°	<b>5.95</b>	<b>6.74</b>	<b>7.21</b>	<b>7.40</b>	<b>7.54</b>	<b>7.64</b>	<b>7.74</b>
75°	<b>6.19</b>	<b>6.92</b>	<b>7.37</b>	<b>7.72</b>	<b>7.92</b>	<b>8.07</b>	<b>8.24</b>
90°	<b>6.13</b>	<b>6.98</b>	<b>7.48</b>	<b>7.88</b>	<b>8.08</b>	<b>8.43</b>	<b>8.74</b>
110°	<b>5.93</b>	<b>6.78</b>	<b>7.31</b>	<b>7.75</b>	<b>8.28</b>	<b>8.79</b>	<b>9.36</b>
120°	<b>5.55</b>	<b>6.52</b>	<b>7.12</b>	<b>7.54</b>	<b>8.02</b>	<b>8.58</b>	<b>9.88</b>
135°	<b>4.71</b>	<b>5.92</b>	<b>6.66</b>	<b>7.19</b>	<b>7.58</b>	<b>8.03</b>	<b>9.16</b>
150°	<b>3.91</b>	<b>5.02</b>	<b>5.99</b>	<b>6.66</b>	<b>7.17</b>	<b>7.54</b>	<b>8.41</b>
Run VMG	<b>3.39</b>	<b>4.34</b>	<b>5.20</b>	<b>5.93</b>	<b>6.53</b>	<b>7.03</b>	<b>7.78</b>
Gybe Angles	<b>142.1°</b>	<b>145.7°</b>	<b>153.0°</b>	<b>164.9°</b>	<b>171.0°</b>	<b>174.5°</b>	<b>174.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SENPO IV** Certificate Number **090211**  
 Sail Nr **JPN 5733** Issued On **4/3/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>972.2</b>	<b>783.7</b>	<b>703.9</b>	<b>666.3</b>	<b>645.4</b>	<b>634.2</b>	<b>635.1</b>
52°	<b>630.0</b>	<b>513.9</b>	<b>473.0</b>	<b>451.9</b>	<b>442.0</b>	<b>437.4</b>	<b>436.6</b>
60°	<b>589.7</b>	<b>488.5</b>	<b>446.7</b>	<b>433.5</b>	<b>426.4</b>	<b>422.2</b>	<b>421.1</b>
75°	<b>557.3</b>	<b>470.5</b>	<b>426.2</b>	<b>411.4</b>	<b>401.0</b>	<b>394.2</b>	<b>389.4</b>
90°	<b>539.6</b>	<b>444.7</b>	<b>422.8</b>	<b>400.6</b>	<b>378.9</b>	<b>368.7</b>	<b>357.5</b>
110°	<b>548.4</b>	<b>458.1</b>	<b>415.0</b>	<b>385.2</b>	<b>369.7</b>	<b>355.3</b>	<b>321.3</b>
120°	<b>585.2</b>	<b>485.5</b>	<b>431.8</b>	<b>394.9</b>	<b>357.3</b>	<b>340.2</b>	<b>310.7</b>
135°	<b>684.9</b>	<b>546.9</b>	<b>473.9</b>	<b>430.2</b>	<b>399.6</b>	<b>364.4</b>	<b>283.0</b>
150°	<b>825.9</b>	<b>651.3</b>	<b>545.7</b>	<b>481.2</b>	<b>436.7</b>	<b>409.8</b>	<b>342.3</b>
Run VMG	<b>953.6</b>	<b>752.1</b>	<b>630.1</b>	<b>553.9</b>	<b>496.6</b>	<b>454.0</b>	<b>395.3</b>

### Selected Courses

Windward / Leeward	<b>980.1</b>	<b>781.7</b>	<b>677.5</b>	<b>617.4</b>	<b>577.7</b>	<b>550.3</b>	<b>520.7</b>
Circular Random	<b>786.0</b>	<b>630.0</b>	<b>545.8</b>	<b>496.2</b>	<b>464.7</b>	<b>443.1</b>	<b>413.5</b>
Ocean for PCS	<b>840.5</b>	<b>659.1</b>	<b>557.3</b>	<b>494.0</b>	<b>450.7</b>	<b>418.4</b>	<b>369.2</b>
Non Spinnaker	<b>865.7</b>	<b>686.6</b>	<b>588.1</b>	<b>529.1</b>	<b>491.6</b>	<b>466.4</b>	<b>434.6</b>

### 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>43.8°</b>	<b>43.5°</b>	<b>40.7°</b>	<b>39.0°</b>	<b>38.2°</b>	<b>37.9°</b>	<b>38.0°</b>
Beat VMG	<b>3.70</b>	<b>4.59</b>	<b>5.11</b>	<b>5.40</b>	<b>5.58</b>	<b>5.68</b>	<b>5.67</b>
52°	<b>5.71</b>	<b>7.01</b>	<b>7.61</b>	<b>7.97</b>	<b>8.15</b>	<b>8.23</b>	<b>8.25</b>
60°	<b>6.10</b>	<b>7.37</b>	<b>8.06</b>	<b>8.30</b>	<b>8.44</b>	<b>8.53</b>	<b>8.55</b>
75°	<b>6.46</b>	<b>7.65</b>	<b>8.45</b>	<b>8.75</b>	<b>8.98</b>	<b>9.13</b>	<b>9.25</b>
90°	<b>6.67</b>	<b>8.10</b>	<b>8.52</b>	<b>8.99</b>	<b>9.50</b>	<b>9.76</b>	<b>10.07</b>
110°	<b>6.56</b>	<b>7.86</b>	<b>8.67</b>	<b>9.35</b>	<b>9.74</b>	<b>10.13</b>	<b>11.20</b>
120°	<b>6.15</b>	<b>7.42</b>	<b>8.34</b>	<b>9.12</b>	<b>10.08</b>	<b>10.58</b>	<b>11.59</b>
135°	<b>5.26</b>	<b>6.58</b>	<b>7.60</b>	<b>8.37</b>	<b>9.01</b>	<b>9.88</b>	<b>12.72</b>
150°	<b>4.36</b>	<b>5.53</b>	<b>6.60</b>	<b>7.48</b>	<b>8.24</b>	<b>8.78</b>	<b>10.52</b>
Run VMG	<b>3.77</b>	<b>4.79</b>	<b>5.71</b>	<b>6.50</b>	<b>7.25</b>	<b>7.93</b>	<b>9.11</b>
Gybe Angles	<b>141.2°</b>	<b>144.5°</b>	<b>148.5°</b>	<b>154.7°</b>	<b>157.2°</b>	<b>168.3°</b>	<b>136.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **ANDIAMO II** Certificate Number **090220**  
 Sail Nr **JPN 3714** Issued On **2009/03/28**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>986.7</b>	<b>812.4</b>	<b>741.7</b>	<b>704.0</b>	<b>681.9</b>	<b>668.9</b>	<b>660.8</b>
52°	<b>640.4</b>	<b>548.3</b>	<b>512.5</b>	<b>496.8</b>	<b>487.3</b>	<b>481.4</b>	<b>477.1</b>
60°	<b>605.8</b>	<b>528.0</b>	<b>494.0</b>	<b>480.0</b>	<b>470.7</b>	<b>464.5</b>	<b>459.4</b>
75°	<b>582.8</b>	<b>515.5</b>	<b>479.3</b>	<b>456.6</b>	<b>445.7</b>	<b>437.9</b>	<b>429.6</b>
90°	<b>584.2</b>	<b>507.1</b>	<b>467.6</b>	<b>449.3</b>	<b>431.0</b>	<b>415.4</b>	<b>401.0</b>
110°	<b>600.9</b>	<b>522.4</b>	<b>482.2</b>	<b>447.8</b>	<b>415.7</b>	<b>397.2</b>	<b>372.9</b>
120°	<b>639.6</b>	<b>544.4</b>	<b>497.0</b>	<b>464.0</b>	<b>431.5</b>	<b>396.0</b>	<b>349.7</b>
135°	<b>752.7</b>	<b>603.3</b>	<b>532.6</b>	<b>492.5</b>	<b>462.2</b>	<b>433.3</b>	<b>367.6</b>
150°	<b>908.1</b>	<b>708.8</b>	<b>596.7</b>	<b>533.5</b>	<b>495.0</b>	<b>466.0</b>	<b>411.6</b>
Run VMG	<b>1048.6</b>	<b>818.5</b>	<b>686.9</b>	<b>603.5</b>	<b>545.5</b>	<b>506.2</b>	<b>451.7</b>

### Selected Courses

Windward / Leeward	<b>1036.6</b>	<b>831.0</b>	<b>724.6</b>	<b>661.9</b>	<b>621.1</b>	<b>594.2</b>	<b>561.3</b>
Circular Random	<b>843.2</b>	<b>681.9</b>	<b>595.5</b>	<b>544.6</b>	<b>512.2</b>	<b>489.9</b>	<b>459.6</b>
Ocean for PCS	<b>901.0</b>	<b>713.0</b>	<b>608.4</b>	<b>544.0</b>	<b>500.6</b>	<b>468.6</b>	<b>421.5</b>
Non Spinnaker	<b>903.5</b>	<b>724.2</b>	<b>626.8</b>	<b>569.1</b>	<b>532.6</b>	<b>507.9</b>	<b>475.6</b>

### 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>43.8°</b>	<b>41.2°</b>	<b>39.0°</b>	<b>37.7°</b>	<b>36.7°</b>	<b>36.1°</b>	<b>35.9°</b>
Beat VMG	<b>3.65</b>	<b>4.43</b>	<b>4.85</b>	<b>5.11</b>	<b>5.28</b>	<b>5.38</b>	<b>5.45</b>
52°	<b>5.62</b>	<b>6.57</b>	<b>7.03</b>	<b>7.25</b>	<b>7.39</b>	<b>7.48</b>	<b>7.55</b>
60°	<b>5.94</b>	<b>6.82</b>	<b>7.29</b>	<b>7.50</b>	<b>7.65</b>	<b>7.75</b>	<b>7.84</b>
75°	<b>6.18</b>	<b>6.98</b>	<b>7.51</b>	<b>7.88</b>	<b>8.08</b>	<b>8.22</b>	<b>8.38</b>
90°	<b>6.16</b>	<b>7.10</b>	<b>7.70</b>	<b>8.01</b>	<b>8.35</b>	<b>8.67</b>	<b>8.98</b>
110°	<b>5.99</b>	<b>6.89</b>	<b>7.47</b>	<b>8.04</b>	<b>8.66</b>	<b>9.06</b>	<b>9.65</b>
120°	<b>5.63</b>	<b>6.61</b>	<b>7.24</b>	<b>7.76</b>	<b>8.34</b>	<b>9.09</b>	<b>10.29</b>
135°	<b>4.78</b>	<b>5.97</b>	<b>6.76</b>	<b>7.31</b>	<b>7.79</b>	<b>8.31</b>	<b>9.79</b>
150°	<b>3.96</b>	<b>5.08</b>	<b>6.03</b>	<b>6.75</b>	<b>7.27</b>	<b>7.73</b>	<b>8.75</b>
Run VMG	<b>3.43</b>	<b>4.40</b>	<b>5.24</b>	<b>5.97</b>	<b>6.60</b>	<b>7.11</b>	<b>7.97</b>
Gybe Angles	<b>141.9°</b>	<b>145.8°</b>	<b>153.6°</b>	<b>163.1°</b>	<b>169.6°</b>	<b>173.6°</b>	<b>173.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name <b>SARA</b>	Certificate Number <b>090230</b>
Sail Nr <b>JPN 4280</b>	Issued On <b>2009/03/28</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>997.9</b>	<b>841.8</b>	<b>774.6</b>	<b>738.5</b>	<b>717.1</b>	<b>704.3</b>	<b>695.0</b>
52°	<b>651.3</b>	<b>571.0</b>	<b>539.5</b>	<b>524.2</b>	<b>514.5</b>	<b>508.0</b>	<b>502.1</b>
60°	<b>619.0</b>	<b>551.6</b>	<b>521.4</b>	<b>507.4</b>	<b>497.7</b>	<b>490.8</b>	<b>483.7</b>
75°	<b>596.7</b>	<b>538.9</b>	<b>506.6</b>	<b>485.4</b>	<b>472.2</b>	<b>463.8</b>	<b>454.7</b>
90°	<b>600.8</b>	<b>532.9</b>	<b>497.0</b>	<b>474.2</b>	<b>461.8</b>	<b>448.1</b>	<b>433.8</b>
110°	<b>617.6</b>	<b>546.1</b>	<b>508.7</b>	<b>477.4</b>	<b>450.2</b>	<b>432.8</b>	<b>410.4</b>
120°	<b>652.7</b>	<b>565.1</b>	<b>521.5</b>	<b>490.4</b>	<b>460.9</b>	<b>436.3</b>	<b>396.5</b>
135°	<b>757.1</b>	<b>617.7</b>	<b>552.8</b>	<b>515.6</b>	<b>486.5</b>	<b>459.1</b>	<b>412.6</b>
150°	<b>909.6</b>	<b>716.1</b>	<b>609.4</b>	<b>551.5</b>	<b>516.2</b>	<b>488.2</b>	<b>439.9</b>
Run VMG	<b>1050.3</b>	<b>826.9</b>	<b>698.4</b>	<b>615.7</b>	<b>560.8</b>	<b>524.6</b>	<b>471.4</b>

Selected Courses							
Windward / Leeward	<b>1045.2</b>	<b>849.5</b>	<b>746.9</b>	<b>685.8</b>	<b>646.6</b>	<b>621.2</b>	<b>588.3</b>
Circular Random	<b>863.0</b>	<b>703.8</b>	<b>619.5</b>	<b>570.5</b>	<b>539.7</b>	<b>518.7</b>	<b>490.7</b>
Ocean for PCS	<b>921.0</b>	<b>735.5</b>	<b>633.1</b>	<b>570.6</b>	<b>528.9</b>	<b>498.7</b>	<b>455.1</b>
Non Spinnaker	<b>915.3</b>	<b>740.2</b>	<b>646.2</b>	<b>591.1</b>	<b>556.6</b>	<b>533.4</b>	<b>503.1</b>

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>43.4°</b>	<b>41.0°</b>	<b>38.8°</b>	<b>37.4°</b>	<b>36.5°</b>	<b>36.0°</b>	<b>35.8°</b>
Beat VMG	<b>3.61</b>	<b>4.28</b>	<b>4.65</b>	<b>4.87</b>	<b>5.02</b>	<b>5.11</b>	<b>5.18</b>
52°	<b>5.53</b>	<b>6.30</b>	<b>6.67</b>	<b>6.87</b>	<b>7.00</b>	<b>7.09</b>	<b>7.17</b>
60°	<b>5.82</b>	<b>6.53</b>	<b>6.90</b>	<b>7.09</b>	<b>7.23</b>	<b>7.33</b>	<b>7.44</b>
75°	<b>6.03</b>	<b>6.68</b>	<b>7.11</b>	<b>7.42</b>	<b>7.62</b>	<b>7.76</b>	<b>7.92</b>
90°	<b>5.99</b>	<b>6.76</b>	<b>7.24</b>	<b>7.59</b>	<b>7.80</b>	<b>8.03</b>	<b>8.30</b>
110°	<b>5.83</b>	<b>6.59</b>	<b>7.08</b>	<b>7.54</b>	<b>8.00</b>	<b>8.32</b>	<b>8.77</b>
120°	<b>5.52</b>	<b>6.37</b>	<b>6.90</b>	<b>7.34</b>	<b>7.81</b>	<b>8.25</b>	<b>9.08</b>
135°	<b>4.76</b>	<b>5.83</b>	<b>6.51</b>	<b>6.98</b>	<b>7.40</b>	<b>7.84</b>	<b>8.73</b>
150°	<b>3.96</b>	<b>5.03</b>	<b>5.91</b>	<b>6.53</b>	<b>6.97</b>	<b>7.37</b>	<b>8.18</b>
Run VMG	<b>3.43</b>	<b>4.35</b>	<b>5.15</b>	<b>5.85</b>	<b>6.42</b>	<b>6.86</b>	<b>7.64</b>
Gybe Angles	<b>142.5°</b>	<b>147.6°</b>	<b>156.8°</b>	<b>166.6°</b>	<b>172.8°</b>	<b>175.3°</b>	<b>175.1°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **ARIADNE** Certificate Number **090240**  
 Sail Nr **JPN 6011** Issued On **2009/03/30**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>994.7</b>	<b>811.5</b>	<b>733.8</b>	<b>695.4</b>	<b>672.8</b>	<b>659.4</b>	<b>649.5</b>
52°	<b>642.8</b>	<b>547.8</b>	<b>507.3</b>	<b>491.5</b>	<b>482.5</b>	<b>476.9</b>	<b>472.4</b>
60°	<b>605.0</b>	<b>528.3</b>	<b>490.2</b>	<b>476.4</b>	<b>467.7</b>	<b>461.8</b>	<b>456.4</b>
75°	<b>580.3</b>	<b>515.8</b>	<b>480.4</b>	<b>456.3</b>	<b>444.7</b>	<b>437.2</b>	<b>429.2</b>
90°	<b>579.5</b>	<b>505.1</b>	<b>467.7</b>	<b>449.7</b>	<b>436.8</b>	<b>418.3</b>	<b>404.9</b>
110°	<b>593.1</b>	<b>519.3</b>	<b>481.1</b>	<b>449.7</b>	<b>420.0</b>	<b>403.5</b>	<b>382.1</b>
120°	<b>629.4</b>	<b>539.0</b>	<b>493.9</b>	<b>465.0</b>	<b>434.9</b>	<b>403.6</b>	<b>362.8</b>
135°	<b>737.1</b>	<b>591.3</b>	<b>526.6</b>	<b>489.0</b>	<b>462.9</b>	<b>437.0</b>	<b>381.1</b>
150°	<b>889.3</b>	<b>693.4</b>	<b>585.4</b>	<b>527.6</b>	<b>491.5</b>	<b>466.4</b>	<b>418.8</b>
Run VMG	<b>1026.8</b>	<b>800.7</b>	<b>674.1</b>	<b>594.3</b>	<b>540.3</b>	<b>502.7</b>	<b>454.1</b>

### Selected Courses

Windward / Leeward	<b>1028.9</b>	<b>821.5</b>	<b>714.6</b>	<b>653.0</b>	<b>613.7</b>	<b>587.6</b>	<b>557.3</b>
Circular Random	<b>836.5</b>	<b>676.5</b>	<b>591.0</b>	<b>541.2</b>	<b>509.9</b>	<b>488.7</b>	<b>460.8</b>
Ocean for PCS	<b>893.9</b>	<b>707.4</b>	<b>604.1</b>	<b>541.1</b>	<b>499.3</b>	<b>469.0</b>	<b>425.3</b>
Non Spinnaker	<b>900.7</b>	<b>721.2</b>	<b>623.9</b>	<b>566.5</b>	<b>530.6</b>	<b>506.8</b>	<b>476.7</b>

### 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>44.4°</b>	<b>41.8°</b>	<b>39.1°</b>	<b>37.4°</b>	<b>36.4°</b>	<b>35.8°</b>	<b>35.5°</b>
Beat VMG	<b>3.62</b>	<b>4.44</b>	<b>4.91</b>	<b>5.18</b>	<b>5.35</b>	<b>5.46</b>	<b>5.54</b>
52°	<b>5.60</b>	<b>6.57</b>	<b>7.10</b>	<b>7.32</b>	<b>7.46</b>	<b>7.55</b>	<b>7.62</b>
60°	<b>5.95</b>	<b>6.81</b>	<b>7.34</b>	<b>7.56</b>	<b>7.70</b>	<b>7.80</b>	<b>7.89</b>
75°	<b>6.20</b>	<b>6.98</b>	<b>7.49</b>	<b>7.89</b>	<b>8.10</b>	<b>8.23</b>	<b>8.39</b>
90°	<b>6.21</b>	<b>7.13</b>	<b>7.70</b>	<b>8.01</b>	<b>8.24</b>	<b>8.61</b>	<b>8.89</b>
110°	<b>6.07</b>	<b>6.93</b>	<b>7.48</b>	<b>8.01</b>	<b>8.57</b>	<b>8.92</b>	<b>9.42</b>
120°	<b>5.72</b>	<b>6.68</b>	<b>7.29</b>	<b>7.74</b>	<b>8.28</b>	<b>8.92</b>	<b>9.92</b>
135°	<b>4.88</b>	<b>6.09</b>	<b>6.84</b>	<b>7.36</b>	<b>7.78</b>	<b>8.24</b>	<b>9.45</b>
150°	<b>4.05</b>	<b>5.19</b>	<b>6.15</b>	<b>6.82</b>	<b>7.33</b>	<b>7.72</b>	<b>8.60</b>
Run VMG	<b>3.51</b>	<b>4.50</b>	<b>5.34</b>	<b>6.06</b>	<b>6.66</b>	<b>7.16</b>	<b>7.93</b>
Gybe Angles	<b>142.0°</b>	<b>145.7°</b>	<b>153.3°</b>	<b>163.8°</b>	<b>170.1°</b>	<b>173.9°</b>	<b>174.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>TOMBOY-1</b>	Certificate Number <b>090250</b>
Sail Nr <b>JPN 5390</b>	Issued On <b>2009/03/30</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1181.2</b>	<b>975.3</b>	<b>864.7</b>	<b>813.5</b>	<b>784.4</b>	<b>767.2</b>	<b>755.5</b>
52°	<b>768.1</b>	<b>644.3</b>	<b>583.4</b>	<b>542.9</b>	<b>529.6</b>	<b>523.9</b>	<b>519.9</b>
60°	<b>721.8</b>	<b>613.8</b>	<b>551.4</b>	<b>521.9</b>	<b>515.2</b>	<b>510.8</b>	<b>506.7</b>
75°	<b>666.3</b>	<b>560.2</b>	<b>522.1</b>	<b>510.2</b>	<b>493.9</b>	<b>484.1</b>	<b>474.5</b>
90°	<b>620.3</b>	<b>528.5</b>	<b>508.5</b>	<b>498.0</b>	<b>487.4</b>	<b>472.3</b>	<b>449.0</b>
110°	<b>633.8</b>	<b>540.6</b>	<b>508.1</b>	<b>476.4</b>	<b>458.5</b>	<b>446.6</b>	<b>425.2</b>
120°	<b>667.8</b>	<b>571.2</b>	<b>515.7</b>	<b>489.3</b>	<b>456.7</b>	<b>430.5</b>	<b>404.3</b>
135°	<b>758.6</b>	<b>624.4</b>	<b>549.0</b>	<b>512.7</b>	<b>488.3</b>	<b>459.3</b>	<b>402.5</b>
150°	<b>905.7</b>	<b>732.2</b>	<b>627.4</b>	<b>562.5</b>	<b>517.7</b>	<b>497.1</b>	<b>444.0</b>
Run VMG	<b>1045.8</b>	<b>845.4</b>	<b>723.4</b>	<b>638.0</b>	<b>574.5</b>	<b>525.8</b>	<b>479.6</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1136.6</b>	<b>924.1</b>	<b>806.0</b>	<b>734.6</b>	<b>687.2</b>	<b>654.1</b>	<b>625.6</b>
Circular Random	<b>924.9</b>	<b>748.7</b>	<b>654.3</b>	<b>599.2</b>	<b>564.7</b>	<b>541.7</b>	<b>511.7</b>
Ocean for PCS	<b>988.3</b>	<b>783.4</b>	<b>669.1</b>	<b>598.7</b>	<b>551.6</b>	<b>517.2</b>	<b>466.4</b>
Non Spinnaker	<b>1028.1</b>	<b>820.4</b>	<b>706.2</b>	<b>638.1</b>	<b>595.2</b>	<b>567.2</b>	<b>534.8</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>43.4°</b>	<b>41.9°</b>	<b>41.1°</b>	<b>39.5°</b>	<b>38.6°</b>	<b>38.0°</b>	<b>37.8°</b>
Beat VMG	<b>3.05</b>	<b>3.69</b>	<b>4.16</b>	<b>4.43</b>	<b>4.59</b>	<b>4.69</b>	<b>4.77</b>
52°	<b>4.69</b>	<b>5.59</b>	<b>6.17</b>	<b>6.63</b>	<b>6.80</b>	<b>6.87</b>	<b>6.92</b>
60°	<b>4.99</b>	<b>5.87</b>	<b>6.53</b>	<b>6.90</b>	<b>6.99</b>	<b>7.05</b>	<b>7.10</b>
75°	<b>5.40</b>	<b>6.43</b>	<b>6.90</b>	<b>7.06</b>	<b>7.29</b>	<b>7.44</b>	<b>7.59</b>
90°	<b>5.80</b>	<b>6.81</b>	<b>7.08</b>	<b>7.23</b>	<b>7.39</b>	<b>7.62</b>	<b>8.02</b>
110°	<b>5.68</b>	<b>6.66</b>	<b>7.09</b>	<b>7.56</b>	<b>7.85</b>	<b>8.06</b>	<b>8.47</b>
120°	<b>5.39</b>	<b>6.30</b>	<b>6.98</b>	<b>7.36</b>	<b>7.88</b>	<b>8.36</b>	<b>8.90</b>
135°	<b>4.75</b>	<b>5.77</b>	<b>6.56</b>	<b>7.02</b>	<b>7.37</b>	<b>7.84</b>	<b>8.94</b>
150°	<b>3.97</b>	<b>4.92</b>	<b>5.74</b>	<b>6.40</b>	<b>6.95</b>	<b>7.24</b>	<b>8.11</b>
Run VMG	<b>3.44</b>	<b>4.26</b>	<b>4.98</b>	<b>5.64</b>	<b>6.27</b>	<b>6.85</b>	<b>7.51</b>
Gybe Angles	<b>142.1°</b>	<b>144.9°</b>	<b>152.6°</b>	<b>166.8°</b>	<b>160.5°</b>	<b>178.6°</b>	<b>177.6°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>VISCONTINA</b>
Certificate Number	<b>090260</b>
Sail Nr	<b>JPN 3939</b>
Issued On	<b>2009/03/30</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1142.3</b>	<b>928.1</b>	<b>819.4</b>	<b>768.2</b>	<b>738.1</b>	<b>719.6</b>	<b>703.2</b>
52°	<b>732.2</b>	<b>608.8</b>	<b>555.5</b>	<b>525.5</b>	<b>512.2</b>	<b>505.1</b>	<b>498.8</b>
60°	<b>682.7</b>	<b>581.0</b>	<b>532.6</b>	<b>505.7</b>	<b>496.4</b>	<b>490.4</b>	<b>483.9</b>
75°	<b>644.5</b>	<b>561.0</b>	<b>515.6</b>	<b>493.1</b>	<b>476.2</b>	<b>465.8</b>	<b>455.4</b>
90°	<b>640.7</b>	<b>549.7</b>	<b>503.7</b>	<b>481.2</b>	<b>466.8</b>	<b>458.4</b>	<b>433.7</b>
110°	<b>664.9</b>	<b>565.3</b>	<b>513.7</b>	<b>488.0</b>	<b>462.1</b>	<b>437.9</b>	<b>411.9</b>
120°	<b>710.0</b>	<b>587.1</b>	<b>529.0</b>	<b>496.5</b>	<b>472.9</b>	<b>446.8</b>	<b>398.4</b>
135°	<b>819.6</b>	<b>650.0</b>	<b>568.1</b>	<b>519.4</b>	<b>493.1</b>	<b>470.2</b>	<b>422.9</b>
150°	<b>976.3</b>	<b>760.0</b>	<b>634.0</b>	<b>565.8</b>	<b>520.7</b>	<b>494.8</b>	<b>449.9</b>
Run VMG	<b>1127.3</b>	<b>877.5</b>	<b>731.1</b>	<b>636.8</b>	<b>576.7</b>	<b>532.9</b>	<b>483.8</b>

Selected Courses							
Windward / Leeward	<b>1154.5</b>	<b>917.2</b>	<b>787.4</b>	<b>712.0</b>	<b>665.0</b>	<b>633.4</b>	<b>600.4</b>
Circular Random	<b>928.5</b>	<b>745.2</b>	<b>646.0</b>	<b>587.7</b>	<b>551.4</b>	<b>527.1</b>	<b>495.7</b>
Ocean for PCS	<b>992.0</b>	<b>779.1</b>	<b>660.2</b>	<b>587.5</b>	<b>539.8</b>	<b>505.8</b>	<b>457.0</b>
Non Spinnaker	<b>997.3</b>	<b>793.4</b>	<b>681.5</b>	<b>614.9</b>	<b>573.1</b>	<b>545.7</b>	<b>512.3</b>

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>44.5°</b>	<b>43.3°</b>	<b>41.2°</b>	<b>39.2°</b>	<b>37.9°</b>	<b>37.2°</b>	<b>36.8°</b>
Beat VMG	<b>3.15</b>	<b>3.88</b>	<b>4.39</b>	<b>4.69</b>	<b>4.88</b>	<b>5.00</b>	<b>5.12</b>
52°	<b>4.92</b>	<b>5.91</b>	<b>6.48</b>	<b>6.85</b>	<b>7.03</b>	<b>7.13</b>	<b>7.22</b>
60°	<b>5.27</b>	<b>6.20</b>	<b>6.76</b>	<b>7.12</b>	<b>7.25</b>	<b>7.34</b>	<b>7.44</b>
75°	<b>5.59</b>	<b>6.42</b>	<b>6.98</b>	<b>7.30</b>	<b>7.56</b>	<b>7.73</b>	<b>7.90</b>
90°	<b>5.62</b>	<b>6.55</b>	<b>7.15</b>	<b>7.48</b>	<b>7.71</b>	<b>7.85</b>	<b>8.30</b>
110°	<b>5.41</b>	<b>6.37</b>	<b>7.01</b>	<b>7.38</b>	<b>7.79</b>	<b>8.22</b>	<b>8.74</b>
120°	<b>5.07</b>	<b>6.13</b>	<b>6.81</b>	<b>7.25</b>	<b>7.61</b>	<b>8.06</b>	<b>9.04</b>
135°	<b>4.39</b>	<b>5.54</b>	<b>6.34</b>	<b>6.93</b>	<b>7.30</b>	<b>7.66</b>	<b>8.51</b>
150°	<b>3.69</b>	<b>4.74</b>	<b>5.68</b>	<b>6.36</b>	<b>6.91</b>	<b>7.28</b>	<b>8.00</b>
Run VMG	<b>3.19</b>	<b>4.10</b>	<b>4.92</b>	<b>5.65</b>	<b>6.24</b>	<b>6.76</b>	<b>7.44</b>
Gybe Angles	<b>144.4°</b>	<b>147.8°</b>	<b>152.6°</b>	<b>163.2°</b>	<b>170.1°</b>	<b>171.5°</b>	<b>175.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **FELLOWS** Certificate Number **090271**  
 Sail Nr **JPN 5655** Issued On **4/3/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>970.4</b>	<b>805.8</b>	<b>734.3</b>	<b>694.6</b>	<b>671.4</b>	<b>657.8</b>	<b>648.3</b>
52°	<b>629.4</b>	<b>538.1</b>	<b>502.9</b>	<b>486.0</b>	<b>475.5</b>	<b>468.9</b>	<b>463.7</b>
60°	<b>594.3</b>	<b>516.5</b>	<b>483.3</b>	<b>467.9</b>	<b>457.8</b>	<b>451.1</b>	<b>445.5</b>
75°	<b>568.9</b>	<b>503.1</b>	<b>466.0</b>	<b>443.7</b>	<b>432.7</b>	<b>424.9</b>	<b>416.5</b>
90°	<b>573.6</b>	<b>499.4</b>	<b>457.6</b>	<b>436.9</b>	<b>417.7</b>	<b>403.2</b>	<b>389.0</b>
110°	<b>592.8</b>	<b>513.7</b>	<b>472.8</b>	<b>438.5</b>	<b>407.2</b>	<b>386.4</b>	<b>362.7</b>
120°	<b>629.0</b>	<b>534.8</b>	<b>488.1</b>	<b>454.6</b>	<b>423.5</b>	<b>390.1</b>	<b>339.4</b>
135°	<b>734.3</b>	<b>593.5</b>	<b>523.0</b>	<b>483.3</b>	<b>453.0</b>	<b>425.9</b>	<b>365.9</b>
150°	<b>884.6</b>	<b>694.9</b>	<b>587.6</b>	<b>524.5</b>	<b>486.5</b>	<b>457.2</b>	<b>406.7</b>
Run VMG	<b>1021.5</b>	<b>802.4</b>	<b>676.7</b>	<b>594.9</b>	<b>537.1</b>	<b>498.4</b>	<b>444.0</b>

### Selected Courses

Windward / Leeward	<b>1015.4</b>	<b>818.8</b>	<b>715.3</b>	<b>652.8</b>	<b>611.6</b>	<b>584.5</b>	<b>551.1</b>
Circular Random	<b>827.1</b>	<b>669.5</b>	<b>584.6</b>	<b>534.4</b>	<b>502.2</b>	<b>479.9</b>	<b>449.8</b>
Ocean for PCS	<b>883.7</b>	<b>700.0</b>	<b>597.2</b>	<b>533.5</b>	<b>490.2</b>	<b>458.4</b>	<b>411.8</b>
Non Spinnaker	<b>880.7</b>	<b>707.2</b>	<b>612.8</b>	<b>556.6</b>	<b>520.8</b>	<b>496.4</b>	<b>464.3</b>

### 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>43.9°</b>	<b>41.7°</b>	<b>39.9°</b>	<b>38.5°</b>	<b>37.3°</b>	<b>36.6°</b>	<b>36.3°</b>
Beat VMG	<b>3.71</b>	<b>4.47</b>	<b>4.90</b>	<b>5.18</b>	<b>5.36</b>	<b>5.47</b>	<b>5.55</b>
52°	<b>5.72</b>	<b>6.69</b>	<b>7.16</b>	<b>7.41</b>	<b>7.57</b>	<b>7.68</b>	<b>7.76</b>
60°	<b>6.06</b>	<b>6.97</b>	<b>7.45</b>	<b>7.69</b>	<b>7.86</b>	<b>7.98</b>	<b>8.08</b>
75°	<b>6.33</b>	<b>7.16</b>	<b>7.73</b>	<b>8.11</b>	<b>8.32</b>	<b>8.47</b>	<b>8.64</b>
90°	<b>6.28</b>	<b>7.21</b>	<b>7.87</b>	<b>8.24</b>	<b>8.62</b>	<b>8.93</b>	<b>9.26</b>
110°	<b>6.07</b>	<b>7.01</b>	<b>7.61</b>	<b>8.21</b>	<b>8.84</b>	<b>9.32</b>	<b>9.93</b>
120°	<b>5.72</b>	<b>6.73</b>	<b>7.38</b>	<b>7.92</b>	<b>8.50</b>	<b>9.23</b>	<b>10.61</b>
135°	<b>4.90</b>	<b>6.07</b>	<b>6.88</b>	<b>7.45</b>	<b>7.95</b>	<b>8.45</b>	<b>9.84</b>
150°	<b>4.07</b>	<b>5.18</b>	<b>6.13</b>	<b>6.86</b>	<b>7.40</b>	<b>7.87</b>	<b>8.85</b>
Run VMG	<b>3.52</b>	<b>4.49</b>	<b>5.32</b>	<b>6.05</b>	<b>6.70</b>	<b>7.22</b>	<b>8.11</b>
Gybe Angles	<b>141.9°</b>	<b>146.4°</b>	<b>153.5°</b>	<b>161.8°</b>	<b>169.3°</b>	<b>173.3°</b>	<b>173.9°</b>



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## ORC Club Certificate Appendix

BOAT	
Name	<b>KAZEKOZO</b>
Certificate Number	<b>090280</b>
Sail Nr	<b>JPN 3757</b>
Issued On	<b>4/6/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>984.5</b>	<b>810.5</b>	<b>741.1</b>	<b>703.8</b>	<b>681.9</b>	<b>668.9</b>	<b>661.1</b>
52°	<b>638.2</b>	<b>550.3</b>	<b>516.1</b>	<b>500.8</b>	<b>491.5</b>	<b>485.5</b>	<b>480.9</b>
60°	<b>605.0</b>	<b>531.4</b>	<b>498.6</b>	<b>484.7</b>	<b>475.3</b>	<b>469.0</b>	<b>463.6</b>
75°	<b>583.2</b>	<b>519.9</b>	<b>484.4</b>	<b>461.8</b>	<b>450.6</b>	<b>442.6</b>	<b>433.9</b>
90°	<b>589.3</b>	<b>514.7</b>	<b>474.8</b>	<b>454.1</b>	<b>435.8</b>	<b>420.0</b>	<b>405.1</b>
110°	<b>605.7</b>	<b>529.4</b>	<b>490.2</b>	<b>456.6</b>	<b>422.4</b>	<b>400.6</b>	<b>375.2</b>
120°	<b>644.2</b>	<b>550.7</b>	<b>504.1</b>	<b>472.0</b>	<b>440.3</b>	<b>403.8</b>	<b>350.6</b>
135°	<b>757.7</b>	<b>607.1</b>	<b>538.5</b>	<b>499.2</b>	<b>469.6</b>	<b>440.9</b>	<b>376.1</b>
150°	<b>911.7</b>	<b>713.6</b>	<b>600.3</b>	<b>538.9</b>	<b>501.3</b>	<b>472.9</b>	<b>418.6</b>
Run VMG	<b>1052.7</b>	<b>824.0</b>	<b>690.6</b>	<b>607.6</b>	<b>550.5</b>	<b>511.9</b>	<b>458.0</b>

Selected Courses							
Windward / Leeward	<b>1037.7</b>	<b>832.7</b>	<b>726.3</b>	<b>663.9</b>	<b>623.6</b>	<b>597.0</b>	<b>564.8</b>
Circular Random	<b>846.6</b>	<b>685.6</b>	<b>599.4</b>	<b>548.7</b>	<b>516.4</b>	<b>494.0</b>	<b>463.4</b>
Ocean for PCS	<b>904.3</b>	<b>716.7</b>	<b>612.5</b>	<b>548.3</b>	<b>505.1</b>	<b>473.3</b>	<b>426.4</b>
Non Spinnaker	<b>903.6</b>	<b>725.4</b>	<b>628.9</b>	<b>571.8</b>	<b>535.8</b>	<b>511.4</b>	<b>479.3</b>

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>43.6°</b>	<b>40.8°</b>	<b>38.4°</b>	<b>37.0°</b>	<b>35.9°</b>	<b>35.4°</b>	<b>35.3°</b>
Beat VMG	<b>3.66</b>	<b>4.44</b>	<b>4.86</b>	<b>5.12</b>	<b>5.28</b>	<b>5.38</b>	<b>5.45</b>
52°	<b>5.64</b>	<b>6.54</b>	<b>6.97</b>	<b>7.19</b>	<b>7.32</b>	<b>7.41</b>	<b>7.49</b>
60°	<b>5.95</b>	<b>6.78</b>	<b>7.22</b>	<b>7.43</b>	<b>7.57</b>	<b>7.68</b>	<b>7.76</b>
75°	<b>6.17</b>	<b>6.92</b>	<b>7.43</b>	<b>7.80</b>	<b>7.99</b>	<b>8.13</b>	<b>8.30</b>
90°	<b>6.11</b>	<b>6.99</b>	<b>7.58</b>	<b>7.93</b>	<b>8.26</b>	<b>8.57</b>	<b>8.89</b>
110°	<b>5.94</b>	<b>6.80</b>	<b>7.34</b>	<b>7.88</b>	<b>8.52</b>	<b>8.99</b>	<b>9.59</b>
120°	<b>5.59</b>	<b>6.54</b>	<b>7.14</b>	<b>7.63</b>	<b>8.18</b>	<b>8.91</b>	<b>10.27</b>
135°	<b>4.75</b>	<b>5.93</b>	<b>6.69</b>	<b>7.21</b>	<b>7.67</b>	<b>8.16</b>	<b>9.57</b>
150°	<b>3.95</b>	<b>5.05</b>	<b>6.00</b>	<b>6.68</b>	<b>7.18</b>	<b>7.61</b>	<b>8.60</b>
Run VMG	<b>3.42</b>	<b>4.37</b>	<b>5.21</b>	<b>5.93</b>	<b>6.54</b>	<b>7.03</b>	<b>7.86</b>
Gybe Angles	<b>142.1°</b>	<b>145.4°</b>	<b>153.9°</b>	<b>164.2°</b>	<b>170.4°</b>	<b>174.2°</b>	<b>173.9°</b>



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## ORC Club Certificate Appendix

### BOAT

Name **SHARK X** Certificate Number **090290**  
 Sail Nr **JPN 150** Issued On **4/6/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1020.5</b>	<b>828.0</b>	<b>749.9</b>	<b>713.0</b>	<b>691.4</b>	<b>679.0</b>	<b>671.4</b>
52°	<b>656.5</b>	<b>562.1</b>	<b>520.4</b>	<b>504.3</b>	<b>494.6</b>	<b>488.7</b>	<b>484.7</b>
60°	<b>616.4</b>	<b>543.0</b>	<b>503.4</b>	<b>487.1</b>	<b>477.8</b>	<b>471.9</b>	<b>467.4</b>
75°	<b>592.8</b>	<b>530.6</b>	<b>491.8</b>	<b>466.0</b>	<b>453.7</b>	<b>446.5</b>	<b>439.2</b>
90°	<b>587.7</b>	<b>517.0</b>	<b>476.4</b>	<b>458.2</b>	<b>447.9</b>	<b>427.4</b>	<b>413.6</b>
110°	<b>601.2</b>	<b>531.2</b>	<b>491.5</b>	<b>458.2</b>	<b>427.9</b>	<b>411.1</b>	<b>389.7</b>
120°	<b>636.4</b>	<b>550.0</b>	<b>505.5</b>	<b>473.4</b>	<b>442.9</b>	<b>411.1</b>	<b>369.8</b>
135°	<b>748.0</b>	<b>599.1</b>	<b>537.4</b>	<b>499.7</b>	<b>470.8</b>	<b>444.5</b>	<b>387.2</b>
150°	<b>899.5</b>	<b>701.3</b>	<b>592.6</b>	<b>537.3</b>	<b>501.6</b>	<b>473.8</b>	<b>425.3</b>
Run VMG	<b>1038.6</b>	<b>809.7</b>	<b>680.2</b>	<b>601.4</b>	<b>548.6</b>	<b>512.3</b>	<b>460.7</b>

### Selected Courses

Windward / Leeward	<b>1047.8</b>	<b>834.8</b>	<b>726.3</b>	<b>665.5</b>	<b>627.4</b>	<b>602.2</b>	<b>571.3</b>
Circular Random	<b>852.1</b>	<b>689.6</b>	<b>602.9</b>	<b>552.6</b>	<b>521.1</b>	<b>499.9</b>	<b>472.0</b>
Ocean for PCS	<b>910.6</b>	<b>721.0</b>	<b>616.2</b>	<b>552.4</b>	<b>510.0</b>	<b>479.3</b>	<b>434.8</b>
Non Spinnaker	<b>918.7</b>	<b>736.0</b>	<b>637.0</b>	<b>578.9</b>	<b>542.7</b>	<b>518.8</b>	<b>488.5</b>

### 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>44.2°</b>	<b>41.6°</b>	<b>38.8°</b>	<b>37.3°</b>	<b>36.4°</b>	<b>35.8°</b>	<b>35.6°</b>
Beat VMG	<b>3.53</b>	<b>4.35</b>	<b>4.80</b>	<b>5.05</b>	<b>5.21</b>	<b>5.30</b>	<b>5.36</b>
52°	<b>5.48</b>	<b>6.40</b>	<b>6.92</b>	<b>7.14</b>	<b>7.28</b>	<b>7.37</b>	<b>7.43</b>
60°	<b>5.84</b>	<b>6.63</b>	<b>7.15</b>	<b>7.39</b>	<b>7.53</b>	<b>7.63</b>	<b>7.70</b>
75°	<b>6.07</b>	<b>6.78</b>	<b>7.32</b>	<b>7.72</b>	<b>7.93</b>	<b>8.06</b>	<b>8.20</b>
90°	<b>6.13</b>	<b>6.96</b>	<b>7.56</b>	<b>7.86</b>	<b>8.04</b>	<b>8.42</b>	<b>8.70</b>
110°	<b>5.99</b>	<b>6.78</b>	<b>7.32</b>	<b>7.86</b>	<b>8.41</b>	<b>8.76</b>	<b>9.24</b>
120°	<b>5.66</b>	<b>6.55</b>	<b>7.12</b>	<b>7.60</b>	<b>8.13</b>	<b>8.76</b>	<b>9.74</b>
135°	<b>4.81</b>	<b>6.01</b>	<b>6.70</b>	<b>7.20</b>	<b>7.65</b>	<b>8.10</b>	<b>9.30</b>
150°	<b>4.00</b>	<b>5.13</b>	<b>6.08</b>	<b>6.70</b>	<b>7.18</b>	<b>7.60</b>	<b>8.47</b>
Run VMG	<b>3.47</b>	<b>4.45</b>	<b>5.29</b>	<b>5.99</b>	<b>6.56</b>	<b>7.03</b>	<b>7.81</b>
Gybe Angles	<b>142.4°</b>	<b>144.4°</b>	<b>154.8°</b>	<b>166.1°</b>	<b>171.5°</b>	<b>174.1°</b>	<b>174.4°</b>



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# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name	<b>COCORIN</b>
Sail Nr	<b>JPN 3755</b>
Certificate Number	<b>090300</b>
Issued On	<b>4/7/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>916.1</b>	<b>741.2</b>	<b>651.9</b>	<b>597.4</b>	<b>561.8</b>	<b>538.7</b>	<b>514.6</b>
52°	<b>578.9</b>	<b>479.3</b>	<b>425.1</b>	<b>394.9</b>	<b>381.5</b>	<b>373.8</b>	<b>364.8</b>
60°	<b>528.7</b>	<b>443.3</b>	<b>396.8</b>	<b>378.3</b>	<b>367.5</b>	<b>359.0</b>	<b>348.6</b>
75°	<b>488.1</b>	<b>408.2</b>	<b>375.1</b>	<b>358.4</b>	<b>345.0</b>	<b>335.2</b>	<b>322.3</b>
90°	<b>476.9</b>	<b>391.4</b>	<b>365.3</b>	<b>346.7</b>	<b>328.7</b>	<b>315.9</b>	<b>297.2</b>
110°	<b>476.7</b>	<b>394.1</b>	<b>361.5</b>	<b>335.0</b>	<b>317.6</b>	<b>304.2</b>	<b>275.8</b>
120°	<b>499.6</b>	<b>413.5</b>	<b>373.0</b>	<b>343.8</b>	<b>316.2</b>	<b>293.6</b>	<b>265.9</b>
135°	<b>582.8</b>	<b>476.5</b>	<b>408.5</b>	<b>373.7</b>	<b>346.8</b>	<b>319.4</b>	<b>261.1</b>
150°	<b>710.4</b>	<b>568.0</b>	<b>486.9</b>	<b>427.1</b>	<b>387.8</b>	<b>364.0</b>	<b>315.0</b>
Run VMG	<b>820.3</b>	<b>655.9</b>	<b>562.2</b>	<b>493.2</b>	<b>446.8</b>	<b>411.6</b>	<b>361.1</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>884.7</b>	<b>710.4</b>	<b>614.3</b>	<b>552.3</b>	<b>510.1</b>	<b>480.4</b>	<b>442.5</b>
Circular Random	<b>701.0</b>	<b>560.9</b>	<b>483.7</b>	<b>436.5</b>	<b>405.2</b>	<b>382.7</b>	<b>350.8</b>
Ocean for PCS	<b>751.6</b>	<b>587.8</b>	<b>494.2</b>	<b>434.4</b>	<b>392.7</b>	<b>361.2</b>	<b>314.1</b>
Non Spinnaker	<b>764.1</b>	<b>605.1</b>	<b>516.2</b>	<b>461.2</b>	<b>424.7</b>	<b>398.8</b>	<b>363.7</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>45.5°</b>	<b>44.0°</b>	<b>41.8°</b>	<b>41.8°</b>	<b>40.8°</b>	<b>40.1°</b>	<b>38.5°</b>
Beat VMG	<b>3.93</b>	<b>4.86</b>	<b>5.52</b>	<b>6.03</b>	<b>6.41</b>	<b>6.68</b>	<b>7.00</b>
52°	<b>6.22</b>	<b>7.51</b>	<b>8.47</b>	<b>9.12</b>	<b>9.44</b>	<b>9.63</b>	<b>9.87</b>
60°	<b>6.81</b>	<b>8.12</b>	<b>9.07</b>	<b>9.52</b>	<b>9.80</b>	<b>10.03</b>	<b>10.33</b>
75°	<b>7.38</b>	<b>8.82</b>	<b>9.60</b>	<b>10.05</b>	<b>10.43</b>	<b>10.74</b>	<b>11.17</b>
90°	<b>7.55</b>	<b>9.20</b>	<b>9.85</b>	<b>10.38</b>	<b>10.95</b>	<b>11.40</b>	<b>12.11</b>
110°	<b>7.55</b>	<b>9.13</b>	<b>9.96</b>	<b>10.75</b>	<b>11.33</b>	<b>11.83</b>	<b>13.05</b>
120°	<b>7.21</b>	<b>8.71</b>	<b>9.65</b>	<b>10.47</b>	<b>11.39</b>	<b>12.26</b>	<b>13.54</b>
135°	<b>6.18</b>	<b>7.56</b>	<b>8.81</b>	<b>9.63</b>	<b>10.38</b>	<b>11.27</b>	<b>13.79</b>
150°	<b>5.07</b>	<b>6.34</b>	<b>7.39</b>	<b>8.43</b>	<b>9.28</b>	<b>9.89</b>	<b>11.43</b>
Run VMG	<b>4.39</b>	<b>5.49</b>	<b>6.40</b>	<b>7.30</b>	<b>8.06</b>	<b>8.75</b>	<b>9.97</b>
Gybe Angles	<b>138.5°</b>	<b>142.6°</b>	<b>143.3°</b>	<b>145.1°</b>	<b>152.2°</b>	<b>161.6°</b>	<b>166.5°</b>



World Leader in Rating Technology

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## ORC Club Certificate Appendix

BOAT	
Name	<b>RAIA</b>
Sail Nr	<b>JPN 6210</b>
Certificate Number	<b>090310</b>
Issued On	<b>4/7/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1027.1</b>	<b>836.4</b>	<b>749.9</b>	<b>705.9</b>	<b>679.7</b>	<b>663.3</b>	<b>648.5</b>
52°	<b>660.3</b>	<b>552.3</b>	<b>510.2</b>	<b>489.7</b>	<b>478.2</b>	<b>471.3</b>	<b>464.8</b>
60°	<b>615.5</b>	<b>529.0</b>	<b>488.4</b>	<b>472.2</b>	<b>462.6</b>	<b>456.0</b>	<b>449.0</b>
75°	<b>583.3</b>	<b>512.6</b>	<b>474.1</b>	<b>452.5</b>	<b>440.3</b>	<b>431.9</b>	<b>421.9</b>
90°	<b>590.2</b>	<b>508.0</b>	<b>466.7</b>	<b>443.3</b>	<b>431.9</b>	<b>414.7</b>	<b>399.2</b>
110°	<b>614.0</b>	<b>524.4</b>	<b>479.2</b>	<b>450.5</b>	<b>422.5</b>	<b>399.2</b>	<b>375.1</b>
120°	<b>660.9</b>	<b>547.4</b>	<b>494.6</b>	<b>463.0</b>	<b>435.8</b>	<b>408.3</b>	<b>358.2</b>
135°	<b>774.1</b>	<b>613.1</b>	<b>534.1</b>	<b>489.3</b>	<b>461.1</b>	<b>436.0</b>	<b>384.8</b>
150°	<b>929.4</b>	<b>724.7</b>	<b>602.8</b>	<b>534.7</b>	<b>492.2</b>	<b>464.4</b>	<b>417.4</b>
Run VMG	<b>1073.2</b>	<b>836.8</b>	<b>696.0</b>	<b>606.2</b>	<b>546.5</b>	<b>504.2</b>	<b>451.7</b>
Selected Courses							
Windward / Leeward	<b>1068.7</b>	<b>850.9</b>	<b>733.8</b>	<b>664.6</b>	<b>620.3</b>	<b>590.4</b>	<b>555.9</b>
Circular Random	<b>858.6</b>	<b>690.2</b>	<b>599.1</b>	<b>545.3</b>	<b>511.2</b>	<b>488.0</b>	<b>457.5</b>
Ocean for PCS	<b>918.3</b>	<b>722.1</b>	<b>612.4</b>	<b>544.9</b>	<b>499.9</b>	<b>467.6</b>	<b>421.7</b>
Non Spinnaker	<b>915.1</b>	<b>729.9</b>	<b>628.5</b>	<b>568.0</b>	<b>529.8</b>	<b>504.1</b>	<b>471.7</b>

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>44.6°</b>	<b>43.5°</b>	<b>40.3°</b>	<b>38.4°</b>	<b>37.3°</b>	<b>36.6°</b>	<b>36.2°</b>
Beat VMG	<b>3.51</b>	<b>4.30</b>	<b>4.80</b>	<b>5.10</b>	<b>5.30</b>	<b>5.43</b>	<b>5.55</b>
52°	<b>5.45</b>	<b>6.52</b>	<b>7.06</b>	<b>7.35</b>	<b>7.53</b>	<b>7.64</b>	<b>7.75</b>
60°	<b>5.85</b>	<b>6.80</b>	<b>7.37</b>	<b>7.62</b>	<b>7.78</b>	<b>7.89</b>	<b>8.02</b>
75°	<b>6.17</b>	<b>7.02</b>	<b>7.59</b>	<b>7.96</b>	<b>8.18</b>	<b>8.34</b>	<b>8.53</b>
90°	<b>6.10</b>	<b>7.09</b>	<b>7.71</b>	<b>8.12</b>	<b>8.34</b>	<b>8.68</b>	<b>9.02</b>
110°	<b>5.86</b>	<b>6.86</b>	<b>7.51</b>	<b>7.99</b>	<b>8.52</b>	<b>9.02</b>	<b>9.60</b>
120°	<b>5.45</b>	<b>6.58</b>	<b>7.28</b>	<b>7.78</b>	<b>8.26</b>	<b>8.82</b>	<b>10.05</b>
135°	<b>4.65</b>	<b>5.87</b>	<b>6.74</b>	<b>7.36</b>	<b>7.81</b>	<b>8.26</b>	<b>9.35</b>
150°	<b>3.87</b>	<b>4.97</b>	<b>5.97</b>	<b>6.73</b>	<b>7.31</b>	<b>7.75</b>	<b>8.62</b>
Run VMG	<b>3.35</b>	<b>4.30</b>	<b>5.17</b>	<b>5.94</b>	<b>6.59</b>	<b>7.14</b>	<b>7.97</b>
Gybe Angles	<b>142.9°</b>	<b>146.6°</b>	<b>150.5°</b>	<b>161.5°</b>	<b>169.8°</b>	<b>172.7°</b>	<b>175.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **CARIBBEAN CUATRO** Certificate Number **090320**  
 Sail Nr **JPN 3967** Issued On **4/9/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>974.9</b>	<b>808.0</b>	<b>735.5</b>	<b>695.7</b>	<b>672.4</b>	<b>658.6</b>	<b>648.8</b>
52°	<b>632.5</b>	<b>540.0</b>	<b>503.5</b>	<b>486.5</b>	<b>476.0</b>	<b>469.3</b>	<b>464.1</b>
60°	<b>597.2</b>	<b>518.4</b>	<b>483.8</b>	<b>468.4</b>	<b>458.2</b>	<b>451.5</b>	<b>445.8</b>
75°	<b>571.9</b>	<b>505.0</b>	<b>467.6</b>	<b>444.1</b>	<b>433.1</b>	<b>425.3</b>	<b>416.7</b>
90°	<b>576.9</b>	<b>499.6</b>	<b>457.8</b>	<b>437.1</b>	<b>419.3</b>	<b>403.5</b>	<b>389.2</b>
110°	<b>593.2</b>	<b>514.0</b>	<b>473.0</b>	<b>438.7</b>	<b>407.4</b>	<b>386.7</b>	<b>363.1</b>
120°	<b>629.5</b>	<b>535.1</b>	<b>488.3</b>	<b>454.8</b>	<b>423.7</b>	<b>390.4</b>	<b>340.0</b>
135°	<b>734.9</b>	<b>593.9</b>	<b>523.2</b>	<b>483.5</b>	<b>453.2</b>	<b>426.0</b>	<b>366.2</b>
150°	<b>885.4</b>	<b>695.4</b>	<b>587.9</b>	<b>524.7</b>	<b>486.6</b>	<b>457.4</b>	<b>406.9</b>
Run VMG	<b>1022.3</b>	<b>803.0</b>	<b>677.1</b>	<b>595.2</b>	<b>537.4</b>	<b>498.6</b>	<b>444.2</b>

### Selected Courses

Windward / Leeward	<b>1017.9</b>	<b>820.2</b>	<b>716.2</b>	<b>653.5</b>	<b>612.2</b>	<b>585.1</b>	<b>551.4</b>
Circular Random	<b>829.0</b>	<b>670.7</b>	<b>585.4</b>	<b>535.0</b>	<b>502.7</b>	<b>480.3</b>	<b>450.2</b>
Ocean for PCS	<b>885.6</b>	<b>701.2</b>	<b>598.1</b>	<b>534.1</b>	<b>490.7</b>	<b>458.8</b>	<b>412.1</b>
Non Spinnaker	<b>884.6</b>	<b>709.9</b>	<b>614.7</b>	<b>558.0</b>	<b>521.9</b>	<b>497.4</b>	<b>465.2</b>

### 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>43.8°</b>	<b>41.6°</b>	<b>39.9°</b>	<b>38.5°</b>	<b>37.3°</b>	<b>36.7°</b>	<b>36.2°</b>
Beat VMG	<b>3.69</b>	<b>4.46</b>	<b>4.89</b>	<b>5.17</b>	<b>5.35</b>	<b>5.47</b>	<b>5.55</b>
52°	<b>5.69</b>	<b>6.67</b>	<b>7.15</b>	<b>7.40</b>	<b>7.56</b>	<b>7.67</b>	<b>7.76</b>
60°	<b>6.03</b>	<b>6.94</b>	<b>7.44</b>	<b>7.69</b>	<b>7.86</b>	<b>7.97</b>	<b>8.07</b>
75°	<b>6.30</b>	<b>7.13</b>	<b>7.70</b>	<b>8.11</b>	<b>8.31</b>	<b>8.47</b>	<b>8.64</b>
90°	<b>6.24</b>	<b>7.21</b>	<b>7.86</b>	<b>8.24</b>	<b>8.59</b>	<b>8.92</b>	<b>9.25</b>
110°	<b>6.07</b>	<b>7.00</b>	<b>7.61</b>	<b>8.21</b>	<b>8.84</b>	<b>9.31</b>	<b>9.91</b>
120°	<b>5.72</b>	<b>6.73</b>	<b>7.37</b>	<b>7.92</b>	<b>8.50</b>	<b>9.22</b>	<b>10.59</b>
135°	<b>4.90</b>	<b>6.06</b>	<b>6.88</b>	<b>7.45</b>	<b>7.94</b>	<b>8.45</b>	<b>9.83</b>
150°	<b>4.07</b>	<b>5.18</b>	<b>6.12</b>	<b>6.86</b>	<b>7.40</b>	<b>7.87</b>	<b>8.85</b>
Run VMG	<b>3.52</b>	<b>4.48</b>	<b>5.32</b>	<b>6.05</b>	<b>6.70</b>	<b>7.22</b>	<b>8.10</b>
Gybe Angles	<b>141.9°</b>	<b>146.4°</b>	<b>153.5°</b>	<b>161.8°</b>	<b>169.3°</b>	<b>173.3°</b>	<b>173.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **TONBI** Certificate Number **090330**  
 Sail Nr **JPN 5174** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>942.5</b>	<b>786.4</b>	<b>717.3</b>	<b>678.8</b>	<b>654.9</b>	<b>639.8</b>	<b>625.7</b>
52°	<b>606.7</b>	<b>529.2</b>	<b>496.9</b>	<b>480.8</b>	<b>470.6</b>	<b>463.8</b>	<b>456.6</b>
60°	<b>572.0</b>	<b>509.4</b>	<b>480.4</b>	<b>465.7</b>	<b>456.1</b>	<b>449.2</b>	<b>441.2</b>
75°	<b>548.6</b>	<b>495.6</b>	<b>467.7</b>	<b>448.0</b>	<b>435.1</b>	<b>426.7</b>	<b>416.6</b>
90°	<b>551.5</b>	<b>493.1</b>	<b>461.4</b>	<b>438.9</b>	<b>425.4</b>	<b>414.1</b>	<b>398.9</b>
110°	<b>571.2</b>	<b>504.3</b>	<b>470.5</b>	<b>445.2</b>	<b>421.8</b>	<b>403.3</b>	<b>379.5</b>
120°	<b>605.3</b>	<b>522.8</b>	<b>482.7</b>	<b>455.7</b>	<b>431.3</b>	<b>409.9</b>	<b>372.8</b>
135°	<b>713.6</b>	<b>575.0</b>	<b>513.5</b>	<b>478.8</b>	<b>453.7</b>	<b>430.4</b>	<b>390.8</b>
150°	<b>862.6</b>	<b>677.3</b>	<b>571.4</b>	<b>515.0</b>	<b>481.1</b>	<b>456.3</b>	<b>413.5</b>
Run VMG	<b>996.1</b>	<b>782.1</b>	<b>658.1</b>	<b>580.4</b>	<b>526.7</b>	<b>490.9</b>	<b>443.6</b>

### Selected Courses

Windward / Leeward	<b>988.4</b>	<b>798.2</b>	<b>697.6</b>	<b>637.4</b>	<b>597.9</b>	<b>571.6</b>	<b>539.6</b>
Circular Random	<b>806.5</b>	<b>655.9</b>	<b>575.6</b>	<b>528.7</b>	<b>499.0</b>	<b>478.6</b>	<b>451.3</b>
Ocean for PCS	<b>862.5</b>	<b>686.3</b>	<b>588.7</b>	<b>529.0</b>	<b>489.3</b>	<b>460.7</b>	<b>419.8</b>
Non Spinnaker	<b>854.9</b>	<b>689.1</b>	<b>599.6</b>	<b>546.8</b>	<b>513.5</b>	<b>491.2</b>	<b>462.3</b>

### 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>44.4°</b>	<b>41.8°</b>	<b>38.9°</b>	<b>37.6°</b>	<b>36.5°</b>	<b>35.8°</b>	<b>35.1°</b>
Beat VMG	<b>3.82</b>	<b>4.58</b>	<b>5.02</b>	<b>5.30</b>	<b>5.50</b>	<b>5.63</b>	<b>5.75</b>
52°	<b>5.93</b>	<b>6.80</b>	<b>7.25</b>	<b>7.49</b>	<b>7.65</b>	<b>7.76</b>	<b>7.88</b>
60°	<b>6.29</b>	<b>7.07</b>	<b>7.49</b>	<b>7.73</b>	<b>7.89</b>	<b>8.01</b>	<b>8.16</b>
75°	<b>6.56</b>	<b>7.26</b>	<b>7.70</b>	<b>8.04</b>	<b>8.27</b>	<b>8.44</b>	<b>8.64</b>
90°	<b>6.53</b>	<b>7.30</b>	<b>7.80</b>	<b>8.20</b>	<b>8.46</b>	<b>8.69</b>	<b>9.03</b>
110°	<b>6.30</b>	<b>7.14</b>	<b>7.65</b>	<b>8.09</b>	<b>8.53</b>	<b>8.93</b>	<b>9.49</b>
120°	<b>5.95</b>	<b>6.89</b>	<b>7.46</b>	<b>7.90</b>	<b>8.35</b>	<b>8.78</b>	<b>9.66</b>
135°	<b>5.04</b>	<b>6.26</b>	<b>7.01</b>	<b>7.52</b>	<b>7.94</b>	<b>8.36</b>	<b>9.21</b>
150°	<b>4.17</b>	<b>5.32</b>	<b>6.30</b>	<b>6.99</b>	<b>7.48</b>	<b>7.89</b>	<b>8.71</b>
Run VMG	<b>3.61</b>	<b>4.60</b>	<b>5.47</b>	<b>6.20</b>	<b>6.83</b>	<b>7.33</b>	<b>8.11</b>
Gybe Angles	<b>141.1°</b>	<b>145.1°</b>	<b>153.0°</b>	<b>164.1°</b>	<b>171.3°</b>	<b>175.1°</b>	<b>175.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **MICRO MAGIC** Certificate Number **090340**  
 Sail Nr **JPN 5502** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1092.4</b>	<b>898.2</b>	<b>816.9</b>	<b>778.8</b>	<b>755.9</b>	<b>742.1</b>	<b>732.4</b>
52°	<b>712.0</b>	<b>617.0</b>	<b>572.1</b>	<b>556.4</b>	<b>546.8</b>	<b>540.4</b>	<b>534.8</b>
60°	<b>674.9</b>	<b>595.8</b>	<b>556.8</b>	<b>538.8</b>	<b>527.9</b>	<b>520.2</b>	<b>513.3</b>
75°	<b>651.0</b>	<b>567.0</b>	<b>542.2</b>	<b>516.0</b>	<b>496.7</b>	<b>486.7</b>	<b>475.2</b>
90°	<b>616.3</b>	<b>551.4</b>	<b>518.8</b>	<b>502.6</b>	<b>489.4</b>	<b>462.2</b>	<b>436.1</b>
110°	<b>628.1</b>	<b>562.3</b>	<b>521.8</b>	<b>480.1</b>	<b>453.4</b>	<b>435.5</b>	<b>402.0</b>
120°	<b>655.9</b>	<b>577.8</b>	<b>537.7</b>	<b>496.3</b>	<b>450.6</b>	<b>413.3</b>	<b>368.6</b>
135°	<b>749.8</b>	<b>623.9</b>	<b>565.8</b>	<b>530.0</b>	<b>492.4</b>	<b>451.7</b>	<b>341.4</b>
150°	<b>899.3</b>	<b>711.8</b>	<b>617.7</b>	<b>565.4</b>	<b>531.6</b>	<b>496.6</b>	<b>417.0</b>
Run VMG	<b>1038.4</b>	<b>821.9</b>	<b>704.9</b>	<b>628.4</b>	<b>576.6</b>	<b>543.2</b>	<b>481.5</b>

### Selected Courses

Windward / Leeward	<b>1086.3</b>	<b>877.3</b>	<b>772.2</b>	<b>712.3</b>	<b>674.2</b>	<b>649.4</b>	<b>611.3</b>
Circular Random	<b>898.5</b>	<b>732.2</b>	<b>643.9</b>	<b>591.9</b>	<b>558.0</b>	<b>533.2</b>	<b>495.5</b>
Ocean for PCS	<b>958.5</b>	<b>764.7</b>	<b>657.5</b>	<b>591.1</b>	<b>544.6</b>	<b>508.0</b>	<b>448.0</b>
Non Spinnaker	<b>988.6</b>	<b>794.7</b>	<b>690.1</b>	<b>628.6</b>	<b>589.7</b>	<b>563.0</b>	<b>526.1</b>

### 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>40.3°</b>	<b>37.8°</b>	<b>36.4°</b>	<b>35.8°</b>	<b>35.5°</b>	<b>35.3°</b>
Beat VMG	<b>3.30</b>	<b>4.01</b>	<b>4.41</b>	<b>4.62</b>	<b>4.76</b>	<b>4.85</b>	<b>4.92</b>
52°	<b>5.06</b>	<b>5.83</b>	<b>6.29</b>	<b>6.47</b>	<b>6.58</b>	<b>6.66</b>	<b>6.73</b>
60°	<b>5.33</b>	<b>6.04</b>	<b>6.47</b>	<b>6.68</b>	<b>6.82</b>	<b>6.92</b>	<b>7.01</b>
75°	<b>5.53</b>	<b>6.35</b>	<b>6.64</b>	<b>6.98</b>	<b>7.25</b>	<b>7.40</b>	<b>7.58</b>
90°	<b>5.84</b>	<b>6.53</b>	<b>6.94</b>	<b>7.16</b>	<b>7.36</b>	<b>7.79</b>	<b>8.26</b>
110°	<b>5.73</b>	<b>6.40</b>	<b>6.90</b>	<b>7.50</b>	<b>7.94</b>	<b>8.27</b>	<b>8.96</b>
120°	<b>5.49</b>	<b>6.23</b>	<b>6.70</b>	<b>7.25</b>	<b>7.99</b>	<b>8.71</b>	<b>9.77</b>
135°	<b>4.80</b>	<b>5.77</b>	<b>6.36</b>	<b>6.79</b>	<b>7.31</b>	<b>7.97</b>	<b>10.55</b>
150°	<b>4.00</b>	<b>5.06</b>	<b>5.83</b>	<b>6.37</b>	<b>6.77</b>	<b>7.25</b>	<b>8.63</b>
Run VMG	<b>3.47</b>	<b>4.38</b>	<b>5.11</b>	<b>5.73</b>	<b>6.24</b>	<b>6.63</b>	<b>7.48</b>
Gybe Angles	<b>142.9°</b>	<b>147.9°</b>	<b>158.8°</b>	<b>166.9°</b>	<b>173.1°</b>	<b>174.1°</b>	<b>136.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>J-ORCHID</b>	Certificate Number <b>090350</b>
Sail Nr <b>JPN 5131</b>	Issued On <b>4/13/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1037.6</b>	<b>869.7</b>	<b>790.5</b>	<b>746.4</b>	<b>720.4</b>	<b>705.1</b>	<b>694.4</b>
52°	<b>673.9</b>	<b>576.1</b>	<b>536.2</b>	<b>518.7</b>	<b>508.3</b>	<b>501.8</b>	<b>496.8</b>
60°	<b>637.0</b>	<b>550.7</b>	<b>515.6</b>	<b>500.7</b>	<b>490.7</b>	<b>484.1</b>	<b>478.4</b>
75°	<b>608.0</b>	<b>534.3</b>	<b>498.5</b>	<b>476.4</b>	<b>465.2</b>	<b>457.4</b>	<b>449.1</b>
90°	<b>609.9</b>	<b>526.7</b>	<b>487.7</b>	<b>470.2</b>	<b>450.3</b>	<b>436.7</b>	<b>423.7</b>
110°	<b>627.8</b>	<b>540.1</b>	<b>498.7</b>	<b>464.7</b>	<b>436.0</b>	<b>420.8</b>	<b>398.4</b>
120°	<b>664.5</b>	<b>561.8</b>	<b>512.5</b>	<b>478.4</b>	<b>447.1</b>	<b>415.9</b>	<b>377.9</b>
135°	<b>767.0</b>	<b>623.4</b>	<b>546.8</b>	<b>506.3</b>	<b>475.0</b>	<b>446.4</b>	<b>386.3</b>
150°	<b>927.2</b>	<b>722.1</b>	<b>614.0</b>	<b>546.9</b>	<b>508.5</b>	<b>478.6</b>	<b>424.9</b>
Run VMG	<b>1070.6</b>	<b>833.9</b>	<b>707.0</b>	<b>619.4</b>	<b>559.2</b>	<b>519.8</b>	<b>464.0</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1074.8</b>	<b>867.6</b>	<b>758.6</b>	<b>691.6</b>	<b>647.7</b>	<b>619.3</b>	<b>584.3</b>
Circular Random	<b>877.1</b>	<b>710.2</b>	<b>620.7</b>	<b>568.0</b>	<b>534.6</b>	<b>511.9</b>	<b>481.6</b>
Ocean for PCS	<b>936.8</b>	<b>742.5</b>	<b>634.2</b>	<b>567.4</b>	<b>522.6</b>	<b>490.0</b>	<b>442.8</b>
Non Spinnaker	<b>937.0</b>	<b>752.4</b>	<b>652.1</b>	<b>592.4</b>	<b>554.7</b>	<b>529.3</b>	<b>496.6</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>44.6°</b>	<b>41.9°</b>	<b>40.8°</b>	<b>39.3°</b>	<b>38.2°</b>	<b>37.4°</b>	<b>37.0°</b>
Beat VMG	<b>3.47</b>	<b>4.14</b>	<b>4.55</b>	<b>4.82</b>	<b>5.00</b>	<b>5.11</b>	<b>5.18</b>
52°	<b>5.34</b>	<b>6.25</b>	<b>6.71</b>	<b>6.94</b>	<b>7.08</b>	<b>7.17</b>	<b>7.25</b>
60°	<b>5.65</b>	<b>6.54</b>	<b>6.98</b>	<b>7.19</b>	<b>7.34</b>	<b>7.44</b>	<b>7.53</b>
75°	<b>5.92</b>	<b>6.74</b>	<b>7.22</b>	<b>7.56</b>	<b>7.74</b>	<b>7.87</b>	<b>8.02</b>
90°	<b>5.90</b>	<b>6.84</b>	<b>7.38</b>	<b>7.66</b>	<b>7.99</b>	<b>8.24</b>	<b>8.50</b>
110°	<b>5.73</b>	<b>6.67</b>	<b>7.22</b>	<b>7.75</b>	<b>8.26</b>	<b>8.55</b>	<b>9.04</b>
120°	<b>5.42</b>	<b>6.41</b>	<b>7.02</b>	<b>7.53</b>	<b>8.05</b>	<b>8.66</b>	<b>9.53</b>
135°	<b>4.69</b>	<b>5.78</b>	<b>6.58</b>	<b>7.11</b>	<b>7.58</b>	<b>8.06</b>	<b>9.32</b>
150°	<b>3.88</b>	<b>4.99</b>	<b>5.86</b>	<b>6.58</b>	<b>7.08</b>	<b>7.52</b>	<b>8.47</b>
Run VMG	<b>3.36</b>	<b>4.32</b>	<b>5.09</b>	<b>5.81</b>	<b>6.44</b>	<b>6.93</b>	<b>7.76</b>
Gybe Angles	<b>142.0°</b>	<b>148.0°</b>	<b>154.9°</b>	<b>161.6°</b>	<b>169.6°</b>	<b>173.8°</b>	<b>173.8°</b>



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# 2009

## ORC Club Certificate Appendix

### BOAT

Name **PHOENIX III** Certificate Number **090360**  
 Sail Nr **JPN 5964** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1164.0</b>	<b>951.9</b>	<b>850.6</b>	<b>803.4</b>	<b>775.2</b>	<b>758.4</b>	<b>747.5</b>
52°	<b>750.8</b>	<b>636.7</b>	<b>576.1</b>	<b>554.4</b>	<b>545.0</b>	<b>539.3</b>	<b>535.0</b>
60°	<b>706.4</b>	<b>608.3</b>	<b>557.3</b>	<b>537.7</b>	<b>528.7</b>	<b>522.2</b>	<b>516.6</b>
75°	<b>674.7</b>	<b>587.0</b>	<b>543.2</b>	<b>521.5</b>	<b>500.6</b>	<b>492.2</b>	<b>483.6</b>
90°	<b>667.2</b>	<b>572.6</b>	<b>534.6</b>	<b>503.4</b>	<b>489.1</b>	<b>477.9</b>	<b>456.1</b>
110°	<b>694.5</b>	<b>593.8</b>	<b>545.5</b>	<b>515.8</b>	<b>483.6</b>	<b>452.9</b>	<b>424.6</b>
120°	<b>739.2</b>	<b>620.1</b>	<b>557.6</b>	<b>527.8</b>	<b>496.3</b>	<b>466.6</b>	<b>402.9</b>
135°	<b>857.0</b>	<b>683.2</b>	<b>597.8</b>	<b>550.2</b>	<b>522.8</b>	<b>492.9</b>	<b>435.9</b>
150°	<b>1021.2</b>	<b>788.7</b>	<b>664.5</b>	<b>592.0</b>	<b>549.3</b>	<b>522.9</b>	<b>468.4</b>
Run VMG	<b>1179.1</b>	<b>910.7</b>	<b>759.9</b>	<b>664.7</b>	<b>599.5</b>	<b>556.6</b>	<b>504.1</b>

### Selected Courses

Windward / Leeward	<b>1192.0</b>	<b>947.6</b>	<b>817.9</b>	<b>743.3</b>	<b>695.8</b>	<b>665.1</b>	<b>631.9</b>
Circular Random	<b>965.3</b>	<b>776.9</b>	<b>675.5</b>	<b>616.1</b>	<b>579.0</b>	<b>554.1</b>	<b>521.1</b>
Ocean for PCS	<b>1030.6</b>	<b>811.8</b>	<b>690.1</b>	<b>615.9</b>	<b>566.9</b>	<b>531.7</b>	<b>481.0</b>
Non Spinnaker	<b>1028.5</b>	<b>821.2</b>	<b>708.2</b>	<b>641.6</b>	<b>600.0</b>	<b>572.7</b>	<b>538.9</b>

### 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>44.6°</b>	<b>41.6°</b>	<b>40.3°</b>	<b>39.2°</b>	<b>38.5°</b>	<b>38.0°</b>	<b>37.9°</b>
Beat VMG	<b>3.09</b>	<b>3.78</b>	<b>4.23</b>	<b>4.48</b>	<b>4.64</b>	<b>4.75</b>	<b>4.82</b>
52°	<b>4.80</b>	<b>5.65</b>	<b>6.25</b>	<b>6.49</b>	<b>6.61</b>	<b>6.68</b>	<b>6.73</b>
60°	<b>5.10</b>	<b>5.92</b>	<b>6.46</b>	<b>6.70</b>	<b>6.81</b>	<b>6.89</b>	<b>6.97</b>
75°	<b>5.34</b>	<b>6.13</b>	<b>6.63</b>	<b>6.90</b>	<b>7.19</b>	<b>7.31</b>	<b>7.44</b>
90°	<b>5.40</b>	<b>6.29</b>	<b>6.73</b>	<b>7.15</b>	<b>7.36</b>	<b>7.53</b>	<b>7.89</b>
110°	<b>5.18</b>	<b>6.06</b>	<b>6.60</b>	<b>6.98</b>	<b>7.44</b>	<b>7.95</b>	<b>8.48</b>
120°	<b>4.87</b>	<b>5.81</b>	<b>6.46</b>	<b>6.82</b>	<b>7.25</b>	<b>7.72</b>	<b>8.94</b>
135°	<b>4.20</b>	<b>5.27</b>	<b>6.02</b>	<b>6.54</b>	<b>6.89</b>	<b>7.30</b>	<b>8.26</b>
150°	<b>3.53</b>	<b>4.56</b>	<b>5.42</b>	<b>6.08</b>	<b>6.55</b>	<b>6.88</b>	<b>7.69</b>
Run VMG	<b>3.05</b>	<b>3.95</b>	<b>4.74</b>	<b>5.42</b>	<b>6.01</b>	<b>6.47</b>	<b>7.14</b>
Gybe Angles	<b>145.6°</b>	<b>149.3°</b>	<b>159.1°</b>	<b>166.4°</b>	<b>170.0°</b>	<b>175.6°</b>	<b>174.8°</b>



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## ORC Club Certificate Appendix

### BOAT

Name **SPIRIT OF HIROSHIMA II** Certificate Number **090370**  
 Sail Nr **JPN 4561** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1063.1</b>	<b>861.7</b>	<b>769.1</b>	<b>728.9</b>	<b>705.1</b>	<b>690.6</b>	<b>680.1</b>
52°	<b>683.3</b>	<b>570.2</b>	<b>525.2</b>	<b>506.4</b>	<b>495.5</b>	<b>488.6</b>	<b>482.7</b>
60°	<b>633.7</b>	<b>547.4</b>	<b>507.0</b>	<b>487.5</b>	<b>477.3</b>	<b>470.7</b>	<b>464.5</b>
75°	<b>597.1</b>	<b>530.8</b>	<b>492.6</b>	<b>468.1</b>	<b>453.3</b>	<b>445.9</b>	<b>437.8</b>
90°	<b>594.0</b>	<b>520.2</b>	<b>480.7</b>	<b>455.0</b>	<b>444.6</b>	<b>432.6</b>	<b>417.1</b>
110°	<b>612.7</b>	<b>534.2</b>	<b>493.9</b>	<b>463.6</b>	<b>437.5</b>	<b>416.3</b>	<b>396.3</b>
120°	<b>660.9</b>	<b>554.3</b>	<b>507.6</b>	<b>475.9</b>	<b>449.5</b>	<b>425.6</b>	<b>382.6</b>
135°	<b>771.3</b>	<b>610.2</b>	<b>541.3</b>	<b>501.9</b>	<b>473.1</b>	<b>448.9</b>	<b>406.2</b>
150°	<b>924.7</b>	<b>723.2</b>	<b>600.7</b>	<b>540.7</b>	<b>503.4</b>	<b>475.5</b>	<b>431.3</b>
Run VMG	<b>1067.7</b>	<b>835.0</b>	<b>692.8</b>	<b>606.2</b>	<b>551.0</b>	<b>513.1</b>	<b>461.7</b>

### Selected Courses

Windward / Leeward	<b>1084.1</b>	<b>862.3</b>	<b>743.2</b>	<b>676.3</b>	<b>635.5</b>	<b>608.5</b>	<b>576.4</b>
Circular Random	<b>872.8</b>	<b>703.4</b>	<b>612.6</b>	<b>559.7</b>	<b>526.9</b>	<b>505.2</b>	<b>477.4</b>
Ocean for PCS	<b>933.5</b>	<b>736.0</b>	<b>626.2</b>	<b>559.4</b>	<b>515.6</b>	<b>484.5</b>	<b>440.6</b>
Non Spinnaker	<b>932.4</b>	<b>745.0</b>	<b>643.1</b>	<b>583.1</b>	<b>545.7</b>	<b>521.1</b>	<b>490.7</b>

### 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>44.6°</b>	<b>44.0°</b>	<b>40.4°</b>	<b>38.8°</b>	<b>37.8°</b>	<b>37.3°</b>	<b>37.1°</b>
Beat VMG	<b>3.39</b>	<b>4.18</b>	<b>4.68</b>	<b>4.94</b>	<b>5.11</b>	<b>5.21</b>	<b>5.29</b>
52°	<b>5.27</b>	<b>6.31</b>	<b>6.85</b>	<b>7.11</b>	<b>7.27</b>	<b>7.37</b>	<b>7.46</b>
60°	<b>5.68</b>	<b>6.58</b>	<b>7.10</b>	<b>7.38</b>	<b>7.54</b>	<b>7.65</b>	<b>7.75</b>
75°	<b>6.03</b>	<b>6.78</b>	<b>7.31</b>	<b>7.69</b>	<b>7.94</b>	<b>8.07</b>	<b>8.22</b>
90°	<b>6.06</b>	<b>6.92</b>	<b>7.49</b>	<b>7.91</b>	<b>8.10</b>	<b>8.32</b>	<b>8.63</b>
110°	<b>5.88</b>	<b>6.74</b>	<b>7.29</b>	<b>7.76</b>	<b>8.23</b>	<b>8.65</b>	<b>9.09</b>
120°	<b>5.45</b>	<b>6.49</b>	<b>7.09</b>	<b>7.56</b>	<b>8.01</b>	<b>8.46</b>	<b>9.41</b>
135°	<b>4.67</b>	<b>5.90</b>	<b>6.65</b>	<b>7.17</b>	<b>7.61</b>	<b>8.02</b>	<b>8.86</b>
150°	<b>3.89</b>	<b>4.98</b>	<b>5.99</b>	<b>6.66</b>	<b>7.15</b>	<b>7.57</b>	<b>8.35</b>
Run VMG	<b>3.37</b>	<b>4.31</b>	<b>5.20</b>	<b>5.94</b>	<b>6.53</b>	<b>7.02</b>	<b>7.80</b>
Gybe Angles	<b>143.2°</b>	<b>147.2°</b>	<b>151.8°</b>	<b>165.1°</b>	<b>171.6°</b>	<b>174.4°</b>	<b>175.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SAMMY** Certificate Number **090380**  
 Sail Nr **JPN 5660** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>988.8</b>	<b>817.4</b>	<b>745.6</b>	<b>706.8</b>	<b>684.0</b>	<b>670.8</b>	<b>662.9</b>
52°	<b>640.4</b>	<b>545.4</b>	<b>508.1</b>	<b>491.4</b>	<b>481.2</b>	<b>475.0</b>	<b>470.7</b>
60°	<b>603.4</b>	<b>522.8</b>	<b>487.7</b>	<b>472.8</b>	<b>463.1</b>	<b>456.8</b>	<b>452.0</b>
75°	<b>577.5</b>	<b>508.7</b>	<b>471.2</b>	<b>448.2</b>	<b>437.6</b>	<b>430.2</b>	<b>422.6</b>
90°	<b>576.3</b>	<b>498.1</b>	<b>458.3</b>	<b>442.2</b>	<b>423.4</b>	<b>408.5</b>	<b>395.3</b>
110°	<b>590.2</b>	<b>512.1</b>	<b>470.9</b>	<b>436.7</b>	<b>408.0</b>	<b>393.2</b>	<b>370.5</b>
120°	<b>625.6</b>	<b>532.7</b>	<b>486.5</b>	<b>452.6</b>	<b>421.1</b>	<b>388.2</b>	<b>349.1</b>
135°	<b>730.0</b>	<b>590.2</b>	<b>521.0</b>	<b>481.7</b>	<b>451.4</b>	<b>424.1</b>	<b>362.1</b>
150°	<b>879.4</b>	<b>691.4</b>	<b>585.0</b>	<b>522.8</b>	<b>485.1</b>	<b>456.0</b>	<b>405.2</b>
Run VMG	<b>1015.5</b>	<b>798.3</b>	<b>673.8</b>	<b>593.1</b>	<b>536.0</b>	<b>497.6</b>	<b>444.8</b>

### Selected Courses

Windward / Leeward	<b>1021.5</b>	<b>823.0</b>	<b>719.7</b>	<b>658.0</b>	<b>617.4</b>	<b>590.8</b>	<b>559.0</b>
Circular Random	<b>831.8</b>	<b>673.2</b>	<b>588.2</b>	<b>538.2</b>	<b>506.4</b>	<b>484.7</b>	<b>455.7</b>
Ocean for PCS	<b>888.8</b>	<b>704.0</b>	<b>600.9</b>	<b>537.2</b>	<b>494.2</b>	<b>462.5</b>	<b>416.0</b>
Non Spinnaker	<b>894.1</b>	<b>717.0</b>	<b>620.7</b>	<b>563.5</b>	<b>527.3</b>	<b>502.9</b>	<b>471.4</b>

### 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>44.0°</b>	<b>41.9°</b>	<b>40.1°</b>	<b>38.9°</b>	<b>38.0°</b>	<b>37.3°</b>	<b>37.1°</b>
Beat VMG	<b>3.64</b>	<b>4.40</b>	<b>4.83</b>	<b>5.09</b>	<b>5.26</b>	<b>5.37</b>	<b>5.43</b>
52°	<b>5.62</b>	<b>6.60</b>	<b>7.09</b>	<b>7.33</b>	<b>7.48</b>	<b>7.58</b>	<b>7.65</b>
60°	<b>5.97</b>	<b>6.89</b>	<b>7.38</b>	<b>7.61</b>	<b>7.77</b>	<b>7.88</b>	<b>7.96</b>
75°	<b>6.23</b>	<b>7.08</b>	<b>7.64</b>	<b>8.03</b>	<b>8.23</b>	<b>8.37</b>	<b>8.52</b>
90°	<b>6.25</b>	<b>7.23</b>	<b>7.85</b>	<b>8.14</b>	<b>8.50</b>	<b>8.81</b>	<b>9.11</b>
110°	<b>6.10</b>	<b>7.03</b>	<b>7.64</b>	<b>8.24</b>	<b>8.82</b>	<b>9.16</b>	<b>9.72</b>
120°	<b>5.75</b>	<b>6.76</b>	<b>7.40</b>	<b>7.95</b>	<b>8.55</b>	<b>9.27</b>	<b>10.31</b>
135°	<b>4.93</b>	<b>6.10</b>	<b>6.91</b>	<b>7.47</b>	<b>7.98</b>	<b>8.49</b>	<b>9.94</b>
150°	<b>4.09</b>	<b>5.21</b>	<b>6.15</b>	<b>6.89</b>	<b>7.42</b>	<b>7.90</b>	<b>8.89</b>
Run VMG	<b>3.55</b>	<b>4.51</b>	<b>5.34</b>	<b>6.07</b>	<b>6.72</b>	<b>7.23</b>	<b>8.09</b>
Gybe Angles	<b>141.8°</b>	<b>146.0°</b>	<b>153.3°</b>	<b>161.5°</b>	<b>169.2°</b>	<b>173.1°</b>	<b>180.0°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>HIMIKO</b>
Certificate Number	<b>090390</b>
Sail Nr	<b>JPN 5376</b>
Issued On	<b>4/13/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1015.0</b>	<b>848.2</b>	<b>773.5</b>	<b>732.3</b>	<b>706.4</b>	<b>690.7</b>	<b>679.5</b>
52°	<b>654.0</b>	<b>560.0</b>	<b>518.8</b>	<b>499.9</b>	<b>489.2</b>	<b>482.7</b>	<b>477.6</b>
60°	<b>611.4</b>	<b>532.1</b>	<b>496.2</b>	<b>481.3</b>	<b>471.9</b>	<b>465.5</b>	<b>459.4</b>
75°	<b>583.1</b>	<b>512.8</b>	<b>478.6</b>	<b>457.8</b>	<b>445.3</b>	<b>436.5</b>	<b>427.5</b>
90°	<b>584.2</b>	<b>503.5</b>	<b>470.2</b>	<b>454.6</b>	<b>430.2</b>	<b>417.4</b>	<b>407.0</b>
110°	<b>592.9</b>	<b>512.9</b>	<b>473.2</b>	<b>440.1</b>	<b>419.1</b>	<b>409.3</b>	<b>391.9</b>
120°	<b>623.7</b>	<b>532.4</b>	<b>485.5</b>	<b>452.3</b>	<b>421.3</b>	<b>400.4</b>	<b>375.7</b>
135°	<b>716.2</b>	<b>585.0</b>	<b>517.2</b>	<b>479.6</b>	<b>449.3</b>	<b>420.8</b>	<b>372.9</b>
150°	<b>851.2</b>	<b>680.5</b>	<b>580.1</b>	<b>519.7</b>	<b>483.4</b>	<b>455.6</b>	<b>406.5</b>
Run VMG	<b>982.9</b>	<b>785.8</b>	<b>667.8</b>	<b>591.2</b>	<b>535.6</b>	<b>497.8</b>	<b>443.7</b>
Selected Courses							
Windward / Leeward	<b>1020.0</b>	<b>831.2</b>	<b>730.8</b>	<b>669.6</b>	<b>628.5</b>	<b>600.9</b>	<b>566.7</b>
Circular Random	<b>836.7</b>	<b>679.6</b>	<b>595.6</b>	<b>546.2</b>	<b>515.0</b>	<b>493.8</b>	<b>466.2</b>
Ocean for PCS	<b>893.4</b>	<b>710.4</b>	<b>608.4</b>	<b>545.1</b>	<b>502.4</b>	<b>471.2</b>	<b>426.7</b>
Non Spinnaker	<b>903.2</b>	<b>726.5</b>	<b>630.4</b>	<b>573.2</b>	<b>536.8</b>	<b>512.3</b>	<b>481.1</b>

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>44.0°</b>	<b>43.3°</b>	<b>40.8°</b>	<b>40.2°</b>	<b>39.5°</b>	<b>38.8°</b>	<b>38.5°</b>
Beat VMG	<b>3.55</b>	<b>4.24</b>	<b>4.65</b>	<b>4.92</b>	<b>5.10</b>	<b>5.21</b>	<b>5.30</b>
52°	<b>5.50</b>	<b>6.43</b>	<b>6.94</b>	<b>7.20</b>	<b>7.36</b>	<b>7.46</b>	<b>7.54</b>
60°	<b>5.89</b>	<b>6.77</b>	<b>7.25</b>	<b>7.48</b>	<b>7.63</b>	<b>7.73</b>	<b>7.84</b>
75°	<b>6.17</b>	<b>7.02</b>	<b>7.52</b>	<b>7.86</b>	<b>8.09</b>	<b>8.25</b>	<b>8.42</b>
90°	<b>6.16</b>	<b>7.15</b>	<b>7.66</b>	<b>7.92</b>	<b>8.37</b>	<b>8.62</b>	<b>8.84</b>
110°	<b>6.07</b>	<b>7.02</b>	<b>7.61</b>	<b>8.18</b>	<b>8.59</b>	<b>8.80</b>	<b>9.19</b>
120°	<b>5.77</b>	<b>6.76</b>	<b>7.41</b>	<b>7.96</b>	<b>8.55</b>	<b>8.99</b>	<b>9.58</b>
135°	<b>5.03</b>	<b>6.15</b>	<b>6.96</b>	<b>7.51</b>	<b>8.01</b>	<b>8.56</b>	<b>9.65</b>
150°	<b>4.23</b>	<b>5.29</b>	<b>6.21</b>	<b>6.93</b>	<b>7.45</b>	<b>7.90</b>	<b>8.86</b>
Run VMG	<b>3.66</b>	<b>4.58</b>	<b>5.39</b>	<b>6.09</b>	<b>6.72</b>	<b>7.23</b>	<b>8.11</b>
Gybe Angles	<b>143.7°</b>	<b>145.7°</b>	<b>153.8°</b>	<b>160.5°</b>	<b>166.8°</b>	<b>172.0°</b>	<b>170.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>Cassandre</b>
Certificate Number	<b>090400</b>
Sail Nr	<b>JPN 5030</b>
Issued On	<b>4/13/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1011.5</b>	<b>838.2</b>	<b>757.2</b>	<b>715.6</b>	<b>690.8</b>	<b>675.4</b>	<b>663.0</b>
52°	<b>652.4</b>	<b>555.9</b>	<b>515.3</b>	<b>495.1</b>	<b>484.4</b>	<b>478.4</b>	<b>473.5</b>
60°	<b>609.4</b>	<b>533.1</b>	<b>493.4</b>	<b>478.4</b>	<b>470.3</b>	<b>464.9</b>	<b>459.6</b>
75°	<b>580.9</b>	<b>516.0</b>	<b>479.9</b>	<b>461.3</b>	<b>450.7</b>	<b>443.5</b>	<b>435.2</b>
90°	<b>585.3</b>	<b>507.9</b>	<b>471.9</b>	<b>457.7</b>	<b>443.6</b>	<b>428.3</b>	<b>415.9</b>
110°	<b>597.5</b>	<b>519.7</b>	<b>478.0</b>	<b>452.9</b>	<b>430.3</b>	<b>417.7</b>	<b>401.0</b>
120°	<b>635.4</b>	<b>539.4</b>	<b>489.4</b>	<b>462.4</b>	<b>437.1</b>	<b>414.4</b>	<b>385.0</b>
135°	<b>731.9</b>	<b>590.1</b>	<b>524.3</b>	<b>483.2</b>	<b>459.3</b>	<b>435.6</b>	<b>390.7</b>
150°	<b>875.2</b>	<b>692.3</b>	<b>583.5</b>	<b>525.3</b>	<b>486.1</b>	<b>462.6</b>	<b>419.2</b>
Run VMG	<b>1010.6</b>	<b>799.5</b>	<b>672.6</b>	<b>593.5</b>	<b>539.5</b>	<b>499.4</b>	<b>452.7</b>

Selected Courses							
Windward / Leeward	<b>1031.0</b>	<b>832.6</b>	<b>725.7</b>	<b>662.8</b>	<b>622.2</b>	<b>594.0</b>	<b>564.2</b>
Circular Random	<b>841.1</b>	<b>681.7</b>	<b>596.6</b>	<b>547.0</b>	<b>516.1</b>	<b>495.5</b>	<b>469.3</b>
Ocean for PCS	<b>898.5</b>	<b>712.9</b>	<b>609.9</b>	<b>546.9</b>	<b>505.3</b>	<b>475.6</b>	<b>433.7</b>
Non Spinnaker	<b>906.2</b>	<b>727.3</b>	<b>630.0</b>	<b>572.4</b>	<b>536.2</b>	<b>512.4</b>	<b>483.2</b>

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>44.4°</b>	<b>43.6°</b>	<b>40.3°</b>	<b>38.5°</b>	<b>37.6°</b>	<b>37.1°</b>	<b>36.9°</b>
Beat VMG	<b>3.56</b>	<b>4.29</b>	<b>4.75</b>	<b>5.03</b>	<b>5.21</b>	<b>5.33</b>	<b>5.43</b>
52°	<b>5.52</b>	<b>6.48</b>	<b>6.99</b>	<b>7.27</b>	<b>7.43</b>	<b>7.53</b>	<b>7.60</b>
60°	<b>5.91</b>	<b>6.75</b>	<b>7.30</b>	<b>7.52</b>	<b>7.66</b>	<b>7.74</b>	<b>7.83</b>
75°	<b>6.20</b>	<b>6.98</b>	<b>7.50</b>	<b>7.80</b>	<b>7.99</b>	<b>8.12</b>	<b>8.27</b>
90°	<b>6.15</b>	<b>7.09</b>	<b>7.63</b>	<b>7.87</b>	<b>8.11</b>	<b>8.41</b>	<b>8.66</b>
110°	<b>6.03</b>	<b>6.93</b>	<b>7.53</b>	<b>7.95</b>	<b>8.37</b>	<b>8.62</b>	<b>8.98</b>
120°	<b>5.67</b>	<b>6.67</b>	<b>7.36</b>	<b>7.79</b>	<b>8.24</b>	<b>8.69</b>	<b>9.35</b>
135°	<b>4.92</b>	<b>6.10</b>	<b>6.87</b>	<b>7.45</b>	<b>7.84</b>	<b>8.26</b>	<b>9.21</b>
150°	<b>4.11</b>	<b>5.20</b>	<b>6.17</b>	<b>6.85</b>	<b>7.41</b>	<b>7.78</b>	<b>8.59</b>
Run VMG	<b>3.56</b>	<b>4.50</b>	<b>5.35</b>	<b>6.07</b>	<b>6.67</b>	<b>7.21</b>	<b>7.95</b>
Gybe Angles	<b>142.9°</b>	<b>146.8°</b>	<b>152.2°</b>	<b>163.1°</b>	<b>168.0°</b>	<b>172.0°</b>	<b>174.4°</b>



World Leader in Rating Technology

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## ORC Club Certificate Appendix

<b>BOAT</b>	
Name	<b>NEO COSMOS</b>
Certificate Number	<b>090410</b>
Sail Nr	<b>JPN 70</b>
Issued On	<b>4/13/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>878.8</b>	<b>742.8</b>	<b>677.6</b>	<b>637.1</b>	<b>612.1</b>	<b>596.9</b>	<b>587.6</b>
52°	<b>571.3</b>	<b>490.5</b>	<b>452.7</b>	<b>434.6</b>	<b>424.4</b>	<b>418.2</b>	<b>412.7</b>
60°	<b>539.6</b>	<b>460.9</b>	<b>432.1</b>	<b>417.8</b>	<b>408.6</b>	<b>402.4</b>	<b>396.7</b>
75°	<b>512.0</b>	<b>439.2</b>	<b>410.6</b>	<b>396.3</b>	<b>386.3</b>	<b>379.1</b>	<b>371.1</b>
90°	<b>510.6</b>	<b>430.6</b>	<b>407.5</b>	<b>384.3</b>	<b>369.8</b>	<b>360.4</b>	<b>347.7</b>
110°	<b>507.2</b>	<b>429.0</b>	<b>395.4</b>	<b>376.7</b>	<b>363.8</b>	<b>352.0</b>	<b>328.7</b>
120°	<b>531.9</b>	<b>443.8</b>	<b>404.2</b>	<b>375.1</b>	<b>354.2</b>	<b>340.0</b>	<b>315.2</b>
135°	<b>609.7</b>	<b>501.9</b>	<b>435.3</b>	<b>399.6</b>	<b>369.9</b>	<b>341.2</b>	<b>290.2</b>
150°	<b>739.2</b>	<b>593.0</b>	<b>505.1</b>	<b>445.1</b>	<b>409.3</b>	<b>380.5</b>	<b>325.5</b>
Run VMG	<b>853.5</b>	<b>684.7</b>	<b>583.3</b>	<b>513.6</b>	<b>466.2</b>	<b>430.5</b>	<b>374.5</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>885.2</b>	<b>725.6</b>	<b>638.4</b>	<b>582.7</b>	<b>545.3</b>	<b>519.3</b>	<b>485.9</b>
Circular Random	<b>724.4</b>	<b>587.5</b>	<b>513.9</b>	<b>470.2</b>	<b>442.0</b>	<b>422.3</b>	<b>394.9</b>
Ocean for PCS	<b>773.6</b>	<b>614.4</b>	<b>524.9</b>	<b>468.8</b>	<b>430.3</b>	<b>401.5</b>	<b>358.8</b>
Non Spinnaker	<b>802.5</b>	<b>642.7</b>	<b>554.7</b>	<b>501.5</b>	<b>466.9</b>	<b>443.0</b>	<b>412.3</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>44.2°</b>	<b>40.8°</b>	<b>40.4°</b>	<b>40.1°</b>	<b>39.1°</b>	<b>38.5°</b>	<b>38.4°</b>
Beat VMG	<b>4.10</b>	<b>4.85</b>	<b>5.31</b>	<b>5.65</b>	<b>5.88</b>	<b>6.03</b>	<b>6.13</b>
52°	<b>6.30</b>	<b>7.34</b>	<b>7.95</b>	<b>8.28</b>	<b>8.48</b>	<b>8.61</b>	<b>8.72</b>
60°	<b>6.67</b>	<b>7.81</b>	<b>8.33</b>	<b>8.62</b>	<b>8.81</b>	<b>8.95</b>	<b>9.08</b>
75°	<b>7.03</b>	<b>8.20</b>	<b>8.77</b>	<b>9.08</b>	<b>9.32</b>	<b>9.50</b>	<b>9.70</b>
90°	<b>7.05</b>	<b>8.36</b>	<b>8.84</b>	<b>9.37</b>	<b>9.73</b>	<b>9.99</b>	<b>10.35</b>
110°	<b>7.10</b>	<b>8.39</b>	<b>9.11</b>	<b>9.56</b>	<b>9.90</b>	<b>10.23</b>	<b>10.95</b>
120°	<b>6.77</b>	<b>8.11</b>	<b>8.91</b>	<b>9.60</b>	<b>10.16</b>	<b>10.59</b>	<b>11.42</b>
135°	<b>5.90</b>	<b>7.17</b>	<b>8.27</b>	<b>9.01</b>	<b>9.73</b>	<b>10.55</b>	<b>12.40</b>
150°	<b>4.87</b>	<b>6.07</b>	<b>7.13</b>	<b>8.09</b>	<b>8.79</b>	<b>9.46</b>	<b>11.06</b>
Run VMG	<b>4.22</b>	<b>5.26</b>	<b>6.17</b>	<b>7.01</b>	<b>7.72</b>	<b>8.36</b>	<b>9.61</b>
Gybe Angles	<b>139.3°</b>	<b>145.7°</b>	<b>145.6°</b>	<b>151.4°</b>	<b>159.4°</b>	<b>165.3°</b>	<b>160.5°</b>



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# 2009

## ORC Club Certificate Appendix

### BOAT

Name **CORAL REEF** Certificate Number **090420**  
 Sail Nr **JPN 5644** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1004.7</b>	<b>835.4</b>	<b>757.2</b>	<b>716.6</b>	<b>692.4</b>	<b>677.5</b>	<b>666.1</b>
52°	<b>647.7</b>	<b>554.2</b>	<b>515.2</b>	<b>495.4</b>	<b>484.9</b>	<b>479.0</b>	<b>474.4</b>
60°	<b>605.4</b>	<b>530.8</b>	<b>493.0</b>	<b>478.5</b>	<b>470.4</b>	<b>465.1</b>	<b>460.3</b>
75°	<b>577.8</b>	<b>513.2</b>	<b>478.5</b>	<b>460.5</b>	<b>450.5</b>	<b>443.5</b>	<b>435.6</b>
90°	<b>571.6</b>	<b>498.7</b>	<b>467.0</b>	<b>452.0</b>	<b>441.7</b>	<b>427.2</b>	<b>415.9</b>
110°	<b>585.9</b>	<b>513.2</b>	<b>474.1</b>	<b>448.8</b>	<b>425.8</b>	<b>409.8</b>	<b>392.2</b>
120°	<b>623.4</b>	<b>532.7</b>	<b>484.6</b>	<b>457.8</b>	<b>432.1</b>	<b>410.5</b>	<b>377.6</b>
135°	<b>717.8</b>	<b>581.4</b>	<b>517.5</b>	<b>478.7</b>	<b>454.3</b>	<b>429.9</b>	<b>383.9</b>
150°	<b>858.0</b>	<b>680.5</b>	<b>576.3</b>	<b>519.3</b>	<b>481.8</b>	<b>458.2</b>	<b>413.8</b>
Run VMG	<b>990.7</b>	<b>785.7</b>	<b>663.8</b>	<b>588.0</b>	<b>534.8</b>	<b>495.9</b>	<b>449.1</b>

### Selected Courses

Windward / Leeward	<b>1017.8</b>	<b>824.4</b>	<b>721.2</b>	<b>660.4</b>	<b>620.7</b>	<b>593.3</b>	<b>563.7</b>
Circular Random	<b>831.8</b>	<b>675.5</b>	<b>592.3</b>	<b>543.9</b>	<b>513.7</b>	<b>493.4</b>	<b>467.3</b>
Ocean for PCS	<b>888.7</b>	<b>706.5</b>	<b>605.6</b>	<b>543.9</b>	<b>503.0</b>	<b>473.6</b>	<b>432.2</b>
Non Spinnaker	<b>901.3</b>	<b>724.2</b>	<b>627.9</b>	<b>571.0</b>	<b>535.3</b>	<b>511.8</b>	<b>483.1</b>

### 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>44.4°</b>	<b>43.4°</b>	<b>40.2°</b>	<b>38.6°</b>	<b>37.7°</b>	<b>37.3°</b>	<b>37.1°</b>
Beat VMG	<b>3.58</b>	<b>4.31</b>	<b>4.75</b>	<b>5.02</b>	<b>5.20</b>	<b>5.31</b>	<b>5.40</b>
52°	<b>5.56</b>	<b>6.50</b>	<b>6.99</b>	<b>7.27</b>	<b>7.42</b>	<b>7.52</b>	<b>7.59</b>
60°	<b>5.95</b>	<b>6.78</b>	<b>7.30</b>	<b>7.52</b>	<b>7.65</b>	<b>7.74</b>	<b>7.82</b>
75°	<b>6.23</b>	<b>7.01</b>	<b>7.52</b>	<b>7.82</b>	<b>7.99</b>	<b>8.12</b>	<b>8.26</b>
90°	<b>6.30</b>	<b>7.22</b>	<b>7.71</b>	<b>7.96</b>	<b>8.15</b>	<b>8.43</b>	<b>8.66</b>
110°	<b>6.14</b>	<b>7.01</b>	<b>7.59</b>	<b>8.02</b>	<b>8.46</b>	<b>8.78</b>	<b>9.18</b>
120°	<b>5.78</b>	<b>6.76</b>	<b>7.43</b>	<b>7.86</b>	<b>8.33</b>	<b>8.77</b>	<b>9.53</b>
135°	<b>5.02</b>	<b>6.19</b>	<b>6.96</b>	<b>7.52</b>	<b>7.92</b>	<b>8.37</b>	<b>9.38</b>
150°	<b>4.20</b>	<b>5.29</b>	<b>6.25</b>	<b>6.93</b>	<b>7.47</b>	<b>7.86</b>	<b>8.70</b>
Run VMG	<b>3.63</b>	<b>4.58</b>	<b>5.42</b>	<b>6.12</b>	<b>6.73</b>	<b>7.26</b>	<b>8.02</b>
Gybe Angles	<b>142.8°</b>	<b>146.2°</b>	<b>152.7°</b>	<b>162.5°</b>	<b>166.5°</b>	<b>171.5°</b>	<b>173.0°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **STARBOARD Jr.** Certificate Number **090430**  
 Sail Nr **JPN 5520** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>944.4</b>	<b>778.3</b>	<b>714.5</b>	<b>680.0</b>	<b>659.7</b>	<b>648.1</b>	<b>645.9</b>
52°	<b>612.5</b>	<b>525.1</b>	<b>494.6</b>	<b>479.3</b>	<b>470.2</b>	<b>464.8</b>	<b>461.6</b>
60°	<b>579.0</b>	<b>504.3</b>	<b>476.0</b>	<b>462.4</b>	<b>453.5</b>	<b>447.9</b>	<b>444.1</b>
75°	<b>556.8</b>	<b>491.6</b>	<b>456.1</b>	<b>438.8</b>	<b>428.5</b>	<b>421.6</b>	<b>415.1</b>
90°	<b>558.8</b>	<b>482.7</b>	<b>448.0</b>	<b>431.7</b>	<b>410.0</b>	<b>400.1</b>	<b>388.1</b>
110°	<b>571.3</b>	<b>497.1</b>	<b>456.4</b>	<b>421.6</b>	<b>398.3</b>	<b>385.3</b>	<b>362.4</b>
120°	<b>605.9</b>	<b>518.1</b>	<b>472.6</b>	<b>438.4</b>	<b>405.7</b>	<b>373.8</b>	<b>342.1</b>
135°	<b>714.1</b>	<b>574.7</b>	<b>508.2</b>	<b>469.1</b>	<b>438.3</b>	<b>409.8</b>	<b>342.7</b>
150°	<b>858.5</b>	<b>678.4</b>	<b>571.7</b>	<b>511.1</b>	<b>473.1</b>	<b>443.8</b>	<b>390.8</b>
Run VMG	<b>991.3</b>	<b>783.3</b>	<b>658.9</b>	<b>580.9</b>	<b>525.0</b>	<b>486.1</b>	<b>430.9</b>

### Selected Courses

Windward / Leeward	<b>986.7</b>	<b>795.6</b>	<b>696.6</b>	<b>638.1</b>	<b>599.4</b>	<b>573.5</b>	<b>543.6</b>
Circular Random	<b>804.7</b>	<b>652.0</b>	<b>570.4</b>	<b>522.5</b>	<b>492.2</b>	<b>471.5</b>	<b>443.8</b>
Ocean for PCS	<b>859.8</b>	<b>681.8</b>	<b>582.8</b>	<b>521.7</b>	<b>480.5</b>	<b>450.1</b>	<b>404.8</b>
Non Spinnaker	<b>866.4</b>	<b>695.3</b>	<b>602.4</b>	<b>547.4</b>	<b>512.6</b>	<b>489.2</b>	<b>458.8</b>

### 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>43.1°</b>	<b>40.9°</b>	<b>38.4°</b>	<b>37.3°</b>	<b>36.5°</b>	<b>36.0°</b>	<b>36.3°</b>
Beat VMG	<b>3.81</b>	<b>4.63</b>	<b>5.04</b>	<b>5.29</b>	<b>5.46</b>	<b>5.55</b>	<b>5.57</b>
52°	<b>5.88</b>	<b>6.86</b>	<b>7.28</b>	<b>7.51</b>	<b>7.66</b>	<b>7.75</b>	<b>7.80</b>
60°	<b>6.22</b>	<b>7.14</b>	<b>7.56</b>	<b>7.79</b>	<b>7.94</b>	<b>8.04</b>	<b>8.11</b>
75°	<b>6.47</b>	<b>7.32</b>	<b>7.89</b>	<b>8.20</b>	<b>8.40</b>	<b>8.54</b>	<b>8.67</b>
90°	<b>6.44</b>	<b>7.46</b>	<b>8.04</b>	<b>8.34</b>	<b>8.78</b>	<b>9.00</b>	<b>9.28</b>
110°	<b>6.30</b>	<b>7.24</b>	<b>7.89</b>	<b>8.54</b>	<b>9.04</b>	<b>9.34</b>	<b>9.93</b>
120°	<b>5.94</b>	<b>6.95</b>	<b>7.62</b>	<b>8.21</b>	<b>8.87</b>	<b>9.63</b>	<b>10.52</b>
135°	<b>5.04</b>	<b>6.26</b>	<b>7.08</b>	<b>7.67</b>	<b>8.21</b>	<b>8.78</b>	<b>10.50</b>
150°	<b>4.19</b>	<b>5.31</b>	<b>6.30</b>	<b>7.04</b>	<b>7.61</b>	<b>8.11</b>	<b>9.21</b>
Run VMG	<b>3.63</b>	<b>4.60</b>	<b>5.46</b>	<b>6.20</b>	<b>6.86</b>	<b>7.41</b>	<b>8.35</b>
Gybe Angles	<b>141.9°</b>	<b>143.9°</b>	<b>152.6°</b>	<b>161.5°</b>	<b>168.3°</b>	<b>172.7°</b>	<b>172.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **Everything Everything** Certificate Number **090440**  
 Sail Nr **JPN 5496** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1000.4</b>	<b>818.8</b>	<b>744.6</b>	<b>707.0</b>	<b>684.5</b>	<b>670.6</b>	<b>659.2</b>
52°	<b>646.8</b>	<b>555.8</b>	<b>516.7</b>	<b>500.9</b>	<b>491.9</b>	<b>486.2</b>	<b>480.9</b>
60°	<b>608.8</b>	<b>536.2</b>	<b>500.1</b>	<b>486.3</b>	<b>477.5</b>	<b>471.2</b>	<b>464.8</b>
75°	<b>585.1</b>	<b>522.4</b>	<b>489.8</b>	<b>467.3</b>	<b>454.3</b>	<b>446.1</b>	<b>436.8</b>
90°	<b>589.7</b>	<b>516.1</b>	<b>481.0</b>	<b>457.4</b>	<b>446.3</b>	<b>428.1</b>	<b>411.7</b>
110°	<b>606.8</b>	<b>531.3</b>	<b>492.8</b>	<b>464.4</b>	<b>435.0</b>	<b>410.1</b>	<b>385.5</b>
120°	<b>649.2</b>	<b>552.5</b>	<b>505.3</b>	<b>477.2</b>	<b>448.6</b>	<b>419.5</b>	<b>365.3</b>
135°	<b>764.3</b>	<b>607.9</b>	<b>540.2</b>	<b>500.6</b>	<b>474.7</b>	<b>448.3</b>	<b>392.8</b>
150°	<b>920.5</b>	<b>717.8</b>	<b>600.6</b>	<b>540.4</b>	<b>502.3</b>	<b>477.3</b>	<b>427.9</b>
Run VMG	<b>1062.9</b>	<b>828.8</b>	<b>691.8</b>	<b>607.3</b>	<b>551.4</b>	<b>512.2</b>	<b>463.0</b>

### Selected Courses

Windward / Leeward	<b>1050.3</b>	<b>839.1</b>	<b>729.1</b>	<b>665.6</b>	<b>625.2</b>	<b>598.0</b>	<b>566.9</b>
Circular Random	<b>853.5</b>	<b>690.5</b>	<b>603.4</b>	<b>552.6</b>	<b>520.5</b>	<b>498.5</b>	<b>468.7</b>
Ocean for PCS	<b>912.2</b>	<b>722.2</b>	<b>616.9</b>	<b>552.6</b>	<b>509.9</b>	<b>478.8</b>	<b>433.7</b>
Non Spinnaker	<b>911.4</b>	<b>730.7</b>	<b>632.8</b>	<b>575.1</b>	<b>539.0</b>	<b>515.0</b>	<b>484.2</b>

### 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>43.8°</b>	<b>41.4°</b>	<b>38.6°</b>	<b>37.1°</b>	<b>36.1°</b>	<b>35.7°</b>	<b>35.4°</b>
Beat VMG	<b>3.60</b>	<b>4.40</b>	<b>4.83</b>	<b>5.09</b>	<b>5.26</b>	<b>5.37</b>	<b>5.46</b>
52°	<b>5.57</b>	<b>6.48</b>	<b>6.97</b>	<b>7.19</b>	<b>7.32</b>	<b>7.40</b>	<b>7.49</b>
60°	<b>5.91</b>	<b>6.71</b>	<b>7.20</b>	<b>7.40</b>	<b>7.54</b>	<b>7.64</b>	<b>7.74</b>
75°	<b>6.15</b>	<b>6.89</b>	<b>7.35</b>	<b>7.70</b>	<b>7.92</b>	<b>8.07</b>	<b>8.24</b>
90°	<b>6.10</b>	<b>6.98</b>	<b>7.48</b>	<b>7.87</b>	<b>8.07</b>	<b>8.41</b>	<b>8.74</b>
110°	<b>5.93</b>	<b>6.78</b>	<b>7.31</b>	<b>7.75</b>	<b>8.28</b>	<b>8.78</b>	<b>9.34</b>
120°	<b>5.55</b>	<b>6.52</b>	<b>7.12</b>	<b>7.54</b>	<b>8.02</b>	<b>8.58</b>	<b>9.86</b>
135°	<b>4.71</b>	<b>5.92</b>	<b>6.66</b>	<b>7.19</b>	<b>7.58</b>	<b>8.03</b>	<b>9.16</b>
150°	<b>3.91</b>	<b>5.02</b>	<b>5.99</b>	<b>6.66</b>	<b>7.17</b>	<b>7.54</b>	<b>8.41</b>
Run VMG	<b>3.39</b>	<b>4.34</b>	<b>5.20</b>	<b>5.93</b>	<b>6.53</b>	<b>7.03</b>	<b>7.77</b>
Gybe Angles	<b>142.1°</b>	<b>145.7°</b>	<b>153.0°</b>	<b>164.8°</b>	<b>170.9°</b>	<b>174.5°</b>	<b>174.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **KENYOSHI**  
Sail Nr **JPN 2780**

Certificate Number **090450**  
Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1089.0</b>	<b>891.0</b>	<b>786.7</b>	<b>738.1</b>	<b>709.9</b>	<b>692.4</b>	<b>675.7</b>
52°	<b>697.5</b>	<b>578.9</b>	<b>537.4</b>	<b>511.8</b>	<b>496.7</b>	<b>489.8</b>	<b>483.9</b>
60°	<b>646.9</b>	<b>553.7</b>	<b>516.2</b>	<b>490.3</b>	<b>482.5</b>	<b>478.0</b>	<b>472.9</b>
75°	<b>604.0</b>	<b>535.8</b>	<b>496.1</b>	<b>478.3</b>	<b>468.5</b>	<b>461.6</b>	<b>451.9</b>
90°	<b>600.2</b>	<b>526.1</b>	<b>485.0</b>	<b>471.3</b>	<b>464.0</b>	<b>457.4</b>	<b>432.7</b>
110°	<b>618.8</b>	<b>536.7</b>	<b>492.1</b>	<b>473.5</b>	<b>457.1</b>	<b>437.0</b>	<b>417.5</b>
120°	<b>662.5</b>	<b>552.7</b>	<b>506.7</b>	<b>479.1</b>	<b>464.0</b>	<b>442.1</b>	<b>405.6</b>
135°	<b>763.9</b>	<b>608.7</b>	<b>540.1</b>	<b>498.0</b>	<b>477.1</b>	<b>462.3</b>	<b>420.9</b>
150°	<b>915.4</b>	<b>718.0</b>	<b>598.9</b>	<b>540.3</b>	<b>500.9</b>	<b>478.9</b>	<b>445.2</b>
Run VMG	<b>1057.0</b>	<b>829.1</b>	<b>691.5</b>	<b>605.5</b>	<b>552.5</b>	<b>514.9</b>	<b>472.5</b>

### Selected Courses

Windward / Leeward	<b>1092.6</b>	<b>872.9</b>	<b>751.1</b>	<b>681.0</b>	<b>638.6</b>	<b>610.5</b>	<b>580.4</b>
Circular Random	<b>880.5</b>	<b>710.4</b>	<b>619.4</b>	<b>566.8</b>	<b>534.6</b>	<b>513.6</b>	<b>486.5</b>
Ocean for PCS	<b>941.7</b>	<b>743.5</b>	<b>633.8</b>	<b>567.7</b>	<b>524.9</b>	<b>494.8</b>	<b>451.2</b>
Non Spinnaker	<b>951.8</b>	<b>759.5</b>	<b>654.6</b>	<b>592.9</b>	<b>554.7</b>	<b>530.1</b>	<b>500.4</b>

### 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>44.6°</b>	<b>44.5°</b>	<b>41.3°</b>	<b>38.7°</b>	<b>37.0°</b>	<b>35.9°</b>	<b>35.0°</b>
Beat VMG	<b>3.31</b>	<b>4.04</b>	<b>4.58</b>	<b>4.88</b>	<b>5.07</b>	<b>5.20</b>	<b>5.33</b>
52°	<b>5.16</b>	<b>6.22</b>	<b>6.70</b>	<b>7.03</b>	<b>7.25</b>	<b>7.35</b>	<b>7.44</b>
60°	<b>5.57</b>	<b>6.50</b>	<b>6.97</b>	<b>7.34</b>	<b>7.46</b>	<b>7.53</b>	<b>7.61</b>
75°	<b>5.96</b>	<b>6.72</b>	<b>7.26</b>	<b>7.53</b>	<b>7.68</b>	<b>7.80</b>	<b>7.97</b>
90°	<b>6.00</b>	<b>6.84</b>	<b>7.42</b>	<b>7.64</b>	<b>7.76</b>	<b>7.87</b>	<b>8.32</b>
110°	<b>5.82</b>	<b>6.71</b>	<b>7.32</b>	<b>7.60</b>	<b>7.88</b>	<b>8.24</b>	<b>8.62</b>
120°	<b>5.43</b>	<b>6.51</b>	<b>7.10</b>	<b>7.51</b>	<b>7.76</b>	<b>8.14</b>	<b>8.88</b>
135°	<b>4.71</b>	<b>5.91</b>	<b>6.67</b>	<b>7.23</b>	<b>7.55</b>	<b>7.79</b>	<b>8.55</b>
150°	<b>3.93</b>	<b>5.01</b>	<b>6.01</b>	<b>6.66</b>	<b>7.19</b>	<b>7.52</b>	<b>8.09</b>
Run VMG	<b>3.41</b>	<b>4.34</b>	<b>5.21</b>	<b>5.95</b>	<b>6.52</b>	<b>6.99</b>	<b>7.62</b>
Gybe Angles	<b>142.4°</b>	<b>147.2°</b>	<b>150.3°</b>	<b>162.4°</b>	<b>172.1°</b>	<b>169.4°</b>	<b>177.5°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **POLE STAR** Certificate Number **090460**  
 Sail Nr **JPN 5336** Issued On **4/13/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1119.6</b>	<b>926.4</b>	<b>839.4</b>	<b>797.2</b>	<b>771.2</b>	<b>755.2</b>	<b>743.0</b>
52°	<b>723.6</b>	<b>619.7</b>	<b>573.8</b>	<b>553.7</b>	<b>542.6</b>	<b>535.5</b>	<b>529.1</b>
60°	<b>680.3</b>	<b>594.0</b>	<b>554.9</b>	<b>535.1</b>	<b>524.9</b>	<b>518.1</b>	<b>511.2</b>
75°	<b>649.5</b>	<b>573.0</b>	<b>534.3</b>	<b>516.7</b>	<b>502.2</b>	<b>493.0</b>	<b>483.6</b>
90°	<b>630.2</b>	<b>556.9</b>	<b>522.5</b>	<b>499.6</b>	<b>484.9</b>	<b>476.8</b>	<b>462.9</b>
110°	<b>652.8</b>	<b>572.5</b>	<b>532.3</b>	<b>503.4</b>	<b>478.8</b>	<b>459.0</b>	<b>432.0</b>
120°	<b>693.1</b>	<b>593.2</b>	<b>545.3</b>	<b>514.6</b>	<b>488.1</b>	<b>465.2</b>	<b>425.1</b>
135°	<b>804.8</b>	<b>652.1</b>	<b>579.2</b>	<b>539.2</b>	<b>510.6</b>	<b>485.2</b>	<b>439.9</b>
150°	<b>965.2</b>	<b>753.5</b>	<b>639.0</b>	<b>576.2</b>	<b>538.9</b>	<b>511.5</b>	<b>465.0</b>
Run VMG	<b>1114.5</b>	<b>870.1</b>	<b>731.6</b>	<b>643.3</b>	<b>585.1</b>	<b>547.3</b>	<b>496.1</b>

### Selected Courses

Windward / Leeward	<b>1138.2</b>	<b>914.6</b>	<b>797.4</b>	<b>729.4</b>	<b>686.4</b>	<b>658.5</b>	<b>625.2</b>
Circular Random	<b>928.4</b>	<b>753.0</b>	<b>659.8</b>	<b>605.9</b>	<b>572.5</b>	<b>550.3</b>	<b>521.2</b>
Ocean for PCS	<b>992.0</b>	<b>787.4</b>	<b>674.5</b>	<b>605.9</b>	<b>561.0</b>	<b>529.0</b>	<b>483.7</b>
Non Spinnaker	<b>991.9</b>	<b>797.0</b>	<b>691.9</b>	<b>630.3</b>	<b>592.2</b>	<b>567.1</b>	<b>535.8</b>

### 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>44.6°</b>	<b>42.1°</b>	<b>40.4°</b>	<b>39.2°</b>	<b>38.4°</b>	<b>37.8°</b>	<b>37.4°</b>
Beat VMG	<b>3.22</b>	<b>3.89</b>	<b>4.29</b>	<b>4.52</b>	<b>4.67</b>	<b>4.77</b>	<b>4.85</b>
52°	<b>4.98</b>	<b>5.81</b>	<b>6.27</b>	<b>6.50</b>	<b>6.63</b>	<b>6.72</b>	<b>6.80</b>
60°	<b>5.29</b>	<b>6.06</b>	<b>6.49</b>	<b>6.73</b>	<b>6.86</b>	<b>6.95</b>	<b>7.04</b>
75°	<b>5.54</b>	<b>6.28</b>	<b>6.74</b>	<b>6.97</b>	<b>7.17</b>	<b>7.30</b>	<b>7.44</b>
90°	<b>5.71</b>	<b>6.46</b>	<b>6.89</b>	<b>7.21</b>	<b>7.42</b>	<b>7.55</b>	<b>7.78</b>
110°	<b>5.51</b>	<b>6.29</b>	<b>6.76</b>	<b>7.15</b>	<b>7.52</b>	<b>7.84</b>	<b>8.33</b>
120°	<b>5.19</b>	<b>6.07</b>	<b>6.60</b>	<b>7.00</b>	<b>7.38</b>	<b>7.74</b>	<b>8.47</b>
135°	<b>4.47</b>	<b>5.52</b>	<b>6.22</b>	<b>6.68</b>	<b>7.05</b>	<b>7.42</b>	<b>8.18</b>
150°	<b>3.73</b>	<b>4.78</b>	<b>5.63</b>	<b>6.25</b>	<b>6.68</b>	<b>7.04</b>	<b>7.74</b>
Run VMG	<b>3.23</b>	<b>4.14</b>	<b>4.92</b>	<b>5.60</b>	<b>6.15</b>	<b>6.58</b>	<b>7.26</b>
Gybe Angles	<b>144.0°</b>	<b>148.8°</b>	<b>157.8°</b>	<b>166.6°</b>	<b>172.3°</b>	<b>175.1°</b>	<b>175.6°</b>



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## ORC Club Certificate Appendix

<b>BOAT</b>	
Name	<b>MORNING STAR</b>
Certificate Number	<b>090470</b>
Sail Nr	<b>JPN 3148</b>
Issued On	<b>4/13/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1258.3</b>	<b>1009.9</b>	<b>878.6</b>	<b>819.8</b>	<b>788.1</b>	<b>768.1</b>	<b>750.1</b>
52°	<b>796.1</b>	<b>644.7</b>	<b>589.9</b>	<b>560.5</b>	<b>545.3</b>	<b>536.2</b>	<b>527.1</b>
60°	<b>732.4</b>	<b>611.0</b>	<b>567.4</b>	<b>540.3</b>	<b>524.1</b>	<b>516.1</b>	<b>507.6</b>
75°	<b>679.8</b>	<b>587.1</b>	<b>542.3</b>	<b>518.7</b>	<b>505.1</b>	<b>491.6</b>	<b>479.9</b>
90°	<b>651.3</b>	<b>568.2</b>	<b>529.5</b>	<b>504.6</b>	<b>488.7</b>	<b>481.2</b>	<b>463.9</b>
110°	<b>676.1</b>	<b>580.7</b>	<b>539.0</b>	<b>510.4</b>	<b>487.2</b>	<b>466.7</b>	<b>442.0</b>
120°	<b>724.7</b>	<b>599.1</b>	<b>551.1</b>	<b>519.7</b>	<b>495.7</b>	<b>473.6</b>	<b>436.4</b>
135°	<b>837.0</b>	<b>656.9</b>	<b>582.0</b>	<b>542.9</b>	<b>515.2</b>	<b>493.0</b>	<b>453.0</b>
150°	<b>996.8</b>	<b>773.4</b>	<b>640.8</b>	<b>579.4</b>	<b>543.0</b>	<b>516.4</b>	<b>474.9</b>
Run VMG	<b>1150.9</b>	<b>893.1</b>	<b>738.9</b>	<b>645.2</b>	<b>589.3</b>	<b>552.4</b>	<b>503.9</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1224.3</b>	<b>965.5</b>	<b>822.6</b>	<b>743.0</b>	<b>696.9</b>	<b>667.6</b>	<b>633.1</b>
Circular Random	<b>976.1</b>	<b>782.5</b>	<b>678.3</b>	<b>618.0</b>	<b>581.1</b>	<b>557.0</b>	<b>526.9</b>
Ocean for PCS	<b>1044.5</b>	<b>818.9</b>	<b>693.6</b>	<b>617.8</b>	<b>568.9</b>	<b>534.8</b>	<b>487.4</b>
Non Spinnaker	<b>1054.0</b>	<b>836.1</b>	<b>717.0</b>	<b>646.9</b>	<b>603.7</b>	<b>575.9</b>	<b>542.0</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>45.5°</b>	<b>45.1°</b>	<b>42.6°</b>	<b>40.4°</b>	<b>39.1°</b>	<b>38.4°</b>	<b>37.8°</b>
Beat VMG	<b>2.86</b>	<b>3.56</b>	<b>4.10</b>	<b>4.39</b>	<b>4.57</b>	<b>4.69</b>	<b>4.80</b>
52°	<b>4.52</b>	<b>5.58</b>	<b>6.10</b>	<b>6.42</b>	<b>6.60</b>	<b>6.71</b>	<b>6.83</b>
60°	<b>4.92</b>	<b>5.89</b>	<b>6.34</b>	<b>6.66</b>	<b>6.87</b>	<b>6.98</b>	<b>7.09</b>
75°	<b>5.30</b>	<b>6.13</b>	<b>6.64</b>	<b>6.94</b>	<b>7.13</b>	<b>7.32</b>	<b>7.50</b>
90°	<b>5.53</b>	<b>6.34</b>	<b>6.80</b>	<b>7.13</b>	<b>7.37</b>	<b>7.48</b>	<b>7.76</b>
110°	<b>5.32</b>	<b>6.20</b>	<b>6.68</b>	<b>7.05</b>	<b>7.39</b>	<b>7.71</b>	<b>8.15</b>
120°	<b>4.97</b>	<b>6.01</b>	<b>6.53</b>	<b>6.93</b>	<b>7.26</b>	<b>7.60</b>	<b>8.25</b>
135°	<b>4.30</b>	<b>5.48</b>	<b>6.19</b>	<b>6.63</b>	<b>6.99</b>	<b>7.30</b>	<b>7.95</b>
150°	<b>3.61</b>	<b>4.65</b>	<b>5.62</b>	<b>6.21</b>	<b>6.63</b>	<b>6.97</b>	<b>7.58</b>
Run VMG	<b>3.13</b>	<b>4.03</b>	<b>4.87</b>	<b>5.58</b>	<b>6.11</b>	<b>6.52</b>	<b>7.14</b>
Gybe Angles	<b>144.5°</b>	<b>147.6°</b>	<b>152.0°</b>	<b>165.5°</b>	<b>172.6°</b>	<b>174.9°</b>	<b>176.2°</b>



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## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>OWL</b>	Certificate Number <b>090480</b>
Sail Nr <b>JPN 5714</b>	Issued On <b>4/13/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1603.2</b>	<b>1275.8</b>	<b>1112.8</b>	<b>1034.1</b>	<b>988.8</b>	<b>962.5</b>	<b>944.4</b>
52°	<b>993.3</b>	<b>793.8</b>	<b>702.7</b>	<b>665.4</b>	<b>645.6</b>	<b>633.6</b>	<b>623.5</b>
60°	<b>889.2</b>	<b>721.3</b>	<b>658.7</b>	<b>627.2</b>	<b>610.6</b>	<b>600.8</b>	<b>591.5</b>
75°	<b>803.7</b>	<b>663.3</b>	<b>614.3</b>	<b>592.4</b>	<b>576.9</b>	<b>564.8</b>	<b>554.5</b>
90°	<b>747.3</b>	<b>640.2</b>	<b>596.6</b>	<b>571.1</b>	<b>557.6</b>	<b>550.2</b>	<b>535.8</b>
110°	<b>777.9</b>	<b>653.1</b>	<b>602.3</b>	<b>570.5</b>	<b>547.7</b>	<b>528.1</b>	<b>504.6</b>
120°	<b>826.2</b>	<b>673.6</b>	<b>614.6</b>	<b>579.1</b>	<b>554.0</b>	<b>532.3</b>	<b>497.5</b>
135°	<b>953.0</b>	<b>745.6</b>	<b>652.4</b>	<b>607.2</b>	<b>576.8</b>	<b>553.9</b>	<b>513.6</b>
150°	<b>1147.9</b>	<b>887.3</b>	<b>734.0</b>	<b>653.8</b>	<b>610.2</b>	<b>580.0</b>	<b>537.0</b>
Run VMG	<b>1325.5</b>	<b>1024.5</b>	<b>847.2</b>	<b>729.7</b>	<b>658.1</b>	<b>614.8</b>	<b>561.6</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1487.4</b>	<b>1168.8</b>	<b>995.1</b>	<b>894.3</b>	<b>834.1</b>	<b>797.9</b>	<b>760.1</b>
Circular Random	<b>1162.4</b>	<b>927.3</b>	<b>800.5</b>	<b>727.3</b>	<b>683.1</b>	<b>655.2</b>	<b>622.7</b>
Ocean for PCS	<b>1248.6</b>	<b>972.9</b>	<b>819.1</b>	<b>725.8</b>	<b>665.5</b>	<b>623.7</b>	<b>566.9</b>
Non Spinnaker	<b>1255.3</b>	<b>990.5</b>	<b>845.4</b>	<b>760.3</b>	<b>708.3</b>	<b>675.5</b>	<b>638.0</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>48.8°</b>	<b>48.2°</b>	<b>47.5°</b>	<b>45.5°</b>	<b>44.2°</b>	<b>43.4°</b>	<b>43.3°</b>
Beat VMG	<b>2.25</b>	<b>2.82</b>	<b>3.24</b>	<b>3.48</b>	<b>3.64</b>	<b>3.74</b>	<b>3.81</b>
52°	<b>3.62</b>	<b>4.53</b>	<b>5.12</b>	<b>5.41</b>	<b>5.58</b>	<b>5.68</b>	<b>5.77</b>
60°	<b>4.05</b>	<b>4.99</b>	<b>5.47</b>	<b>5.74</b>	<b>5.90</b>	<b>5.99</b>	<b>6.09</b>
75°	<b>4.48</b>	<b>5.43</b>	<b>5.86</b>	<b>6.08</b>	<b>6.24</b>	<b>6.37</b>	<b>6.49</b>
90°	<b>4.82</b>	<b>5.62</b>	<b>6.03</b>	<b>6.30</b>	<b>6.46</b>	<b>6.54</b>	<b>6.72</b>
110°	<b>4.63</b>	<b>5.51</b>	<b>5.98</b>	<b>6.31</b>	<b>6.57</b>	<b>6.82</b>	<b>7.13</b>
120°	<b>4.36</b>	<b>5.34</b>	<b>5.86</b>	<b>6.22</b>	<b>6.50</b>	<b>6.76</b>	<b>7.24</b>
135°	<b>3.78</b>	<b>4.83</b>	<b>5.52</b>	<b>5.93</b>	<b>6.24</b>	<b>6.50</b>	<b>7.01</b>
150°	<b>3.14</b>	<b>4.06</b>	<b>4.90</b>	<b>5.51</b>	<b>5.90</b>	<b>6.21</b>	<b>6.70</b>
Run VMG	<b>2.72</b>	<b>3.51</b>	<b>4.25</b>	<b>4.93</b>	<b>5.47</b>	<b>5.86</b>	<b>6.41</b>
Gybe Angles	<b>141.2°</b>	<b>145.3°</b>	<b>151.6°</b>	<b>167.6°</b>	<b>177.8°</b>	<b>179.0°</b>	<b>179.4°</b>



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## ORC Club Certificate Appendix

BOAT	
Name	<b>NEPTUNE</b>
Sail Nr	<b>JPN 6062</b>
Certificate Number	<b>090490</b>
Issued On	<b>4/13/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1391.9</b>	<b>1111.3</b>	<b>952.8</b>	<b>869.5</b>	<b>822.0</b>	<b>797.5</b>	<b>773.7</b>
52°	<b>887.4</b>	<b>714.1</b>	<b>636.9</b>	<b>594.3</b>	<b>567.8</b>	<b>555.0</b>	<b>543.4</b>
60°	<b>822.1</b>	<b>671.7</b>	<b>609.9</b>	<b>573.8</b>	<b>548.4</b>	<b>532.5</b>	<b>521.2</b>
75°	<b>770.6</b>	<b>640.7</b>	<b>580.9</b>	<b>546.2</b>	<b>522.9</b>	<b>512.5</b>	<b>490.2</b>
90°	<b>736.9</b>	<b>619.9</b>	<b>568.7</b>	<b>536.2</b>	<b>510.1</b>	<b>490.8</b>	<b>476.7</b>
110°	<b>779.1</b>	<b>641.6</b>	<b>582.5</b>	<b>546.7</b>	<b>518.4</b>	<b>494.1</b>	<b>452.8</b>
120°	<b>832.7</b>	<b>668.0</b>	<b>598.5</b>	<b>558.4</b>	<b>528.7</b>	<b>503.7</b>	<b>460.9</b>
135°	<b>955.6</b>	<b>747.8</b>	<b>640.6</b>	<b>586.4</b>	<b>552.0</b>	<b>524.7</b>	<b>480.7</b>
150°	<b>1127.1</b>	<b>864.0</b>	<b>713.2</b>	<b>631.2</b>	<b>583.2</b>	<b>551.0</b>	<b>502.4</b>
Run VMG	<b>1301.5</b>	<b>996.9</b>	<b>819.8</b>	<b>704.0</b>	<b>635.5</b>	<b>589.7</b>	<b>532.6</b>

Selected Courses							
Windward / Leeward	<b>1367.1</b>	<b>1068.7</b>	<b>899.4</b>	<b>798.4</b>	<b>738.3</b>	<b>701.6</b>	<b>659.0</b>
Circular Random	<b>1082.8</b>	<b>858.5</b>	<b>735.1</b>	<b>661.6</b>	<b>615.4</b>	<b>585.0</b>	<b>547.2</b>
Ocean for PCS	<b>1156.5</b>	<b>897.0</b>	<b>750.5</b>	<b>660.2</b>	<b>601.2</b>	<b>560.3</b>	<b>506.1</b>
Non Spinnaker	<b>1156.2</b>	<b>910.0</b>	<b>773.3</b>	<b>691.1</b>	<b>639.3</b>	<b>605.1</b>	<b>563.2</b>

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>44.9°</b>	<b>43.8°</b>	<b>42.5°</b>	<b>40.1°</b>	<b>39.4°</b>	<b>38.6°</b>	<b>37.8°</b>
Beat VMG	<b>2.59</b>	<b>3.24</b>	<b>3.78</b>	<b>4.14</b>	<b>4.38</b>	<b>4.51</b>	<b>4.65</b>
52°	<b>4.06</b>	<b>5.04</b>	<b>5.65</b>	<b>6.06</b>	<b>6.34</b>	<b>6.49</b>	<b>6.63</b>
60°	<b>4.38</b>	<b>5.36</b>	<b>5.90</b>	<b>6.27</b>	<b>6.56</b>	<b>6.76</b>	<b>6.91</b>
75°	<b>4.67</b>	<b>5.62</b>	<b>6.20</b>	<b>6.59</b>	<b>6.88</b>	<b>7.02</b>	<b>7.34</b>
90°	<b>4.89</b>	<b>5.81</b>	<b>6.33</b>	<b>6.71</b>	<b>7.06</b>	<b>7.34</b>	<b>7.55</b>
110°	<b>4.62</b>	<b>5.61</b>	<b>6.18</b>	<b>6.58</b>	<b>6.94</b>	<b>7.29</b>	<b>7.95</b>
120°	<b>4.32</b>	<b>5.39</b>	<b>6.01</b>	<b>6.45</b>	<b>6.81</b>	<b>7.15</b>	<b>7.81</b>
135°	<b>3.77</b>	<b>4.81</b>	<b>5.62</b>	<b>6.14</b>	<b>6.52</b>	<b>6.86</b>	<b>7.49</b>
150°	<b>3.19</b>	<b>4.17</b>	<b>5.05</b>	<b>5.70</b>	<b>6.17</b>	<b>6.53</b>	<b>7.17</b>
Run VMG	<b>2.77</b>	<b>3.61</b>	<b>4.39</b>	<b>5.11</b>	<b>5.67</b>	<b>6.10</b>	<b>6.76</b>
Gybe Angles	<b>148.2°</b>	<b>152.8°</b>	<b>158.5°</b>	<b>166.0°</b>	<b>172.2°</b>	<b>174.9°</b>	<b>176.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **AKI-XI** Certificate Number **090500**  
 Sail Nr **JPN 6389** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1141.7</b>	<b>917.1</b>	<b>797.3</b>	<b>728.1</b>	<b>691.5</b>	<b>667.6</b>	<b>642.2</b>
52°	<b>718.8</b>	<b>583.9</b>	<b>516.4</b>	<b>478.1</b>	<b>458.1</b>	<b>447.8</b>	<b>436.5</b>
60°	<b>657.4</b>	<b>541.0</b>	<b>486.5</b>	<b>454.4</b>	<b>435.8</b>	<b>426.2</b>	<b>415.9</b>
75°	<b>607.8</b>	<b>509.4</b>	<b>458.9</b>	<b>430.3</b>	<b>417.2</b>	<b>402.8</b>	<b>388.8</b>
90°	<b>588.4</b>	<b>489.7</b>	<b>444.3</b>	<b>418.4</b>	<b>400.7</b>	<b>391.6</b>	<b>379.0</b>
110°	<b>609.5</b>	<b>505.6</b>	<b>455.7</b>	<b>427.2</b>	<b>405.4</b>	<b>386.9</b>	<b>357.9</b>
120°	<b>655.0</b>	<b>531.8</b>	<b>472.0</b>	<b>438.2</b>	<b>415.0</b>	<b>395.7</b>	<b>362.4</b>
135°	<b>769.2</b>	<b>606.4</b>	<b>517.6</b>	<b>468.9</b>	<b>439.2</b>	<b>417.9</b>	<b>384.3</b>
150°	<b>932.5</b>	<b>726.5</b>	<b>608.2</b>	<b>529.1</b>	<b>480.6</b>	<b>448.4</b>	<b>408.1</b>
Run VMG	<b>1076.7</b>	<b>838.9</b>	<b>702.3</b>	<b>609.8</b>	<b>542.8</b>	<b>495.1</b>	<b>436.3</b>

### Selected Courses

Windward / Leeward	<b>1127.8</b>	<b>891.7</b>	<b>759.8</b>	<b>677.9</b>	<b>624.5</b>	<b>588.0</b>	<b>545.2</b>
Circular Random	<b>882.1</b>	<b>700.9</b>	<b>600.8</b>	<b>540.6</b>	<b>502.1</b>	<b>476.2</b>	<b>443.5</b>
Ocean for PCS	<b>946.2</b>	<b>734.5</b>	<b>614.0</b>	<b>538.6</b>	<b>488.3</b>	<b>453.0</b>	<b>405.3</b>
Non Spinnaker	<b>956.1</b>	<b>752.5</b>	<b>638.6</b>	<b>569.2</b>	<b>524.5</b>	<b>494.4</b>	<b>456.8</b>

### 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>46.1°</b>	<b>44.9°</b>	<b>44.2°</b>	<b>42.7°</b>	<b>41.8°</b>	<b>41.0°</b>	<b>40.3°</b>
Beat VMG	<b>3.15</b>	<b>3.93</b>	<b>4.52</b>	<b>4.94</b>	<b>5.21</b>	<b>5.39</b>	<b>5.61</b>
52°	<b>5.01</b>	<b>6.17</b>	<b>6.97</b>	<b>7.53</b>	<b>7.86</b>	<b>8.04</b>	<b>8.25</b>
60°	<b>5.48</b>	<b>6.65</b>	<b>7.40</b>	<b>7.92</b>	<b>8.26</b>	<b>8.45</b>	<b>8.66</b>
75°	<b>5.92</b>	<b>7.07</b>	<b>7.84</b>	<b>8.37</b>	<b>8.63</b>	<b>8.94</b>	<b>9.26</b>
90°	<b>6.12</b>	<b>7.35</b>	<b>8.10</b>	<b>8.60</b>	<b>8.98</b>	<b>9.19</b>	<b>9.50</b>
110°	<b>5.91</b>	<b>7.12</b>	<b>7.90</b>	<b>8.43</b>	<b>8.88</b>	<b>9.30</b>	<b>10.06</b>
120°	<b>5.50</b>	<b>6.77</b>	<b>7.63</b>	<b>8.22</b>	<b>8.67</b>	<b>9.10</b>	<b>9.93</b>
135°	<b>4.68</b>	<b>5.94</b>	<b>6.96</b>	<b>7.68</b>	<b>8.20</b>	<b>8.61</b>	<b>9.37</b>
150°	<b>3.86</b>	<b>4.96</b>	<b>5.92</b>	<b>6.80</b>	<b>7.49</b>	<b>8.03</b>	<b>8.82</b>
Run VMG	<b>3.34</b>	<b>4.29</b>	<b>5.13</b>	<b>5.90</b>	<b>6.63</b>	<b>7.27</b>	<b>8.25</b>
Gybe Angles	<b>139.6°</b>	<b>142.0°</b>	<b>146.3°</b>	<b>153.2°</b>	<b>166.1°</b>	<b>173.0°</b>	<b>177.9°</b>



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## ORC Club Certificate Appendix

<b>BOAT</b>			
Name	<b>SOUTHERN CROSS</b>	Certificate Number	<b>090510</b>
Sail Nr	<b>JPN 5908</b>	Issued On	<b>4/15/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1116.7</b>	<b>900.8</b>	<b>796.5</b>	<b>751.5</b>	<b>725.5</b>	<b>710.1</b>	<b>698.9</b>
52°	<b>708.7</b>	<b>586.7</b>	<b>536.1</b>	<b>512.7</b>	<b>501.4</b>	<b>495.3</b>	<b>490.7</b>
60°	<b>653.5</b>	<b>557.3</b>	<b>512.0</b>	<b>492.5</b>	<b>484.3</b>	<b>478.9</b>	<b>474.1</b>
75°	<b>609.3</b>	<b>534.3</b>	<b>494.5</b>	<b>474.6</b>	<b>460.3</b>	<b>452.4</b>	<b>443.7</b>
90°	<b>594.0</b>	<b>515.0</b>	<b>480.3</b>	<b>466.1</b>	<b>456.3</b>	<b>437.1</b>	<b>419.4</b>
110°	<b>605.6</b>	<b>526.4</b>	<b>486.7</b>	<b>460.4</b>	<b>433.8</b>	<b>419.7</b>	<b>398.7</b>
120°	<b>644.1</b>	<b>545.4</b>	<b>497.3</b>	<b>471.1</b>	<b>442.5</b>	<b>414.7</b>	<b>378.6</b>
135°	<b>750.4</b>	<b>597.2</b>	<b>530.8</b>	<b>491.7</b>	<b>468.0</b>	<b>441.5</b>	<b>385.5</b>
150°	<b>901.8</b>	<b>703.0</b>	<b>590.5</b>	<b>532.0</b>	<b>494.2</b>	<b>471.3</b>	<b>422.6</b>
Run VMG	<b>1041.3</b>	<b>811.8</b>	<b>681.1</b>	<b>600.0</b>	<b>546.0</b>	<b>506.7</b>	<b>460.2</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1097.5</b>	<b>871.0</b>	<b>751.2</b>	<b>684.5</b>	<b>643.1</b>	<b>615.2</b>	<b>585.9</b>
Circular Random	<b>879.7</b>	<b>708.5</b>	<b>616.8</b>	<b>563.7</b>	<b>530.7</b>	<b>508.8</b>	<b>480.2</b>
Ocean for PCS	<b>941.9</b>	<b>741.8</b>	<b>630.8</b>	<b>563.3</b>	<b>518.7</b>	<b>486.4</b>	<b>439.3</b>
Non Spinnaker	<b>958.2</b>	<b>762.6</b>	<b>655.9</b>	<b>593.1</b>	<b>554.2</b>	<b>529.0</b>	<b>498.5</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>45.3°</b>	<b>43.9°</b>	<b>41.4°</b>	<b>39.5°</b>	<b>38.4°</b>	<b>37.7°</b>	<b>37.4°</b>
Beat VMG	<b>3.22</b>	<b>4.00</b>	<b>4.52</b>	<b>4.79</b>	<b>4.96</b>	<b>5.07</b>	<b>5.15</b>
52°	<b>5.08</b>	<b>6.14</b>	<b>6.71</b>	<b>7.02</b>	<b>7.18</b>	<b>7.27</b>	<b>7.34</b>
60°	<b>5.51</b>	<b>6.46</b>	<b>7.03</b>	<b>7.31</b>	<b>7.43</b>	<b>7.52</b>	<b>7.59</b>
75°	<b>5.91</b>	<b>6.74</b>	<b>7.28</b>	<b>7.59</b>	<b>7.82</b>	<b>7.96</b>	<b>8.11</b>
90°	<b>6.06</b>	<b>6.99</b>	<b>7.49</b>	<b>7.72</b>	<b>7.89</b>	<b>8.24</b>	<b>8.58</b>
110°	<b>5.95</b>	<b>6.84</b>	<b>7.40</b>	<b>7.82</b>	<b>8.30</b>	<b>8.58</b>	<b>9.03</b>
120°	<b>5.59</b>	<b>6.60</b>	<b>7.24</b>	<b>7.64</b>	<b>8.14</b>	<b>8.68</b>	<b>9.51</b>
135°	<b>4.80</b>	<b>6.03</b>	<b>6.78</b>	<b>7.32</b>	<b>7.69</b>	<b>8.15</b>	<b>9.34</b>
150°	<b>3.99</b>	<b>5.12</b>	<b>6.10</b>	<b>6.77</b>	<b>7.28</b>	<b>7.64</b>	<b>8.52</b>
Run VMG	<b>3.46</b>	<b>4.43</b>	<b>5.29</b>	<b>6.00</b>	<b>6.59</b>	<b>7.11</b>	<b>7.82</b>
Gybe Angles	<b>142.4°</b>	<b>145.3°</b>	<b>152.0°</b>	<b>162.7°</b>	<b>168.9°</b>	<b>173.0°</b>	<b>173.5°</b>



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## ORC Club Certificate Appendix

BOAT	
Name	<b>FRIENDS</b>
Certificate Number	<b>090520</b>
Sail Nr	<b>JPN 6033</b>
Issued On	<b>4/15/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1012.7</b>	<b>833.8</b>	<b>760.0</b>	<b>723.5</b>	<b>701.6</b>	<b>687.9</b>	<b>676.5</b>
52°	<b>658.5</b>	<b>570.0</b>	<b>530.1</b>	<b>515.4</b>	<b>507.6</b>	<b>502.8</b>	<b>498.3</b>
60°	<b>622.3</b>	<b>550.6</b>	<b>515.5</b>	<b>502.9</b>	<b>495.4</b>	<b>489.7</b>	<b>483.7</b>
75°	<b>599.3</b>	<b>536.0</b>	<b>506.5</b>	<b>487.9</b>	<b>473.1</b>	<b>464.8</b>	<b>455.7</b>
90°	<b>598.4</b>	<b>526.2</b>	<b>497.3</b>	<b>476.4</b>	<b>465.4</b>	<b>450.2</b>	<b>432.4</b>
110°	<b>613.6</b>	<b>540.4</b>	<b>505.5</b>	<b>479.0</b>	<b>451.6</b>	<b>430.2</b>	<b>407.2</b>
120°	<b>650.9</b>	<b>561.2</b>	<b>515.4</b>	<b>491.0</b>	<b>461.7</b>	<b>434.5</b>	<b>387.4</b>
135°	<b>758.3</b>	<b>611.1</b>	<b>547.2</b>	<b>510.8</b>	<b>487.9</b>	<b>460.8</b>	<b>405.6</b>
150°	<b>910.9</b>	<b>713.9</b>	<b>603.6</b>	<b>546.8</b>	<b>511.9</b>	<b>489.9</b>	<b>440.4</b>
Run VMG	<b>1051.9</b>	<b>824.3</b>	<b>693.4</b>	<b>611.6</b>	<b>557.9</b>	<b>520.4</b>	<b>475.5</b>

Selected Courses							
Windward / Leeward	<b>1051.8</b>	<b>844.7</b>	<b>737.7</b>	<b>676.1</b>	<b>637.0</b>	<b>610.9</b>	<b>582.0</b>
Circular Random	<b>862.8</b>	<b>701.0</b>	<b>615.3</b>	<b>565.8</b>	<b>534.9</b>	<b>513.9</b>	<b>485.2</b>
Ocean for PCS	<b>921.2</b>	<b>732.7</b>	<b>629.1</b>	<b>566.5</b>	<b>525.1</b>	<b>495.1</b>	<b>451.0</b>
Non Spinnaker	<b>925.4</b>	<b>744.0</b>	<b>646.4</b>	<b>589.4</b>	<b>554.1</b>	<b>530.9</b>	<b>501.6</b>

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>43.4°</b>	<b>41.0°</b>	<b>38.2°</b>	<b>36.4°</b>	<b>35.6°</b>	<b>35.4°</b>	<b>35.5°</b>
Beat VMG	<b>3.55</b>	<b>4.32</b>	<b>4.74</b>	<b>4.98</b>	<b>5.13</b>	<b>5.23</b>	<b>5.32</b>
52°	<b>5.47</b>	<b>6.32</b>	<b>6.79</b>	<b>6.99</b>	<b>7.09</b>	<b>7.16</b>	<b>7.22</b>
60°	<b>5.79</b>	<b>6.54</b>	<b>6.98</b>	<b>7.16</b>	<b>7.27</b>	<b>7.35</b>	<b>7.44</b>
75°	<b>6.01</b>	<b>6.72</b>	<b>7.11</b>	<b>7.38</b>	<b>7.61</b>	<b>7.74</b>	<b>7.90</b>
90°	<b>6.02</b>	<b>6.84</b>	<b>7.24</b>	<b>7.56</b>	<b>7.74</b>	<b>8.00</b>	<b>8.33</b>
110°	<b>5.87</b>	<b>6.66</b>	<b>7.12</b>	<b>7.51</b>	<b>7.97</b>	<b>8.37</b>	<b>8.84</b>
120°	<b>5.53</b>	<b>6.41</b>	<b>6.98</b>	<b>7.33</b>	<b>7.80</b>	<b>8.29</b>	<b>9.29</b>
135°	<b>4.75</b>	<b>5.89</b>	<b>6.58</b>	<b>7.05</b>	<b>7.38</b>	<b>7.81</b>	<b>8.88</b>
150°	<b>3.95</b>	<b>5.04</b>	<b>5.96</b>	<b>6.58</b>	<b>7.03</b>	<b>7.35</b>	<b>8.17</b>
Run VMG	<b>3.42</b>	<b>4.37</b>	<b>5.19</b>	<b>5.89</b>	<b>6.45</b>	<b>6.92</b>	<b>7.57</b>
Gybe Angles	<b>142.5°</b>	<b>146.4°</b>	<b>154.6°</b>	<b>166.3°</b>	<b>170.6°</b>	<b>175.6°</b>	<b>174.4°</b>



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## ORC Club Certificate Appendix

<b>BOAT</b>	
Name	<b>C'EST LA VIE</b>
Certificate Number	<b>090530</b>
Sail Nr	<b>JPN 6088</b>
Issued On	<b>4/15/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1181.4</b>	<b>961.0</b>	<b>851.0</b>	<b>800.6</b>	<b>769.4</b>	<b>749.5</b>	<b>732.1</b>
52°	<b>759.2</b>	<b>629.8</b>	<b>573.5</b>	<b>545.7</b>	<b>532.5</b>	<b>524.0</b>	<b>515.4</b>
60°	<b>707.5</b>	<b>601.3</b>	<b>552.4</b>	<b>525.0</b>	<b>512.3</b>	<b>504.2</b>	<b>495.5</b>
75°	<b>667.1</b>	<b>579.6</b>	<b>534.2</b>	<b>506.5</b>	<b>488.8</b>	<b>476.9</b>	<b>466.2</b>
90°	<b>658.4</b>	<b>566.5</b>	<b>523.8</b>	<b>494.5</b>	<b>473.3</b>	<b>464.2</b>	<b>445.6</b>
110°	<b>694.8</b>	<b>587.8</b>	<b>537.5</b>	<b>505.8</b>	<b>479.4</b>	<b>456.0</b>	<b>421.2</b>
120°	<b>748.0</b>	<b>613.8</b>	<b>552.8</b>	<b>517.6</b>	<b>490.1</b>	<b>466.0</b>	<b>422.2</b>
135°	<b>866.8</b>	<b>684.0</b>	<b>593.9</b>	<b>544.6</b>	<b>513.2</b>	<b>487.5</b>	<b>444.2</b>
150°	<b>1033.8</b>	<b>797.8</b>	<b>661.4</b>	<b>588.2</b>	<b>543.5</b>	<b>513.6</b>	<b>466.8</b>
Run VMG	<b>1193.7</b>	<b>921.1</b>	<b>762.0</b>	<b>659.0</b>	<b>594.7</b>	<b>551.1</b>	<b>496.8</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1207.6</b>	<b>956.2</b>	<b>819.1</b>	<b>739.6</b>	<b>690.2</b>	<b>657.7</b>	<b>620.9</b>
Circular Random	<b>968.0</b>	<b>775.7</b>	<b>671.5</b>	<b>610.2</b>	<b>571.8</b>	<b>546.3</b>	<b>513.3</b>
Ocean for PCS	<b>1034.6</b>	<b>811.1</b>	<b>686.0</b>	<b>609.3</b>	<b>558.9</b>	<b>523.2</b>	<b>473.3</b>
Non Spinnaker	<b>1029.6</b>	<b>818.9</b>	<b>703.4</b>	<b>634.8</b>	<b>591.6</b>	<b>563.1</b>	<b>527.5</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>44.6°</b>	<b>44.0°</b>	<b>41.3°</b>	<b>40.0°</b>	<b>39.3°</b>	<b>38.7°</b>	<b>38.1°</b>
Beat VMG	<b>3.05</b>	<b>3.75</b>	<b>4.23</b>	<b>4.50</b>	<b>4.68</b>	<b>4.80</b>	<b>4.92</b>
52°	<b>4.74</b>	<b>5.72</b>	<b>6.28</b>	<b>6.60</b>	<b>6.76</b>	<b>6.87</b>	<b>6.98</b>
60°	<b>5.09</b>	<b>5.99</b>	<b>6.52</b>	<b>6.86</b>	<b>7.03</b>	<b>7.14</b>	<b>7.27</b>
75°	<b>5.40</b>	<b>6.21</b>	<b>6.74</b>	<b>7.11</b>	<b>7.36</b>	<b>7.55</b>	<b>7.72</b>
90°	<b>5.47</b>	<b>6.35</b>	<b>6.87</b>	<b>7.28</b>	<b>7.61</b>	<b>7.76</b>	<b>8.08</b>
110°	<b>5.18</b>	<b>6.12</b>	<b>6.70</b>	<b>7.12</b>	<b>7.51</b>	<b>7.89</b>	<b>8.55</b>
120°	<b>4.81</b>	<b>5.87</b>	<b>6.51</b>	<b>6.96</b>	<b>7.35</b>	<b>7.73</b>	<b>8.53</b>
135°	<b>4.15</b>	<b>5.26</b>	<b>6.06</b>	<b>6.61</b>	<b>7.01</b>	<b>7.39</b>	<b>8.10</b>
150°	<b>3.48</b>	<b>4.51</b>	<b>5.44</b>	<b>6.12</b>	<b>6.62</b>	<b>7.01</b>	<b>7.71</b>
Run VMG	<b>3.02</b>	<b>3.91</b>	<b>4.72</b>	<b>5.46</b>	<b>6.05</b>	<b>6.53</b>	<b>7.25</b>
Gybe Angles	<b>145.1°</b>	<b>150.6°</b>	<b>153.7°</b>	<b>166.2°</b>	<b>171.2°</b>	<b>174.9°</b>	<b>176.1°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **WINDS MAGIC** Certificate Number **090540**  
 Sail Nr **JPN 5212** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>920.8</b>	<b>779.0</b>	<b>717.0</b>	<b>683.6</b>	<b>663.3</b>	<b>650.6</b>	<b>647.7</b>
52°	<b>600.3</b>	<b>531.3</b>	<b>505.1</b>	<b>493.5</b>	<b>485.9</b>	<b>480.8</b>	<b>476.9</b>
60°	<b>570.2</b>	<b>510.1</b>	<b>491.6</b>	<b>479.8</b>	<b>470.6</b>	<b>464.1</b>	<b>459.0</b>
75°	<b>547.7</b>	<b>497.0</b>	<b>472.0</b>	<b>455.7</b>	<b>444.1</b>	<b>435.9</b>	<b>427.3</b>
90°	<b>534.5</b>	<b>486.8</b>	<b>466.8</b>	<b>440.2</b>	<b>422.1</b>	<b>409.7</b>	<b>394.2</b>
110°	<b>538.1</b>	<b>487.6</b>	<b>450.2</b>	<b>425.9</b>	<b>407.0</b>	<b>389.5</b>	<b>358.4</b>
120°	<b>560.7</b>	<b>499.6</b>	<b>463.5</b>	<b>423.6</b>	<b>391.1</b>	<b>371.1</b>	<b>333.1</b>
135°	<b>637.9</b>	<b>540.0</b>	<b>494.2</b>	<b>460.1</b>	<b>422.0</b>	<b>378.9</b>	<b>301.1</b>
150°	<b>773.3</b>	<b>625.6</b>	<b>544.5</b>	<b>498.2</b>	<b>466.9</b>	<b>432.3</b>	<b>347.1</b>
Run VMG	<b>892.9</b>	<b>722.4</b>	<b>626.9</b>	<b>560.5</b>	<b>514.0</b>	<b>483.9</b>	<b>400.8</b>

### Selected Courses

Windward / Leeward	<b>927.4</b>	<b>764.7</b>	<b>680.9</b>	<b>629.6</b>	<b>595.7</b>	<b>572.7</b>	<b>526.6</b>
Circular Random	<b>773.7</b>	<b>635.7</b>	<b>562.7</b>	<b>519.6</b>	<b>490.8</b>	<b>469.2</b>	<b>435.1</b>
Ocean for PCS	<b>825.6</b>	<b>664.2</b>	<b>574.8</b>	<b>518.9</b>	<b>479.6</b>	<b>448.9</b>	<b>400.2</b>
Non Spinnaker	<b>846.7</b>	<b>685.6</b>	<b>599.0</b>	<b>547.9</b>	<b>515.2</b>	<b>492.3</b>	<b>459.8</b>

### 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>43.6°</b>	<b>40.0°</b>	<b>37.2°</b>	<b>35.8°</b>	<b>35.6°</b>	<b>35.2°</b>	<b>35.4°</b>
Beat VMG	<b>3.91</b>	<b>4.62</b>	<b>5.02</b>	<b>5.27</b>	<b>5.43</b>	<b>5.53</b>	<b>5.56</b>
52°	<b>6.00</b>	<b>6.78</b>	<b>7.13</b>	<b>7.30</b>	<b>7.41</b>	<b>7.49</b>	<b>7.55</b>
60°	<b>6.31</b>	<b>7.06</b>	<b>7.32</b>	<b>7.50</b>	<b>7.65</b>	<b>7.76</b>	<b>7.84</b>
75°	<b>6.57</b>	<b>7.24</b>	<b>7.63</b>	<b>7.90</b>	<b>8.11</b>	<b>8.26</b>	<b>8.42</b>
90°	<b>6.74</b>	<b>7.40</b>	<b>7.71</b>	<b>8.18</b>	<b>8.53</b>	<b>8.79</b>	<b>9.13</b>
110°	<b>6.69</b>	<b>7.38</b>	<b>8.00</b>	<b>8.45</b>	<b>8.85</b>	<b>9.24</b>	<b>10.04</b>
120°	<b>6.42</b>	<b>7.21</b>	<b>7.77</b>	<b>8.50</b>	<b>9.20</b>	<b>9.70</b>	<b>10.81</b>
135°	<b>5.64</b>	<b>6.67</b>	<b>7.28</b>	<b>7.82</b>	<b>8.53</b>	<b>9.50</b>	<b>11.96</b>
150°	<b>4.66</b>	<b>5.75</b>	<b>6.61</b>	<b>7.23</b>	<b>7.71</b>	<b>8.33</b>	<b>10.37</b>
Run VMG	<b>4.03</b>	<b>4.98</b>	<b>5.74</b>	<b>6.42</b>	<b>7.00</b>	<b>7.44</b>	<b>8.98</b>
Gybe Angles	<b>139.7°</b>	<b>146.1°</b>	<b>153.9°</b>	<b>160.4°</b>	<b>170.8°</b>	<b>171.1°</b>	<b>140.7°</b>



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## ORC Club Certificate Appendix

<b>BOAT</b>			
Name	<b>SUPER UMIBOUZU</b>	Certificate Number	<b>090550</b>
Sail Nr	<b>JPN 4128</b>	Issued On	<b>4/15/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1002.1</b>	<b>842.2</b>	<b>773.3</b>	<b>734.9</b>	<b>711.4</b>	<b>696.9</b>	<b>685.2</b>
52°	<b>650.1</b>	<b>571.2</b>	<b>536.8</b>	<b>520.6</b>	<b>510.5</b>	<b>503.8</b>	<b>497.4</b>
60°	<b>617.1</b>	<b>551.5</b>	<b>520.3</b>	<b>504.1</b>	<b>494.3</b>	<b>487.3</b>	<b>479.6</b>
75°	<b>594.7</b>	<b>537.7</b>	<b>507.6</b>	<b>485.4</b>	<b>469.8</b>	<b>461.1</b>	<b>451.2</b>
90°	<b>599.2</b>	<b>532.2</b>	<b>498.7</b>	<b>473.2</b>	<b>458.5</b>	<b>447.8</b>	<b>430.8</b>
110°	<b>616.1</b>	<b>545.2</b>	<b>508.5</b>	<b>479.8</b>	<b>453.6</b>	<b>433.3</b>	<b>407.4</b>
120°	<b>652.0</b>	<b>564.2</b>	<b>521.1</b>	<b>491.2</b>	<b>463.0</b>	<b>439.8</b>	<b>397.6</b>
135°	<b>761.6</b>	<b>616.9</b>	<b>552.1</b>	<b>515.4</b>	<b>487.5</b>	<b>460.7</b>	<b>416.2</b>
150°	<b>917.1</b>	<b>717.6</b>	<b>608.5</b>	<b>550.8</b>	<b>515.8</b>	<b>488.9</b>	<b>441.1</b>
Run VMG	<b>1058.9</b>	<b>828.7</b>	<b>697.5</b>	<b>614.6</b>	<b>559.7</b>	<b>523.8</b>	<b>472.3</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1051.1</b>	<b>850.8</b>	<b>745.8</b>	<b>683.3</b>	<b>643.2</b>	<b>617.1</b>	<b>583.8</b>
Circular Random	<b>864.3</b>	<b>704.0</b>	<b>618.8</b>	<b>569.2</b>	<b>537.9</b>	<b>516.5</b>	<b>487.6</b>
Ocean for PCS	<b>923.0</b>	<b>735.8</b>	<b>632.5</b>	<b>569.4</b>	<b>527.4</b>	<b>497.0</b>	<b>453.0</b>
Non Spinnaker	<b>915.7</b>	<b>739.5</b>	<b>644.7</b>	<b>589.1</b>	<b>554.2</b>	<b>530.8</b>	<b>500.3</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>44.0°</b>	<b>41.2°</b>	<b>38.9°</b>	<b>37.7°</b>	<b>36.7°</b>	<b>36.0°</b>	<b>35.6°</b>
Beat VMG	<b>3.59</b>	<b>4.27</b>	<b>4.66</b>	<b>4.90</b>	<b>5.06</b>	<b>5.17</b>	<b>5.25</b>
52°	<b>5.54</b>	<b>6.30</b>	<b>6.71</b>	<b>6.92</b>	<b>7.05</b>	<b>7.15</b>	<b>7.24</b>
60°	<b>5.83</b>	<b>6.53</b>	<b>6.92</b>	<b>7.14</b>	<b>7.28</b>	<b>7.39</b>	<b>7.51</b>
75°	<b>6.05</b>	<b>6.70</b>	<b>7.09</b>	<b>7.42</b>	<b>7.66</b>	<b>7.81</b>	<b>7.98</b>
90°	<b>6.01</b>	<b>6.76</b>	<b>7.22</b>	<b>7.61</b>	<b>7.85</b>	<b>8.04</b>	<b>8.36</b>
110°	<b>5.84</b>	<b>6.60</b>	<b>7.08</b>	<b>7.50</b>	<b>7.94</b>	<b>8.31</b>	<b>8.84</b>
120°	<b>5.52</b>	<b>6.38</b>	<b>6.91</b>	<b>7.33</b>	<b>7.78</b>	<b>8.19</b>	<b>9.05</b>
135°	<b>4.73</b>	<b>5.84</b>	<b>6.52</b>	<b>6.99</b>	<b>7.38</b>	<b>7.82</b>	<b>8.65</b>
150°	<b>3.93</b>	<b>5.02</b>	<b>5.92</b>	<b>6.54</b>	<b>6.98</b>	<b>7.36</b>	<b>8.16</b>
Run VMG	<b>3.40</b>	<b>4.34</b>	<b>5.16</b>	<b>5.86</b>	<b>6.43</b>	<b>6.87</b>	<b>7.62</b>
Gybe Angles	<b>142.3°</b>	<b>146.9°</b>	<b>156.3°</b>	<b>167.0°</b>	<b>173.1°</b>	<b>175.6°</b>	<b>175.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>KAZEKOZOU</b>
Certificate Number	<b>090560</b>
Sail Nr	<b>JPN 5889</b>
Issued On	<b>4/15/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1078.7</b>	<b>888.8</b>	<b>808.2</b>	<b>768.1</b>	<b>743.6</b>	<b>728.6</b>	<b>717.6</b>
52°	<b>699.0</b>	<b>599.4</b>	<b>555.0</b>	<b>536.3</b>	<b>525.4</b>	<b>518.4</b>	<b>512.2</b>
60°	<b>659.2</b>	<b>576.4</b>	<b>536.6</b>	<b>517.7</b>	<b>507.3</b>	<b>499.9</b>	<b>492.1</b>
75°	<b>633.2</b>	<b>560.3</b>	<b>522.7</b>	<b>497.6</b>	<b>478.7</b>	<b>469.0</b>	<b>458.6</b>
90°	<b>631.8</b>	<b>551.2</b>	<b>511.5</b>	<b>481.2</b>	<b>463.3</b>	<b>453.7</b>	<b>435.5</b>
110°	<b>657.9</b>	<b>570.1</b>	<b>525.2</b>	<b>492.0</b>	<b>459.9</b>	<b>436.8</b>	<b>407.3</b>
120°	<b>705.3</b>	<b>594.3</b>	<b>540.3</b>	<b>506.0</b>	<b>472.6</b>	<b>445.3</b>	<b>396.7</b>
135°	<b>826.9</b>	<b>656.5</b>	<b>578.1</b>	<b>533.3</b>	<b>502.0</b>	<b>470.4</b>	<b>419.5</b>
150°	<b>990.4</b>	<b>766.2</b>	<b>641.5</b>	<b>574.2</b>	<b>532.7</b>	<b>502.7</b>	<b>447.9</b>
Run VMG	<b>1143.6</b>	<b>884.7</b>	<b>735.8</b>	<b>642.7</b>	<b>581.4</b>	<b>540.3</b>	<b>482.5</b>

Selected Courses							
Windward / Leeward	<b>1131.2</b>	<b>903.1</b>	<b>783.7</b>	<b>714.4</b>	<b>670.5</b>	<b>641.5</b>	<b>605.6</b>
Circular Random	<b>918.4</b>	<b>741.5</b>	<b>646.5</b>	<b>590.8</b>	<b>555.6</b>	<b>531.6</b>	<b>499.5</b>
Ocean for PCS	<b>981.1</b>	<b>775.1</b>	<b>660.5</b>	<b>590.2</b>	<b>543.3</b>	<b>509.5</b>	<b>460.7</b>
Non Spinnaker	<b>973.1</b>	<b>780.0</b>	<b>675.1</b>	<b>613.1</b>	<b>574.0</b>	<b>547.7</b>	<b>513.6</b>

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>44.0°</b>	<b>41.6°</b>	<b>39.7°</b>	<b>38.4°</b>	<b>37.6°</b>	<b>37.1°</b>	<b>36.8°</b>
Beat VMG	<b>3.34</b>	<b>4.05</b>	<b>4.45</b>	<b>4.69</b>	<b>4.84</b>	<b>4.94</b>	<b>5.02</b>
52°	<b>5.15</b>	<b>6.01</b>	<b>6.49</b>	<b>6.71</b>	<b>6.85</b>	<b>6.94</b>	<b>7.03</b>
60°	<b>5.46</b>	<b>6.25</b>	<b>6.71</b>	<b>6.95</b>	<b>7.10</b>	<b>7.20</b>	<b>7.32</b>
75°	<b>5.69</b>	<b>6.42</b>	<b>6.89</b>	<b>7.23</b>	<b>7.52</b>	<b>7.68</b>	<b>7.85</b>
90°	<b>5.70</b>	<b>6.53</b>	<b>7.04</b>	<b>7.48</b>	<b>7.77</b>	<b>7.93</b>	<b>8.27</b>
110°	<b>5.47</b>	<b>6.31</b>	<b>6.85</b>	<b>7.32</b>	<b>7.83</b>	<b>8.24</b>	<b>8.84</b>
120°	<b>5.10</b>	<b>6.06</b>	<b>6.66</b>	<b>7.11</b>	<b>7.62</b>	<b>8.08</b>	<b>9.08</b>
135°	<b>4.35</b>	<b>5.48</b>	<b>6.23</b>	<b>6.75</b>	<b>7.17</b>	<b>7.65</b>	<b>8.58</b>
150°	<b>3.63</b>	<b>4.70</b>	<b>5.61</b>	<b>6.27</b>	<b>6.76</b>	<b>7.16</b>	<b>8.04</b>
Run VMG	<b>3.15</b>	<b>4.07</b>	<b>4.89</b>	<b>5.60</b>	<b>6.19</b>	<b>6.66</b>	<b>7.46</b>
Gybe Angles	<b>144.8°</b>	<b>148.6°</b>	<b>156.5°</b>	<b>167.1°</b>	<b>172.2°</b>	<b>175.1°</b>	<b>174.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name	<b>OCEAN KIDS</b>
Sail Nr	<b>JPN 4763</b>
Certificate Number	<b>090570</b>
Issued On	<b>4/15/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1046.0</b>	<b>871.7</b>	<b>795.0</b>	<b>753.7</b>	<b>728.7</b>	<b>713.5</b>	<b>701.7</b>
52°	<b>678.0</b>	<b>584.1</b>	<b>544.4</b>	<b>527.3</b>	<b>516.7</b>	<b>509.9</b>	<b>503.6</b>
60°	<b>640.0</b>	<b>561.3</b>	<b>526.5</b>	<b>509.5</b>	<b>499.5</b>	<b>492.4</b>	<b>485.2</b>
75°	<b>613.3</b>	<b>546.1</b>	<b>512.6</b>	<b>489.2</b>	<b>474.2</b>	<b>465.9</b>	<b>456.5</b>
90°	<b>614.2</b>	<b>538.4</b>	<b>501.8</b>	<b>477.0</b>	<b>464.7</b>	<b>451.3</b>	<b>435.4</b>
110°	<b>632.5</b>	<b>552.2</b>	<b>512.7</b>	<b>481.3</b>	<b>454.8</b>	<b>435.1</b>	<b>412.9</b>
120°	<b>670.4</b>	<b>572.3</b>	<b>525.7</b>	<b>493.9</b>	<b>464.4</b>	<b>440.1</b>	<b>398.1</b>
135°	<b>776.0</b>	<b>628.7</b>	<b>557.9</b>	<b>519.4</b>	<b>490.2</b>	<b>463.2</b>	<b>415.7</b>
150°	<b>932.2</b>	<b>729.4</b>	<b>618.6</b>	<b>556.6</b>	<b>520.2</b>	<b>492.3</b>	<b>444.2</b>
Run VMG	<b>1076.4</b>	<b>842.3</b>	<b>709.9</b>	<b>624.0</b>	<b>566.4</b>	<b>529.4</b>	<b>476.8</b>
<b>Selected Courses</b>							
Windward / Leeward	<b>1081.9</b>	<b>872.8</b>	<b>763.1</b>	<b>697.6</b>	<b>655.5</b>	<b>628.3</b>	<b>594.4</b>
Circular Random	<b>885.9</b>	<b>719.0</b>	<b>630.0</b>	<b>578.1</b>	<b>545.5</b>	<b>523.5</b>	<b>494.3</b>
Ocean for PCS	<b>946.1</b>	<b>751.6</b>	<b>643.9</b>	<b>578.0</b>	<b>534.2</b>	<b>502.7</b>	<b>457.4</b>
Non Spinnaker	<b>942.2</b>	<b>758.2</b>	<b>658.8</b>	<b>600.3</b>	<b>563.6</b>	<b>539.1</b>	<b>507.6</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>44.2°</b>	<b>41.8°</b>	<b>40.1°</b>	<b>38.8°</b>	<b>37.8°</b>	<b>37.1°</b>	<b>36.6°</b>
Beat VMG	<b>3.44</b>	<b>4.13</b>	<b>4.53</b>	<b>4.78</b>	<b>4.94</b>	<b>5.05</b>	<b>5.13</b>
52°	<b>5.31</b>	<b>6.16</b>	<b>6.61</b>	<b>6.83</b>	<b>6.97</b>	<b>7.06</b>	<b>7.15</b>
60°	<b>5.62</b>	<b>6.41</b>	<b>6.84</b>	<b>7.07</b>	<b>7.21</b>	<b>7.31</b>	<b>7.42</b>
75°	<b>5.87</b>	<b>6.59</b>	<b>7.02</b>	<b>7.36</b>	<b>7.59</b>	<b>7.73</b>	<b>7.89</b>
90°	<b>5.86</b>	<b>6.69</b>	<b>7.17</b>	<b>7.55</b>	<b>7.75</b>	<b>7.98</b>	<b>8.27</b>
110°	<b>5.69</b>	<b>6.52</b>	<b>7.02</b>	<b>7.48</b>	<b>7.92</b>	<b>8.27</b>	<b>8.72</b>
120°	<b>5.37</b>	<b>6.29</b>	<b>6.85</b>	<b>7.29</b>	<b>7.75</b>	<b>8.18</b>	<b>9.04</b>
135°	<b>4.64</b>	<b>5.73</b>	<b>6.45</b>	<b>6.93</b>	<b>7.34</b>	<b>7.77</b>	<b>8.66</b>
150°	<b>3.86</b>	<b>4.94</b>	<b>5.82</b>	<b>6.47</b>	<b>6.92</b>	<b>7.31</b>	<b>8.10</b>
Run VMG	<b>3.34</b>	<b>4.27</b>	<b>5.07</b>	<b>5.77</b>	<b>6.36</b>	<b>6.80</b>	<b>7.55</b>
Gybe Angles	<b>142.9°</b>	<b>148.0°</b>	<b>156.2°</b>	<b>165.3°</b>	<b>172.0°</b>	<b>174.9°</b>	<b>174.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **HOT UU** Certificate Number **090580**  
 Sail Nr **JPN 5986** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1144.1</b>	<b>914.2</b>	<b>783.3</b>	<b>715.6</b>	<b>680.8</b>	<b>658.5</b>	<b>634.4</b>
52°	<b>726.3</b>	<b>583.3</b>	<b>521.1</b>	<b>493.9</b>	<b>476.7</b>	<b>466.5</b>	<b>455.4</b>
60°	<b>668.9</b>	<b>543.7</b>	<b>502.0</b>	<b>477.8</b>	<b>460.8</b>	<b>450.7</b>	<b>441.4</b>
75°	<b>622.5</b>	<b>520.4</b>	<b>485.9</b>	<b>461.3</b>	<b>447.7</b>	<b>436.5</b>	<b>422.6</b>
90°	<b>607.6</b>	<b>507.7</b>	<b>472.2</b>	<b>449.5</b>	<b>435.7</b>	<b>427.8</b>	<b>417.6</b>
110°	<b>623.0</b>	<b>516.5</b>	<b>479.1</b>	<b>453.3</b>	<b>435.8</b>	<b>421.3</b>	<b>396.7</b>
120°	<b>664.6</b>	<b>535.0</b>	<b>490.1</b>	<b>461.4</b>	<b>441.3</b>	<b>425.8</b>	<b>396.2</b>
135°	<b>768.7</b>	<b>604.6</b>	<b>518.9</b>	<b>483.6</b>	<b>458.1</b>	<b>440.0</b>	<b>409.4</b>
150°	<b>921.5</b>	<b>714.6</b>	<b>591.5</b>	<b>520.7</b>	<b>486.8</b>	<b>461.9</b>	<b>428.8</b>
Run VMG	<b>1064.0</b>	<b>825.2</b>	<b>683.0</b>	<b>593.3</b>	<b>536.3</b>	<b>500.4</b>	<b>454.1</b>

### Selected Courses

Windward / Leeward	<b>1121.6</b>	<b>881.4</b>	<b>744.5</b>	<b>664.0</b>	<b>616.2</b>	<b>586.0</b>	<b>549.3</b>
Circular Random	<b>887.4</b>	<b>706.3</b>	<b>607.9</b>	<b>550.2</b>	<b>514.7</b>	<b>491.5</b>	<b>462.7</b>
Ocean for PCS	<b>949.3</b>	<b>739.3</b>	<b>621.8</b>	<b>550.5</b>	<b>504.9</b>	<b>474.0</b>	<b>433.4</b>
Non Spinnaker	<b>970.1</b>	<b>763.8</b>	<b>649.5</b>	<b>581.1</b>	<b>538.2</b>	<b>510.2</b>	<b>476.4</b>

### 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>45.5°</b>	<b>44.4°</b>	<b>43.6°</b>	<b>40.5°</b>	<b>38.6°</b>	<b>37.3°</b>	<b>36.0°</b>
Beat VMG	<b>3.15</b>	<b>3.94</b>	<b>4.60</b>	<b>5.03</b>	<b>5.29</b>	<b>5.47</b>	<b>5.67</b>
52°	<b>4.96</b>	<b>6.17</b>	<b>6.91</b>	<b>7.29</b>	<b>7.55</b>	<b>7.72</b>	<b>7.91</b>
60°	<b>5.38</b>	<b>6.62</b>	<b>7.17</b>	<b>7.53</b>	<b>7.81</b>	<b>7.99</b>	<b>8.16</b>
75°	<b>5.78</b>	<b>6.92</b>	<b>7.41</b>	<b>7.80</b>	<b>8.04</b>	<b>8.25</b>	<b>8.52</b>
90°	<b>5.93</b>	<b>7.09</b>	<b>7.62</b>	<b>8.01</b>	<b>8.26</b>	<b>8.41</b>	<b>8.62</b>
110°	<b>5.78</b>	<b>6.97</b>	<b>7.51</b>	<b>7.94</b>	<b>8.26</b>	<b>8.54</b>	<b>9.07</b>
120°	<b>5.42</b>	<b>6.73</b>	<b>7.35</b>	<b>7.80</b>	<b>8.16</b>	<b>8.45</b>	<b>9.09</b>
135°	<b>4.68</b>	<b>5.95</b>	<b>6.94</b>	<b>7.44</b>	<b>7.86</b>	<b>8.18</b>	<b>8.79</b>
150°	<b>3.91</b>	<b>5.04</b>	<b>6.09</b>	<b>6.91</b>	<b>7.40</b>	<b>7.79</b>	<b>8.40</b>
Run VMG	<b>3.38</b>	<b>4.36</b>	<b>5.27</b>	<b>6.07</b>	<b>6.71</b>	<b>7.19</b>	<b>7.93</b>
Gybe Angles	<b>142.5°</b>	<b>145.3°</b>	<b>146.5°</b>	<b>157.4°</b>	<b>167.9°</b>	<b>173.1°</b>	<b>175.6°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **CONDITION ONE II** Certificate Number **090590**  
 Sail Nr **JPN 5886** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1322.3</b>	<b>1054.5</b>	<b>915.1</b>	<b>854.1</b>	<b>820.4</b>	<b>799.4</b>	<b>781.3</b>
52°	<b>837.2</b>	<b>672.5</b>	<b>616.5</b>	<b>584.2</b>	<b>568.6</b>	<b>559.3</b>	<b>550.7</b>
60°	<b>771.6</b>	<b>640.0</b>	<b>593.7</b>	<b>563.4</b>	<b>547.6</b>	<b>539.9</b>	<b>532.0</b>
75°	<b>716.2</b>	<b>617.1</b>	<b>569.1</b>	<b>546.3</b>	<b>528.1</b>	<b>514.6</b>	<b>504.3</b>
90°	<b>685.8</b>	<b>597.4</b>	<b>554.6</b>	<b>528.4</b>	<b>515.7</b>	<b>508.4</b>	<b>485.2</b>
110°	<b>714.4</b>	<b>610.0</b>	<b>563.4</b>	<b>533.0</b>	<b>507.7</b>	<b>485.2</b>	<b>465.1</b>
120°	<b>765.9</b>	<b>628.0</b>	<b>575.7</b>	<b>541.9</b>	<b>516.5</b>	<b>491.8</b>	<b>450.7</b>
135°	<b>878.2</b>	<b>682.6</b>	<b>607.4</b>	<b>565.2</b>	<b>536.4</b>	<b>512.9</b>	<b>469.2</b>
150°	<b>1045.1</b>	<b>806.1</b>	<b>664.4</b>	<b>603.6</b>	<b>564.7</b>	<b>537.3</b>	<b>493.0</b>
Run VMG	<b>1206.8</b>	<b>930.8</b>	<b>764.6</b>	<b>670.0</b>	<b>614.7</b>	<b>576.3</b>	<b>526.3</b>

### Selected Courses

Windward / Leeward	<b>1284.2</b>	<b>1007.2</b>	<b>855.2</b>	<b>773.0</b>	<b>726.0</b>	<b>695.4</b>	<b>660.5</b>
Circular Random	<b>1023.1</b>	<b>818.4</b>	<b>708.4</b>	<b>644.8</b>	<b>606.1</b>	<b>581.0</b>	<b>549.6</b>
Ocean for PCS	<b>1094.2</b>	<b>856.2</b>	<b>724.3</b>	<b>644.9</b>	<b>593.9</b>	<b>558.3</b>	<b>508.2</b>
Non Spinnaker	<b>1113.4</b>	<b>880.5</b>	<b>753.0</b>	<b>678.0</b>	<b>632.0</b>	<b>602.4</b>	<b>567.0</b>

### 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>45.9°</b>	<b>46.6°</b>	<b>42.5°</b>	<b>40.3°</b>	<b>38.9°</b>	<b>38.2°</b>	<b>37.6°</b>
Beat VMG	<b>2.72</b>	<b>3.41</b>	<b>3.93</b>	<b>4.21</b>	<b>4.39</b>	<b>4.50</b>	<b>4.61</b>
52°	<b>4.30</b>	<b>5.35</b>	<b>5.84</b>	<b>6.16</b>	<b>6.33</b>	<b>6.44</b>	<b>6.54</b>
60°	<b>4.67</b>	<b>5.63</b>	<b>6.06</b>	<b>6.39</b>	<b>6.57</b>	<b>6.67</b>	<b>6.77</b>
75°	<b>5.03</b>	<b>5.83</b>	<b>6.33</b>	<b>6.59</b>	<b>6.82</b>	<b>7.00</b>	<b>7.14</b>
90°	<b>5.25</b>	<b>6.03</b>	<b>6.49</b>	<b>6.81</b>	<b>6.98</b>	<b>7.08</b>	<b>7.42</b>
110°	<b>5.04</b>	<b>5.90</b>	<b>6.39</b>	<b>6.75</b>	<b>7.09</b>	<b>7.42</b>	<b>7.74</b>
120°	<b>4.70</b>	<b>5.73</b>	<b>6.25</b>	<b>6.64</b>	<b>6.97</b>	<b>7.32</b>	<b>7.99</b>
135°	<b>4.10</b>	<b>5.27</b>	<b>5.93</b>	<b>6.37</b>	<b>6.71</b>	<b>7.02</b>	<b>7.67</b>
150°	<b>3.44</b>	<b>4.47</b>	<b>5.42</b>	<b>5.96</b>	<b>6.37</b>	<b>6.70</b>	<b>7.30</b>
Run VMG	<b>2.98</b>	<b>3.87</b>	<b>4.71</b>	<b>5.37</b>	<b>5.86</b>	<b>6.25</b>	<b>6.84</b>
Gybe Angles	<b>144.6°</b>	<b>147.8°</b>	<b>153.0°</b>	<b>165.9°</b>	<b>171.1°</b>	<b>173.1°</b>	<b>174.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **TORATORATORA** Certificate Number **090600**  
 Sail Nr **JPN 6284** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1186.4</b>	<b>957.1</b>	<b>852.6</b>	<b>805.1</b>	<b>777.4</b>	<b>760.0</b>	<b>745.7</b>
52°	<b>755.3</b>	<b>627.9</b>	<b>580.7</b>	<b>555.1</b>	<b>542.8</b>	<b>535.1</b>	<b>527.8</b>
60°	<b>698.3</b>	<b>600.8</b>	<b>560.7</b>	<b>536.5</b>	<b>523.5</b>	<b>516.3</b>	<b>508.9</b>
75°	<b>654.3</b>	<b>580.6</b>	<b>543.0</b>	<b>519.1</b>	<b>502.3</b>	<b>490.2</b>	<b>479.9</b>
90°	<b>646.8</b>	<b>568.4</b>	<b>530.9</b>	<b>505.4</b>	<b>487.3</b>	<b>479.0</b>	<b>459.2</b>
110°	<b>670.0</b>	<b>582.5</b>	<b>540.7</b>	<b>511.8</b>	<b>486.9</b>	<b>464.7</b>	<b>439.6</b>
120°	<b>719.6</b>	<b>602.0</b>	<b>553.2</b>	<b>521.7</b>	<b>496.0</b>	<b>471.8</b>	<b>434.2</b>
135°	<b>835.4</b>	<b>657.7</b>	<b>585.1</b>	<b>545.3</b>	<b>517.1</b>	<b>492.9</b>	<b>450.1</b>
150°	<b>997.4</b>	<b>772.7</b>	<b>643.0</b>	<b>581.9</b>	<b>544.9</b>	<b>517.8</b>	<b>472.1</b>
Run VMG	<b>1151.8</b>	<b>892.2</b>	<b>739.3</b>	<b>646.8</b>	<b>590.3</b>	<b>552.9</b>	<b>503.0</b>

### Selected Courses

Windward / Leeward	<b>1188.7</b>	<b>940.6</b>	<b>809.1</b>	<b>735.8</b>	<b>692.0</b>	<b>663.7</b>	<b>630.3</b>
Circular Random	<b>956.1</b>	<b>770.1</b>	<b>670.6</b>	<b>613.1</b>	<b>577.7</b>	<b>554.4</b>	<b>524.6</b>
Ocean for PCS	<b>1022.7</b>	<b>805.6</b>	<b>685.5</b>	<b>612.9</b>	<b>565.6</b>	<b>532.1</b>	<b>484.4</b>
Non Spinnaker	<b>1019.6</b>	<b>813.8</b>	<b>702.3</b>	<b>637.0</b>	<b>596.8</b>	<b>570.6</b>	<b>538.1</b>

### 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>45.3°</b>	<b>44.3°</b>	<b>41.1°</b>	<b>39.7°</b>	<b>38.7°</b>	<b>38.0°</b>	<b>37.6°</b>
Beat VMG	<b>3.03</b>	<b>3.76</b>	<b>4.22</b>	<b>4.47</b>	<b>4.63</b>	<b>4.74</b>	<b>4.83</b>
52°	<b>4.77</b>	<b>5.73</b>	<b>6.20</b>	<b>6.48</b>	<b>6.63</b>	<b>6.73</b>	<b>6.82</b>
60°	<b>5.16</b>	<b>5.99</b>	<b>6.42</b>	<b>6.71</b>	<b>6.88</b>	<b>6.97</b>	<b>7.07</b>
75°	<b>5.50</b>	<b>6.20</b>	<b>6.63</b>	<b>6.93</b>	<b>7.17</b>	<b>7.34</b>	<b>7.50</b>
90°	<b>5.57</b>	<b>6.33</b>	<b>6.78</b>	<b>7.12</b>	<b>7.39</b>	<b>7.52</b>	<b>7.84</b>
110°	<b>5.37</b>	<b>6.18</b>	<b>6.66</b>	<b>7.03</b>	<b>7.39</b>	<b>7.75</b>	<b>8.19</b>
120°	<b>5.00</b>	<b>5.98</b>	<b>6.51</b>	<b>6.90</b>	<b>7.26</b>	<b>7.63</b>	<b>8.29</b>
135°	<b>4.31</b>	<b>5.47</b>	<b>6.15</b>	<b>6.60</b>	<b>6.96</b>	<b>7.30</b>	<b>8.00</b>
150°	<b>3.61</b>	<b>4.66</b>	<b>5.60</b>	<b>6.19</b>	<b>6.61</b>	<b>6.95</b>	<b>7.62</b>
Run VMG	<b>3.13</b>	<b>4.03</b>	<b>4.87</b>	<b>5.57</b>	<b>6.10</b>	<b>6.51</b>	<b>7.16</b>
Gybe Angles	<b>144.3°</b>	<b>147.9°</b>	<b>154.1°</b>	<b>167.2°</b>	<b>173.0°</b>	<b>175.4°</b>	<b>176.1°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **KANZE** Certificate Number **090610**  
 Sail Nr **JPN 6282** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1097.8</b>	<b>906.4</b>	<b>816.2</b>	<b>768.2</b>	<b>738.1</b>	<b>719.4</b>	<b>702.8</b>
52°	<b>709.4</b>	<b>604.9</b>	<b>553.7</b>	<b>532.1</b>	<b>520.1</b>	<b>512.1</b>	<b>503.9</b>
60°	<b>668.2</b>	<b>578.4</b>	<b>536.0</b>	<b>513.4</b>	<b>502.1</b>	<b>494.2</b>	<b>485.4</b>
75°	<b>639.4</b>	<b>560.3</b>	<b>523.4</b>	<b>498.2</b>	<b>478.6</b>	<b>468.5</b>	<b>457.5</b>
90°	<b>639.8</b>	<b>552.8</b>	<b>513.7</b>	<b>485.7</b>	<b>465.7</b>	<b>456.8</b>	<b>437.3</b>
110°	<b>667.3</b>	<b>571.9</b>	<b>526.7</b>	<b>496.6</b>	<b>470.4</b>	<b>447.7</b>	<b>413.3</b>
120°	<b>713.3</b>	<b>598.2</b>	<b>541.0</b>	<b>508.2</b>	<b>481.2</b>	<b>457.3</b>	<b>413.6</b>
135°	<b>831.6</b>	<b>662.9</b>	<b>579.6</b>	<b>534.1</b>	<b>504.3</b>	<b>478.9</b>	<b>435.8</b>
150°	<b>994.0</b>	<b>770.2</b>	<b>646.7</b>	<b>575.5</b>	<b>533.7</b>	<b>505.2</b>	<b>458.7</b>
Run VMG	<b>1147.8</b>	<b>889.3</b>	<b>741.9</b>	<b>647.2</b>	<b>583.0</b>	<b>541.5</b>	<b>488.8</b>

### Selected Courses

Windward / Leeward	<b>1143.2</b>	<b>913.5</b>	<b>790.4</b>	<b>716.6</b>	<b>668.8</b>	<b>637.6</b>	<b>601.3</b>
Circular Random	<b>926.5</b>	<b>746.8</b>	<b>649.8</b>	<b>592.7</b>	<b>556.7</b>	<b>532.3</b>	<b>500.2</b>
Ocean for PCS	<b>989.6</b>	<b>780.6</b>	<b>663.9</b>	<b>592.3</b>	<b>545.0</b>	<b>511.1</b>	<b>463.3</b>
Non Spinnaker	<b>981.7</b>	<b>785.2</b>	<b>678.0</b>	<b>614.4</b>	<b>574.3</b>	<b>547.5</b>	<b>513.6</b>

### 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>44.6°</b>	<b>42.1°</b>	<b>40.6°</b>	<b>39.5°</b>	<b>38.4°</b>	<b>37.4°</b>	<b>36.6°</b>
Beat VMG	<b>3.28</b>	<b>3.97</b>	<b>4.41</b>	<b>4.69</b>	<b>4.88</b>	<b>5.00</b>	<b>5.12</b>
52°	<b>5.07</b>	<b>5.95</b>	<b>6.50</b>	<b>6.77</b>	<b>6.92</b>	<b>7.03</b>	<b>7.14</b>
60°	<b>5.39</b>	<b>6.22</b>	<b>6.72</b>	<b>7.01</b>	<b>7.17</b>	<b>7.28</b>	<b>7.42</b>
75°	<b>5.63</b>	<b>6.43</b>	<b>6.88</b>	<b>7.23</b>	<b>7.52</b>	<b>7.68</b>	<b>7.87</b>
90°	<b>5.63</b>	<b>6.51</b>	<b>7.01</b>	<b>7.41</b>	<b>7.73</b>	<b>7.88</b>	<b>8.23</b>
110°	<b>5.39</b>	<b>6.29</b>	<b>6.84</b>	<b>7.25</b>	<b>7.65</b>	<b>8.04</b>	<b>8.71</b>
120°	<b>5.05</b>	<b>6.02</b>	<b>6.65</b>	<b>7.08</b>	<b>7.48</b>	<b>7.87</b>	<b>8.71</b>
135°	<b>4.33</b>	<b>5.43</b>	<b>6.21</b>	<b>6.74</b>	<b>7.14</b>	<b>7.52</b>	<b>8.26</b>
150°	<b>3.62</b>	<b>4.67</b>	<b>5.57</b>	<b>6.26</b>	<b>6.74</b>	<b>7.13</b>	<b>7.85</b>
Run VMG	<b>3.14</b>	<b>4.05</b>	<b>4.85</b>	<b>5.56</b>	<b>6.17</b>	<b>6.65</b>	<b>7.36</b>
Gybe Angles	<b>144.6°</b>	<b>148.9°</b>	<b>157.5°</b>	<b>166.4°</b>	<b>171.2°</b>	<b>175.3°</b>	<b>176.1°</b>



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# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SUNSPASH** Certificate Number **090620**  
 Sail Nr **JPN 6309** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1135.9</b>	<b>936.5</b>	<b>845.6</b>	<b>802.5</b>	<b>776.1</b>	<b>759.6</b>	<b>746.6</b>
52°	<b>734.0</b>	<b>626.0</b>	<b>577.9</b>	<b>556.1</b>	<b>544.7</b>	<b>537.4</b>	<b>530.5</b>
60°	<b>689.7</b>	<b>599.5</b>	<b>558.7</b>	<b>537.4</b>	<b>526.4</b>	<b>519.4</b>	<b>512.1</b>
75°	<b>658.1</b>	<b>580.5</b>	<b>540.7</b>	<b>520.8</b>	<b>504.4</b>	<b>493.9</b>	<b>484.1</b>
90°	<b>642.8</b>	<b>563.6</b>	<b>527.6</b>	<b>505.0</b>	<b>491.5</b>	<b>483.8</b>	<b>464.0</b>
110°	<b>663.4</b>	<b>577.7</b>	<b>535.8</b>	<b>507.0</b>	<b>482.7</b>	<b>464.3</b>	<b>441.5</b>
120°	<b>703.9</b>	<b>598.6</b>	<b>548.3</b>	<b>516.6</b>	<b>489.9</b>	<b>467.1</b>	<b>429.6</b>
135°	<b>811.3</b>	<b>654.7</b>	<b>580.9</b>	<b>540.4</b>	<b>511.8</b>	<b>486.4</b>	<b>441.3</b>
150°	<b>970.5</b>	<b>757.1</b>	<b>641.4</b>	<b>577.8</b>	<b>540.2</b>	<b>512.7</b>	<b>466.2</b>
Run VMG	<b>1120.6</b>	<b>874.2</b>	<b>734.4</b>	<b>645.4</b>	<b>586.7</b>	<b>548.7</b>	<b>497.4</b>

### Selected Courses

Windward / Leeward	<b>1149.3</b>	<b>921.7</b>	<b>802.1</b>	<b>733.2</b>	<b>689.7</b>	<b>661.4</b>	<b>627.7</b>
Circular Random	<b>937.7</b>	<b>759.4</b>	<b>664.6</b>	<b>609.7</b>	<b>575.8</b>	<b>553.2</b>	<b>523.8</b>
Ocean for PCS	<b>1001.4</b>	<b>793.9</b>	<b>679.2</b>	<b>609.8</b>	<b>564.3</b>	<b>531.8</b>	<b>484.9</b>
Non Spinnaker	<b>1007.5</b>	<b>807.9</b>	<b>699.8</b>	<b>636.4</b>	<b>597.1</b>	<b>571.2</b>	<b>538.9</b>

### 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>44.4°</b>	<b>42.0°</b>	<b>40.3°</b>	<b>39.2°</b>	<b>38.4°</b>	<b>37.8°</b>	<b>37.5°</b>
Beat VMG	<b>3.17</b>	<b>3.84</b>	<b>4.26</b>	<b>4.49</b>	<b>4.64</b>	<b>4.74</b>	<b>4.82</b>
52°	<b>4.90</b>	<b>5.75</b>	<b>6.23</b>	<b>6.47</b>	<b>6.61</b>	<b>6.70</b>	<b>6.79</b>
60°	<b>5.22</b>	<b>6.00</b>	<b>6.44</b>	<b>6.70</b>	<b>6.84</b>	<b>6.93</b>	<b>7.03</b>
75°	<b>5.47</b>	<b>6.20</b>	<b>6.66</b>	<b>6.91</b>	<b>7.14</b>	<b>7.29</b>	<b>7.44</b>
90°	<b>5.60</b>	<b>6.39</b>	<b>6.82</b>	<b>7.13</b>	<b>7.32</b>	<b>7.44</b>	<b>7.76</b>
110°	<b>5.43</b>	<b>6.23</b>	<b>6.72</b>	<b>7.10</b>	<b>7.46</b>	<b>7.75</b>	<b>8.15</b>
120°	<b>5.11</b>	<b>6.01</b>	<b>6.57</b>	<b>6.97</b>	<b>7.35</b>	<b>7.71</b>	<b>8.38</b>
135°	<b>4.44</b>	<b>5.50</b>	<b>6.20</b>	<b>6.66</b>	<b>7.03</b>	<b>7.40</b>	<b>8.16</b>
150°	<b>3.71</b>	<b>4.76</b>	<b>5.61</b>	<b>6.23</b>	<b>6.66</b>	<b>7.02</b>	<b>7.72</b>
Run VMG	<b>3.21</b>	<b>4.12</b>	<b>4.90</b>	<b>5.58</b>	<b>6.14</b>	<b>6.56</b>	<b>7.24</b>
Gybe Angles	<b>144.1°</b>	<b>148.9°</b>	<b>157.7°</b>	<b>166.4°</b>	<b>172.1°</b>	<b>175.0°</b>	<b>175.6°</b>



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## ORC Club Certificate Appendix

### BOAT

Name **KAIOH** Certificate Number **090630**  
 Sail Nr **JPN 5266** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>935.6</b>	<b>773.3</b>	<b>704.3</b>	<b>666.3</b>	<b>643.6</b>	<b>630.0</b>	<b>621.7</b>
52°	<b>606.1</b>	<b>518.6</b>	<b>486.5</b>	<b>471.0</b>	<b>461.6</b>	<b>455.5</b>	<b>450.3</b>
60°	<b>572.1</b>	<b>497.9</b>	<b>469.2</b>	<b>455.5</b>	<b>446.2</b>	<b>439.8</b>	<b>434.0</b>
75°	<b>548.8</b>	<b>485.2</b>	<b>452.3</b>	<b>433.8</b>	<b>422.9</b>	<b>415.0</b>	<b>406.0</b>
90°	<b>554.0</b>	<b>483.5</b>	<b>445.9</b>	<b>428.0</b>	<b>406.0</b>	<b>393.7</b>	<b>378.8</b>
110°	<b>574.9</b>	<b>497.3</b>	<b>458.8</b>	<b>426.4</b>	<b>395.9</b>	<b>377.6</b>	<b>353.1</b>
120°	<b>612.3</b>	<b>519.1</b>	<b>473.3</b>	<b>442.3</b>	<b>411.2</b>	<b>377.1</b>	<b>331.5</b>
135°	<b>721.5</b>	<b>578.5</b>	<b>508.9</b>	<b>470.0</b>	<b>441.6</b>	<b>414.1</b>	<b>350.9</b>
150°	<b>871.1</b>	<b>684.0</b>	<b>575.0</b>	<b>512.1</b>	<b>473.9</b>	<b>446.5</b>	<b>395.0</b>
Run VMG	<b>1005.9</b>	<b>789.8</b>	<b>663.4</b>	<b>583.3</b>	<b>526.1</b>	<b>486.6</b>	<b>434.2</b>

### Selected Courses

Windward / Leeward	<b>989.3</b>	<b>795.7</b>	<b>693.7</b>	<b>632.4</b>	<b>591.9</b>	<b>564.7</b>	<b>533.1</b>
Circular Random	<b>803.3</b>	<b>649.8</b>	<b>567.2</b>	<b>518.4</b>	<b>487.0</b>	<b>465.2</b>	<b>435.5</b>
Ocean for PCS	<b>858.8</b>	<b>679.7</b>	<b>579.7</b>	<b>517.7</b>	<b>475.8</b>	<b>444.8</b>	<b>398.9</b>
Non Spinnaker	<b>858.1</b>	<b>688.1</b>	<b>595.5</b>	<b>540.4</b>	<b>505.3</b>	<b>481.4</b>	<b>449.8</b>

### 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>43.7°</b>	<b>41.4°</b>	<b>38.9°</b>	<b>37.5°</b>	<b>36.5°</b>	<b>35.8°</b>	<b>35.6°</b>
Beat VMG	<b>3.85</b>	<b>4.66</b>	<b>5.11</b>	<b>5.40</b>	<b>5.59</b>	<b>5.71</b>	<b>5.79</b>
52°	<b>5.94</b>	<b>6.94</b>	<b>7.40</b>	<b>7.64</b>	<b>7.80</b>	<b>7.90</b>	<b>7.99</b>
60°	<b>6.29</b>	<b>7.23</b>	<b>7.67</b>	<b>7.90</b>	<b>8.07</b>	<b>8.19</b>	<b>8.30</b>
75°	<b>6.56</b>	<b>7.42</b>	<b>7.96</b>	<b>8.30</b>	<b>8.51</b>	<b>8.68</b>	<b>8.87</b>
90°	<b>6.50</b>	<b>7.45</b>	<b>8.07</b>	<b>8.41</b>	<b>8.87</b>	<b>9.14</b>	<b>9.50</b>
110°	<b>6.26</b>	<b>7.24</b>	<b>7.85</b>	<b>8.44</b>	<b>9.09</b>	<b>9.53</b>	<b>10.19</b>
120°	<b>5.88</b>	<b>6.93</b>	<b>7.61</b>	<b>8.14</b>	<b>8.75</b>	<b>9.55</b>	<b>10.86</b>
135°	<b>4.99</b>	<b>6.22</b>	<b>7.07</b>	<b>7.66</b>	<b>8.15</b>	<b>8.69</b>	<b>10.26</b>
150°	<b>4.13</b>	<b>5.26</b>	<b>6.26</b>	<b>7.03</b>	<b>7.60</b>	<b>8.06</b>	<b>9.11</b>
Run VMG	<b>3.58</b>	<b>4.56</b>	<b>5.43</b>	<b>6.17</b>	<b>6.84</b>	<b>7.40</b>	<b>8.29</b>
Gybe Angles	<b>141.3°</b>	<b>145.0°</b>	<b>151.8°</b>	<b>160.8°</b>	<b>167.7°</b>	<b>172.9°</b>	<b>173.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>FUUREN</b>
Sail Nr	<b>JPN 6332</b>
Certificate Number	<b>090640</b>
Issued On	<b>4/15/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1358.4</b>	<b>1109.9</b>	<b>1001.9</b>	<b>944.2</b>	<b>915.5</b>	<b>898.4</b>	<b>889.9</b>
52°	<b>862.2</b>	<b>735.9</b>	<b>679.7</b>	<b>645.9</b>	<b>632.5</b>	<b>625.5</b>	<b>620.3</b>
60°	<b>800.4</b>	<b>703.9</b>	<b>653.8</b>	<b>626.5</b>	<b>611.0</b>	<b>603.7</b>	<b>597.1</b>
75°	<b>758.8</b>	<b>675.5</b>	<b>629.1</b>	<b>602.2</b>	<b>586.8</b>	<b>568.6</b>	<b>558.6</b>
90°	<b>740.7</b>	<b>657.4</b>	<b>617.9</b>	<b>588.0</b>	<b>561.7</b>	<b>552.0</b>	<b>530.1</b>
110°	<b>765.5</b>	<b>674.5</b>	<b>627.4</b>	<b>595.7</b>	<b>564.1</b>	<b>537.2</b>	<b>495.1</b>
120°	<b>806.1</b>	<b>695.3</b>	<b>638.6</b>	<b>606.3</b>	<b>574.2</b>	<b>545.9</b>	<b>489.9</b>
135°	<b>921.9</b>	<b>746.9</b>	<b>671.2</b>	<b>628.1</b>	<b>598.0</b>	<b>567.7</b>	<b>513.4</b>
150°	<b>1094.7</b>	<b>843.6</b>	<b>725.3</b>	<b>661.4</b>	<b>623.8</b>	<b>594.7</b>	<b>540.0</b>
Run VMG	<b>1264.0</b>	<b>973.5</b>	<b>812.9</b>	<b>722.4</b>	<b>663.7</b>	<b>627.2</b>	<b>571.5</b>

Selected Courses							
Windward / Leeward	<b>1334.1</b>	<b>1061.6</b>	<b>921.9</b>	<b>844.7</b>	<b>799.2</b>	<b>771.1</b>	<b>737.1</b>
Circular Random	<b>1087.8</b>	<b>881.2</b>	<b>771.5</b>	<b>708.3</b>	<b>669.4</b>	<b>643.5</b>	<b>609.4</b>
Ocean for PCS	<b>1161.9</b>	<b>920.7</b>	<b>787.8</b>	<b>707.4</b>	<b>654.5</b>	<b>616.4</b>	<b>560.8</b>
Non Spinnaker	<b>1150.3</b>	<b>924.4</b>	<b>803.2</b>	<b>733.0</b>	<b>690.0</b>	<b>662.0</b>	<b>626.7</b>

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>46.0°</b>	<b>43.3°</b>	<b>40.7°</b>	<b>40.3°</b>	<b>39.6°</b>	<b>39.3°</b>	<b>39.5°</b>
Beat VMG	<b>2.65</b>	<b>3.24</b>	<b>3.59</b>	<b>3.81</b>	<b>3.93</b>	<b>4.01</b>	<b>4.05</b>
52°	<b>4.18</b>	<b>4.89</b>	<b>5.30</b>	<b>5.57</b>	<b>5.69</b>	<b>5.76</b>	<b>5.80</b>
60°	<b>4.50</b>	<b>5.11</b>	<b>5.51</b>	<b>5.75</b>	<b>5.89</b>	<b>5.96</b>	<b>6.03</b>
75°	<b>4.74</b>	<b>5.33</b>	<b>5.72</b>	<b>5.98</b>	<b>6.13</b>	<b>6.33</b>	<b>6.44</b>
90°	<b>4.86</b>	<b>5.48</b>	<b>5.83</b>	<b>6.12</b>	<b>6.41</b>	<b>6.52</b>	<b>6.79</b>
110°	<b>4.70</b>	<b>5.34</b>	<b>5.74</b>	<b>6.04</b>	<b>6.38</b>	<b>6.70</b>	<b>7.27</b>
120°	<b>4.47</b>	<b>5.18</b>	<b>5.64</b>	<b>5.94</b>	<b>6.27</b>	<b>6.59</b>	<b>7.35</b>
135°	<b>3.90</b>	<b>4.82</b>	<b>5.36</b>	<b>5.73</b>	<b>6.02</b>	<b>6.34</b>	<b>7.01</b>
150°	<b>3.29</b>	<b>4.27</b>	<b>4.96</b>	<b>5.44</b>	<b>5.77</b>	<b>6.05</b>	<b>6.67</b>
Run VMG	<b>2.85</b>	<b>3.70</b>	<b>4.43</b>	<b>4.98</b>	<b>5.42</b>	<b>5.74</b>	<b>6.30</b>
Gybe Angles	<b>147.1°</b>	<b>152.0°</b>	<b>164.6°</b>	<b>172.4°</b>	<b>175.0°</b>	<b>177.1°</b>	<b>176.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **STAR GAZER** Certificate Number **090650**  
 Sail Nr **JPN 6333** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1145.7</b>	<b>921.4</b>	<b>812.8</b>	<b>758.9</b>	<b>731.0</b>	<b>714.1</b>	<b>701.0</b>
52°	<b>736.3</b>	<b>612.8</b>	<b>548.5</b>	<b>519.2</b>	<b>508.9</b>	<b>502.8</b>	<b>497.6</b>
60°	<b>688.7</b>	<b>582.2</b>	<b>526.3</b>	<b>501.7</b>	<b>492.3</b>	<b>486.2</b>	<b>480.2</b>
75°	<b>634.8</b>	<b>526.9</b>	<b>498.1</b>	<b>487.3</b>	<b>467.3</b>	<b>457.6</b>	<b>448.8</b>
90°	<b>581.9</b>	<b>506.0</b>	<b>479.4</b>	<b>465.0</b>	<b>453.9</b>	<b>444.7</b>	<b>422.2</b>
110°	<b>594.0</b>	<b>515.7</b>	<b>481.7</b>	<b>447.7</b>	<b>425.6</b>	<b>411.6</b>	<b>387.9</b>
120°	<b>628.5</b>	<b>535.1</b>	<b>494.0</b>	<b>461.0</b>	<b>428.3</b>	<b>398.1</b>	<b>367.2</b>
135°	<b>725.6</b>	<b>594.5</b>	<b>524.5</b>	<b>491.0</b>	<b>460.0</b>	<b>429.6</b>	<b>360.5</b>
150°	<b>880.0</b>	<b>695.7</b>	<b>592.8</b>	<b>528.5</b>	<b>494.8</b>	<b>466.1</b>	<b>408.6</b>
Run VMG	<b>1016.1</b>	<b>803.4</b>	<b>684.0</b>	<b>603.0</b>	<b>544.2</b>	<b>506.1</b>	<b>452.0</b>

### Selected Courses

Windward / Leeward	<b>1100.3</b>	<b>877.7</b>	<b>759.5</b>	<b>689.7</b>	<b>645.5</b>	<b>616.9</b>	<b>581.6</b>
Circular Random	<b>883.7</b>	<b>711.7</b>	<b>619.3</b>	<b>565.2</b>	<b>531.1</b>	<b>507.8</b>	<b>475.8</b>
Ocean for PCS	<b>946.0</b>	<b>745.2</b>	<b>633.5</b>	<b>565.0</b>	<b>519.3</b>	<b>485.8</b>	<b>435.2</b>
Non Spinnaker	<b>998.9</b>	<b>791.7</b>	<b>677.6</b>	<b>609.5</b>	<b>566.8</b>	<b>538.7</b>	<b>504.4</b>

### 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>43.9°</b>	<b>41.6°</b>	<b>40.3°</b>	<b>39.4°</b>	<b>38.6°</b>	<b>38.0°</b>	<b>37.8°</b>
Beat VMG	<b>3.14</b>	<b>3.91</b>	<b>4.43</b>	<b>4.74</b>	<b>4.92</b>	<b>5.04</b>	<b>5.14</b>
52°	<b>4.89</b>	<b>5.87</b>	<b>6.56</b>	<b>6.93</b>	<b>7.07</b>	<b>7.16</b>	<b>7.24</b>
60°	<b>5.23</b>	<b>6.18</b>	<b>6.84</b>	<b>7.18</b>	<b>7.31</b>	<b>7.41</b>	<b>7.50</b>
75°	<b>5.67</b>	<b>6.83</b>	<b>7.23</b>	<b>7.39</b>	<b>7.70</b>	<b>7.87</b>	<b>8.02</b>
90°	<b>6.19</b>	<b>7.11</b>	<b>7.51</b>	<b>7.74</b>	<b>7.93</b>	<b>8.10</b>	<b>8.53</b>
110°	<b>6.06</b>	<b>6.98</b>	<b>7.47</b>	<b>8.04</b>	<b>8.46</b>	<b>8.75</b>	<b>9.28</b>
120°	<b>5.73</b>	<b>6.73</b>	<b>7.29</b>	<b>7.81</b>	<b>8.41</b>	<b>9.04</b>	<b>9.80</b>
135°	<b>4.96</b>	<b>6.06</b>	<b>6.86</b>	<b>7.33</b>	<b>7.83</b>	<b>8.38</b>	<b>9.99</b>
150°	<b>4.09</b>	<b>5.17</b>	<b>6.07</b>	<b>6.81</b>	<b>7.28</b>	<b>7.72</b>	<b>8.81</b>
Run VMG	<b>3.54</b>	<b>4.48</b>	<b>5.26</b>	<b>5.97</b>	<b>6.62</b>	<b>7.11</b>	<b>7.96</b>
Gybe Angles	<b>139.6°</b>	<b>146.8°</b>	<b>152.0°</b>	<b>159.9°</b>	<b>168.2°</b>	<b>176.6°</b>	<b>175.0°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **LEAD** Certificate Number **090660**  
 Sail Nr **JPN 6334** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1421.4</b>	<b>1158.5</b>	<b>1009.0</b>	<b>933.2</b>	<b>896.8</b>	<b>874.9</b>	<b>858.9</b>
52°	<b>898.7</b>	<b>738.9</b>	<b>656.8</b>	<b>623.5</b>	<b>606.4</b>	<b>595.8</b>	<b>586.1</b>
60°	<b>831.5</b>	<b>681.6</b>	<b>627.2</b>	<b>596.3</b>	<b>577.5</b>	<b>568.5</b>	<b>560.5</b>
75°	<b>777.6</b>	<b>640.3</b>	<b>594.9</b>	<b>571.5</b>	<b>552.4</b>	<b>541.4</b>	<b>533.0</b>
90°	<b>716.6</b>	<b>615.8</b>	<b>572.3</b>	<b>551.3</b>	<b>543.1</b>	<b>537.2</b>	<b>517.0</b>
110°	<b>740.0</b>	<b>625.3</b>	<b>575.3</b>	<b>545.8</b>	<b>527.1</b>	<b>512.6</b>	<b>497.5</b>
120°	<b>781.4</b>	<b>642.3</b>	<b>587.6</b>	<b>551.7</b>	<b>529.7</b>	<b>509.6</b>	<b>483.2</b>
135°	<b>876.0</b>	<b>698.9</b>	<b>619.4</b>	<b>574.7</b>	<b>546.0</b>	<b>524.9</b>	<b>485.4</b>
150°	<b>1035.8</b>	<b>813.9</b>	<b>678.7</b>	<b>615.8</b>	<b>574.6</b>	<b>547.1</b>	<b>506.3</b>
Run VMG	<b>1196.0</b>	<b>939.5</b>	<b>782.1</b>	<b>683.5</b>	<b>626.5</b>	<b>586.3</b>	<b>536.7</b>

### Selected Courses

Windward / Leeward	<b>1332.5</b>	<b>1063.2</b>	<b>909.7</b>	<b>820.8</b>	<b>770.6</b>	<b>738.7</b>	<b>705.7</b>
Circular Random	<b>1069.2</b>	<b>858.1</b>	<b>744.6</b>	<b>679.1</b>	<b>639.7</b>	<b>614.8</b>	<b>585.5</b>
Ocean for PCS	<b>1142.7</b>	<b>897.7</b>	<b>761.4</b>	<b>678.9</b>	<b>625.9</b>	<b>589.2</b>	<b>538.4</b>
Non Spinnaker	<b>1178.4</b>	<b>934.4</b>	<b>800.1</b>	<b>720.3</b>	<b>671.0</b>	<b>639.6</b>	<b>603.0</b>

### 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>46.3°</b>	<b>44.4°</b>	<b>45.4°</b>	<b>42.9°</b>	<b>41.4°</b>	<b>40.5°</b>	<b>40.3°</b>
Beat VMG	<b>2.53</b>	<b>3.11</b>	<b>3.57</b>	<b>3.86</b>	<b>4.01</b>	<b>4.11</b>	<b>4.19</b>
52°	<b>4.01</b>	<b>4.87</b>	<b>5.48</b>	<b>5.77</b>	<b>5.94</b>	<b>6.04</b>	<b>6.14</b>
60°	<b>4.33</b>	<b>5.28</b>	<b>5.74</b>	<b>6.04</b>	<b>6.23</b>	<b>6.33</b>	<b>6.42</b>
75°	<b>4.63</b>	<b>5.62</b>	<b>6.05</b>	<b>6.30</b>	<b>6.52</b>	<b>6.65</b>	<b>6.75</b>
90°	<b>5.02</b>	<b>5.85</b>	<b>6.29</b>	<b>6.53</b>	<b>6.63</b>	<b>6.70</b>	<b>6.96</b>
110°	<b>4.86</b>	<b>5.76</b>	<b>6.26</b>	<b>6.60</b>	<b>6.83</b>	<b>7.02</b>	<b>7.24</b>
120°	<b>4.61</b>	<b>5.61</b>	<b>6.13</b>	<b>6.53</b>	<b>6.80</b>	<b>7.06</b>	<b>7.45</b>
135°	<b>4.11</b>	<b>5.15</b>	<b>5.81</b>	<b>6.26</b>	<b>6.59</b>	<b>6.86</b>	<b>7.42</b>
150°	<b>3.48</b>	<b>4.42</b>	<b>5.30</b>	<b>5.85</b>	<b>6.26</b>	<b>6.58</b>	<b>7.11</b>
Run VMG	<b>3.01</b>	<b>3.83</b>	<b>4.60</b>	<b>5.27</b>	<b>5.75</b>	<b>6.14</b>	<b>6.71</b>
Gybe Angles	<b>144.4°</b>	<b>151.0°</b>	<b>152.3°</b>	<b>165.8°</b>	<b>172.4°</b>	<b>173.4°</b>	<b>176.6°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **KINGKONG**  
Sail Nr **JPN 6347**

Certificate Number **090670**  
Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1046.2</b>	<b>860.0</b>	<b>769.0</b>	<b>725.5</b>	<b>700.5</b>	<b>685.7</b>	<b>675.6</b>
52°	<b>670.4</b>	<b>554.1</b>	<b>511.9</b>	<b>491.3</b>	<b>479.0</b>	<b>471.7</b>	<b>466.1</b>
60°	<b>623.1</b>	<b>527.4</b>	<b>485.9</b>	<b>468.9</b>	<b>458.4</b>	<b>451.9</b>	<b>446.3</b>
75°	<b>582.7</b>	<b>508.7</b>	<b>467.3</b>	<b>443.4</b>	<b>433.0</b>	<b>425.6</b>	<b>417.5</b>
90°	<b>586.8</b>	<b>502.1</b>	<b>457.5</b>	<b>433.6</b>	<b>422.8</b>	<b>407.3</b>	<b>396.9</b>
110°	<b>615.1</b>	<b>520.0</b>	<b>473.9</b>	<b>442.3</b>	<b>414.9</b>	<b>394.6</b>	<b>378.1</b>
120°	<b>662.0</b>	<b>543.2</b>	<b>490.4</b>	<b>456.0</b>	<b>429.2</b>	<b>404.4</b>	<b>365.6</b>
135°	<b>768.8</b>	<b>614.9</b>	<b>530.3</b>	<b>485.1</b>	<b>454.2</b>	<b>430.0</b>	<b>388.6</b>
150°	<b>922.0</b>	<b>721.2</b>	<b>600.8</b>	<b>529.8</b>	<b>487.3</b>	<b>457.3</b>	<b>412.7</b>
Run VMG	<b>1064.6</b>	<b>832.8</b>	<b>693.8</b>	<b>599.5</b>	<b>539.9</b>	<b>498.1</b>	<b>443.9</b>

### Selected Courses

Windward / Leeward	<b>1074.9</b>	<b>860.0</b>	<b>742.0</b>	<b>671.5</b>	<b>627.6</b>	<b>598.5</b>	<b>565.6</b>
Circular Random	<b>861.2</b>	<b>692.0</b>	<b>600.3</b>	<b>546.3</b>	<b>512.5</b>	<b>490.2</b>	<b>462.8</b>
Ocean for PCS	<b>921.5</b>	<b>724.2</b>	<b>613.4</b>	<b>545.0</b>	<b>499.6</b>	<b>467.4</b>	<b>423.2</b>
Non Spinnaker	<b>912.5</b>	<b>728.6</b>	<b>627.9</b>	<b>567.8</b>	<b>529.8</b>	<b>504.7</b>	<b>473.7</b>

### 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>45.1°</b>	<b>46.0°</b>	<b>42.5°</b>	<b>40.4°</b>	<b>39.4°</b>	<b>38.9°</b>	<b>38.8°</b>
Beat VMG	<b>3.44</b>	<b>4.19</b>	<b>4.68</b>	<b>4.96</b>	<b>5.14</b>	<b>5.25</b>	<b>5.33</b>
52°	<b>5.37</b>	<b>6.50</b>	<b>7.03</b>	<b>7.33</b>	<b>7.52</b>	<b>7.63</b>	<b>7.72</b>
60°	<b>5.78</b>	<b>6.83</b>	<b>7.41</b>	<b>7.68</b>	<b>7.85</b>	<b>7.97</b>	<b>8.07</b>
75°	<b>6.18</b>	<b>7.08</b>	<b>7.70</b>	<b>8.12</b>	<b>8.31</b>	<b>8.46</b>	<b>8.62</b>
90°	<b>6.14</b>	<b>7.17</b>	<b>7.87</b>	<b>8.30</b>	<b>8.51</b>	<b>8.84</b>	<b>9.07</b>
110°	<b>5.85</b>	<b>6.92</b>	<b>7.60</b>	<b>8.14</b>	<b>8.68</b>	<b>9.12</b>	<b>9.52</b>
120°	<b>5.44</b>	<b>6.63</b>	<b>7.34</b>	<b>7.90</b>	<b>8.39</b>	<b>8.90</b>	<b>9.85</b>
135°	<b>4.68</b>	<b>5.85</b>	<b>6.79</b>	<b>7.42</b>	<b>7.93</b>	<b>8.37</b>	<b>9.26</b>
150°	<b>3.90</b>	<b>4.99</b>	<b>5.99</b>	<b>6.79</b>	<b>7.39</b>	<b>7.87</b>	<b>8.72</b>
Run VMG	<b>3.38</b>	<b>4.32</b>	<b>5.19</b>	<b>6.01</b>	<b>6.67</b>	<b>7.23</b>	<b>8.11</b>
Gybe Angles	<b>143.3°</b>	<b>149.2°</b>	<b>149.1°</b>	<b>161.2°</b>	<b>170.3°</b>	<b>172.9°</b>	<b>175.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **LUNA** Certificate Number **090680**  
 Sail Nr **JPN 6280** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1386.4</b>	<b>1081.3</b>	<b>921.6</b>	<b>807.9</b>	<b>753.3</b>	<b>724.9</b>	<b>695.6</b>
52°	<b>865.0</b>	<b>684.0</b>	<b>575.2</b>	<b>535.2</b>	<b>517.1</b>	<b>505.1</b>	<b>490.3</b>
60°	<b>784.7</b>	<b>628.9</b>	<b>541.1</b>	<b>517.1</b>	<b>500.8</b>	<b>484.6</b>	<b>467.0</b>
75°	<b>722.5</b>	<b>565.2</b>	<b>512.0</b>	<b>490.2</b>	<b>468.8</b>	<b>459.7</b>	<b>451.6</b>
90°	<b>671.0</b>	<b>536.1</b>	<b>502.9</b>	<b>479.2</b>	<b>459.0</b>	<b>450.7</b>	<b>442.8</b>
110°	<b>704.6</b>	<b>555.2</b>	<b>510.4</b>	<b>487.0</b>	<b>462.1</b>	<b>450.9</b>	<b>435.5</b>
120°	<b>756.4</b>	<b>597.6</b>	<b>520.6</b>	<b>496.0</b>	<b>470.1</b>	<b>454.7</b>	<b>438.9</b>
135°	<b>889.1</b>	<b>686.0</b>	<b>565.8</b>	<b>516.9</b>	<b>495.6</b>	<b>472.0</b>	<b>447.9</b>
150°	<b>1077.3</b>	<b>821.4</b>	<b>677.5</b>	<b>575.7</b>	<b>522.7</b>	<b>500.2</b>	<b>459.8</b>
Run VMG	<b>1244.0</b>	<b>948.4</b>	<b>782.3</b>	<b>664.8</b>	<b>583.9</b>	<b>534.6</b>	<b>490.1</b>

### Selected Courses

Windward / Leeward	<b>1333.1</b>	<b>1031.0</b>	<b>859.9</b>	<b>747.6</b>	<b>678.2</b>	<b>637.7</b>	<b>598.9</b>
Circular Random	<b>1021.7</b>	<b>801.1</b>	<b>679.1</b>	<b>606.6</b>	<b>561.9</b>	<b>533.7</b>	<b>502.3</b>
Ocean for PCS	<b>1096.8</b>	<b>840.3</b>	<b>695.1</b>	<b>606.3</b>	<b>549.7</b>	<b>512.2</b>	<b>466.6</b>
Non Spinnaker	<b>1115.4</b>	<b>867.1</b>	<b>727.2</b>	<b>642.0</b>	<b>588.3</b>	<b>553.8</b>	<b>515.6</b>

### 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>47.0°</b>	<b>45.7°</b>	<b>45.7°</b>	<b>44.7°</b>	<b>41.9°</b>	<b>40.2°</b>	<b>38.3°</b>
Beat VMG	<b>2.60</b>	<b>3.33</b>	<b>3.91</b>	<b>4.46</b>	<b>4.78</b>	<b>4.97</b>	<b>5.18</b>
52°	<b>4.16</b>	<b>5.26</b>	<b>6.26</b>	<b>6.73</b>	<b>6.96</b>	<b>7.13</b>	<b>7.34</b>
60°	<b>4.59</b>	<b>5.72</b>	<b>6.65</b>	<b>6.96</b>	<b>7.19</b>	<b>7.43</b>	<b>7.71</b>
75°	<b>4.98</b>	<b>6.37</b>	<b>7.03</b>	<b>7.34</b>	<b>7.68</b>	<b>7.83</b>	<b>7.97</b>
90°	<b>5.36</b>	<b>6.72</b>	<b>7.16</b>	<b>7.51</b>	<b>7.84</b>	<b>7.99</b>	<b>8.13</b>
110°	<b>5.11</b>	<b>6.48</b>	<b>7.05</b>	<b>7.39</b>	<b>7.79</b>	<b>7.98</b>	<b>8.27</b>
120°	<b>4.76</b>	<b>6.02</b>	<b>6.92</b>	<b>7.26</b>	<b>7.66</b>	<b>7.92</b>	<b>8.20</b>
135°	<b>4.05</b>	<b>5.25</b>	<b>6.36</b>	<b>6.96</b>	<b>7.26</b>	<b>7.63</b>	<b>8.04</b>
150°	<b>3.34</b>	<b>4.38</b>	<b>5.31</b>	<b>6.25</b>	<b>6.89</b>	<b>7.20</b>	<b>7.83</b>
Run VMG	<b>2.89</b>	<b>3.80</b>	<b>4.60</b>	<b>5.42</b>	<b>6.16</b>	<b>6.73</b>	<b>7.35</b>
Gybe Angles	<b>140.2°</b>	<b>142.8°</b>	<b>149.6°</b>	<b>148.0°</b>	<b>161.5°</b>	<b>173.3°</b>	<b>176.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **ORTHO ONE** Certificate Number **090690**  
 Sail Nr **JPN 4155** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1127.9</b>	<b>952.3</b>	<b>879.5</b>	<b>840.4</b>	<b>816.5</b>	<b>801.9</b>	<b>791.5</b>
52°	<b>741.0</b>	<b>652.8</b>	<b>613.0</b>	<b>595.3</b>	<b>583.6</b>	<b>575.5</b>	<b>567.8</b>
60°	<b>707.9</b>	<b>631.4</b>	<b>593.8</b>	<b>574.3</b>	<b>560.9</b>	<b>551.0</b>	<b>541.2</b>
75°	<b>684.7</b>	<b>616.6</b>	<b>576.7</b>	<b>545.1</b>	<b>526.4</b>	<b>516.7</b>	<b>505.3</b>
90°	<b>683.2</b>	<b>608.9</b>	<b>565.5</b>	<b>527.3</b>	<b>507.0</b>	<b>496.4</b>	<b>474.8</b>
110°	<b>712.6</b>	<b>629.2</b>	<b>583.5</b>	<b>541.0</b>	<b>506.9</b>	<b>475.2</b>	<b>433.1</b>
120°	<b>754.4</b>	<b>652.0</b>	<b>599.1</b>	<b>558.6</b>	<b>520.5</b>	<b>488.5</b>	<b>419.6</b>
135°	<b>873.5</b>	<b>710.2</b>	<b>634.7</b>	<b>590.2</b>	<b>551.2</b>	<b>516.6</b>	<b>453.3</b>
150°	<b>1042.6</b>	<b>808.5</b>	<b>691.0</b>	<b>626.8</b>	<b>586.0</b>	<b>548.6</b>	<b>487.1</b>
Run VMG	<b>1203.9</b>	<b>933.3</b>	<b>779.8</b>	<b>687.1</b>	<b>628.4</b>	<b>589.0</b>	<b>521.7</b>

### Selected Courses

Windward / Leeward	<b>1188.8</b>	<b>960.4</b>	<b>842.0</b>	<b>773.7</b>	<b>730.9</b>	<b>702.7</b>	<b>661.9</b>
Circular Random	<b>983.2</b>	<b>800.2</b>	<b>702.6</b>	<b>645.1</b>	<b>608.3</b>	<b>582.4</b>	<b>545.6</b>
Ocean for PCS	<b>1048.1</b>	<b>835.1</b>	<b>717.0</b>	<b>644.2</b>	<b>594.9</b>	<b>558.2</b>	<b>503.3</b>
Non Spinnaker	<b>1026.9</b>	<b>831.2</b>	<b>726.1</b>	<b>664.2</b>	<b>624.9</b>	<b>597.8</b>	<b>560.4</b>

### 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>43.3°</b>	<b>40.1°</b>	<b>38.6°</b>	<b>37.4°</b>	<b>36.6°</b>	<b>36.1°</b>	<b>35.9°</b>
Beat VMG	<b>3.19</b>	<b>3.78</b>	<b>4.09</b>	<b>4.28</b>	<b>4.41</b>	<b>4.49</b>	<b>4.55</b>
52°	<b>4.86</b>	<b>5.51</b>	<b>5.87</b>	<b>6.05</b>	<b>6.17</b>	<b>6.25</b>	<b>6.34</b>
60°	<b>5.09</b>	<b>5.70</b>	<b>6.06</b>	<b>6.27</b>	<b>6.42</b>	<b>6.53</b>	<b>6.65</b>
75°	<b>5.26</b>	<b>5.84</b>	<b>6.24</b>	<b>6.60</b>	<b>6.84</b>	<b>6.97</b>	<b>7.12</b>
90°	<b>5.27</b>	<b>5.91</b>	<b>6.37</b>	<b>6.83</b>	<b>7.10</b>	<b>7.25</b>	<b>7.58</b>
110°	<b>5.05</b>	<b>5.72</b>	<b>6.17</b>	<b>6.65</b>	<b>7.10</b>	<b>7.58</b>	<b>8.31</b>
120°	<b>4.77</b>	<b>5.52</b>	<b>6.01</b>	<b>6.45</b>	<b>6.92</b>	<b>7.37</b>	<b>8.58</b>
135°	<b>4.12</b>	<b>5.07</b>	<b>5.67</b>	<b>6.10</b>	<b>6.53</b>	<b>6.97</b>	<b>7.94</b>
150°	<b>3.45</b>	<b>4.45</b>	<b>5.21</b>	<b>5.74</b>	<b>6.14</b>	<b>6.56</b>	<b>7.39</b>
Run VMG	<b>2.99</b>	<b>3.86</b>	<b>4.62</b>	<b>5.24</b>	<b>5.73</b>	<b>6.11</b>	<b>6.90</b>
Gybe Angles	<b>146.2°</b>	<b>151.5°</b>	<b>164.4°</b>	<b>172.4°</b>	<b>175.7°</b>	<b>176.7°</b>	<b>176.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **AMADEUS** Certificate Number **090700**  
 Sail Nr **JPN 5536** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1127.0</b>	<b>916.4</b>	<b>815.4</b>	<b>767.9</b>	<b>739.6</b>	<b>722.0</b>	<b>706.4</b>
52°	<b>722.9</b>	<b>602.4</b>	<b>547.0</b>	<b>521.8</b>	<b>511.2</b>	<b>505.1</b>	<b>499.6</b>
60°	<b>672.1</b>	<b>573.8</b>	<b>520.0</b>	<b>504.4</b>	<b>495.6</b>	<b>489.0</b>	<b>481.7</b>
75°	<b>632.4</b>	<b>550.4</b>	<b>506.0</b>	<b>483.7</b>	<b>467.6</b>	<b>458.1</b>	<b>447.7</b>
90°	<b>627.3</b>	<b>536.0</b>	<b>496.4</b>	<b>469.4</b>	<b>456.8</b>	<b>437.3</b>	<b>418.6</b>
110°	<b>653.0</b>	<b>557.8</b>	<b>506.8</b>	<b>478.1</b>	<b>444.2</b>	<b>415.2</b>	<b>388.8</b>
120°	<b>700.9</b>	<b>582.5</b>	<b>519.6</b>	<b>491.4</b>	<b>458.9</b>	<b>426.2</b>	<b>365.4</b>
135°	<b>815.5</b>	<b>647.6</b>	<b>565.8</b>	<b>513.7</b>	<b>488.2</b>	<b>457.4</b>	<b>395.6</b>
150°	<b>975.8</b>	<b>759.8</b>	<b>633.2</b>	<b>563.5</b>	<b>514.9</b>	<b>490.2</b>	<b>434.0</b>
Run VMG	<b>1126.7</b>	<b>877.3</b>	<b>730.0</b>	<b>635.3</b>	<b>573.2</b>	<b>524.9</b>	<b>472.8</b>

### Selected Courses

Windward / Leeward	<b>1146.6</b>	<b>911.7</b>	<b>784.7</b>	<b>710.8</b>	<b>663.7</b>	<b>630.5</b>	<b>597.1</b>
Circular Random	<b>919.3</b>	<b>738.0</b>	<b>639.7</b>	<b>581.4</b>	<b>544.3</b>	<b>518.9</b>	<b>485.1</b>
Ocean for PCS	<b>983.2</b>	<b>772.1</b>	<b>653.6</b>	<b>580.4</b>	<b>531.3</b>	<b>495.6</b>	<b>444.0</b>
Non Spinnaker	<b>979.3</b>	<b>780.2</b>	<b>671.0</b>	<b>605.9</b>	<b>564.7</b>	<b>537.1</b>	<b>502.3</b>

### 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>44.4°</b>	<b>43.3°</b>	<b>40.7°</b>	<b>38.9°</b>	<b>37.9°</b>	<b>37.5°</b>	<b>38.0°</b>
Beat VMG	<b>3.19</b>	<b>3.93</b>	<b>4.41</b>	<b>4.69</b>	<b>4.87</b>	<b>4.99</b>	<b>5.10</b>
52°	<b>4.98</b>	<b>5.98</b>	<b>6.58</b>	<b>6.90</b>	<b>7.04</b>	<b>7.13</b>	<b>7.21</b>
60°	<b>5.36</b>	<b>6.27</b>	<b>6.92</b>	<b>7.14</b>	<b>7.26</b>	<b>7.36</b>	<b>7.47</b>
75°	<b>5.69</b>	<b>6.54</b>	<b>7.12</b>	<b>7.44</b>	<b>7.70</b>	<b>7.86</b>	<b>8.04</b>
90°	<b>5.74</b>	<b>6.72</b>	<b>7.25</b>	<b>7.67</b>	<b>7.88</b>	<b>8.23</b>	<b>8.60</b>
110°	<b>5.51</b>	<b>6.45</b>	<b>7.10</b>	<b>7.53</b>	<b>8.10</b>	<b>8.67</b>	<b>9.26</b>
120°	<b>5.14</b>	<b>6.18</b>	<b>6.93</b>	<b>7.33</b>	<b>7.85</b>	<b>8.45</b>	<b>9.85</b>
135°	<b>4.41</b>	<b>5.56</b>	<b>6.36</b>	<b>7.01</b>	<b>7.37</b>	<b>7.87</b>	<b>9.10</b>
150°	<b>3.69</b>	<b>4.74</b>	<b>5.69</b>	<b>6.39</b>	<b>6.99</b>	<b>7.34</b>	<b>8.30</b>
Run VMG	<b>3.20</b>	<b>4.10</b>	<b>4.93</b>	<b>5.67</b>	<b>6.28</b>	<b>6.86</b>	<b>7.61</b>
Gybe Angles	<b>143.8°</b>	<b>148.1°</b>	<b>152.8°</b>	<b>164.2°</b>	<b>170.0°</b>	<b>173.7°</b>	<b>173.8°</b>



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## ORC Club Certificate Appendix

<b>BOAT</b>			
Name	<b>USHIWAKAMARU II</b>	Certificate Number	<b>090710</b>
Sail Nr	<b>JPN 5563</b>	Issued On	<b>4/15/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>976.8</b>	<b>800.4</b>	<b>721.2</b>	<b>681.3</b>	<b>656.8</b>	<b>641.3</b>	<b>627.1</b>
52°	<b>627.5</b>	<b>534.1</b>	<b>494.6</b>	<b>476.7</b>	<b>466.4</b>	<b>460.0</b>	<b>453.7</b>
60°	<b>585.4</b>	<b>513.7</b>	<b>478.4</b>	<b>461.2</b>	<b>452.4</b>	<b>446.4</b>	<b>439.9</b>
75°	<b>557.7</b>	<b>498.4</b>	<b>462.5</b>	<b>447.5</b>	<b>433.8</b>	<b>426.5</b>	<b>417.6</b>
90°	<b>543.7</b>	<b>480.8</b>	<b>450.7</b>	<b>434.9</b>	<b>426.0</b>	<b>418.0</b>	<b>400.5</b>
110°	<b>554.3</b>	<b>492.8</b>	<b>460.1</b>	<b>436.7</b>	<b>414.8</b>	<b>398.1</b>	<b>381.1</b>
120°	<b>587.5</b>	<b>510.6</b>	<b>471.7</b>	<b>447.1</b>	<b>425.3</b>	<b>404.5</b>	<b>369.4</b>
135°	<b>693.9</b>	<b>560.0</b>	<b>503.3</b>	<b>469.6</b>	<b>446.6</b>	<b>426.1</b>	<b>387.3</b>
150°	<b>842.4</b>	<b>663.9</b>	<b>559.9</b>	<b>506.3</b>	<b>472.7</b>	<b>449.8</b>	<b>411.3</b>
Run VMG	<b>972.7</b>	<b>766.6</b>	<b>645.6</b>	<b>571.0</b>	<b>519.9</b>	<b>484.4</b>	<b>440.3</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>993.1</b>	<b>797.4</b>	<b>694.0</b>	<b>633.9</b>	<b>595.3</b>	<b>569.2</b>	<b>539.1</b>
Circular Random	<b>804.5</b>	<b>652.7</b>	<b>571.9</b>	<b>525.0</b>	<b>495.9</b>	<b>476.3</b>	<b>450.6</b>
Ocean for PCS	<b>861.2</b>	<b>683.4</b>	<b>585.2</b>	<b>525.6</b>	<b>486.6</b>	<b>458.7</b>	<b>418.7</b>
Non Spinnaker	<b>876.6</b>	<b>702.2</b>	<b>607.4</b>	<b>551.6</b>	<b>516.7</b>	<b>493.7</b>	<b>465.2</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>44.8°</b>	<b>43.1°</b>	<b>40.0°</b>	<b>38.2°</b>	<b>37.3°</b>	<b>36.6°</b>	<b>36.0°</b>
Beat VMG	<b>3.69</b>	<b>4.50</b>	<b>4.99</b>	<b>5.28</b>	<b>5.48</b>	<b>5.61</b>	<b>5.74</b>
52°	<b>5.74</b>	<b>6.74</b>	<b>7.28</b>	<b>7.55</b>	<b>7.72</b>	<b>7.83</b>	<b>7.93</b>
60°	<b>6.15</b>	<b>7.01</b>	<b>7.52</b>	<b>7.81</b>	<b>7.96</b>	<b>8.06</b>	<b>8.18</b>
75°	<b>6.45</b>	<b>7.22</b>	<b>7.78</b>	<b>8.04</b>	<b>8.30</b>	<b>8.44</b>	<b>8.62</b>
90°	<b>6.62</b>	<b>7.49</b>	<b>7.99</b>	<b>8.28</b>	<b>8.45</b>	<b>8.61</b>	<b>8.99</b>
110°	<b>6.49</b>	<b>7.31</b>	<b>7.82</b>	<b>8.24</b>	<b>8.68</b>	<b>9.04</b>	<b>9.45</b>
120°	<b>6.13</b>	<b>7.05</b>	<b>7.63</b>	<b>8.05</b>	<b>8.46</b>	<b>8.90</b>	<b>9.75</b>
135°	<b>5.19</b>	<b>6.43</b>	<b>7.15</b>	<b>7.67</b>	<b>8.06</b>	<b>8.45</b>	<b>9.29</b>
150°	<b>4.27</b>	<b>5.42</b>	<b>6.43</b>	<b>7.11</b>	<b>7.62</b>	<b>8.00</b>	<b>8.75</b>
Run VMG	<b>3.70</b>	<b>4.70</b>	<b>5.58</b>	<b>6.30</b>	<b>6.92</b>	<b>7.43</b>	<b>8.18</b>
Gybe Angles	<b>139.8°</b>	<b>144.9°</b>	<b>152.1°</b>	<b>163.3°</b>	<b>170.1°</b>	<b>174.1°</b>	<b>176.0°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **HUUREI** Certificate Number **090720**  
 Sail Nr **JPN 3858** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1125.8</b>	<b>907.9</b>	<b>810.3</b>	<b>764.9</b>	<b>737.5</b>	<b>720.2</b>	<b>704.3</b>
52°	<b>716.1</b>	<b>596.8</b>	<b>554.3</b>	<b>532.4</b>	<b>520.3</b>	<b>512.5</b>	<b>504.9</b>
60°	<b>662.7</b>	<b>573.0</b>	<b>535.8</b>	<b>513.9</b>	<b>503.1</b>	<b>496.4</b>	<b>489.1</b>
75°	<b>622.7</b>	<b>556.0</b>	<b>520.7</b>	<b>499.3</b>	<b>484.4</b>	<b>474.7</b>	<b>464.9</b>
90°	<b>620.2</b>	<b>546.2</b>	<b>509.3</b>	<b>487.6</b>	<b>473.8</b>	<b>466.7</b>	<b>447.3</b>
110°	<b>642.5</b>	<b>559.8</b>	<b>520.0</b>	<b>493.3</b>	<b>471.5</b>	<b>452.0</b>	<b>429.1</b>
120°	<b>691.8</b>	<b>578.3</b>	<b>532.8</b>	<b>502.8</b>	<b>480.4</b>	<b>458.3</b>	<b>422.5</b>
135°	<b>807.0</b>	<b>634.5</b>	<b>564.1</b>	<b>525.9</b>	<b>499.5</b>	<b>478.7</b>	<b>438.8</b>
150°	<b>965.7</b>	<b>749.0</b>	<b>622.1</b>	<b>562.6</b>	<b>526.7</b>	<b>501.1</b>	<b>461.3</b>
Run VMG	<b>1115.1</b>	<b>864.9</b>	<b>717.3</b>	<b>627.7</b>	<b>573.1</b>	<b>536.8</b>	<b>490.0</b>

### Selected Courses

Windward / Leeward	<b>1139.2</b>	<b>901.9</b>	<b>776.2</b>	<b>705.7</b>	<b>663.1</b>	<b>635.5</b>	<b>603.0</b>
Circular Random	<b>916.1</b>	<b>738.3</b>	<b>643.5</b>	<b>588.8</b>	<b>555.4</b>	<b>533.3</b>	<b>505.1</b>
Ocean for PCS	<b>980.3</b>	<b>772.7</b>	<b>658.2</b>	<b>589.3</b>	<b>544.7</b>	<b>513.4</b>	<b>468.9</b>
Non Spinnaker	<b>983.1</b>	<b>784.5</b>	<b>676.8</b>	<b>613.7</b>	<b>574.8</b>	<b>549.5</b>	<b>518.5</b>

### 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>45.5°</b>	<b>44.4°</b>	<b>41.0°</b>	<b>38.8°</b>	<b>37.6°</b>	<b>36.9°</b>	<b>36.3°</b>
Beat VMG	<b>3.20</b>	<b>3.97</b>	<b>4.44</b>	<b>4.71</b>	<b>4.88</b>	<b>5.00</b>	<b>5.11</b>
52°	<b>5.03</b>	<b>6.03</b>	<b>6.49</b>	<b>6.76</b>	<b>6.92</b>	<b>7.02</b>	<b>7.13</b>
60°	<b>5.43</b>	<b>6.28</b>	<b>6.72</b>	<b>7.00</b>	<b>7.16</b>	<b>7.25</b>	<b>7.36</b>
75°	<b>5.78</b>	<b>6.48</b>	<b>6.91</b>	<b>7.21</b>	<b>7.43</b>	<b>7.58</b>	<b>7.74</b>
90°	<b>5.80</b>	<b>6.59</b>	<b>7.07</b>	<b>7.38</b>	<b>7.60</b>	<b>7.71</b>	<b>8.05</b>
110°	<b>5.60</b>	<b>6.43</b>	<b>6.92</b>	<b>7.30</b>	<b>7.64</b>	<b>7.96</b>	<b>8.39</b>
120°	<b>5.20</b>	<b>6.23</b>	<b>6.76</b>	<b>7.16</b>	<b>7.49</b>	<b>7.85</b>	<b>8.52</b>
135°	<b>4.46</b>	<b>5.67</b>	<b>6.38</b>	<b>6.84</b>	<b>7.21</b>	<b>7.52</b>	<b>8.20</b>
150°	<b>3.73</b>	<b>4.81</b>	<b>5.79</b>	<b>6.40</b>	<b>6.83</b>	<b>7.18</b>	<b>7.80</b>
Run VMG	<b>3.23</b>	<b>4.16</b>	<b>5.02</b>	<b>5.74</b>	<b>6.28</b>	<b>6.71</b>	<b>7.35</b>
Gybe Angles	<b>143.7°</b>	<b>146.9°</b>	<b>152.0°</b>	<b>165.0°</b>	<b>172.4°</b>	<b>174.5°</b>	<b>176.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **MOMENT** Certificate Number **090730**  
 Sail Nr **JPN 5902** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>992.3</b>	<b>825.3</b>	<b>751.9</b>	<b>713.8</b>	<b>691.1</b>	<b>677.5</b>	<b>667.0</b>
52°	<b>647.2</b>	<b>558.8</b>	<b>521.8</b>	<b>506.4</b>	<b>497.3</b>	<b>491.5</b>	<b>486.5</b>
60°	<b>613.1</b>	<b>538.9</b>	<b>505.2</b>	<b>491.2</b>	<b>482.3</b>	<b>476.1</b>	<b>470.2</b>
75°	<b>589.0</b>	<b>525.1</b>	<b>490.7</b>	<b>471.3</b>	<b>459.1</b>	<b>451.5</b>	<b>443.0</b>
90°	<b>576.5</b>	<b>509.9</b>	<b>477.1</b>	<b>457.4</b>	<b>446.8</b>	<b>434.0</b>	<b>419.4</b>
110°	<b>593.7</b>	<b>524.9</b>	<b>489.6</b>	<b>459.2</b>	<b>431.7</b>	<b>409.6</b>	<b>386.7</b>
120°	<b>630.1</b>	<b>544.9</b>	<b>502.7</b>	<b>473.6</b>	<b>444.9</b>	<b>417.0</b>	<b>368.9</b>
135°	<b>736.8</b>	<b>600.9</b>	<b>536.2</b>	<b>499.5</b>	<b>472.0</b>	<b>445.4</b>	<b>390.3</b>
150°	<b>896.2</b>	<b>700.7</b>	<b>595.3</b>	<b>536.5</b>	<b>501.3</b>	<b>475.0</b>	<b>425.6</b>
Run VMG	<b>1034.8</b>	<b>809.1</b>	<b>684.8</b>	<b>603.3</b>	<b>548.1</b>	<b>511.4</b>	<b>461.0</b>

### Selected Courses

Windward / Leeward	<b>1033.2</b>	<b>832.6</b>	<b>728.5</b>	<b>666.9</b>	<b>627.1</b>	<b>601.0</b>	<b>569.2</b>
Circular Random	<b>844.7</b>	<b>686.3</b>	<b>602.1</b>	<b>553.0</b>	<b>522.0</b>	<b>500.8</b>	<b>472.0</b>
Ocean for PCS	<b>902.7</b>	<b>717.8</b>	<b>615.6</b>	<b>553.3</b>	<b>511.8</b>	<b>481.7</b>	<b>437.9</b>
Non Spinnaker	<b>908.2</b>	<b>730.6</b>	<b>634.5</b>	<b>577.9</b>	<b>542.5</b>	<b>518.8</b>	<b>488.5</b>

### 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>43.8°</b>	<b>41.0°</b>	<b>38.9°</b>	<b>37.3°</b>	<b>36.3°</b>	<b>35.8°</b>	<b>35.4°</b>
Beat VMG	<b>3.63</b>	<b>4.36</b>	<b>4.79</b>	<b>5.04</b>	<b>5.21</b>	<b>5.31</b>	<b>5.40</b>
52°	<b>5.56</b>	<b>6.44</b>	<b>6.90</b>	<b>7.11</b>	<b>7.24</b>	<b>7.32</b>	<b>7.40</b>
60°	<b>5.87</b>	<b>6.68</b>	<b>7.13</b>	<b>7.33</b>	<b>7.46</b>	<b>7.56</b>	<b>7.66</b>
75°	<b>6.11</b>	<b>6.86</b>	<b>7.34</b>	<b>7.64</b>	<b>7.84</b>	<b>7.97</b>	<b>8.13</b>
90°	<b>6.24</b>	<b>7.06</b>	<b>7.55</b>	<b>7.87</b>	<b>8.06</b>	<b>8.29</b>	<b>8.58</b>
110°	<b>6.06</b>	<b>6.86</b>	<b>7.35</b>	<b>7.84</b>	<b>8.34</b>	<b>8.79</b>	<b>9.31</b>
120°	<b>5.71</b>	<b>6.61</b>	<b>7.16</b>	<b>7.60</b>	<b>8.09</b>	<b>8.63</b>	<b>9.76</b>
135°	<b>4.89</b>	<b>5.99</b>	<b>6.71</b>	<b>7.21</b>	<b>7.63</b>	<b>8.08</b>	<b>9.22</b>
150°	<b>4.02</b>	<b>5.14</b>	<b>6.05</b>	<b>6.71</b>	<b>7.18</b>	<b>7.58</b>	<b>8.46</b>
Run VMG	<b>3.48</b>	<b>4.45</b>	<b>5.26</b>	<b>5.97</b>	<b>6.57</b>	<b>7.04</b>	<b>7.81</b>
Gybe Angles	<b>139.2°</b>	<b>147.1°</b>	<b>154.5°</b>	<b>164.3°</b>	<b>171.0°</b>	<b>174.7°</b>	<b>174.5°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **KOKON 2** Certificate Number **090740**  
 Sail Nr **JPN 5984** Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1036.7</b>	<b>841.1</b>	<b>755.8</b>	<b>711.1</b>	<b>684.0</b>	<b>667.9</b>	<b>656.6</b>
52°	<b>669.6</b>	<b>558.0</b>	<b>507.2</b>	<b>488.1</b>	<b>477.0</b>	<b>470.0</b>	<b>464.6</b>
60°	<b>627.9</b>	<b>529.4</b>	<b>484.8</b>	<b>468.7</b>	<b>457.8</b>	<b>450.5</b>	<b>444.7</b>
75°	<b>598.4</b>	<b>510.7</b>	<b>465.8</b>	<b>441.5</b>	<b>429.0</b>	<b>420.0</b>	<b>410.6</b>
90°	<b>592.5</b>	<b>499.4</b>	<b>453.0</b>	<b>423.2</b>	<b>407.7</b>	<b>393.6</b>	<b>377.8</b>
110°	<b>622.8</b>	<b>524.8</b>	<b>475.3</b>	<b>438.3</b>	<b>398.3</b>	<b>360.6</b>	<b>329.1</b>
120°	<b>675.3</b>	<b>558.7</b>	<b>494.0</b>	<b>457.2</b>	<b>422.8</b>	<b>384.6</b>	<b>307.6</b>
135°	<b>805.4</b>	<b>636.4</b>	<b>547.5</b>	<b>492.1</b>	<b>457.7</b>	<b>425.6</b>	<b>357.9</b>
150°	<b>970.4</b>	<b>751.1</b>	<b>623.3</b>	<b>546.2</b>	<b>494.7</b>	<b>461.6</b>	<b>401.4</b>
Run VMG	<b>1120.6</b>	<b>867.3</b>	<b>718.7</b>	<b>623.1</b>	<b>554.9</b>	<b>505.8</b>	<b>443.8</b>

### Selected Courses

Windward / Leeward	<b>1097.0</b>	<b>869.4</b>	<b>748.0</b>	<b>675.3</b>	<b>626.8</b>	<b>593.6</b>	<b>556.1</b>
Circular Random	<b>872.8</b>	<b>697.5</b>	<b>601.5</b>	<b>543.7</b>	<b>506.1</b>	<b>479.7</b>	<b>444.1</b>
Ocean for PCS	<b>934.2</b>	<b>730.0</b>	<b>614.4</b>	<b>542.0</b>	<b>492.8</b>	<b>456.7</b>	<b>404.9</b>
Non Spinnaker	<b>925.6</b>	<b>735.3</b>	<b>630.3</b>	<b>566.8</b>	<b>525.8</b>	<b>497.6</b>	<b>460.2</b>

### 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>44.0°</b>	<b>42.2°</b>	<b>40.3°</b>	<b>39.5°</b>	<b>38.6°</b>	<b>37.9°</b>	<b>37.6°</b>
Beat VMG	<b>3.47</b>	<b>4.28</b>	<b>4.76</b>	<b>5.06</b>	<b>5.26</b>	<b>5.39</b>	<b>5.48</b>
52°	<b>5.38</b>	<b>6.45</b>	<b>7.10</b>	<b>7.38</b>	<b>7.55</b>	<b>7.66</b>	<b>7.75</b>
60°	<b>5.73</b>	<b>6.80</b>	<b>7.43</b>	<b>7.68</b>	<b>7.86</b>	<b>7.99</b>	<b>8.10</b>
75°	<b>6.02</b>	<b>7.05</b>	<b>7.73</b>	<b>8.15</b>	<b>8.39</b>	<b>8.57</b>	<b>8.77</b>
90°	<b>6.08</b>	<b>7.21</b>	<b>7.95</b>	<b>8.51</b>	<b>8.83</b>	<b>9.15</b>	<b>9.53</b>
110°	<b>5.78</b>	<b>6.86</b>	<b>7.57</b>	<b>8.21</b>	<b>8.04</b>	<b>9.98</b>	<b>10.94</b>
120°	<b>5.33</b>	<b>6.44</b>	<b>7.29</b>	<b>7.87</b>	<b>8.52</b>	<b>9.36</b>	<b>11.70</b>
135°	<b>4.47</b>	<b>5.66</b>	<b>6.57</b>	<b>7.32</b>	<b>7.87</b>	<b>8.46</b>	<b>10.06</b>
150°	<b>3.71</b>	<b>4.79</b>	<b>5.78</b>	<b>6.59</b>	<b>7.28</b>	<b>7.80</b>	<b>8.97</b>
Run VMG	<b>3.21</b>	<b>4.15</b>	<b>5.01</b>	<b>5.78</b>	<b>6.49</b>	<b>7.12</b>	<b>8.11</b>
Gybe Angles	<b>143.9°</b>	<b>147.4°</b>	<b>152.7°</b>	<b>162.6°</b>	<b>165.6°</b>	<b>172.0°</b>	<b>173.1°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **PAPAS III**  
Sail Nr **JPN 6014**

Certificate Number **090750**  
Issued On **4/15/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1098.3</b>	<b>914.8</b>	<b>833.6</b>	<b>791.8</b>	<b>765.9</b>	<b>749.9</b>	<b>737.3</b>
52°	<b>712.2</b>	<b>614.2</b>	<b>571.0</b>	<b>552.3</b>	<b>541.3</b>	<b>534.3</b>	<b>527.7</b>
60°	<b>671.8</b>	<b>589.9</b>	<b>552.7</b>	<b>534.1</b>	<b>524.1</b>	<b>517.2</b>	<b>510.0</b>
75°	<b>644.1</b>	<b>572.5</b>	<b>538.5</b>	<b>516.4</b>	<b>501.5</b>	<b>492.6</b>	<b>482.9</b>
90°	<b>640.5</b>	<b>562.3</b>	<b>526.5</b>	<b>504.1</b>	<b>490.7</b>	<b>481.4</b>	<b>462.7</b>
110°	<b>660.6</b>	<b>576.1</b>	<b>534.7</b>	<b>505.9</b>	<b>481.7</b>	<b>463.2</b>	<b>440.4</b>
120°	<b>700.3</b>	<b>596.6</b>	<b>547.0</b>	<b>515.5</b>	<b>488.8</b>	<b>466.0</b>	<b>428.2</b>
135°	<b>806.8</b>	<b>652.2</b>	<b>579.3</b>	<b>539.2</b>	<b>510.6</b>	<b>485.2</b>	<b>439.9</b>
150°	<b>965.5</b>	<b>753.7</b>	<b>639.1</b>	<b>576.3</b>	<b>539.0</b>	<b>511.5</b>	<b>465.0</b>
Run VMG	<b>1114.8</b>	<b>870.3</b>	<b>731.7</b>	<b>643.3</b>	<b>585.1</b>	<b>547.4</b>	<b>496.2</b>

### Selected Courses

Windward / Leeward	<b>1128.0</b>	<b>908.9</b>	<b>794.1</b>	<b>726.7</b>	<b>683.7</b>	<b>655.9</b>	<b>622.3</b>
Circular Random	<b>925.1</b>	<b>751.0</b>	<b>658.6</b>	<b>605.1</b>	<b>571.9</b>	<b>549.8</b>	<b>520.7</b>
Ocean for PCS	<b>987.5</b>	<b>784.9</b>	<b>673.1</b>	<b>605.4</b>	<b>560.8</b>	<b>528.9</b>	<b>483.0</b>
Non Spinnaker	<b>986.1</b>	<b>793.4</b>	<b>689.4</b>	<b>628.5</b>	<b>590.7</b>	<b>565.7</b>	<b>534.3</b>

### 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>44.2°</b>	<b>41.9°</b>	<b>40.1°</b>	<b>38.8°</b>	<b>38.0°</b>	<b>37.4°</b>	<b>37.1°</b>
Beat VMG	<b>3.28</b>	<b>3.94</b>	<b>4.32</b>	<b>4.55</b>	<b>4.70</b>	<b>4.80</b>	<b>4.88</b>
52°	<b>5.06</b>	<b>5.86</b>	<b>6.30</b>	<b>6.52</b>	<b>6.65</b>	<b>6.74</b>	<b>6.82</b>
60°	<b>5.36</b>	<b>6.10</b>	<b>6.51</b>	<b>6.74</b>	<b>6.87</b>	<b>6.96</b>	<b>7.06</b>
75°	<b>5.59</b>	<b>6.29</b>	<b>6.69</b>	<b>6.97</b>	<b>7.18</b>	<b>7.31</b>	<b>7.45</b>
90°	<b>5.62</b>	<b>6.40</b>	<b>6.84</b>	<b>7.14</b>	<b>7.34</b>	<b>7.48</b>	<b>7.78</b>
110°	<b>5.45</b>	<b>6.25</b>	<b>6.73</b>	<b>7.12</b>	<b>7.47</b>	<b>7.77</b>	<b>8.18</b>
120°	<b>5.14</b>	<b>6.03</b>	<b>6.58</b>	<b>6.98</b>	<b>7.37</b>	<b>7.73</b>	<b>8.41</b>
135°	<b>4.46</b>	<b>5.52</b>	<b>6.21</b>	<b>6.68</b>	<b>7.05</b>	<b>7.42</b>	<b>8.18</b>
150°	<b>3.73</b>	<b>4.78</b>	<b>5.63</b>	<b>6.25</b>	<b>6.68</b>	<b>7.04</b>	<b>7.74</b>
Run VMG	<b>3.23</b>	<b>4.14</b>	<b>4.92</b>	<b>5.60</b>	<b>6.15</b>	<b>6.58</b>	<b>7.26</b>
Gybe Angles	<b>144.0°</b>	<b>148.9°</b>	<b>157.8°</b>	<b>166.6°</b>	<b>172.3°</b>	<b>175.1°</b>	<b>175.6°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **KIHO** Certificate Number **090760**  
 Sail Nr **JPN 6339** Issued On **4/16/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1028.1</b>	<b>848.6</b>	<b>752.1</b>	<b>709.4</b>	<b>684.2</b>	<b>668.9</b>	<b>656.6</b>
52°	<b>663.7</b>	<b>553.9</b>	<b>507.9</b>	<b>486.5</b>	<b>475.4</b>	<b>468.9</b>	<b>463.3</b>
60°	<b>618.4</b>	<b>529.7</b>	<b>488.9</b>	<b>467.5</b>	<b>458.8</b>	<b>453.1</b>	<b>447.4</b>
75°	<b>579.5</b>	<b>507.5</b>	<b>465.8</b>	<b>453.0</b>	<b>438.6</b>	<b>430.4</b>	<b>421.7</b>
90°	<b>556.3</b>	<b>489.2</b>	<b>455.8</b>	<b>436.4</b>	<b>426.9</b>	<b>419.3</b>	<b>401.7</b>
110°	<b>570.7</b>	<b>503.3</b>	<b>467.6</b>	<b>444.4</b>	<b>420.9</b>	<b>399.2</b>	<b>377.0</b>
120°	<b>614.5</b>	<b>522.4</b>	<b>480.0</b>	<b>454.8</b>	<b>433.6</b>	<b>410.5</b>	<b>366.5</b>
135°	<b>715.8</b>	<b>576.8</b>	<b>513.2</b>	<b>476.4</b>	<b>453.2</b>	<b>433.6</b>	<b>393.2</b>
150°	<b>859.8</b>	<b>682.5</b>	<b>571.3</b>	<b>514.6</b>	<b>479.2</b>	<b>456.1</b>	<b>418.4</b>
Run VMG	<b>992.8</b>	<b>788.1</b>	<b>659.5</b>	<b>580.4</b>	<b>528.8</b>	<b>492.5</b>	<b>448.6</b>

### Selected Courses

Windward / Leeward	<b>1030.1</b>	<b>829.9</b>	<b>717.7</b>	<b>653.3</b>	<b>613.7</b>	<b>587.2</b>	<b>558.4</b>
Circular Random	<b>831.3</b>	<b>672.6</b>	<b>587.5</b>	<b>538.0</b>	<b>507.2</b>	<b>486.7</b>	<b>460.1</b>
Ocean for PCS	<b>889.6</b>	<b>704.2</b>	<b>600.9</b>	<b>537.9</b>	<b>496.4</b>	<b>466.7</b>	<b>424.2</b>
Non Spinnaker	<b>907.4</b>	<b>725.2</b>	<b>625.7</b>	<b>566.8</b>	<b>530.1</b>	<b>506.0</b>	<b>476.7</b>

### 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>44.2°</b>	<b>44.8°</b>	<b>41.4°</b>	<b>39.4°</b>	<b>38.4°</b>	<b>37.8°</b>	<b>37.5°</b>
Beat VMG	<b>3.50</b>	<b>4.24</b>	<b>4.79</b>	<b>5.07</b>	<b>5.26</b>	<b>5.38</b>	<b>5.48</b>
52°	<b>5.42</b>	<b>6.50</b>	<b>7.09</b>	<b>7.40</b>	<b>7.57</b>	<b>7.68</b>	<b>7.77</b>
60°	<b>5.82</b>	<b>6.80</b>	<b>7.36</b>	<b>7.70</b>	<b>7.85</b>	<b>7.95</b>	<b>8.05</b>
75°	<b>6.21</b>	<b>7.09</b>	<b>7.73</b>	<b>7.95</b>	<b>8.21</b>	<b>8.36</b>	<b>8.54</b>
90°	<b>6.47</b>	<b>7.36</b>	<b>7.90</b>	<b>8.25</b>	<b>8.43</b>	<b>8.59</b>	<b>8.96</b>
110°	<b>6.31</b>	<b>7.15</b>	<b>7.70</b>	<b>8.10</b>	<b>8.55</b>	<b>9.02</b>	<b>9.55</b>
120°	<b>5.86</b>	<b>6.89</b>	<b>7.50</b>	<b>7.92</b>	<b>8.30</b>	<b>8.77</b>	<b>9.82</b>
135°	<b>5.03</b>	<b>6.24</b>	<b>7.02</b>	<b>7.56</b>	<b>7.94</b>	<b>8.30</b>	<b>9.16</b>
150°	<b>4.19</b>	<b>5.27</b>	<b>6.30</b>	<b>7.00</b>	<b>7.51</b>	<b>7.89</b>	<b>8.60</b>
Run VMG	<b>3.63</b>	<b>4.57</b>	<b>5.46</b>	<b>6.20</b>	<b>6.81</b>	<b>7.31</b>	<b>8.02</b>
Gybe Angles	<b>142.3°</b>	<b>147.4°</b>	<b>150.7°</b>	<b>162.3°</b>	<b>168.4°</b>	<b>171.8°</b>	<b>174.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SACHI** Certificate Number **090770**  
 Sail Nr **JPN 6408** Issued On **4/16/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>989.4</b>	<b>815.5</b>	<b>726.8</b>	<b>685.2</b>	<b>660.3</b>	<b>644.9</b>	<b>632.2</b>
52°	<b>643.3</b>	<b>537.9</b>	<b>493.0</b>	<b>473.6</b>	<b>462.6</b>	<b>455.9</b>	<b>450.2</b>
60°	<b>601.4</b>	<b>515.7</b>	<b>474.3</b>	<b>456.2</b>	<b>446.9</b>	<b>440.8</b>	<b>435.0</b>
75°	<b>567.6</b>	<b>499.6</b>	<b>458.1</b>	<b>439.5</b>	<b>426.1</b>	<b>419.0</b>	<b>410.8</b>
90°	<b>555.5</b>	<b>482.4</b>	<b>446.0</b>	<b>426.4</b>	<b>416.8</b>	<b>407.1</b>	<b>391.1</b>
110°	<b>571.4</b>	<b>497.7</b>	<b>458.8</b>	<b>432.4</b>	<b>408.3</b>	<b>387.8</b>	<b>367.4</b>
120°	<b>615.6</b>	<b>519.1</b>	<b>472.7</b>	<b>444.4</b>	<b>421.1</b>	<b>398.5</b>	<b>354.7</b>
135°	<b>715.4</b>	<b>577.7</b>	<b>510.2</b>	<b>470.1</b>	<b>444.0</b>	<b>422.3</b>	<b>380.6</b>
150°	<b>862.6</b>	<b>684.5</b>	<b>573.4</b>	<b>512.3</b>	<b>473.6</b>	<b>447.7</b>	<b>407.3</b>
Run VMG	<b>996.1</b>	<b>790.4</b>	<b>662.0</b>	<b>580.8</b>	<b>526.2</b>	<b>486.9</b>	<b>438.2</b>

### Selected Courses

Windward / Leeward	<b>1012.0</b>	<b>814.9</b>	<b>705.4</b>	<b>641.1</b>	<b>600.2</b>	<b>572.3</b>	<b>540.9</b>
Circular Random	<b>817.6</b>	<b>660.4</b>	<b>575.7</b>	<b>525.9</b>	<b>494.7</b>	<b>473.6</b>	<b>446.4</b>
Ocean for PCS	<b>874.3</b>	<b>691.1</b>	<b>588.7</b>	<b>525.8</b>	<b>484.1</b>	<b>454.4</b>	<b>412.3</b>
Non Spinnaker	<b>883.4</b>	<b>706.4</b>	<b>609.6</b>	<b>551.9</b>	<b>515.5</b>	<b>491.3</b>	<b>461.4</b>

### 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>43.6°</b>	<b>44.0°</b>	<b>40.6°</b>	<b>38.8°</b>	<b>37.9°</b>	<b>37.3°</b>	<b>36.9°</b>
Beat VMG	<b>3.64</b>	<b>4.41</b>	<b>4.95</b>	<b>5.25</b>	<b>5.45</b>	<b>5.58</b>	<b>5.69</b>
52°	<b>5.60</b>	<b>6.69</b>	<b>7.30</b>	<b>7.60</b>	<b>7.78</b>	<b>7.90</b>	<b>8.00</b>
60°	<b>5.99</b>	<b>6.98</b>	<b>7.59</b>	<b>7.89</b>	<b>8.06</b>	<b>8.17</b>	<b>8.28</b>
75°	<b>6.34</b>	<b>7.21</b>	<b>7.86</b>	<b>8.19</b>	<b>8.45</b>	<b>8.59</b>	<b>8.76</b>
90°	<b>6.48</b>	<b>7.46</b>	<b>8.07</b>	<b>8.44</b>	<b>8.64</b>	<b>8.84</b>	<b>9.20</b>
110°	<b>6.30</b>	<b>7.23</b>	<b>7.85</b>	<b>8.32</b>	<b>8.82</b>	<b>9.28</b>	<b>9.80</b>
120°	<b>5.85</b>	<b>6.94</b>	<b>7.62</b>	<b>8.10</b>	<b>8.55</b>	<b>9.03</b>	<b>10.15</b>
135°	<b>5.03</b>	<b>6.23</b>	<b>7.06</b>	<b>7.66</b>	<b>8.11</b>	<b>8.53</b>	<b>9.46</b>
150°	<b>4.17</b>	<b>5.26</b>	<b>6.28</b>	<b>7.03</b>	<b>7.60</b>	<b>8.04</b>	<b>8.84</b>
Run VMG	<b>3.61</b>	<b>4.55</b>	<b>5.44</b>	<b>6.20</b>	<b>6.84</b>	<b>7.39</b>	<b>8.21</b>
Gybe Angles	<b>141.0°</b>	<b>147.8°</b>	<b>150.1°</b>	<b>161.5°</b>	<b>167.9°</b>	<b>172.0°</b>	<b>175.1°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **VITTORIA**  
Sail Nr **JPN 6269**

Certificate Number **090780**  
Issued On **4/16/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1013.6</b>	<b>826.8</b>	<b>747.5</b>	<b>711.9</b>	<b>691.8</b>	<b>681.6</b>	<b>688.3</b>
52°	<b>668.2</b>	<b>550.5</b>	<b>504.6</b>	<b>486.6</b>	<b>477.2</b>	<b>472.7</b>	<b>473.8</b>
60°	<b>627.5</b>	<b>525.1</b>	<b>480.5</b>	<b>466.4</b>	<b>458.3</b>	<b>453.9</b>	<b>454.1</b>
75°	<b>596.2</b>	<b>493.9</b>	<b>460.0</b>	<b>439.3</b>	<b>428.7</b>	<b>422.3</b>	<b>418.9</b>
90°	<b>561.3</b>	<b>472.6</b>	<b>443.2</b>	<b>427.7</b>	<b>406.6</b>	<b>398.7</b>	<b>390.7</b>
110°	<b>580.1</b>	<b>497.6</b>	<b>451.6</b>	<b>407.4</b>	<b>388.8</b>	<b>375.7</b>	<b>353.9</b>
120°	<b>622.3</b>	<b>525.0</b>	<b>471.6</b>	<b>433.2</b>	<b>393.8</b>	<b>360.7</b>	<b>334.1</b>
135°	<b>725.8</b>	<b>588.2</b>	<b>513.8</b>	<b>468.7</b>	<b>436.1</b>	<b>405.0</b>	<b>331.2</b>
150°	<b>863.4</b>	<b>692.3</b>	<b>581.6</b>	<b>515.8</b>	<b>472.7</b>	<b>442.4</b>	<b>388.9</b>
Run VMG	<b>997.0</b>	<b>799.4</b>	<b>670.4</b>	<b>588.7</b>	<b>528.6</b>	<b>485.9</b>	<b>428.0</b>

### Selected Courses

Windward / Leeward	<b>1024.9</b>	<b>826.6</b>	<b>720.1</b>	<b>658.0</b>	<b>617.5</b>	<b>590.6</b>	<b>564.1</b>
Circular Random	<b>830.4</b>	<b>669.2</b>	<b>582.4</b>	<b>531.5</b>	<b>499.7</b>	<b>478.7</b>	<b>452.5</b>
Ocean for PCS	<b>887.1</b>	<b>699.8</b>	<b>594.8</b>	<b>529.8</b>	<b>486.1</b>	<b>454.3</b>	<b>407.8</b>
Non Spinnaker	<b>905.7</b>	<b>723.0</b>	<b>623.1</b>	<b>563.7</b>	<b>526.2</b>	<b>501.4</b>	<b>471.1</b>

### 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>42.1°</b>	<b>42.8°</b>	<b>39.6°</b>	<b>38.6°</b>	<b>38.4°</b>	<b>38.2°</b>	<b>38.6°</b>
Beat VMG	<b>3.55</b>	<b>4.35</b>	<b>4.82</b>	<b>5.06</b>	<b>5.20</b>	<b>5.28</b>	<b>5.23</b>
52°	<b>5.39</b>	<b>6.54</b>	<b>7.13</b>	<b>7.40</b>	<b>7.54</b>	<b>7.62</b>	<b>7.60</b>
60°	<b>5.74</b>	<b>6.86</b>	<b>7.49</b>	<b>7.72</b>	<b>7.86</b>	<b>7.93</b>	<b>7.93</b>
75°	<b>6.04</b>	<b>7.29</b>	<b>7.83</b>	<b>8.19</b>	<b>8.40</b>	<b>8.53</b>	<b>8.59</b>
90°	<b>6.41</b>	<b>7.62</b>	<b>8.12</b>	<b>8.42</b>	<b>8.85</b>	<b>9.03</b>	<b>9.21</b>
110°	<b>6.21</b>	<b>7.23</b>	<b>7.97</b>	<b>8.84</b>	<b>9.26</b>	<b>9.58</b>	<b>10.17</b>
120°	<b>5.79</b>	<b>6.86</b>	<b>7.63</b>	<b>8.31</b>	<b>9.14</b>	<b>9.98</b>	<b>10.77</b>
135°	<b>4.96</b>	<b>6.12</b>	<b>7.01</b>	<b>7.68</b>	<b>8.25</b>	<b>8.89</b>	<b>10.87</b>
150°	<b>4.17</b>	<b>5.20</b>	<b>6.19</b>	<b>6.98</b>	<b>7.62</b>	<b>8.14</b>	<b>9.26</b>
Run VMG	<b>3.61</b>	<b>4.50</b>	<b>5.37</b>	<b>6.12</b>	<b>6.81</b>	<b>7.41</b>	<b>8.41</b>
Gybe Angles	<b>143.5°</b>	<b>148.8°</b>	<b>152.4°</b>	<b>162.1°</b>	<b>165.6°</b>	<b>171.6°</b>	<b>171.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **EBB TIDE**  
Sail Nr **JPN 3663**

Certificate Number **090790**  
Issued On **4/16/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1011.3</b>	<b>825.8</b>	<b>749.9</b>	<b>715.3</b>	<b>695.9</b>	<b>686.3</b>	<b>693.8</b>
52°	<b>665.1</b>	<b>548.7</b>	<b>504.7</b>	<b>487.0</b>	<b>477.7</b>	<b>473.3</b>	<b>474.7</b>
60°	<b>623.7</b>	<b>523.0</b>	<b>480.3</b>	<b>466.4</b>	<b>458.3</b>	<b>454.0</b>	<b>454.5</b>
75°	<b>592.6</b>	<b>498.1</b>	<b>458.9</b>	<b>439.0</b>	<b>428.3</b>	<b>421.8</b>	<b>418.4</b>
90°	<b>559.3</b>	<b>471.1</b>	<b>450.6</b>	<b>434.0</b>	<b>405.9</b>	<b>397.9</b>	<b>389.6</b>
110°	<b>569.0</b>	<b>485.4</b>	<b>435.8</b>	<b>409.9</b>	<b>396.8</b>	<b>384.9</b>	<b>360.8</b>
120°	<b>599.9</b>	<b>509.3</b>	<b>459.3</b>	<b>414.4</b>	<b>385.2</b>	<b>369.6</b>	<b>343.4</b>
135°	<b>695.3</b>	<b>566.3</b>	<b>496.8</b>	<b>456.9</b>	<b>421.9</b>	<b>389.8</b>	<b>309.2</b>
150°	<b>825.5</b>	<b>663.7</b>	<b>563.5</b>	<b>501.1</b>	<b>462.5</b>	<b>431.1</b>	<b>377.0</b>
Run VMG	<b>953.2</b>	<b>766.3</b>	<b>649.5</b>	<b>574.0</b>	<b>517.4</b>	<b>477.8</b>	<b>419.8</b>

### Selected Courses

Windward / Leeward	<b>1001.8</b>	<b>810.4</b>	<b>710.4</b>	<b>652.3</b>	<b>614.0</b>	<b>588.7</b>	<b>562.2</b>
Circular Random	<b>816.9</b>	<b>660.0</b>	<b>576.1</b>	<b>527.3</b>	<b>496.9</b>	<b>476.7</b>	<b>450.4</b>
Ocean for PCS	<b>872.1</b>	<b>689.8</b>	<b>588.1</b>	<b>525.1</b>	<b>482.4</b>	<b>450.6</b>	<b>402.4</b>
Non Spinnaker	<b>901.7</b>	<b>720.4</b>	<b>621.5</b>	<b>562.7</b>	<b>525.7</b>	<b>501.3</b>	<b>471.5</b>

### 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>42.3°</b>	<b>43.0°</b>	<b>40.0°</b>	<b>39.0°</b>	<b>38.9°</b>	<b>38.8°</b>	<b>39.2°</b>
Beat VMG	<b>3.56</b>	<b>4.36</b>	<b>4.80</b>	<b>5.03</b>	<b>5.17</b>	<b>5.25</b>	<b>5.19</b>
52°	<b>5.41</b>	<b>6.56</b>	<b>7.13</b>	<b>7.39</b>	<b>7.54</b>	<b>7.61</b>	<b>7.58</b>
60°	<b>5.77</b>	<b>6.88</b>	<b>7.50</b>	<b>7.72</b>	<b>7.85</b>	<b>7.93</b>	<b>7.92</b>
75°	<b>6.08</b>	<b>7.23</b>	<b>7.85</b>	<b>8.20</b>	<b>8.41</b>	<b>8.53</b>	<b>8.61</b>
90°	<b>6.44</b>	<b>7.64</b>	<b>7.99</b>	<b>8.30</b>	<b>8.87</b>	<b>9.05</b>	<b>9.24</b>
110°	<b>6.33</b>	<b>7.42</b>	<b>8.26</b>	<b>8.78</b>	<b>9.07</b>	<b>9.35</b>	<b>9.98</b>
120°	<b>6.00</b>	<b>7.07</b>	<b>7.84</b>	<b>8.69</b>	<b>9.35</b>	<b>9.74</b>	<b>10.48</b>
135°	<b>5.18</b>	<b>6.36</b>	<b>7.25</b>	<b>7.88</b>	<b>8.53</b>	<b>9.24</b>	<b>11.64</b>
150°	<b>4.36</b>	<b>5.42</b>	<b>6.39</b>	<b>7.18</b>	<b>7.78</b>	<b>8.35</b>	<b>9.55</b>
Run VMG	<b>3.78</b>	<b>4.70</b>	<b>5.54</b>	<b>6.27</b>	<b>6.96</b>	<b>7.53</b>	<b>8.58</b>
Gybe Angles	<b>143.9°</b>	<b>144.5°</b>	<b>152.8°</b>	<b>158.0°</b>	<b>165.1°</b>	<b>171.6°</b>	<b>171.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **ENZO** Certificate Number **090801**  
 Sail Nr **JPN 5657** Issued On **4/28/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1020.7</b>	<b>843.0</b>	<b>767.0</b>	<b>730.2</b>	<b>708.5</b>	<b>695.4</b>	<b>684.8</b>
52°	<b>664.8</b>	<b>576.6</b>	<b>535.0</b>	<b>519.4</b>	<b>512.1</b>	<b>507.9</b>	<b>504.1</b>
60°	<b>627.7</b>	<b>558.2</b>	<b>519.8</b>	<b>507.8</b>	<b>501.5</b>	<b>496.9</b>	<b>491.9</b>
75°	<b>604.3</b>	<b>542.3</b>	<b>511.6</b>	<b>495.8</b>	<b>482.3</b>	<b>474.0</b>	<b>464.6</b>
90°	<b>590.8</b>	<b>523.4</b>	<b>500.4</b>	<b>488.9</b>	<b>479.1</b>	<b>460.3</b>	<b>442.6</b>
110°	<b>602.2</b>	<b>533.6</b>	<b>504.6</b>	<b>480.4</b>	<b>456.2</b>	<b>443.8</b>	<b>424.0</b>
120°	<b>633.6</b>	<b>554.1</b>	<b>512.2</b>	<b>490.2</b>	<b>461.6</b>	<b>436.7</b>	<b>405.0</b>
135°	<b>733.9</b>	<b>598.6</b>	<b>538.6</b>	<b>507.8</b>	<b>485.9</b>	<b>458.4</b>	<b>405.0</b>
150°	<b>880.4</b>	<b>694.2</b>	<b>592.8</b>	<b>538.8</b>	<b>508.8</b>	<b>488.0</b>	<b>437.8</b>
Run VMG	<b>1016.5</b>	<b>801.6</b>	<b>679.6</b>	<b>603.0</b>	<b>551.2</b>	<b>516.6</b>	<b>473.1</b>

### Selected Courses

Windward / Leeward	<b>1038.5</b>	<b>837.8</b>	<b>734.3</b>	<b>675.0</b>	<b>637.4</b>	<b>612.7</b>	<b>584.5</b>
Circular Random	<b>856.4</b>	<b>698.1</b>	<b>615.0</b>	<b>567.6</b>	<b>538.3</b>	<b>518.4</b>	<b>491.5</b>
Ocean for PCS	<b>914.1</b>	<b>729.7</b>	<b>629.0</b>	<b>568.5</b>	<b>528.9</b>	<b>500.1</b>	<b>457.5</b>
Non Spinnaker	<b>933.0</b>	<b>750.4</b>	<b>652.3</b>	<b>595.2</b>	<b>560.2</b>	<b>537.4</b>	<b>509.7</b>

### 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>43.3°</b>	<b>41.2°</b>	<b>38.2°</b>	<b>36.3°</b>	<b>35.2°</b>	<b>34.8°</b>	<b>35.0°</b>
Beat VMG	<b>3.53</b>	<b>4.27</b>	<b>4.69</b>	<b>4.93</b>	<b>5.08</b>	<b>5.18</b>	<b>5.26</b>
52°	<b>5.41</b>	<b>6.24</b>	<b>6.73</b>	<b>6.93</b>	<b>7.03</b>	<b>7.09</b>	<b>7.14</b>
60°	<b>5.74</b>	<b>6.45</b>	<b>6.93</b>	<b>7.09</b>	<b>7.18</b>	<b>7.25</b>	<b>7.32</b>
75°	<b>5.96</b>	<b>6.64</b>	<b>7.04</b>	<b>7.26</b>	<b>7.46</b>	<b>7.59</b>	<b>7.75</b>
90°	<b>6.09</b>	<b>6.88</b>	<b>7.19</b>	<b>7.36</b>	<b>7.51</b>	<b>7.82</b>	<b>8.13</b>
110°	<b>5.98</b>	<b>6.75</b>	<b>7.13</b>	<b>7.49</b>	<b>7.89</b>	<b>8.11</b>	<b>8.49</b>
120°	<b>5.68</b>	<b>6.50</b>	<b>7.03</b>	<b>7.34</b>	<b>7.80</b>	<b>8.24</b>	<b>8.89</b>
135°	<b>4.91</b>	<b>6.01</b>	<b>6.68</b>	<b>7.09</b>	<b>7.41</b>	<b>7.85</b>	<b>8.89</b>
150°	<b>4.09</b>	<b>5.19</b>	<b>6.07</b>	<b>6.68</b>	<b>7.08</b>	<b>7.38</b>	<b>8.22</b>
Run VMG	<b>3.54</b>	<b>4.49</b>	<b>5.30</b>	<b>5.97</b>	<b>6.53</b>	<b>6.97</b>	<b>7.61</b>
Gybe Angles	<b>142.5°</b>	<b>146.0°</b>	<b>155.4°</b>	<b>167.3°</b>	<b>169.1°</b>	<b>176.5°</b>	<b>174.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>TOM BOY</b>
Sail Nr	<b>JPN 4228</b>
Certificate Number	<b>090810</b>
Issued On	<b>4/25/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>971.5</b>	<b>795.6</b>	<b>719.5</b>	<b>681.3</b>	<b>658.0</b>	<b>643.6</b>	<b>631.4</b>
52°	<b>633.1</b>	<b>536.6</b>	<b>495.9</b>	<b>479.0</b>	<b>469.3</b>	<b>463.3</b>	<b>457.8</b>
60°	<b>593.1</b>	<b>516.0</b>	<b>477.6</b>	<b>463.7</b>	<b>454.8</b>	<b>448.6</b>	<b>442.4</b>
75°	<b>567.8</b>	<b>501.9</b>	<b>466.0</b>	<b>444.0</b>	<b>433.0</b>	<b>425.3</b>	<b>416.5</b>
90°	<b>572.0</b>	<b>494.7</b>	<b>456.5</b>	<b>436.5</b>	<b>424.0</b>	<b>407.2</b>	<b>393.3</b>
110°	<b>587.2</b>	<b>509.5</b>	<b>469.0</b>	<b>440.0</b>	<b>411.6</b>	<b>391.3</b>	<b>369.5</b>
120°	<b>629.8</b>	<b>531.5</b>	<b>482.6</b>	<b>453.3</b>	<b>425.7</b>	<b>397.2</b>	<b>351.2</b>
135°	<b>733.9</b>	<b>588.3</b>	<b>519.4</b>	<b>478.2</b>	<b>451.6</b>	<b>426.6</b>	<b>374.1</b>
150°	<b>881.0</b>	<b>696.5</b>	<b>582.5</b>	<b>521.1</b>	<b>481.3</b>	<b>455.3</b>	<b>408.7</b>
Run VMG	<b>1017.3</b>	<b>804.2</b>	<b>672.2</b>	<b>590.2</b>	<b>533.9</b>	<b>493.4</b>	<b>443.2</b>
Selected Courses							
Windward / Leeward	<b>1013.2</b>	<b>813.5</b>	<b>706.5</b>	<b>643.7</b>	<b>602.9</b>	<b>574.9</b>	<b>542.9</b>
Circular Random	<b>823.3</b>	<b>665.2</b>	<b>580.2</b>	<b>530.2</b>	<b>498.5</b>	<b>476.9</b>	<b>448.2</b>
Ocean for PCS	<b>879.5</b>	<b>695.5</b>	<b>593.0</b>	<b>530.0</b>	<b>487.9</b>	<b>457.5</b>	<b>413.9</b>
Non Spinnaker	<b>881.6</b>	<b>705.9</b>	<b>610.2</b>	<b>553.4</b>	<b>517.5</b>	<b>493.4</b>	<b>462.8</b>

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>42.9°</b>	<b>41.9°</b>	<b>38.8°</b>	<b>37.3°</b>	<b>36.5°</b>	<b>36.0°</b>	<b>35.6°</b>
Beat VMG	<b>3.71</b>	<b>4.52</b>	<b>5.00</b>	<b>5.28</b>	<b>5.47</b>	<b>5.59</b>	<b>5.70</b>
52°	<b>5.69</b>	<b>6.71</b>	<b>7.26</b>	<b>7.52</b>	<b>7.67</b>	<b>7.77</b>	<b>7.86</b>
60°	<b>6.07</b>	<b>6.98</b>	<b>7.54</b>	<b>7.76</b>	<b>7.92</b>	<b>8.03</b>	<b>8.14</b>
75°	<b>6.34</b>	<b>7.17</b>	<b>7.72</b>	<b>8.11</b>	<b>8.31</b>	<b>8.46</b>	<b>8.64</b>
90°	<b>6.29</b>	<b>7.28</b>	<b>7.89</b>	<b>8.25</b>	<b>8.49</b>	<b>8.84</b>	<b>9.15</b>
110°	<b>6.13</b>	<b>7.07</b>	<b>7.68</b>	<b>8.18</b>	<b>8.75</b>	<b>9.20</b>	<b>9.74</b>
120°	<b>5.72</b>	<b>6.77</b>	<b>7.46</b>	<b>7.94</b>	<b>8.46</b>	<b>9.06</b>	<b>10.25</b>
135°	<b>4.91</b>	<b>6.12</b>	<b>6.93</b>	<b>7.53</b>	<b>7.97</b>	<b>8.44</b>	<b>9.62</b>
150°	<b>4.09</b>	<b>5.17</b>	<b>6.18</b>	<b>6.91</b>	<b>7.48</b>	<b>7.91</b>	<b>8.81</b>
Run VMG	<b>3.54</b>	<b>4.48</b>	<b>5.36</b>	<b>6.10</b>	<b>6.74</b>	<b>7.30</b>	<b>8.12</b>
Gybe Angles	<b>142.1°</b>	<b>146.8°</b>	<b>151.4°</b>	<b>162.8°</b>	<b>168.6°</b>	<b>172.8°</b>	<b>174.6°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>SAKURA</b>	Certificate Number <b>090820</b>
Sail Nr <b>JPN 6193</b>	Issued On <b>5/1/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>982.5</b>	<b>805.4</b>	<b>731.5</b>	<b>694.2</b>	<b>672.5</b>	<b>659.9</b>	<b>651.8</b>
52°	<b>636.5</b>	<b>543.2</b>	<b>505.4</b>	<b>489.9</b>	<b>480.8</b>	<b>475.1</b>	<b>471.2</b>
60°	<b>600.8</b>	<b>523.6</b>	<b>487.3</b>	<b>473.6</b>	<b>464.7</b>	<b>458.9</b>	<b>454.3</b>
75°	<b>576.6</b>	<b>511.7</b>	<b>475.2</b>	<b>451.2</b>	<b>440.8</b>	<b>433.6</b>	<b>426.4</b>
90°	<b>575.6</b>	<b>501.0</b>	<b>462.2</b>	<b>446.2</b>	<b>429.1</b>	<b>413.0</b>	<b>400.5</b>
110°	<b>589.5</b>	<b>515.5</b>	<b>476.8</b>	<b>443.1</b>	<b>413.7</b>	<b>398.9</b>	<b>377.0</b>
120°	<b>624.7</b>	<b>535.4</b>	<b>490.8</b>	<b>459.8</b>	<b>428.7</b>	<b>395.3</b>	<b>357.0</b>
135°	<b>731.2</b>	<b>589.2</b>	<b>523.6</b>	<b>486.1</b>	<b>458.1</b>	<b>431.7</b>	<b>372.6</b>
150°	<b>883.3</b>	<b>689.7</b>	<b>583.6</b>	<b>524.7</b>	<b>488.6</b>	<b>461.7</b>	<b>412.9</b>
Run VMG	<b>1020.0</b>	<b>796.4</b>	<b>671.7</b>	<b>592.0</b>	<b>537.0</b>	<b>499.7</b>	<b>448.7</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1019.7</b>	<b>816.4</b>	<b>711.9</b>	<b>651.2</b>	<b>612.0</b>	<b>586.2</b>	<b>555.4</b>
Circular Random	<b>830.2</b>	<b>671.8</b>	<b>587.2</b>	<b>537.8</b>	<b>506.7</b>	<b>485.6</b>	<b>457.7</b>
Ocean for PCS	<b>887.0</b>	<b>702.4</b>	<b>600.1</b>	<b>537.4</b>	<b>495.6</b>	<b>465.1</b>	<b>420.9</b>
Non Spinnaker	<b>892.6</b>	<b>715.5</b>	<b>619.4</b>	<b>562.8</b>	<b>527.2</b>	<b>503.5</b>	<b>473.1</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>44.2°</b>	<b>41.4°</b>	<b>39.1°</b>	<b>37.6°</b>	<b>36.7°</b>	<b>36.0°</b>	<b>35.8°</b>
Beat VMG	<b>3.66</b>	<b>4.47</b>	<b>4.92</b>	<b>5.19</b>	<b>5.35</b>	<b>5.46</b>	<b>5.52</b>
52°	<b>5.66</b>	<b>6.63</b>	<b>7.12</b>	<b>7.35</b>	<b>7.49</b>	<b>7.58</b>	<b>7.64</b>
60°	<b>5.99</b>	<b>6.88</b>	<b>7.39</b>	<b>7.60</b>	<b>7.75</b>	<b>7.85</b>	<b>7.92</b>
75°	<b>6.24</b>	<b>7.04</b>	<b>7.58</b>	<b>7.98</b>	<b>8.17</b>	<b>8.30</b>	<b>8.44</b>
90°	<b>6.25</b>	<b>7.19</b>	<b>7.79</b>	<b>8.07</b>	<b>8.39</b>	<b>8.72</b>	<b>8.99</b>
110°	<b>6.11</b>	<b>6.98</b>	<b>7.55</b>	<b>8.12</b>	<b>8.70</b>	<b>9.03</b>	<b>9.55</b>
120°	<b>5.76</b>	<b>6.72</b>	<b>7.33</b>	<b>7.83</b>	<b>8.40</b>	<b>9.11</b>	<b>10.08</b>
135°	<b>4.92</b>	<b>6.11</b>	<b>6.88</b>	<b>7.41</b>	<b>7.86</b>	<b>8.34</b>	<b>9.66</b>
150°	<b>4.08</b>	<b>5.22</b>	<b>6.17</b>	<b>6.86</b>	<b>7.37</b>	<b>7.80</b>	<b>8.72</b>
Run VMG	<b>3.53</b>	<b>4.52</b>	<b>5.36</b>	<b>6.08</b>	<b>6.70</b>	<b>7.20</b>	<b>8.02</b>
Gybe Angles	<b>141.6°</b>	<b>145.9°</b>	<b>153.7°</b>	<b>163.6°</b>	<b>170.3°</b>	<b>174.1°</b>	<b>174.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **D-BROS** Certificate Number **090830**  
 Sail Nr **JPN 3386** Issued On **5/22/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1194.8</b>	<b>972.8</b>	<b>860.1</b>	<b>801.5</b>	<b>765.3</b>	<b>741.4</b>	<b>717.8</b>
52°	<b>763.7</b>	<b>633.1</b>	<b>573.3</b>	<b>540.1</b>	<b>523.8</b>	<b>513.8</b>	<b>503.2</b>
60°	<b>710.2</b>	<b>600.2</b>	<b>548.2</b>	<b>519.4</b>	<b>503.0</b>	<b>494.0</b>	<b>483.7</b>
75°	<b>667.8</b>	<b>575.0</b>	<b>528.1</b>	<b>501.3</b>	<b>482.8</b>	<b>467.6</b>	<b>454.8</b>
90°	<b>655.4</b>	<b>558.7</b>	<b>514.2</b>	<b>486.8</b>	<b>467.3</b>	<b>458.1</b>	<b>438.4</b>
110°	<b>680.7</b>	<b>576.0</b>	<b>524.5</b>	<b>493.1</b>	<b>467.3</b>	<b>445.9</b>	<b>418.3</b>
120°	<b>725.0</b>	<b>600.2</b>	<b>538.7</b>	<b>503.5</b>	<b>476.3</b>	<b>452.4</b>	<b>414.7</b>
135°	<b>831.9</b>	<b>663.5</b>	<b>577.9</b>	<b>529.4</b>	<b>498.6</b>	<b>473.3</b>	<b>431.4</b>
150°	<b>989.6</b>	<b>771.1</b>	<b>645.6</b>	<b>574.1</b>	<b>529.8</b>	<b>500.3</b>	<b>453.8</b>
Run VMG	<b>1142.6</b>	<b>890.4</b>	<b>743.4</b>	<b>647.6</b>	<b>584.2</b>	<b>540.5</b>	<b>486.3</b>

### Selected Courses

Windward / Leeward	<b>1189.4</b>	<b>946.6</b>	<b>813.6</b>	<b>734.0</b>	<b>682.8</b>	<b>648.2</b>	<b>608.4</b>
Circular Random	<b>955.4</b>	<b>765.9</b>	<b>662.8</b>	<b>601.5</b>	<b>562.7</b>	<b>536.5</b>	<b>502.8</b>
Ocean for PCS	<b>1020.8</b>	<b>800.8</b>	<b>677.0</b>	<b>600.6</b>	<b>549.8</b>	<b>513.7</b>	<b>463.4</b>
Non Spinnaker	<b>1024.0</b>	<b>814.3</b>	<b>698.7</b>	<b>629.2</b>	<b>584.9</b>	<b>555.2</b>	<b>517.8</b>

### 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>44.9°</b>	<b>43.6°</b>	<b>42.0°</b>	<b>40.8°</b>	<b>40.0°</b>	<b>39.2°</b>	<b>38.4°</b>
Beat VMG	<b>3.01</b>	<b>3.70</b>	<b>4.19</b>	<b>4.49</b>	<b>4.70</b>	<b>4.86</b>	<b>5.02</b>
52°	<b>4.71</b>	<b>5.69</b>	<b>6.28</b>	<b>6.67</b>	<b>6.87</b>	<b>7.01</b>	<b>7.15</b>
60°	<b>5.07</b>	<b>6.00</b>	<b>6.57</b>	<b>6.93</b>	<b>7.16</b>	<b>7.29</b>	<b>7.44</b>
75°	<b>5.39</b>	<b>6.26</b>	<b>6.82</b>	<b>7.18</b>	<b>7.46</b>	<b>7.70</b>	<b>7.92</b>
90°	<b>5.49</b>	<b>6.44</b>	<b>7.00</b>	<b>7.39</b>	<b>7.70</b>	<b>7.86</b>	<b>8.21</b>
110°	<b>5.29</b>	<b>6.25</b>	<b>6.86</b>	<b>7.30</b>	<b>7.70</b>	<b>8.07</b>	<b>8.61</b>
120°	<b>4.97</b>	<b>6.00</b>	<b>6.68</b>	<b>7.15</b>	<b>7.56</b>	<b>7.96</b>	<b>8.68</b>
135°	<b>4.33</b>	<b>5.43</b>	<b>6.23</b>	<b>6.80</b>	<b>7.22</b>	<b>7.61</b>	<b>8.35</b>
150°	<b>3.64</b>	<b>4.67</b>	<b>5.58</b>	<b>6.27</b>	<b>6.80</b>	<b>7.20</b>	<b>7.93</b>
Run VMG	<b>3.15</b>	<b>4.04</b>	<b>4.84</b>	<b>5.56</b>	<b>6.16</b>	<b>6.66</b>	<b>7.40</b>
Gybe Angles	<b>144.6°</b>	<b>149.2°</b>	<b>154.3°</b>	<b>164.1°</b>	<b>169.1°</b>	<b>173.5°</b>	<b>175.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SERAI** Certificate Number **090840**  
 Sail Nr **JPN 5065** Issued On **5/11/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1013.8</b>	<b>832.8</b>	<b>761.1</b>	<b>722.4</b>	<b>698.9</b>	<b>684.5</b>	<b>672.6</b>
52°	<b>649.7</b>	<b>564.8</b>	<b>527.9</b>	<b>511.4</b>	<b>501.2</b>	<b>494.5</b>	<b>487.9</b>
60°	<b>614.7</b>	<b>545.7</b>	<b>510.4</b>	<b>494.9</b>	<b>484.8</b>	<b>477.5</b>	<b>469.6</b>
75°	<b>593.2</b>	<b>533.7</b>	<b>499.0</b>	<b>473.6</b>	<b>459.0</b>	<b>450.2</b>	<b>440.6</b>
90°	<b>595.9</b>	<b>527.2</b>	<b>488.8</b>	<b>460.5</b>	<b>447.7</b>	<b>434.5</b>	<b>420.1</b>
110°	<b>612.9</b>	<b>543.0</b>	<b>504.5</b>	<b>472.8</b>	<b>441.4</b>	<b>419.2</b>	<b>395.8</b>
120°	<b>650.7</b>	<b>563.0</b>	<b>518.3</b>	<b>487.8</b>	<b>457.2</b>	<b>429.8</b>	<b>382.3</b>
135°	<b>769.6</b>	<b>615.1</b>	<b>551.5</b>	<b>513.4</b>	<b>485.4</b>	<b>457.7</b>	<b>410.6</b>
150°	<b>926.7</b>	<b>721.6</b>	<b>607.6</b>	<b>550.6</b>	<b>514.4</b>	<b>487.6</b>	<b>438.3</b>
Run VMG	<b>1070.0</b>	<b>833.2</b>	<b>696.7</b>	<b>614.1</b>	<b>559.9</b>	<b>523.2</b>	<b>472.2</b>

### Selected Courses

Windward / Leeward	<b>1061.0</b>	<b>849.0</b>	<b>739.8</b>	<b>676.8</b>	<b>636.9</b>	<b>610.5</b>	<b>577.7</b>
Circular Random	<b>864.1</b>	<b>700.6</b>	<b>613.3</b>	<b>562.3</b>	<b>530.2</b>	<b>508.3</b>	<b>479.1</b>
Ocean for PCS	<b>923.7</b>	<b>732.6</b>	<b>626.8</b>	<b>562.2</b>	<b>519.3</b>	<b>488.4</b>	<b>444.2</b>
Non Spinnaker	<b>917.6</b>	<b>737.9</b>	<b>640.8</b>	<b>583.6</b>	<b>547.7</b>	<b>523.7</b>	<b>492.3</b>

### 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>44.8°</b>	<b>41.5°</b>	<b>38.9°</b>	<b>37.5°</b>	<b>36.5°</b>	<b>35.8°</b>	<b>35.4°</b>
Beat VMG	<b>3.55</b>	<b>4.32</b>	<b>4.73</b>	<b>4.98</b>	<b>5.15</b>	<b>5.26</b>	<b>5.35</b>
52°	<b>5.54</b>	<b>6.37</b>	<b>6.82</b>	<b>7.04</b>	<b>7.18</b>	<b>7.28</b>	<b>7.38</b>
60°	<b>5.86</b>	<b>6.60</b>	<b>7.05</b>	<b>7.27</b>	<b>7.43</b>	<b>7.54</b>	<b>7.67</b>
75°	<b>6.07</b>	<b>6.74</b>	<b>7.21</b>	<b>7.60</b>	<b>7.84</b>	<b>8.00</b>	<b>8.17</b>
90°	<b>6.04</b>	<b>6.83</b>	<b>7.37</b>	<b>7.82</b>	<b>8.04</b>	<b>8.29</b>	<b>8.57</b>
110°	<b>5.87</b>	<b>6.63</b>	<b>7.14</b>	<b>7.61</b>	<b>8.16</b>	<b>8.59</b>	<b>9.10</b>
120°	<b>5.53</b>	<b>6.39</b>	<b>6.95</b>	<b>7.38</b>	<b>7.87</b>	<b>8.38</b>	<b>9.42</b>
135°	<b>4.68</b>	<b>5.85</b>	<b>6.53</b>	<b>7.01</b>	<b>7.42</b>	<b>7.87</b>	<b>8.77</b>
150°	<b>3.88</b>	<b>4.99</b>	<b>5.93</b>	<b>6.54</b>	<b>7.00</b>	<b>7.38</b>	<b>8.21</b>
Run VMG	<b>3.36</b>	<b>4.32</b>	<b>5.17</b>	<b>5.86</b>	<b>6.43</b>	<b>6.88</b>	<b>7.62</b>
Gybe Angles	<b>142.4°</b>	<b>144.7°</b>	<b>155.3°</b>	<b>167.7°</b>	<b>172.7°</b>	<b>175.1°</b>	<b>174.5°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SANTA CLARA** Certificate Number **090850**  
 Sail Nr **JPN 5334** Issued On **5/11/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1377.7	1085.2	924.8	833.5	783.5	752.3	719.5
52°	863.5	683.6	593.1	551.9	530.1	514.8	498.0
60°	787.5	629.5	560.9	529.2	502.8	491.7	482.9
75°	723.7	578.7	526.0	496.9	485.2	475.8	466.4
90°	664.4	552.2	507.4	481.7	473.5	468.7	459.5
110°	687.9	564.1	516.6	483.5	469.4	455.8	433.5
120°	735.6	587.6	529.9	490.8	473.8	460.4	426.4
135°	852.2	663.3	566.7	524.1	490.0	474.6	445.9
150°	1030.7	797.2	661.6	576.6	532.7	498.8	467.4
Run VMG	1190.2	920.6	764.0	662.6	591.6	545.9	487.4

### Selected Courses

Windward / Leeward	1303.1	1017.4	856.4	758.3	696.4	656.6	609.1
Circular Random	1011.8	799.7	683.3	614.4	571.7	544.1	510.8
Ocean for PCS	1085.2	838.3	699.1	614.1	559.6	522.8	475.8
Non Spinnaker	1120.8	874.6	736.8	653.3	600.5	565.9	524.7

### 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	46.9°	46.4°	45.3°	43.6°	41.6°	40.1°	38.3°
Beat VMG	2.61	3.32	3.89	4.32	4.59	4.79	5.00
52°	4.17	5.27	6.07	6.52	6.79	6.99	7.23
60°	4.57	5.72	6.42	6.80	7.16	7.32	7.45
75°	4.97	6.22	6.84	7.24	7.42	7.57	7.72
90°	5.42	6.52	7.09	7.47	7.60	7.68	7.83
110°	5.23	6.38	6.97	7.45	7.67	7.90	8.31
120°	4.89	6.13	6.79	7.33	7.60	7.82	8.44
135°	4.22	5.43	6.35	6.87	7.35	7.59	8.07
150°	3.49	4.52	5.44	6.24	6.76	7.22	7.70
Run VMG	3.02	3.91	4.71	5.43	6.09	6.59	7.39
Gybe Angles	139.9°	141.2°	146.1°	155.4°	166.7°	174.7°	177.6°



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **MARIONETTE** Certificate Number **090860**  
 Sail Nr **JPN 5337** Issued On **5/11/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1061.4</b>	<b>880.1</b>	<b>799.0</b>	<b>757.5</b>	<b>732.3</b>	<b>717.0</b>	<b>705.6</b>
52°	<b>686.7</b>	<b>588.7</b>	<b>546.2</b>	<b>528.3</b>	<b>517.7</b>	<b>510.9</b>	<b>504.8</b>
60°	<b>646.7</b>	<b>564.7</b>	<b>528.2</b>	<b>510.2</b>	<b>500.1</b>	<b>493.1</b>	<b>486.1</b>
75°	<b>617.9</b>	<b>548.3</b>	<b>514.1</b>	<b>490.4</b>	<b>474.5</b>	<b>466.2</b>	<b>457.0</b>
90°	<b>616.7</b>	<b>539.5</b>	<b>502.5</b>	<b>477.4</b>	<b>464.9</b>	<b>451.8</b>	<b>435.5</b>
110°	<b>634.0</b>	<b>552.7</b>	<b>512.9</b>	<b>481.4</b>	<b>454.9</b>	<b>435.2</b>	<b>413.0</b>
120°	<b>671.4</b>	<b>572.6</b>	<b>525.8</b>	<b>494.0</b>	<b>464.4</b>	<b>440.1</b>	<b>398.1</b>
135°	<b>776.1</b>	<b>628.7</b>	<b>557.9</b>	<b>519.4</b>	<b>490.2</b>	<b>463.2</b>	<b>415.7</b>
150°	<b>932.1</b>	<b>729.4</b>	<b>618.5</b>	<b>556.6</b>	<b>520.2</b>	<b>492.3</b>	<b>444.2</b>
Run VMG	<b>1076.3</b>	<b>842.2</b>	<b>709.9</b>	<b>624.1</b>	<b>566.5</b>	<b>529.4</b>	<b>476.8</b>

### Selected Courses

Windward / Leeward	<b>1089.4</b>	<b>876.9</b>	<b>765.4</b>	<b>699.5</b>	<b>657.3</b>	<b>630.2</b>	<b>596.3</b>
Circular Random	<b>890.4</b>	<b>721.9</b>	<b>631.9</b>	<b>579.5</b>	<b>546.6</b>	<b>524.5</b>	<b>495.4</b>
Ocean for PCS	<b>950.9</b>	<b>754.6</b>	<b>645.8</b>	<b>579.3</b>	<b>535.2</b>	<b>503.4</b>	<b>457.8</b>
Non Spinnaker	<b>947.1</b>	<b>761.3</b>	<b>660.9</b>	<b>601.8</b>	<b>564.8</b>	<b>540.2</b>	<b>508.8</b>

### 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>44.4°</b>	<b>41.9°</b>	<b>40.3°</b>	<b>39.1°</b>	<b>38.0°</b>	<b>37.3°</b>	<b>36.9°</b>
Beat VMG	<b>3.39</b>	<b>4.09</b>	<b>4.51</b>	<b>4.75</b>	<b>4.92</b>	<b>5.02</b>	<b>5.10</b>
52°	<b>5.24</b>	<b>6.11</b>	<b>6.59</b>	<b>6.81</b>	<b>6.95</b>	<b>7.05</b>	<b>7.13</b>
60°	<b>5.57</b>	<b>6.38</b>	<b>6.82</b>	<b>7.06</b>	<b>7.20</b>	<b>7.30</b>	<b>7.41</b>
75°	<b>5.83</b>	<b>6.57</b>	<b>7.00</b>	<b>7.34</b>	<b>7.59</b>	<b>7.72</b>	<b>7.88</b>
90°	<b>5.84</b>	<b>6.67</b>	<b>7.16</b>	<b>7.54</b>	<b>7.74</b>	<b>7.97</b>	<b>8.27</b>
110°	<b>5.68</b>	<b>6.51</b>	<b>7.02</b>	<b>7.48</b>	<b>7.91</b>	<b>8.27</b>	<b>8.72</b>
120°	<b>5.36</b>	<b>6.29</b>	<b>6.85</b>	<b>7.29</b>	<b>7.75</b>	<b>8.18</b>	<b>9.04</b>
135°	<b>4.64</b>	<b>5.73</b>	<b>6.45</b>	<b>6.93</b>	<b>7.34</b>	<b>7.77</b>	<b>8.66</b>
150°	<b>3.86</b>	<b>4.94</b>	<b>5.82</b>	<b>6.47</b>	<b>6.92</b>	<b>7.31</b>	<b>8.10</b>
Run VMG	<b>3.34</b>	<b>4.27</b>	<b>5.07</b>	<b>5.77</b>	<b>6.36</b>	<b>6.80</b>	<b>7.55</b>
Gybe Angles	<b>142.9°</b>	<b>148.0°</b>	<b>156.2°</b>	<b>165.3°</b>	<b>172.0°</b>	<b>174.9°</b>	<b>174.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>OREOS</b>
Certificate Number	<b>090870</b>
Sail Nr	<b>JPN 6275</b>
Issued On	<b>5/1/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1003.6</b>	<b>817.3</b>	<b>734.9</b>	<b>699.8</b>	<b>679.0</b>	<b>667.1</b>	<b>661.0</b>
52°	<b>653.1</b>	<b>550.8</b>	<b>505.8</b>	<b>489.9</b>	<b>480.9</b>	<b>475.6</b>	<b>472.2</b>
60°	<b>608.9</b>	<b>530.5</b>	<b>489.5</b>	<b>473.0</b>	<b>464.8</b>	<b>459.5</b>	<b>455.6</b>
75°	<b>581.2</b>	<b>504.2</b>	<b>471.6</b>	<b>455.3</b>	<b>441.7</b>	<b>434.9</b>	<b>428.1</b>
90°	<b>553.2</b>	<b>487.4</b>	<b>454.1</b>	<b>440.8</b>	<b>431.1</b>	<b>419.4</b>	<b>403.9</b>
110°	<b>565.6</b>	<b>502.8</b>	<b>468.0</b>	<b>438.2</b>	<b>410.1</b>	<b>394.5</b>	<b>373.6</b>
120°	<b>597.5</b>	<b>521.7</b>	<b>481.5</b>	<b>453.7</b>	<b>426.0</b>	<b>397.0</b>	<b>356.4</b>
135°	<b>707.2</b>	<b>572.6</b>	<b>514.1</b>	<b>478.7</b>	<b>452.9</b>	<b>428.6</b>	<b>374.5</b>
150°	<b>851.6</b>	<b>674.3</b>	<b>569.9</b>	<b>515.7</b>	<b>481.5</b>	<b>456.5</b>	<b>411.5</b>
Run VMG	<b>983.3</b>	<b>778.6</b>	<b>655.5</b>	<b>580.6</b>	<b>528.6</b>	<b>492.7</b>	<b>445.0</b>

Selected Courses							
Windward / Leeward	<b>1012.1</b>	<b>811.9</b>	<b>706.8</b>	<b>648.0</b>	<b>611.0</b>	<b>586.4</b>	<b>558.2</b>
Circular Random	<b>821.6</b>	<b>666.0</b>	<b>583.3</b>	<b>535.4</b>	<b>505.7</b>	<b>485.7</b>	<b>459.4</b>
Ocean for PCS	<b>878.8</b>	<b>696.9</b>	<b>596.5</b>	<b>535.4</b>	<b>495.1</b>	<b>465.8</b>	<b>422.9</b>
Non Spinnaker	<b>902.2</b>	<b>721.8</b>	<b>624.0</b>	<b>566.5</b>	<b>530.8</b>	<b>507.5</b>	<b>479.0</b>

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>43.0°</b>	<b>42.5°</b>	<b>39.1°</b>	<b>37.8°</b>	<b>37.3°</b>	<b>36.8°</b>	<b>36.7°</b>
Beat VMG	<b>3.59</b>	<b>4.40</b>	<b>4.90</b>	<b>5.14</b>	<b>5.30</b>	<b>5.40</b>	<b>5.45</b>
52°	<b>5.51</b>	<b>6.54</b>	<b>7.12</b>	<b>7.35</b>	<b>7.49</b>	<b>7.57</b>	<b>7.62</b>
60°	<b>5.91</b>	<b>6.79</b>	<b>7.35</b>	<b>7.61</b>	<b>7.75</b>	<b>7.83</b>	<b>7.90</b>
75°	<b>6.19</b>	<b>7.14</b>	<b>7.63</b>	<b>7.91</b>	<b>8.15</b>	<b>8.28</b>	<b>8.41</b>
90°	<b>6.51</b>	<b>7.39</b>	<b>7.93</b>	<b>8.17</b>	<b>8.35</b>	<b>8.58</b>	<b>8.91</b>
110°	<b>6.37</b>	<b>7.16</b>	<b>7.69</b>	<b>8.22</b>	<b>8.78</b>	<b>9.13</b>	<b>9.64</b>
120°	<b>6.02</b>	<b>6.90</b>	<b>7.48</b>	<b>7.93</b>	<b>8.45</b>	<b>9.07</b>	<b>10.10</b>
135°	<b>5.09</b>	<b>6.29</b>	<b>7.00</b>	<b>7.52</b>	<b>7.95</b>	<b>8.40</b>	<b>9.61</b>
150°	<b>4.23</b>	<b>5.34</b>	<b>6.32</b>	<b>6.98</b>	<b>7.48</b>	<b>7.89</b>	<b>8.75</b>
Run VMG	<b>3.66</b>	<b>4.62</b>	<b>5.49</b>	<b>6.20</b>	<b>6.81</b>	<b>7.31</b>	<b>8.09</b>
Gybe Angles	<b>142.4°</b>	<b>143.4°</b>	<b>153.6°</b>	<b>164.8°</b>	<b>170.5°</b>	<b>174.2°</b>	<b>174.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>O&amp;S</b>
Certificate Number	<b>090880</b>
Sail Nr	<b>JPN 6141</b>
Issued On	<b>5/1/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1156.1</b>	<b>945.0</b>	<b>841.5</b>	<b>789.1</b>	<b>757.8</b>	<b>738.4</b>	<b>721.4</b>
52°	<b>737.1</b>	<b>615.4</b>	<b>563.1</b>	<b>534.3</b>	<b>520.1</b>	<b>512.4</b>	<b>505.8</b>
60°	<b>685.1</b>	<b>585.4</b>	<b>537.6</b>	<b>512.4</b>	<b>502.8</b>	<b>496.6</b>	<b>489.8</b>
75°	<b>645.1</b>	<b>563.2</b>	<b>518.8</b>	<b>497.4</b>	<b>481.4</b>	<b>471.0</b>	<b>460.2</b>
90°	<b>644.7</b>	<b>553.3</b>	<b>508.2</b>	<b>487.0</b>	<b>473.3</b>	<b>462.8</b>	<b>438.1</b>
110°	<b>666.5</b>	<b>567.8</b>	<b>516.4</b>	<b>491.2</b>	<b>465.4</b>	<b>443.0</b>	<b>418.2</b>
120°	<b>709.9</b>	<b>589.1</b>	<b>530.4</b>	<b>499.4</b>	<b>474.9</b>	<b>449.3</b>	<b>403.7</b>
135°	<b>816.2</b>	<b>649.4</b>	<b>569.4</b>	<b>521.0</b>	<b>495.6</b>	<b>471.8</b>	<b>424.2</b>
150°	<b>972.3</b>	<b>758.2</b>	<b>634.3</b>	<b>567.2</b>	<b>522.3</b>	<b>497.4</b>	<b>451.7</b>
Run VMG	<b>1122.7</b>	<b>875.5</b>	<b>731.2</b>	<b>638.3</b>	<b>578.4</b>	<b>534.2</b>	<b>485.8</b>

Selected Courses							
Windward / Leeward	<b>1159.9</b>	<b>925.4</b>	<b>798.2</b>	<b>723.2</b>	<b>675.8</b>	<b>643.6</b>	<b>610.8</b>
Circular Random	<b>934.5</b>	<b>751.5</b>	<b>652.8</b>	<b>594.8</b>	<b>558.5</b>	<b>534.3</b>	<b>502.8</b>
Ocean for PCS	<b>998.8</b>	<b>786.0</b>	<b>667.2</b>	<b>594.4</b>	<b>546.3</b>	<b>511.7</b>	<b>461.9</b>
Non Spinnaker	<b>1002.4</b>	<b>799.1</b>	<b>687.7</b>	<b>621.5</b>	<b>579.9</b>	<b>552.5</b>	<b>519.2</b>

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>45.1°</b>	<b>44.0°</b>	<b>42.0°</b>	<b>40.1°</b>	<b>38.8°</b>	<b>38.2°</b>	<b>37.8°</b>
Beat VMG	<b>3.11</b>	<b>3.81</b>	<b>4.28</b>	<b>4.56</b>	<b>4.75</b>	<b>4.88</b>	<b>4.99</b>
52°	<b>4.88</b>	<b>5.85</b>	<b>6.39</b>	<b>6.74</b>	<b>6.92</b>	<b>7.03</b>	<b>7.12</b>
60°	<b>5.25</b>	<b>6.15</b>	<b>6.70</b>	<b>7.03</b>	<b>7.16</b>	<b>7.25</b>	<b>7.35</b>
75°	<b>5.58</b>	<b>6.39</b>	<b>6.94</b>	<b>7.24</b>	<b>7.48</b>	<b>7.64</b>	<b>7.82</b>
90°	<b>5.58</b>	<b>6.51</b>	<b>7.08</b>	<b>7.39</b>	<b>7.61</b>	<b>7.78</b>	<b>8.22</b>
110°	<b>5.40</b>	<b>6.34</b>	<b>6.97</b>	<b>7.33</b>	<b>7.73</b>	<b>8.13</b>	<b>8.61</b>
120°	<b>5.07</b>	<b>6.11</b>	<b>6.79</b>	<b>7.21</b>	<b>7.58</b>	<b>8.01</b>	<b>8.92</b>
135°	<b>4.41</b>	<b>5.54</b>	<b>6.32</b>	<b>6.91</b>	<b>7.26</b>	<b>7.63</b>	<b>8.49</b>
150°	<b>3.70</b>	<b>4.75</b>	<b>5.68</b>	<b>6.35</b>	<b>6.89</b>	<b>7.24</b>	<b>7.97</b>
Run VMG	<b>3.21</b>	<b>4.11</b>	<b>4.92</b>	<b>5.64</b>	<b>6.22</b>	<b>6.74</b>	<b>7.41</b>
Gybe Angles	<b>144.2°</b>	<b>147.9°</b>	<b>152.9°</b>	<b>163.5°</b>	<b>170.2°</b>	<b>172.3°</b>	<b>175.6°</b>



World Leader in Rating Technology

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## ORC Club Certificate Appendix

<b>BOAT</b>	
Name <b>JJ</b>	Certificate Number <b>090890</b>
Sail Nr <b>JPN 3777</b>	Issued On <b>5/11/2009</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>991.4</b>	<b>807.6</b>	<b>729.7</b>	<b>694.8</b>	<b>674.2</b>	<b>662.5</b>	<b>656.6</b>
52°	<b>645.0</b>	<b>546.4</b>	<b>503.4</b>	<b>488.2</b>	<b>479.4</b>	<b>474.2</b>	<b>471.0</b>
60°	<b>602.5</b>	<b>526.6</b>	<b>487.0</b>	<b>471.8</b>	<b>463.6</b>	<b>458.3</b>	<b>454.6</b>
75°	<b>577.3</b>	<b>510.6</b>	<b>476.1</b>	<b>452.8</b>	<b>440.7</b>	<b>434.0</b>	<b>427.4</b>
90°	<b>560.9</b>	<b>491.3</b>	<b>457.8</b>	<b>445.6</b>	<b>436.0</b>	<b>416.9</b>	<b>403.2</b>
110°	<b>570.2</b>	<b>503.7</b>	<b>467.4</b>	<b>436.4</b>	<b>413.1</b>	<b>402.0</b>	<b>381.9</b>
120°	<b>600.0</b>	<b>521.5</b>	<b>480.6</b>	<b>451.2</b>	<b>422.1</b>	<b>392.8</b>	<b>363.4</b>
135°	<b>702.8</b>	<b>569.2</b>	<b>510.7</b>	<b>476.1</b>	<b>450.0</b>	<b>425.3</b>	<b>369.1</b>
150°	<b>841.7</b>	<b>666.5</b>	<b>566.2</b>	<b>512.7</b>	<b>479.2</b>	<b>454.0</b>	<b>408.4</b>
Run VMG	<b>971.9</b>	<b>769.6</b>	<b>651.0</b>	<b>577.9</b>	<b>526.6</b>	<b>491.5</b>	<b>443.5</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1000.1</b>	<b>803.2</b>	<b>701.4</b>	<b>644.1</b>	<b>607.6</b>	<b>583.4</b>	<b>555.2</b>
Circular Random	<b>816.8</b>	<b>662.5</b>	<b>580.6</b>	<b>533.3</b>	<b>503.9</b>	<b>484.2</b>	<b>458.5</b>
Ocean for PCS	<b>872.6</b>	<b>692.7</b>	<b>593.5</b>	<b>533.1</b>	<b>493.1</b>	<b>464.0</b>	<b>421.3</b>
Non Spinnaker	<b>894.9</b>	<b>716.6</b>	<b>620.1</b>	<b>563.4</b>	<b>528.1</b>	<b>505.0</b>	<b>476.7</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>43.0°</b>	<b>42.1°</b>	<b>38.9°</b>	<b>37.7°</b>	<b>37.0°</b>	<b>36.5°</b>	<b>36.4°</b>
Beat VMG	<b>3.63</b>	<b>4.46</b>	<b>4.93</b>	<b>5.18</b>	<b>5.34</b>	<b>5.43</b>	<b>5.48</b>
52°	<b>5.58</b>	<b>6.59</b>	<b>7.15</b>	<b>7.37</b>	<b>7.51</b>	<b>7.59</b>	<b>7.64</b>
60°	<b>5.97</b>	<b>6.84</b>	<b>7.39</b>	<b>7.63</b>	<b>7.77</b>	<b>7.85</b>	<b>7.92</b>
75°	<b>6.24</b>	<b>7.05</b>	<b>7.56</b>	<b>7.95</b>	<b>8.17</b>	<b>8.29</b>	<b>8.42</b>
90°	<b>6.42</b>	<b>7.33</b>	<b>7.86</b>	<b>8.08</b>	<b>8.26</b>	<b>8.64</b>	<b>8.93</b>
110°	<b>6.31</b>	<b>7.15</b>	<b>7.70</b>	<b>8.25</b>	<b>8.71</b>	<b>8.96</b>	<b>9.43</b>
120°	<b>6.00</b>	<b>6.90</b>	<b>7.49</b>	<b>7.98</b>	<b>8.53</b>	<b>9.16</b>	<b>9.91</b>
135°	<b>5.12</b>	<b>6.32</b>	<b>7.05</b>	<b>7.56</b>	<b>8.00</b>	<b>8.46</b>	<b>9.75</b>
150°	<b>4.28</b>	<b>5.40</b>	<b>6.36</b>	<b>7.02</b>	<b>7.51</b>	<b>7.93</b>	<b>8.82</b>
Run VMG	<b>3.70</b>	<b>4.68</b>	<b>5.53</b>	<b>6.23</b>	<b>6.84</b>	<b>7.32</b>	<b>8.12</b>
Gybe Angles	<b>142.5°</b>	<b>143.7°</b>	<b>153.9°</b>	<b>163.9°</b>	<b>169.5°</b>	<b>173.2°</b>	<b>173.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **MERLUZA** Certificate Number **090900**  
 Sail Nr **JPN 2466** Issued On **5/11/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>992.9</b>	<b>813.8</b>	<b>741.5</b>	<b>704.0</b>	<b>681.5</b>	<b>667.6</b>	<b>655.9</b>
52°	<b>642.3</b>	<b>554.1</b>	<b>516.3</b>	<b>500.6</b>	<b>491.6</b>	<b>485.8</b>	<b>480.3</b>
60°	<b>606.1</b>	<b>535.5</b>	<b>500.1</b>	<b>486.2</b>	<b>477.4</b>	<b>471.0</b>	<b>464.3</b>
75°	<b>584.2</b>	<b>522.8</b>	<b>490.4</b>	<b>468.0</b>	<b>454.6</b>	<b>446.3</b>	<b>436.6</b>
90°	<b>588.6</b>	<b>516.3</b>	<b>481.5</b>	<b>457.2</b>	<b>445.8</b>	<b>429.5</b>	<b>412.0</b>
110°	<b>605.9</b>	<b>531.8</b>	<b>493.5</b>	<b>465.5</b>	<b>436.5</b>	<b>411.0</b>	<b>385.3</b>
120°	<b>648.8</b>	<b>552.9</b>	<b>506.2</b>	<b>478.2</b>	<b>450.2</b>	<b>421.6</b>	<b>366.0</b>
135°	<b>765.1</b>	<b>608.2</b>	<b>541.1</b>	<b>501.5</b>	<b>475.9</b>	<b>449.9</b>	<b>395.5</b>
150°	<b>921.7</b>	<b>718.8</b>	<b>600.9</b>	<b>541.2</b>	<b>503.3</b>	<b>478.3</b>	<b>429.7</b>
Run VMG	<b>1064.2</b>	<b>829.9</b>	<b>692.1</b>	<b>607.6</b>	<b>552.0</b>	<b>513.1</b>	<b>464.4</b>

### Selected Courses

Windward / Leeward	<b>1047.3</b>	<b>837.1</b>	<b>727.6</b>	<b>664.3</b>	<b>624.0</b>	<b>596.9</b>	<b>565.9</b>
Circular Random	<b>851.8</b>	<b>689.5</b>	<b>602.9</b>	<b>552.3</b>	<b>520.3</b>	<b>498.3</b>	<b>468.5</b>
Ocean for PCS	<b>910.4</b>	<b>721.1</b>	<b>616.3</b>	<b>552.4</b>	<b>509.9</b>	<b>479.1</b>	<b>434.0</b>
Non Spinnaker	<b>910.5</b>	<b>730.1</b>	<b>632.5</b>	<b>575.0</b>	<b>539.0</b>	<b>515.0</b>	<b>484.3</b>

### 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>43.8°</b>	<b>41.3°</b>	<b>38.4°</b>	<b>36.7°</b>	<b>35.8°</b>	<b>35.4°</b>	<b>35.0°</b>
Beat VMG	<b>3.63</b>	<b>4.42</b>	<b>4.86</b>	<b>5.11</b>	<b>5.28</b>	<b>5.39</b>	<b>5.49</b>
52°	<b>5.60</b>	<b>6.50</b>	<b>6.97</b>	<b>7.19</b>	<b>7.32</b>	<b>7.41</b>	<b>7.50</b>
60°	<b>5.94</b>	<b>6.72</b>	<b>7.20</b>	<b>7.40</b>	<b>7.54</b>	<b>7.64</b>	<b>7.75</b>
75°	<b>6.16</b>	<b>6.89</b>	<b>7.34</b>	<b>7.69</b>	<b>7.92</b>	<b>8.07</b>	<b>8.25</b>
90°	<b>6.12</b>	<b>6.97</b>	<b>7.48</b>	<b>7.87</b>	<b>8.08</b>	<b>8.38</b>	<b>8.74</b>
110°	<b>5.94</b>	<b>6.77</b>	<b>7.30</b>	<b>7.73</b>	<b>8.25</b>	<b>8.76</b>	<b>9.34</b>
120°	<b>5.55</b>	<b>6.51</b>	<b>7.11</b>	<b>7.53</b>	<b>8.00</b>	<b>8.54</b>	<b>9.83</b>
135°	<b>4.71</b>	<b>5.92</b>	<b>6.65</b>	<b>7.18</b>	<b>7.56</b>	<b>8.00</b>	<b>9.10</b>
150°	<b>3.91</b>	<b>5.01</b>	<b>5.99</b>	<b>6.65</b>	<b>7.15</b>	<b>7.53</b>	<b>8.38</b>
Run VMG	<b>3.38</b>	<b>4.34</b>	<b>5.20</b>	<b>5.92</b>	<b>6.52</b>	<b>7.02</b>	<b>7.75</b>
Gybe Angles	<b>142.1°</b>	<b>145.7°</b>	<b>152.9°</b>	<b>165.0°</b>	<b>171.2°</b>	<b>174.5°</b>	<b>174.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>VINTAGE '08</b>
Certificate Number	<b>090910</b>
Sail Nr	<b>JPN 5930</b>
Issued On	<b>5/11/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>955.5</b>	<b>787.6</b>	<b>706.9</b>	<b>666.2</b>	<b>641.7</b>	<b>626.6</b>	<b>613.4</b>
52°	<b>621.1</b>	<b>523.9</b>	<b>483.6</b>	<b>465.8</b>	<b>455.9</b>	<b>449.9</b>	<b>444.7</b>
60°	<b>580.7</b>	<b>502.7</b>	<b>465.6</b>	<b>450.8</b>	<b>442.5</b>	<b>437.0</b>	<b>431.6</b>
75°	<b>551.4</b>	<b>487.9</b>	<b>453.3</b>	<b>435.0</b>	<b>423.9</b>	<b>416.9</b>	<b>408.8</b>
90°	<b>545.6</b>	<b>474.8</b>	<b>442.2</b>	<b>424.8</b>	<b>415.3</b>	<b>403.4</b>	<b>389.6</b>
110°	<b>559.7</b>	<b>488.9</b>	<b>453.0</b>	<b>429.2</b>	<b>405.6</b>	<b>385.8</b>	<b>365.5</b>
120°	<b>600.4</b>	<b>509.6</b>	<b>465.6</b>	<b>440.1</b>	<b>417.3</b>	<b>394.4</b>	<b>352.5</b>
135°	<b>700.8</b>	<b>566.0</b>	<b>500.0</b>	<b>462.0</b>	<b>438.5</b>	<b>417.4</b>	<b>374.9</b>
150°	<b>841.8</b>	<b>668.1</b>	<b>561.3</b>	<b>502.3</b>	<b>465.4</b>	<b>442.0</b>	<b>402.2</b>
Run VMG	<b>972.1</b>	<b>771.5</b>	<b>648.0</b>	<b>570.3</b>	<b>516.8</b>	<b>478.8</b>	<b>433.4</b>
Selected Courses							
Windward / Leeward	<b>982.6</b>	<b>792.0</b>	<b>687.8</b>	<b>626.0</b>	<b>586.1</b>	<b>559.0</b>	<b>529.0</b>
Circular Random	<b>797.4</b>	<b>645.4</b>	<b>563.9</b>	<b>516.1</b>	<b>486.2</b>	<b>465.9</b>	<b>439.6</b>
Ocean for PCS	<b>852.5</b>	<b>675.3</b>	<b>576.7</b>	<b>516.4</b>	<b>476.6</b>	<b>448.2</b>	<b>408.2</b>
Non Spinnaker	<b>859.6</b>	<b>688.5</b>	<b>595.3</b>	<b>540.0</b>	<b>505.2</b>	<b>482.2</b>	<b>453.8</b>

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>43.5°</b>	<b>43.2°</b>	<b>39.8°</b>	<b>38.0°</b>	<b>37.1°</b>	<b>36.4°</b>	<b>35.8°</b>
Beat VMG	<b>3.77</b>	<b>4.57</b>	<b>5.09</b>	<b>5.40</b>	<b>5.61</b>	<b>5.75</b>	<b>5.87</b>
52°	<b>5.80</b>	<b>6.87</b>	<b>7.44</b>	<b>7.73</b>	<b>7.90</b>	<b>8.00</b>	<b>8.10</b>
60°	<b>6.20</b>	<b>7.16</b>	<b>7.73</b>	<b>7.99</b>	<b>8.14</b>	<b>8.24</b>	<b>8.34</b>
75°	<b>6.53</b>	<b>7.38</b>	<b>7.94</b>	<b>8.28</b>	<b>8.49</b>	<b>8.63</b>	<b>8.81</b>
90°	<b>6.60</b>	<b>7.58</b>	<b>8.14</b>	<b>8.48</b>	<b>8.67</b>	<b>8.92</b>	<b>9.24</b>
110°	<b>6.43</b>	<b>7.36</b>	<b>7.95</b>	<b>8.39</b>	<b>8.88</b>	<b>9.33</b>	<b>9.85</b>
120°	<b>6.00</b>	<b>7.06</b>	<b>7.73</b>	<b>8.18</b>	<b>8.63</b>	<b>9.13</b>	<b>10.21</b>
135°	<b>5.14</b>	<b>6.36</b>	<b>7.20</b>	<b>7.79</b>	<b>8.21</b>	<b>8.62</b>	<b>9.60</b>
150°	<b>4.28</b>	<b>5.39</b>	<b>6.41</b>	<b>7.17</b>	<b>7.73</b>	<b>8.15</b>	<b>8.95</b>
Run VMG	<b>3.70</b>	<b>4.67</b>	<b>5.56</b>	<b>6.31</b>	<b>6.97</b>	<b>7.52</b>	<b>8.31</b>
Gybe Angles	<b>142.1°</b>	<b>146.9°</b>	<b>150.6°</b>	<b>161.3°</b>	<b>167.4°</b>	<b>172.0°</b>	<b>175.1°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **CRUX-V** Certificate Number **090920**  
 Sail Nr **JPN 6399** Issued On **5/11/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1101.8</b>	<b>904.4</b>	<b>784.7</b>	<b>729.1</b>	<b>698.8</b>	<b>679.9</b>	<b>662.8</b>
52°	<b>704.7</b>	<b>578.7</b>	<b>524.1</b>	<b>492.9</b>	<b>478.7</b>	<b>470.7</b>	<b>463.4</b>
60°	<b>654.7</b>	<b>547.0</b>	<b>502.1</b>	<b>474.2</b>	<b>460.2</b>	<b>453.5</b>	<b>446.5</b>
75°	<b>610.0</b>	<b>516.3</b>	<b>470.8</b>	<b>454.7</b>	<b>443.8</b>	<b>429.7</b>	<b>419.4</b>
90°	<b>568.8</b>	<b>496.2</b>	<b>460.5</b>	<b>438.8</b>	<b>427.9</b>	<b>420.3</b>	<b>400.8</b>
110°	<b>585.1</b>	<b>509.3</b>	<b>470.5</b>	<b>445.9</b>	<b>422.4</b>	<b>402.1</b>	<b>377.4</b>
120°	<b>628.6</b>	<b>527.1</b>	<b>481.9</b>	<b>454.9</b>	<b>432.7</b>	<b>409.7</b>	<b>369.1</b>
135°	<b>719.0</b>	<b>577.2</b>	<b>512.6</b>	<b>475.7</b>	<b>452.3</b>	<b>432.3</b>	<b>391.4</b>
150°	<b>858.7</b>	<b>681.6</b>	<b>570.8</b>	<b>514.1</b>	<b>478.7</b>	<b>455.5</b>	<b>417.4</b>
Run VMG	<b>991.5</b>	<b>787.0</b>	<b>659.0</b>	<b>581.0</b>	<b>529.3</b>	<b>492.8</b>	<b>448.5</b>

### Selected Courses

Windward / Leeward	<b>1066.5</b>	<b>856.0</b>	<b>734.2</b>	<b>663.8</b>	<b>621.3</b>	<b>593.0</b>	<b>561.5</b>
Circular Random	<b>855.4</b>	<b>688.6</b>	<b>598.2</b>	<b>545.1</b>	<b>511.9</b>	<b>489.7</b>	<b>461.1</b>
Ocean for PCS	<b>915.1</b>	<b>720.7</b>	<b>611.6</b>	<b>544.6</b>	<b>500.3</b>	<b>468.8</b>	<b>423.7</b>
Non Spinnaker	<b>940.8</b>	<b>747.8</b>	<b>641.5</b>	<b>578.0</b>	<b>538.0</b>	<b>511.7</b>	<b>479.3</b>

### 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>45.1°</b>	<b>44.0°</b>	<b>42.7°</b>	<b>40.6°</b>	<b>39.5°</b>	<b>38.8°</b>	<b>38.3°</b>
Beat VMG	<b>3.27</b>	<b>3.98</b>	<b>4.59</b>	<b>4.94</b>	<b>5.15</b>	<b>5.30</b>	<b>5.43</b>
52°	<b>5.11</b>	<b>6.22</b>	<b>6.87</b>	<b>7.30</b>	<b>7.52</b>	<b>7.65</b>	<b>7.77</b>
60°	<b>5.50</b>	<b>6.58</b>	<b>7.17</b>	<b>7.59</b>	<b>7.82</b>	<b>7.94</b>	<b>8.06</b>
75°	<b>5.90</b>	<b>6.97</b>	<b>7.65</b>	<b>7.92</b>	<b>8.11</b>	<b>8.38</b>	<b>8.58</b>
90°	<b>6.33</b>	<b>7.26</b>	<b>7.82</b>	<b>8.20</b>	<b>8.41</b>	<b>8.57</b>	<b>8.98</b>
110°	<b>6.15</b>	<b>7.07</b>	<b>7.65</b>	<b>8.07</b>	<b>8.52</b>	<b>8.95</b>	<b>9.54</b>
120°	<b>5.73</b>	<b>6.83</b>	<b>7.47</b>	<b>7.91</b>	<b>8.32</b>	<b>8.79</b>	<b>9.75</b>
135°	<b>5.01</b>	<b>6.24</b>	<b>7.02</b>	<b>7.57</b>	<b>7.96</b>	<b>8.33</b>	<b>9.20</b>
150°	<b>4.19</b>	<b>5.28</b>	<b>6.31</b>	<b>7.00</b>	<b>7.52</b>	<b>7.90</b>	<b>8.63</b>
Run VMG	<b>3.63</b>	<b>4.57</b>	<b>5.46</b>	<b>6.20</b>	<b>6.80</b>	<b>7.30</b>	<b>8.03</b>
Gybe Angles	<b>142.6°</b>	<b>147.3°</b>	<b>150.6°</b>	<b>161.9°</b>	<b>167.8°</b>	<b>171.5°</b>	<b>174.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **SOUTHERN CROSS** Certificate Number **090930**  
 Sail Nr **JPN 5921** Issued On **5/14/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1227.9</b>	<b>985.2</b>	<b>845.4</b>	<b>776.8</b>	<b>740.9</b>	<b>719.2</b>	<b>700.5</b>
52°	<b>771.5</b>	<b>621.9</b>	<b>547.3</b>	<b>512.9</b>	<b>496.7</b>	<b>486.9</b>	<b>477.8</b>
60°	<b>705.2</b>	<b>571.5</b>	<b>519.1</b>	<b>488.0</b>	<b>473.0</b>	<b>464.6</b>	<b>456.1</b>
75°	<b>651.4</b>	<b>540.7</b>	<b>496.9</b>	<b>468.8</b>	<b>448.2</b>	<b>436.5</b>	<b>426.8</b>
90°	<b>643.1</b>	<b>529.7</b>	<b>483.1</b>	<b>453.9</b>	<b>437.9</b>	<b>430.5</b>	<b>407.7</b>
110°	<b>665.2</b>	<b>542.8</b>	<b>493.3</b>	<b>461.7</b>	<b>436.4</b>	<b>415.1</b>	<b>392.3</b>
120°	<b>709.9</b>	<b>566.1</b>	<b>507.5</b>	<b>472.4</b>	<b>446.3</b>	<b>423.8</b>	<b>385.1</b>
135°	<b>817.8</b>	<b>642.8</b>	<b>544.7</b>	<b>498.8</b>	<b>468.4</b>	<b>444.7</b>	<b>405.8</b>
150°	<b>975.8</b>	<b>754.6</b>	<b>624.5</b>	<b>543.7</b>	<b>501.1</b>	<b>471.7</b>	<b>428.8</b>
Run VMG	<b>1126.7</b>	<b>871.3</b>	<b>721.1</b>	<b>619.4</b>	<b>556.1</b>	<b>514.1</b>	<b>460.3</b>

### Selected Courses

Windward / Leeward	<b>1196.2</b>	<b>940.8</b>	<b>795.0</b>	<b>708.4</b>	<b>656.6</b>	<b>623.7</b>	<b>586.3</b>
Circular Random	<b>940.0</b>	<b>745.6</b>	<b>638.9</b>	<b>575.7</b>	<b>536.2</b>	<b>510.4</b>	<b>478.5</b>
Ocean for PCS	<b>1006.2</b>	<b>780.5</b>	<b>652.8</b>	<b>574.2</b>	<b>522.5</b>	<b>486.2</b>	<b>435.7</b>
Non Spinnaker	<b>1010.0</b>	<b>795.3</b>	<b>675.9</b>	<b>604.0</b>	<b>558.6</b>	<b>528.8</b>	<b>492.7</b>

### 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>46.6°</b>	<b>45.7°</b>	<b>45.5°</b>	<b>42.9°</b>	<b>41.4°</b>	<b>40.4°</b>	<b>40.0°</b>
Beat VMG	<b>2.93</b>	<b>3.65</b>	<b>4.26</b>	<b>4.63</b>	<b>4.86</b>	<b>5.01</b>	<b>5.14</b>
52°	<b>4.67</b>	<b>5.79</b>	<b>6.58</b>	<b>7.02</b>	<b>7.25</b>	<b>7.39</b>	<b>7.53</b>
60°	<b>5.10</b>	<b>6.30</b>	<b>6.94</b>	<b>7.38</b>	<b>7.61</b>	<b>7.75</b>	<b>7.89</b>
75°	<b>5.53</b>	<b>6.66</b>	<b>7.25</b>	<b>7.68</b>	<b>8.03</b>	<b>8.25</b>	<b>8.44</b>
90°	<b>5.60</b>	<b>6.80</b>	<b>7.45</b>	<b>7.93</b>	<b>8.22</b>	<b>8.36</b>	<b>8.83</b>
110°	<b>5.41</b>	<b>6.63</b>	<b>7.30</b>	<b>7.80</b>	<b>8.25</b>	<b>8.67</b>	<b>9.18</b>
120°	<b>5.07</b>	<b>6.36</b>	<b>7.09</b>	<b>7.62</b>	<b>8.07</b>	<b>8.49</b>	<b>9.35</b>
135°	<b>4.40</b>	<b>5.60</b>	<b>6.61</b>	<b>7.22</b>	<b>7.69</b>	<b>8.10</b>	<b>8.87</b>
150°	<b>3.69</b>	<b>4.77</b>	<b>5.76</b>	<b>6.62</b>	<b>7.18</b>	<b>7.63</b>	<b>8.40</b>
Run VMG	<b>3.20</b>	<b>4.13</b>	<b>4.99</b>	<b>5.81</b>	<b>6.47</b>	<b>7.00</b>	<b>7.82</b>
Gybe Angles	<b>144.1°</b>	<b>147.5°</b>	<b>148.5°</b>	<b>158.1°</b>	<b>167.9°</b>	<b>171.7°</b>	<b>174.7°</b>



World Leader in Rating Technology

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## ORC Club Certificate Appendix

BOAT	
Name	<b>SUBARU</b>
Sail Nr	<b>JPN 5972</b>
Certificate Number	<b>090940</b>
Issued On	<b>5/14/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1091.9</b>	<b>890.0</b>	<b>774.4</b>	<b>720.9</b>	<b>689.5</b>	<b>669.6</b>	<b>649.8</b>
52°	<b>694.3</b>	<b>567.5</b>	<b>516.0</b>	<b>491.4</b>	<b>478.3</b>	<b>469.9</b>	<b>461.0</b>
60°	<b>642.8</b>	<b>536.0</b>	<b>495.2</b>	<b>472.5</b>	<b>460.9</b>	<b>453.4</b>	<b>445.0</b>
75°	<b>598.9</b>	<b>514.6</b>	<b>479.3</b>	<b>456.8</b>	<b>441.2</b>	<b>432.2</b>	<b>422.8</b>
90°	<b>596.3</b>	<b>505.2</b>	<b>467.5</b>	<b>446.7</b>	<b>436.6</b>	<b>427.3</b>	<b>408.4</b>
110°	<b>609.2</b>	<b>513.7</b>	<b>473.8</b>	<b>447.5</b>	<b>427.3</b>	<b>412.5</b>	<b>397.5</b>
120°	<b>648.0</b>	<b>531.8</b>	<b>485.2</b>	<b>456.1</b>	<b>433.6</b>	<b>414.9</b>	<b>387.7</b>
135°	<b>744.8</b>	<b>592.5</b>	<b>516.3</b>	<b>478.6</b>	<b>452.9</b>	<b>432.1</b>	<b>397.9</b>
150°	<b>892.4</b>	<b>699.2</b>	<b>582.9</b>	<b>518.5</b>	<b>482.4</b>	<b>457.2</b>	<b>419.2</b>
Run VMG	<b>1030.5</b>	<b>807.4</b>	<b>673.1</b>	<b>589.3</b>	<b>534.7</b>	<b>497.4</b>	<b>449.6</b>

Selected Courses							
Windward / Leeward	<b>1080.1</b>	<b>860.2</b>	<b>735.8</b>	<b>663.8</b>	<b>619.5</b>	<b>590.1</b>	<b>555.1</b>
Circular Random	<b>864.2</b>	<b>693.1</b>	<b>600.5</b>	<b>546.3</b>	<b>512.8</b>	<b>490.7</b>	<b>462.9</b>
Ocean for PCS	<b>924.2</b>	<b>725.4</b>	<b>614.2</b>	<b>546.4</b>	<b>502.2</b>	<b>471.2</b>	<b>428.1</b>
Non Spinnaker	<b>939.9</b>	<b>746.3</b>	<b>639.5</b>	<b>575.7</b>	<b>535.4</b>	<b>509.0</b>	<b>476.5</b>

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>45.7°</b>	<b>44.8°</b>	<b>43.3°</b>	<b>40.6°</b>	<b>39.1°</b>	<b>38.2°</b>	<b>37.3°</b>
Beat VMG	<b>3.30</b>	<b>4.04</b>	<b>4.65</b>	<b>4.99</b>	<b>5.22</b>	<b>5.38</b>	<b>5.54</b>
52°	<b>5.19</b>	<b>6.34</b>	<b>6.98</b>	<b>7.33</b>	<b>7.53</b>	<b>7.66</b>	<b>7.81</b>
60°	<b>5.60</b>	<b>6.72</b>	<b>7.27</b>	<b>7.62</b>	<b>7.81</b>	<b>7.94</b>	<b>8.09</b>
75°	<b>6.01</b>	<b>7.00</b>	<b>7.51</b>	<b>7.88</b>	<b>8.16</b>	<b>8.33</b>	<b>8.52</b>
90°	<b>6.04</b>	<b>7.13</b>	<b>7.70</b>	<b>8.06</b>	<b>8.25</b>	<b>8.42</b>	<b>8.82</b>
110°	<b>5.91</b>	<b>7.01</b>	<b>7.60</b>	<b>8.04</b>	<b>8.42</b>	<b>8.73</b>	<b>9.06</b>
120°	<b>5.56</b>	<b>6.77</b>	<b>7.42</b>	<b>7.89</b>	<b>8.30</b>	<b>8.68</b>	<b>9.28</b>
135°	<b>4.83</b>	<b>6.08</b>	<b>6.97</b>	<b>7.52</b>	<b>7.95</b>	<b>8.33</b>	<b>9.05</b>
150°	<b>4.03</b>	<b>5.15</b>	<b>6.18</b>	<b>6.94</b>	<b>7.46</b>	<b>7.87</b>	<b>8.59</b>
Run VMG	<b>3.49</b>	<b>4.46</b>	<b>5.35</b>	<b>6.11</b>	<b>6.73</b>	<b>7.24</b>	<b>8.01</b>
Gybe Angles	<b>142.3°</b>	<b>146.3°</b>	<b>148.1°</b>	<b>159.1°</b>	<b>167.3°</b>	<b>171.6°</b>	<b>174.5°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **CROCODILE DUNDEE** Certificate Number **090950**  
 Sail Nr **JPN 5717** Issued On **5/14/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1101.5</b>	<b>894.2</b>	<b>787.3</b>	<b>732.8</b>	<b>700.5</b>	<b>680.2</b>	<b>659.9</b>
52°	<b>706.7</b>	<b>585.0</b>	<b>530.2</b>	<b>503.1</b>	<b>486.7</b>	<b>478.6</b>	<b>471.3</b>
60°	<b>658.6</b>	<b>555.5</b>	<b>507.2</b>	<b>480.8</b>	<b>471.4</b>	<b>465.7</b>	<b>459.1</b>
75°	<b>622.2</b>	<b>530.5</b>	<b>486.7</b>	<b>466.1</b>	<b>453.7</b>	<b>445.6</b>	<b>434.4</b>
90°	<b>590.7</b>	<b>508.3</b>	<b>470.3</b>	<b>460.2</b>	<b>452.5</b>	<b>434.1</b>	<b>414.1</b>
110°	<b>605.9</b>	<b>520.6</b>	<b>474.0</b>	<b>451.9</b>	<b>430.0</b>	<b>419.1</b>	<b>401.7</b>
120°	<b>644.1</b>	<b>540.3</b>	<b>485.9</b>	<b>460.3</b>	<b>434.6</b>	<b>411.1</b>	<b>385.4</b>
135°	<b>745.7</b>	<b>597.6</b>	<b>525.6</b>	<b>479.7</b>	<b>457.6</b>	<b>432.5</b>	<b>383.8</b>
150°	<b>891.6</b>	<b>700.8</b>	<b>589.5</b>	<b>526.6</b>	<b>482.8</b>	<b>460.6</b>	<b>414.6</b>
Run VMG	<b>1029.6</b>	<b>809.2</b>	<b>680.3</b>	<b>596.8</b>	<b>540.4</b>	<b>497.1</b>	<b>450.7</b>

### Selected Courses

Windward / Leeward	<b>1084.7</b>	<b>865.3</b>	<b>744.9</b>	<b>673.4</b>	<b>627.5</b>	<b>595.4</b>	<b>562.2</b>
Circular Random	<b>871.7</b>	<b>700.6</b>	<b>608.1</b>	<b>553.7</b>	<b>519.5</b>	<b>496.5</b>	<b>466.8</b>
Ocean for PCS	<b>932.1</b>	<b>733.1</b>	<b>621.9</b>	<b>553.8</b>	<b>508.7</b>	<b>476.4</b>	<b>430.5</b>
Non Spinnaker	<b>957.0</b>	<b>760.1</b>	<b>651.5</b>	<b>586.4</b>	<b>545.2</b>	<b>517.8</b>	<b>483.8</b>

### 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>44.0°</b>	<b>42.9°</b>	<b>41.4°</b>	<b>39.1°</b>	<b>37.5°</b>	<b>36.5°</b>	<b>35.6°</b>
Beat VMG	<b>3.27</b>	<b>4.03</b>	<b>4.57</b>	<b>4.91</b>	<b>5.14</b>	<b>5.29</b>	<b>5.46</b>
52°	<b>5.09</b>	<b>6.15</b>	<b>6.79</b>	<b>7.16</b>	<b>7.40</b>	<b>7.52</b>	<b>7.64</b>
60°	<b>5.47</b>	<b>6.48</b>	<b>7.10</b>	<b>7.49</b>	<b>7.64</b>	<b>7.73</b>	<b>7.84</b>
75°	<b>5.79</b>	<b>6.79</b>	<b>7.40</b>	<b>7.72</b>	<b>7.94</b>	<b>8.08</b>	<b>8.29</b>
90°	<b>6.09</b>	<b>7.08</b>	<b>7.65</b>	<b>7.82</b>	<b>7.96</b>	<b>8.29</b>	<b>8.69</b>
110°	<b>5.94</b>	<b>6.92</b>	<b>7.59</b>	<b>7.97</b>	<b>8.37</b>	<b>8.59</b>	<b>8.96</b>
120°	<b>5.59</b>	<b>6.66</b>	<b>7.41</b>	<b>7.82</b>	<b>8.28</b>	<b>8.76</b>	<b>9.34</b>
135°	<b>4.83</b>	<b>6.02</b>	<b>6.85</b>	<b>7.51</b>	<b>7.87</b>	<b>8.32</b>	<b>9.38</b>
150°	<b>4.04</b>	<b>5.14</b>	<b>6.11</b>	<b>6.84</b>	<b>7.46</b>	<b>7.82</b>	<b>8.68</b>
Run VMG	<b>3.50</b>	<b>4.45</b>	<b>5.29</b>	<b>6.03</b>	<b>6.66</b>	<b>7.24</b>	<b>7.99</b>
Gybe Angles	<b>143.3°</b>	<b>146.5°</b>	<b>151.3°</b>	<b>160.9°</b>	<b>168.9°</b>	<b>170.2°</b>	<b>174.5°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **OCEAN BOY III** Certificate Number **090960**  
 Sail Nr **JPN 6246** Issued On **5/14/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>989.6</b>	<b>825.7</b>	<b>754.2</b>	<b>717.2</b>	<b>695.2</b>	<b>681.9</b>	<b>672.0</b>
52°	<b>646.4</b>	<b>559.0</b>	<b>522.9</b>	<b>507.9</b>	<b>499.3</b>	<b>493.8</b>	<b>489.1</b>
60°	<b>612.8</b>	<b>538.6</b>	<b>505.9</b>	<b>493.2</b>	<b>484.8</b>	<b>478.7</b>	<b>472.9</b>
75°	<b>588.7</b>	<b>524.7</b>	<b>493.8</b>	<b>473.2</b>	<b>461.4</b>	<b>453.7</b>	<b>445.3</b>
90°	<b>589.8</b>	<b>516.9</b>	<b>483.9</b>	<b>463.3</b>	<b>451.4</b>	<b>435.8</b>	<b>421.7</b>
110°	<b>606.7</b>	<b>531.0</b>	<b>494.6</b>	<b>464.9</b>	<b>437.6</b>	<b>418.0</b>	<b>396.3</b>
120°	<b>643.0</b>	<b>551.8</b>	<b>506.6</b>	<b>478.1</b>	<b>448.8</b>	<b>421.0</b>	<b>377.6</b>
135°	<b>748.5</b>	<b>606.9</b>	<b>539.3</b>	<b>501.9</b>	<b>475.3</b>	<b>448.4</b>	<b>393.9</b>
150°	<b>905.4</b>	<b>705.9</b>	<b>599.3</b>	<b>539.1</b>	<b>503.3</b>	<b>477.8</b>	<b>428.2</b>
Run VMG	<b>1045.5</b>	<b>815.1</b>	<b>689.1</b>	<b>605.9</b>	<b>549.8</b>	<b>512.4</b>	<b>462.8</b>

### Selected Courses

Windward / Leeward	<b>1037.2</b>	<b>836.0</b>	<b>731.8</b>	<b>670.0</b>	<b>630.0</b>	<b>603.8</b>	<b>572.7</b>
Circular Random	<b>850.2</b>	<b>690.6</b>	<b>605.7</b>	<b>556.4</b>	<b>525.4</b>	<b>504.3</b>	<b>476.0</b>
Ocean for PCS	<b>908.0</b>	<b>721.9</b>	<b>619.2</b>	<b>556.6</b>	<b>514.9</b>	<b>484.7</b>	<b>440.9</b>
Non Spinnaker	<b>906.5</b>	<b>729.8</b>	<b>634.5</b>	<b>578.5</b>	<b>543.5</b>	<b>520.2</b>	<b>490.2</b>

### 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>43.7°</b>	<b>41.0°</b>	<b>38.9°</b>	<b>37.4°</b>	<b>36.5°</b>	<b>35.9°</b>	<b>35.8°</b>
Beat VMG	<b>3.64</b>	<b>4.36</b>	<b>4.77</b>	<b>5.02</b>	<b>5.18</b>	<b>5.28</b>	<b>5.36</b>
52°	<b>5.57</b>	<b>6.44</b>	<b>6.89</b>	<b>7.09</b>	<b>7.21</b>	<b>7.29</b>	<b>7.36</b>
60°	<b>5.87</b>	<b>6.68</b>	<b>7.12</b>	<b>7.30</b>	<b>7.43</b>	<b>7.52</b>	<b>7.61</b>
75°	<b>6.12</b>	<b>6.86</b>	<b>7.29</b>	<b>7.61</b>	<b>7.80</b>	<b>7.93</b>	<b>8.08</b>
90°	<b>6.10</b>	<b>6.96</b>	<b>7.44</b>	<b>7.77</b>	<b>7.97</b>	<b>8.26</b>	<b>8.54</b>
110°	<b>5.93</b>	<b>6.78</b>	<b>7.28</b>	<b>7.74</b>	<b>8.23</b>	<b>8.61</b>	<b>9.08</b>
120°	<b>5.60</b>	<b>6.52</b>	<b>7.11</b>	<b>7.53</b>	<b>8.02</b>	<b>8.55</b>	<b>9.53</b>
135°	<b>4.81</b>	<b>5.93</b>	<b>6.68</b>	<b>7.17</b>	<b>7.57</b>	<b>8.03</b>	<b>9.14</b>
150°	<b>3.98</b>	<b>5.10</b>	<b>6.01</b>	<b>6.68</b>	<b>7.15</b>	<b>7.53</b>	<b>8.41</b>
Run VMG	<b>3.44</b>	<b>4.42</b>	<b>5.22</b>	<b>5.94</b>	<b>6.55</b>	<b>7.03</b>	<b>7.78</b>
Gybe Angles	<b>141.8°</b>	<b>147.4°</b>	<b>155.0°</b>	<b>164.8°</b>	<b>171.1°</b>	<b>175.2°</b>	<b>174.7°</b>



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# 2009

## ORC Club Certificate Appendix

### BOAT

Name **DONA CECILIA** Certificate Number **090970**  
 Sail Nr **JPN 4494** Issued On **5/14/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>975.2</b>	<b>791.7</b>	<b>705.0</b>	<b>661.8</b>	<b>635.4</b>	<b>618.6</b>	<b>602.5</b>
52°	<b>620.4</b>	<b>518.2</b>	<b>475.3</b>	<b>456.2</b>	<b>445.3</b>	<b>438.2</b>	<b>430.7</b>
60°	<b>575.7</b>	<b>494.4</b>	<b>458.1</b>	<b>439.9</b>	<b>430.1</b>	<b>423.3</b>	<b>415.7</b>
75°	<b>541.7</b>	<b>477.3</b>	<b>445.8</b>	<b>424.8</b>	<b>410.7</b>	<b>403.3</b>	<b>394.2</b>
90°	<b>544.4</b>	<b>473.9</b>	<b>438.5</b>	<b>416.1</b>	<b>404.5</b>	<b>395.4</b>	<b>378.5</b>
110°	<b>565.3</b>	<b>484.6</b>	<b>447.7</b>	<b>422.6</b>	<b>401.5</b>	<b>384.1</b>	<b>364.8</b>
120°	<b>604.6</b>	<b>504.8</b>	<b>460.1</b>	<b>432.8</b>	<b>410.6</b>	<b>391.2</b>	<b>357.7</b>
135°	<b>714.2</b>	<b>564.0</b>	<b>493.7</b>	<b>456.2</b>	<b>431.3</b>	<b>410.8</b>	<b>375.6</b>
150°	<b>861.9</b>	<b>670.4</b>	<b>560.3</b>	<b>497.4</b>	<b>460.5</b>	<b>435.9</b>	<b>397.9</b>
Run VMG	<b>995.2</b>	<b>774.1</b>	<b>646.9</b>	<b>567.6</b>	<b>512.9</b>	<b>474.5</b>	<b>427.3</b>

### Selected Courses

Windward / Leeward	<b>1002.3</b>	<b>796.4</b>	<b>686.5</b>	<b>622.4</b>	<b>580.9</b>	<b>552.7</b>	<b>520.2</b>
Circular Random	<b>801.8</b>	<b>644.8</b>	<b>560.3</b>	<b>510.6</b>	<b>479.6</b>	<b>458.8</b>	<b>432.1</b>
Ocean for PCS	<b>858.6</b>	<b>675.3</b>	<b>573.1</b>	<b>510.6</b>	<b>469.5</b>	<b>440.4</b>	<b>399.5</b>
Non Spinnaker	<b>860.9</b>	<b>685.9</b>	<b>590.1</b>	<b>533.0</b>	<b>497.1</b>	<b>473.3</b>	<b>443.7</b>

### 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>45.7°</b>	<b>44.1°</b>	<b>41.5°</b>	<b>39.6°</b>	<b>38.5°</b>	<b>37.7°</b>	<b>36.9°</b>
Beat VMG	<b>3.69</b>	<b>4.55</b>	<b>5.11</b>	<b>5.44</b>	<b>5.67</b>	<b>5.82</b>	<b>5.98</b>
52°	<b>5.80</b>	<b>6.95</b>	<b>7.57</b>	<b>7.89</b>	<b>8.08</b>	<b>8.22</b>	<b>8.36</b>
60°	<b>6.25</b>	<b>7.28</b>	<b>7.86</b>	<b>8.18</b>	<b>8.37</b>	<b>8.50</b>	<b>8.66</b>
75°	<b>6.65</b>	<b>7.54</b>	<b>8.07</b>	<b>8.47</b>	<b>8.77</b>	<b>8.93</b>	<b>9.13</b>
90°	<b>6.61</b>	<b>7.60</b>	<b>8.21</b>	<b>8.65</b>	<b>8.90</b>	<b>9.11</b>	<b>9.51</b>
110°	<b>6.37</b>	<b>7.43</b>	<b>8.04</b>	<b>8.52</b>	<b>8.97</b>	<b>9.37</b>	<b>9.87</b>
120°	<b>5.95</b>	<b>7.13</b>	<b>7.82</b>	<b>8.32</b>	<b>8.77</b>	<b>9.20</b>	<b>10.07</b>
135°	<b>5.04</b>	<b>6.38</b>	<b>7.29</b>	<b>7.89</b>	<b>8.35</b>	<b>8.76</b>	<b>9.58</b>
150°	<b>4.18</b>	<b>5.37</b>	<b>6.43</b>	<b>7.24</b>	<b>7.82</b>	<b>8.26</b>	<b>9.05</b>
Run VMG	<b>3.62</b>	<b>4.65</b>	<b>5.56</b>	<b>6.34</b>	<b>7.02</b>	<b>7.59</b>	<b>8.43</b>
Gybe Angles	<b>141.4°</b>	<b>144.2°</b>	<b>149.2°</b>	<b>158.8°</b>	<b>166.6°</b>	<b>172.0°</b>	<b>175.0°</b>



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# 2009

## ORC Club Certificate Appendix

### BOAT

Name **NORTHERN LIGHTS** Certificate Number **090980**  
 Sail Nr **JPN 1088** Issued On **5/14/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1178.9</b>	<b>962.7</b>	<b>864.5</b>	<b>816.9</b>	<b>788.0</b>	<b>770.3</b>	<b>757.3</b>
52°	<b>751.6</b>	<b>634.7</b>	<b>582.1</b>	<b>558.2</b>	<b>546.3</b>	<b>538.7</b>	<b>531.9</b>
60°	<b>700.4</b>	<b>604.8</b>	<b>561.4</b>	<b>537.9</b>	<b>526.4</b>	<b>519.1</b>	<b>511.9</b>
75°	<b>663.3</b>	<b>582.9</b>	<b>542.1</b>	<b>520.2</b>	<b>501.7</b>	<b>491.8</b>	<b>482.4</b>
90°	<b>648.5</b>	<b>565.9</b>	<b>527.8</b>	<b>502.4</b>	<b>489.9</b>	<b>482.2</b>	<b>461.7</b>
110°	<b>666.4</b>	<b>578.5</b>	<b>536.5</b>	<b>505.8</b>	<b>480.1</b>	<b>460.7</b>	<b>440.5</b>
120°	<b>705.8</b>	<b>598.6</b>	<b>548.7</b>	<b>516.1</b>	<b>488.4</b>	<b>465.0</b>	<b>426.6</b>
135°	<b>813.7</b>	<b>653.9</b>	<b>580.1</b>	<b>540.5</b>	<b>511.0</b>	<b>485.3</b>	<b>441.6</b>
150°	<b>974.6</b>	<b>757.0</b>	<b>640.9</b>	<b>577.5</b>	<b>540.6</b>	<b>512.3</b>	<b>466.1</b>
Run VMG	<b>1125.4</b>	<b>874.1</b>	<b>734.4</b>	<b>646.0</b>	<b>587.4</b>	<b>550.0</b>	<b>497.7</b>

### Selected Courses

Windward / Leeward	<b>1172.7</b>	<b>935.4</b>	<b>811.7</b>	<b>740.8</b>	<b>696.2</b>	<b>667.5</b>	<b>633.0</b>
Circular Random	<b>950.0</b>	<b>767.3</b>	<b>669.7</b>	<b>613.2</b>	<b>578.3</b>	<b>555.3</b>	<b>525.7</b>
Ocean for PCS	<b>1015.5</b>	<b>802.5</b>	<b>684.6</b>	<b>613.0</b>	<b>566.1</b>	<b>532.6</b>	<b>484.7</b>
Non Spinnaker	<b>1021.1</b>	<b>816.6</b>	<b>705.6</b>	<b>640.5</b>	<b>600.0</b>	<b>573.5</b>	<b>540.7</b>

### 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>45.7°</b>	<b>43.3°</b>	<b>41.5°</b>	<b>40.5°</b>	<b>39.7°</b>	<b>39.0°</b>	<b>38.7°</b>
Beat VMG	<b>3.05</b>	<b>3.74</b>	<b>4.16</b>	<b>4.41</b>	<b>4.57</b>	<b>4.67</b>	<b>4.75</b>
52°	<b>4.79</b>	<b>5.67</b>	<b>6.19</b>	<b>6.45</b>	<b>6.59</b>	<b>6.68</b>	<b>6.77</b>
60°	<b>5.14</b>	<b>5.95</b>	<b>6.41</b>	<b>6.69</b>	<b>6.84</b>	<b>6.94</b>	<b>7.03</b>
75°	<b>5.43</b>	<b>6.18</b>	<b>6.64</b>	<b>6.92</b>	<b>7.18</b>	<b>7.32</b>	<b>7.46</b>
90°	<b>5.55</b>	<b>6.36</b>	<b>6.82</b>	<b>7.17</b>	<b>7.35</b>	<b>7.47</b>	<b>7.80</b>
110°	<b>5.40</b>	<b>6.22</b>	<b>6.71</b>	<b>7.12</b>	<b>7.50</b>	<b>7.81</b>	<b>8.17</b>
120°	<b>5.10</b>	<b>6.01</b>	<b>6.56</b>	<b>6.98</b>	<b>7.37</b>	<b>7.74</b>	<b>8.44</b>
135°	<b>4.42</b>	<b>5.51</b>	<b>6.21</b>	<b>6.66</b>	<b>7.05</b>	<b>7.42</b>	<b>8.15</b>
150°	<b>3.69</b>	<b>4.76</b>	<b>5.62</b>	<b>6.23</b>	<b>6.66</b>	<b>7.03</b>	<b>7.72</b>
Run VMG	<b>3.20</b>	<b>4.12</b>	<b>4.90</b>	<b>5.57</b>	<b>6.13</b>	<b>6.55</b>	<b>7.23</b>
Gybe Angles	<b>143.8°</b>	<b>148.0°</b>	<b>157.1°</b>	<b>165.8°</b>	<b>171.8°</b>	<b>174.8°</b>	<b>175.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **MILKY WAY V** Certificate Number **090990**  
 Sail Nr **JPN 4475** Issued On **5/14/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1060.5</b>	<b>876.2</b>	<b>796.8</b>	<b>756.0</b>	<b>730.9</b>	<b>715.2</b>	<b>702.5</b>
52°	<b>682.6</b>	<b>586.5</b>	<b>546.0</b>	<b>527.8</b>	<b>517.1</b>	<b>510.2</b>	<b>503.8</b>
60°	<b>638.1</b>	<b>563.9</b>	<b>528.6</b>	<b>510.1</b>	<b>500.2</b>	<b>493.5</b>	<b>486.6</b>
75°	<b>610.6</b>	<b>547.6</b>	<b>515.6</b>	<b>493.4</b>	<b>477.9</b>	<b>470.0</b>	<b>460.8</b>
90°	<b>613.3</b>	<b>541.1</b>	<b>506.2</b>	<b>482.0</b>	<b>467.6</b>	<b>460.0</b>	<b>442.1</b>
110°	<b>632.7</b>	<b>555.0</b>	<b>516.0</b>	<b>488.4</b>	<b>465.0</b>	<b>445.5</b>	<b>422.4</b>
120°	<b>677.2</b>	<b>575.3</b>	<b>528.4</b>	<b>498.3</b>	<b>473.5</b>	<b>451.8</b>	<b>415.6</b>
135°	<b>787.5</b>	<b>629.2</b>	<b>560.4</b>	<b>521.9</b>	<b>494.4</b>	<b>470.9</b>	<b>431.4</b>
150°	<b>942.7</b>	<b>737.1</b>	<b>618.0</b>	<b>558.1</b>	<b>521.9</b>	<b>495.3</b>	<b>452.3</b>
Run VMG	<b>1088.5</b>	<b>851.1</b>	<b>709.8</b>	<b>622.9</b>	<b>566.9</b>	<b>531.0</b>	<b>480.9</b>

### Selected Courses

Windward / Leeward	<b>1094.8</b>	<b>878.9</b>	<b>764.7</b>	<b>698.4</b>	<b>656.8</b>	<b>630.0</b>	<b>596.9</b>
Circular Random	<b>892.1</b>	<b>723.4</b>	<b>633.6</b>	<b>581.5</b>	<b>549.3</b>	<b>527.9</b>	<b>500.0</b>
Ocean for PCS	<b>953.4</b>	<b>756.5</b>	<b>647.7</b>	<b>581.8</b>	<b>538.6</b>	<b>507.9</b>	<b>464.2</b>
Non Spinnaker	<b>946.2</b>	<b>760.7</b>	<b>660.6</b>	<b>602.0</b>	<b>565.7</b>	<b>541.7</b>	<b>511.7</b>

### 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>44.4°</b>	<b>42.9°</b>	<b>40.1°</b>	<b>38.6°</b>	<b>37.8°</b>	<b>37.3°</b>	<b>36.8°</b>
Beat VMG	<b>3.39</b>	<b>4.11</b>	<b>4.52</b>	<b>4.76</b>	<b>4.93</b>	<b>5.03</b>	<b>5.12</b>
52°	<b>5.27</b>	<b>6.14</b>	<b>6.59</b>	<b>6.82</b>	<b>6.96</b>	<b>7.06</b>	<b>7.15</b>
60°	<b>5.64</b>	<b>6.38</b>	<b>6.81</b>	<b>7.06</b>	<b>7.20</b>	<b>7.29</b>	<b>7.40</b>
75°	<b>5.90</b>	<b>6.57</b>	<b>6.98</b>	<b>7.30</b>	<b>7.53</b>	<b>7.66</b>	<b>7.81</b>
90°	<b>5.87</b>	<b>6.65</b>	<b>7.11</b>	<b>7.47</b>	<b>7.70</b>	<b>7.83</b>	<b>8.14</b>
110°	<b>5.69</b>	<b>6.49</b>	<b>6.98</b>	<b>7.37</b>	<b>7.74</b>	<b>8.08</b>	<b>8.52</b>
120°	<b>5.32</b>	<b>6.26</b>	<b>6.81</b>	<b>7.22</b>	<b>7.60</b>	<b>7.97</b>	<b>8.66</b>
135°	<b>4.57</b>	<b>5.72</b>	<b>6.42</b>	<b>6.90</b>	<b>7.28</b>	<b>7.65</b>	<b>8.35</b>
150°	<b>3.82</b>	<b>4.88</b>	<b>5.83</b>	<b>6.45</b>	<b>6.90</b>	<b>7.27</b>	<b>7.96</b>
Run VMG	<b>3.31</b>	<b>4.23</b>	<b>5.07</b>	<b>5.78</b>	<b>6.35</b>	<b>6.78</b>	<b>7.49</b>
Gybe Angles	<b>143.3°</b>	<b>148.1°</b>	<b>154.5°</b>	<b>167.1°</b>	<b>172.5°</b>	<b>180.0°</b>	<b>176.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **INASE** Certificate Number **091000**  
 Sail Nr **JPN 6300** Issued On **5/14/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1036.4</b>	<b>856.1</b>	<b>772.7</b>	<b>728.4</b>	<b>701.4</b>	<b>684.6</b>	<b>669.8</b>
52°	<b>665.9</b>	<b>564.6</b>	<b>518.3</b>	<b>495.3</b>	<b>484.8</b>	<b>479.0</b>	<b>473.6</b>
60°	<b>622.9</b>	<b>538.0</b>	<b>493.0</b>	<b>478.8</b>	<b>470.4</b>	<b>464.2</b>	<b>457.1</b>
75°	<b>591.2</b>	<b>516.4</b>	<b>479.5</b>	<b>459.9</b>	<b>446.1</b>	<b>437.1</b>	<b>426.8</b>
90°	<b>594.9</b>	<b>510.7</b>	<b>474.2</b>	<b>448.6</b>	<b>428.4</b>	<b>418.7</b>	<b>401.5</b>
110°	<b>626.5</b>	<b>536.5</b>	<b>486.8</b>	<b>462.7</b>	<b>435.0</b>	<b>409.0</b>	<b>363.7</b>
120°	<b>676.6</b>	<b>564.0</b>	<b>503.4</b>	<b>474.2</b>	<b>449.4</b>	<b>423.0</b>	<b>369.1</b>
135°	<b>801.0</b>	<b>636.0</b>	<b>551.7</b>	<b>499.0</b>	<b>472.6</b>	<b>448.2</b>	<b>398.2</b>
150°	<b>959.5</b>	<b>745.0</b>	<b>620.7</b>	<b>548.8</b>	<b>499.9</b>	<b>473.9</b>	<b>426.8</b>
Run VMG	<b>1107.9</b>	<b>860.2</b>	<b>714.7</b>	<b>619.3</b>	<b>554.5</b>	<b>507.1</b>	<b>456.9</b>

### Selected Courses

Windward / Leeward	<b>1091.8</b>	<b>872.8</b>	<b>754.2</b>	<b>682.4</b>	<b>635.2</b>	<b>602.7</b>	<b>570.2</b>
Circular Random	<b>876.4</b>	<b>705.2</b>	<b>612.4</b>	<b>557.4</b>	<b>522.3</b>	<b>498.2</b>	<b>465.7</b>
Ocean for PCS	<b>937.8</b>	<b>738.1</b>	<b>625.9</b>	<b>556.5</b>	<b>510.0</b>	<b>476.5</b>	<b>428.4</b>
Non Spinnaker	<b>915.3</b>	<b>732.6</b>	<b>632.8</b>	<b>573.3</b>	<b>535.6</b>	<b>510.2</b>	<b>478.3</b>

### 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>44.8°</b>	<b>43.1°</b>	<b>40.9°</b>	<b>39.4°</b>	<b>38.6°</b>	<b>38.2°</b>	<b>38.4°</b>
Beat VMG	<b>3.47</b>	<b>4.21</b>	<b>4.66</b>	<b>4.94</b>	<b>5.13</b>	<b>5.26</b>	<b>5.38</b>
52°	<b>5.41</b>	<b>6.38</b>	<b>6.95</b>	<b>7.27</b>	<b>7.43</b>	<b>7.52</b>	<b>7.60</b>
60°	<b>5.78</b>	<b>6.69</b>	<b>7.30</b>	<b>7.52</b>	<b>7.65</b>	<b>7.76</b>	<b>7.88</b>
75°	<b>6.09</b>	<b>6.97</b>	<b>7.51</b>	<b>7.83</b>	<b>8.07</b>	<b>8.24</b>	<b>8.43</b>
90°	<b>6.05</b>	<b>7.05</b>	<b>7.59</b>	<b>8.02</b>	<b>8.40</b>	<b>8.60</b>	<b>8.97</b>
110°	<b>5.75</b>	<b>6.71</b>	<b>7.39</b>	<b>7.78</b>	<b>8.28</b>	<b>8.80</b>	<b>9.90</b>
120°	<b>5.32</b>	<b>6.38</b>	<b>7.15</b>	<b>7.59</b>	<b>8.01</b>	<b>8.51</b>	<b>9.75</b>
135°	<b>4.49</b>	<b>5.66</b>	<b>6.53</b>	<b>7.22</b>	<b>7.62</b>	<b>8.03</b>	<b>9.04</b>
150°	<b>3.75</b>	<b>4.83</b>	<b>5.80</b>	<b>6.56</b>	<b>7.20</b>	<b>7.60</b>	<b>8.44</b>
Run VMG	<b>3.25</b>	<b>4.19</b>	<b>5.04</b>	<b>5.81</b>	<b>6.49</b>	<b>7.10</b>	<b>7.88</b>
Gybe Angles	<b>144.2°</b>	<b>148.6°</b>	<b>154.5°</b>	<b>166.7°</b>	<b>174.6°</b>	<b>176.2°</b>	<b>178.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>ARISU</b>
Sail Nr	<b>JPN 5978</b>
Certificate Number	<b>091010</b>
Issued On	<b>5/14/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1058.2</b>	<b>878.5</b>	<b>798.5</b>	<b>757.1</b>	<b>731.9</b>	<b>716.6</b>	<b>705.0</b>
52°	<b>684.6</b>	<b>587.6</b>	<b>545.7</b>	<b>528.0</b>	<b>517.4</b>	<b>510.6</b>	<b>504.4</b>
60°	<b>644.8</b>	<b>563.7</b>	<b>527.7</b>	<b>510.0</b>	<b>499.8</b>	<b>492.8</b>	<b>485.7</b>
75°	<b>616.2</b>	<b>547.4</b>	<b>513.4</b>	<b>489.8</b>	<b>474.3</b>	<b>466.0</b>	<b>456.7</b>
90°	<b>616.6</b>	<b>539.5</b>	<b>502.5</b>	<b>477.2</b>	<b>464.6</b>	<b>451.2</b>	<b>435.3</b>
110°	<b>634.0</b>	<b>552.7</b>	<b>513.0</b>	<b>481.5</b>	<b>454.9</b>	<b>435.1</b>	<b>412.6</b>
120°	<b>671.5</b>	<b>572.7</b>	<b>525.9</b>	<b>494.1</b>	<b>464.5</b>	<b>440.2</b>	<b>398.0</b>
135°	<b>776.4</b>	<b>628.9</b>	<b>558.0</b>	<b>519.5</b>	<b>490.3</b>	<b>463.3</b>	<b>415.9</b>
150°	<b>932.6</b>	<b>729.7</b>	<b>618.8</b>	<b>556.7</b>	<b>520.4</b>	<b>492.5</b>	<b>444.4</b>
Run VMG	<b>1076.8</b>	<b>842.6</b>	<b>710.3</b>	<b>624.3</b>	<b>566.6</b>	<b>529.6</b>	<b>477.0</b>

Selected Courses							
Windward / Leeward	<b>1088.1</b>	<b>876.4</b>	<b>765.3</b>	<b>699.4</b>	<b>657.2</b>	<b>630.0</b>	<b>596.1</b>
Circular Random	<b>889.6</b>	<b>721.4</b>	<b>631.6</b>	<b>579.3</b>	<b>546.5</b>	<b>524.3</b>	<b>495.1</b>
Ocean for PCS	<b>950.1</b>	<b>754.1</b>	<b>645.5</b>	<b>579.1</b>	<b>535.0</b>	<b>503.2</b>	<b>457.7</b>
Non Spinnaker	<b>945.1</b>	<b>760.0</b>	<b>660.0</b>	<b>601.1</b>	<b>564.3</b>	<b>539.7</b>	<b>508.3</b>

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>44.4°</b>	<b>41.9°</b>	<b>40.3°</b>	<b>39.1°</b>	<b>38.0°</b>	<b>37.3°</b>	<b>36.9°</b>
Beat VMG	<b>3.40</b>	<b>4.10</b>	<b>4.51</b>	<b>4.76</b>	<b>4.92</b>	<b>5.02</b>	<b>5.11</b>
52°	<b>5.26</b>	<b>6.13</b>	<b>6.60</b>	<b>6.82</b>	<b>6.96</b>	<b>7.05</b>	<b>7.14</b>
60°	<b>5.58</b>	<b>6.39</b>	<b>6.82</b>	<b>7.06</b>	<b>7.20</b>	<b>7.30</b>	<b>7.41</b>
75°	<b>5.84</b>	<b>6.58</b>	<b>7.01</b>	<b>7.35</b>	<b>7.59</b>	<b>7.73</b>	<b>7.88</b>
90°	<b>5.84</b>	<b>6.67</b>	<b>7.16</b>	<b>7.54</b>	<b>7.75</b>	<b>7.98</b>	<b>8.27</b>
110°	<b>5.68</b>	<b>6.51</b>	<b>7.02</b>	<b>7.48</b>	<b>7.91</b>	<b>8.27</b>	<b>8.73</b>
120°	<b>5.36</b>	<b>6.29</b>	<b>6.85</b>	<b>7.29</b>	<b>7.75</b>	<b>8.18</b>	<b>9.05</b>
135°	<b>4.64</b>	<b>5.72</b>	<b>6.45</b>	<b>6.93</b>	<b>7.34</b>	<b>7.77</b>	<b>8.66</b>
150°	<b>3.86</b>	<b>4.93</b>	<b>5.82</b>	<b>6.47</b>	<b>6.92</b>	<b>7.31</b>	<b>8.10</b>
Run VMG	<b>3.34</b>	<b>4.27</b>	<b>5.07</b>	<b>5.77</b>	<b>6.35</b>	<b>6.80</b>	<b>7.55</b>
Gybe Angles	<b>142.9°</b>	<b>148.0°</b>	<b>156.2°</b>	<b>165.4°</b>	<b>172.0°</b>	<b>175.0°</b>	<b>174.8°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

BOAT	
Name	<b>ALOHA MAGIC</b>
Certificate Number	<b>091020</b>
Sail Nr	<b>JPN 6199</b>
Issued On	<b>5/14/2009</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1085.8</b>	<b>880.1</b>	<b>777.6</b>	<b>736.0</b>	<b>711.7</b>	<b>697.2</b>	<b>686.2</b>
52°	<b>701.5</b>	<b>584.3</b>	<b>535.7</b>	<b>512.3</b>	<b>502.5</b>	<b>497.2</b>	<b>492.9</b>
60°	<b>653.5</b>	<b>561.3</b>	<b>515.4</b>	<b>496.0</b>	<b>488.8</b>	<b>484.1</b>	<b>479.6</b>
75°	<b>616.0</b>	<b>529.8</b>	<b>492.4</b>	<b>483.3</b>	<b>468.6</b>	<b>460.8</b>	<b>452.2</b>
90°	<b>580.7</b>	<b>510.9</b>	<b>482.3</b>	<b>465.5</b>	<b>455.1</b>	<b>446.4</b>	<b>428.4</b>
110°	<b>597.0</b>	<b>528.2</b>	<b>491.9</b>	<b>468.2</b>	<b>439.5</b>	<b>417.3</b>	<b>395.9</b>
120°	<b>638.9</b>	<b>549.1</b>	<b>502.5</b>	<b>479.7</b>	<b>452.8</b>	<b>425.3</b>	<b>377.9</b>
135°	<b>752.4</b>	<b>601.1</b>	<b>537.9</b>	<b>498.4</b>	<b>477.2</b>	<b>451.9</b>	<b>398.3</b>
150°	<b>902.8</b>	<b>708.7</b>	<b>594.0</b>	<b>538.0</b>	<b>500.1</b>	<b>479.4</b>	<b>432.5</b>
Run VMG	<b>1042.5</b>	<b>818.3</b>	<b>684.1</b>	<b>603.3</b>	<b>551.0</b>	<b>511.5</b>	<b>468.8</b>

Selected Courses							
Windward / Leeward	<b>1083.0</b>	<b>862.6</b>	<b>743.7</b>	<b>678.4</b>	<b>638.5</b>	<b>611.2</b>	<b>584.3</b>
Circular Random	<b>872.4</b>	<b>704.7</b>	<b>615.2</b>	<b>563.5</b>	<b>531.5</b>	<b>510.2</b>	<b>482.1</b>
Ocean for PCS	<b>933.6</b>	<b>737.6</b>	<b>629.3</b>	<b>563.9</b>	<b>521.1</b>	<b>490.6</b>	<b>446.1</b>
Non Spinnaker	<b>958.1</b>	<b>763.5</b>	<b>657.5</b>	<b>595.3</b>	<b>557.0</b>	<b>532.2</b>	<b>502.7</b>

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>43.6°</b>	<b>43.3°</b>	<b>39.6°</b>	<b>37.6°</b>	<b>36.5°</b>	<b>35.9°</b>	<b>35.8°</b>
Beat VMG	<b>3.32</b>	<b>4.09</b>	<b>4.63</b>	<b>4.89</b>	<b>5.06</b>	<b>5.16</b>	<b>5.25</b>
52°	<b>5.13</b>	<b>6.16</b>	<b>6.72</b>	<b>7.03</b>	<b>7.16</b>	<b>7.24</b>	<b>7.30</b>
60°	<b>5.51</b>	<b>6.41</b>	<b>6.98</b>	<b>7.26</b>	<b>7.36</b>	<b>7.44</b>	<b>7.51</b>
75°	<b>5.84</b>	<b>6.80</b>	<b>7.31</b>	<b>7.45</b>	<b>7.68</b>	<b>7.81</b>	<b>7.96</b>
90°	<b>6.20</b>	<b>7.05</b>	<b>7.46</b>	<b>7.73</b>	<b>7.91</b>	<b>8.06</b>	<b>8.40</b>
110°	<b>6.03</b>	<b>6.82</b>	<b>7.32</b>	<b>7.69</b>	<b>8.19</b>	<b>8.63</b>	<b>9.09</b>
120°	<b>5.64</b>	<b>6.56</b>	<b>7.16</b>	<b>7.50</b>	<b>7.95</b>	<b>8.46</b>	<b>9.53</b>
135°	<b>4.78</b>	<b>5.99</b>	<b>6.69</b>	<b>7.22</b>	<b>7.54</b>	<b>7.97</b>	<b>9.04</b>
150°	<b>3.99</b>	<b>5.08</b>	<b>6.06</b>	<b>6.69</b>	<b>7.20</b>	<b>7.51</b>	<b>8.32</b>
Run VMG	<b>3.45</b>	<b>4.40</b>	<b>5.26</b>	<b>5.97</b>	<b>6.53</b>	<b>7.04</b>	<b>7.68</b>
Gybe Angles	<b>142.4°</b>	<b>145.9°</b>	<b>152.8°</b>	<b>164.5°</b>	<b>169.5°</b>	<b>173.3°</b>	<b>173.9°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **CHALLENGER** Certificate Number **091030**  
 Sail Nr **JPN 5513** Issued On **5/26/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1139.0</b>	<b>924.0</b>	<b>818.8</b>	<b>771.5</b>	<b>743.7</b>	<b>727.0</b>	<b>714.7</b>
52°	<b>730.3</b>	<b>606.9</b>	<b>548.8</b>	<b>521.2</b>	<b>510.8</b>	<b>505.3</b>	<b>501.1</b>
60°	<b>679.9</b>	<b>577.8</b>	<b>521.1</b>	<b>504.0</b>	<b>496.0</b>	<b>490.3</b>	<b>485.0</b>
75°	<b>640.8</b>	<b>554.7</b>	<b>507.5</b>	<b>485.7</b>	<b>468.9</b>	<b>460.0</b>	<b>451.3</b>
90°	<b>634.4</b>	<b>538.4</b>	<b>497.1</b>	<b>472.9</b>	<b>460.8</b>	<b>439.2</b>	<b>422.3</b>
110°	<b>656.4</b>	<b>558.1</b>	<b>505.8</b>	<b>476.9</b>	<b>443.5</b>	<b>419.0</b>	<b>395.0</b>
120°	<b>701.1</b>	<b>582.1</b>	<b>517.5</b>	<b>489.8</b>	<b>456.5</b>	<b>423.8</b>	<b>372.5</b>
135°	<b>812.0</b>	<b>645.0</b>	<b>563.2</b>	<b>511.2</b>	<b>485.9</b>	<b>454.7</b>	<b>392.3</b>
150°	<b>970.3</b>	<b>755.4</b>	<b>631.0</b>	<b>561.3</b>	<b>512.7</b>	<b>488.5</b>	<b>431.7</b>
Run VMG	<b>1120.4</b>	<b>872.3</b>	<b>727.3</b>	<b>634.3</b>	<b>572.2</b>	<b>523.7</b>	<b>472.1</b>

### Selected Courses

Windward / Leeward	<b>1149.3</b>	<b>912.9</b>	<b>785.4</b>	<b>712.0</b>	<b>665.3</b>	<b>632.5</b>	<b>601.0</b>
Circular Random	<b>922.2</b>	<b>739.7</b>	<b>640.8</b>	<b>582.4</b>	<b>545.6</b>	<b>520.7</b>	<b>488.4</b>
Ocean for PCS	<b>985.8</b>	<b>773.6</b>	<b>654.7</b>	<b>581.3</b>	<b>532.3</b>	<b>496.7</b>	<b>445.9</b>
Non Spinnaker	<b>987.8</b>	<b>785.9</b>	<b>675.1</b>	<b>609.0</b>	<b>567.4</b>	<b>539.9</b>	<b>506.2</b>

### 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>44.6°</b>	<b>43.2°</b>	<b>41.2°</b>	<b>39.5°</b>	<b>38.6°</b>	<b>38.2°</b>	<b>38.3°</b>
Beat VMG	<b>3.16</b>	<b>3.90</b>	<b>4.40</b>	<b>4.67</b>	<b>4.84</b>	<b>4.95</b>	<b>5.04</b>
52°	<b>4.93</b>	<b>5.93</b>	<b>6.56</b>	<b>6.91</b>	<b>7.05</b>	<b>7.12</b>	<b>7.18</b>
60°	<b>5.29</b>	<b>6.23</b>	<b>6.91</b>	<b>7.14</b>	<b>7.26</b>	<b>7.34</b>	<b>7.42</b>
75°	<b>5.62</b>	<b>6.49</b>	<b>7.09</b>	<b>7.41</b>	<b>7.68</b>	<b>7.83</b>	<b>7.98</b>
90°	<b>5.68</b>	<b>6.69</b>	<b>7.24</b>	<b>7.61</b>	<b>7.81</b>	<b>8.20</b>	<b>8.52</b>
110°	<b>5.48</b>	<b>6.45</b>	<b>7.12</b>	<b>7.55</b>	<b>8.12</b>	<b>8.59</b>	<b>9.11</b>
120°	<b>5.13</b>	<b>6.18</b>	<b>6.96</b>	<b>7.35</b>	<b>7.89</b>	<b>8.49</b>	<b>9.66</b>
135°	<b>4.43</b>	<b>5.58</b>	<b>6.39</b>	<b>7.04</b>	<b>7.41</b>	<b>7.92</b>	<b>9.18</b>
150°	<b>3.71</b>	<b>4.77</b>	<b>5.71</b>	<b>6.41</b>	<b>7.02</b>	<b>7.37</b>	<b>8.34</b>
Run VMG	<b>3.21</b>	<b>4.13</b>	<b>4.95</b>	<b>5.68</b>	<b>6.29</b>	<b>6.87</b>	<b>7.63</b>
Gybe Angles	<b>143.9°</b>	<b>147.6°</b>	<b>153.1°</b>	<b>163.3°</b>	<b>167.7°</b>	<b>173.0°</b>	<b>172.7°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **Le Grand Bleu** Certificate Number **091040**  
 Sail Nr **JPN 6034** Issued On **5/26/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1023.9</b>	<b>837.1</b>	<b>748.3</b>	<b>708.4</b>	<b>684.2</b>	<b>669.5</b>	<b>658.2</b>
52°	<b>662.9</b>	<b>558.4</b>	<b>512.9</b>	<b>493.2</b>	<b>482.9</b>	<b>476.7</b>	<b>471.5</b>
60°	<b>617.5</b>	<b>537.1</b>	<b>496.4</b>	<b>476.4</b>	<b>467.5</b>	<b>461.5</b>	<b>455.9</b>
75°	<b>586.4</b>	<b>521.8</b>	<b>478.3</b>	<b>462.8</b>	<b>446.2</b>	<b>438.7</b>	<b>430.3</b>
90°	<b>573.7</b>	<b>504.7</b>	<b>469.3</b>	<b>445.7</b>	<b>434.7</b>	<b>427.1</b>	<b>410.1</b>
110°	<b>591.5</b>	<b>520.9</b>	<b>482.9</b>	<b>457.1</b>	<b>432.3</b>	<b>409.3</b>	<b>383.4</b>
120°	<b>637.5</b>	<b>541.6</b>	<b>496.3</b>	<b>468.6</b>	<b>445.5</b>	<b>422.5</b>	<b>375.4</b>
135°	<b>746.9</b>	<b>597.6</b>	<b>532.2</b>	<b>493.0</b>	<b>467.4</b>	<b>445.6</b>	<b>403.9</b>
150°	<b>900.8</b>	<b>708.3</b>	<b>591.1</b>	<b>532.4</b>	<b>494.9</b>	<b>469.9</b>	<b>429.0</b>
Run VMG	<b>1040.2</b>	<b>817.9</b>	<b>681.7</b>	<b>598.4</b>	<b>544.1</b>	<b>506.0</b>	<b>459.0</b>

### Selected Courses

Windward / Leeward	<b>1051.0</b>	<b>840.8</b>	<b>726.8</b>	<b>661.8</b>	<b>621.4</b>	<b>594.3</b>	<b>564.4</b>
Circular Random	<b>848.6</b>	<b>685.8</b>	<b>598.6</b>	<b>547.7</b>	<b>516.1</b>	<b>494.9</b>	<b>467.4</b>
Ocean for PCS	<b>907.8</b>	<b>717.7</b>	<b>612.1</b>	<b>547.8</b>	<b>505.6</b>	<b>475.6</b>	<b>432.9</b>
Non Spinnaker	<b>914.6</b>	<b>731.6</b>	<b>632.0</b>	<b>573.2</b>	<b>536.5</b>	<b>512.4</b>	<b>482.9</b>

### 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>43.8°</b>	<b>43.4°</b>	<b>40.0°</b>	<b>38.4°</b>	<b>37.5°</b>	<b>37.0°</b>	<b>36.6°</b>
Beat VMG	<b>3.52</b>	<b>4.30</b>	<b>4.81</b>	<b>5.08</b>	<b>5.26</b>	<b>5.38</b>	<b>5.47</b>
52°	<b>5.43</b>	<b>6.45</b>	<b>7.02</b>	<b>7.30</b>	<b>7.45</b>	<b>7.55</b>	<b>7.64</b>
60°	<b>5.83</b>	<b>6.70</b>	<b>7.25</b>	<b>7.56</b>	<b>7.70</b>	<b>7.80</b>	<b>7.90</b>
75°	<b>6.14</b>	<b>6.90</b>	<b>7.53</b>	<b>7.78</b>	<b>8.07</b>	<b>8.21</b>	<b>8.37</b>
90°	<b>6.28</b>	<b>7.13</b>	<b>7.67</b>	<b>8.08</b>	<b>8.28</b>	<b>8.43</b>	<b>8.78</b>
110°	<b>6.09</b>	<b>6.91</b>	<b>7.46</b>	<b>7.88</b>	<b>8.33</b>	<b>8.79</b>	<b>9.39</b>
120°	<b>5.65</b>	<b>6.65</b>	<b>7.25</b>	<b>7.68</b>	<b>8.08</b>	<b>8.52</b>	<b>9.59</b>
135°	<b>4.82</b>	<b>6.02</b>	<b>6.76</b>	<b>7.30</b>	<b>7.70</b>	<b>8.08</b>	<b>8.91</b>
150°	<b>4.00</b>	<b>5.08</b>	<b>6.09</b>	<b>6.76</b>	<b>7.27</b>	<b>7.66</b>	<b>8.39</b>
Run VMG	<b>3.46</b>	<b>4.40</b>	<b>5.28</b>	<b>6.02</b>	<b>6.62</b>	<b>7.11</b>	<b>7.84</b>
Gybe Angles	<b>142.5°</b>	<b>147.5°</b>	<b>151.8°</b>	<b>164.4°</b>	<b>170.3°</b>	<b>173.7°</b>	<b>175.8°</b>





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# 2009

## ORC Club Certificate Appendix

### BOAT

Name **APHRODITE** Certificate Number **091060**  
 Sail Nr **JPN 3373** Issued On **5/26/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1021.6</b>	<b>842.4</b>	<b>761.4</b>	<b>723.7</b>	<b>701.2</b>	<b>687.5</b>	<b>677.4</b>
52°	<b>667.6</b>	<b>569.6</b>	<b>525.2</b>	<b>507.3</b>	<b>498.2</b>	<b>493.0</b>	<b>488.9</b>
60°	<b>626.8</b>	<b>549.2</b>	<b>507.2</b>	<b>492.3</b>	<b>484.7</b>	<b>479.6</b>	<b>474.8</b>
75°	<b>600.4</b>	<b>534.0</b>	<b>497.2</b>	<b>477.1</b>	<b>464.2</b>	<b>456.8</b>	<b>448.5</b>
90°	<b>603.5</b>	<b>526.3</b>	<b>489.0</b>	<b>467.3</b>	<b>456.4</b>	<b>442.6</b>	<b>427.3</b>
110°	<b>624.7</b>	<b>543.5</b>	<b>499.7</b>	<b>475.3</b>	<b>449.1</b>	<b>426.9</b>	<b>404.9</b>
120°	<b>670.6</b>	<b>565.3</b>	<b>512.9</b>	<b>485.1</b>	<b>460.9</b>	<b>436.0</b>	<b>389.6</b>
135°	<b>775.0</b>	<b>622.3</b>	<b>550.9</b>	<b>506.9</b>	<b>482.5</b>	<b>459.5</b>	<b>413.6</b>
150°	<b>927.3</b>	<b>729.6</b>	<b>611.2</b>	<b>549.5</b>	<b>508.1</b>	<b>484.1</b>	<b>440.2</b>
Run VMG	<b>1070.7</b>	<b>842.5</b>	<b>704.2</b>	<b>615.8</b>	<b>558.9</b>	<b>517.4</b>	<b>471.0</b>

### Selected Courses

Windward / Leeward	<b>1066.1</b>	<b>856.6</b>	<b>744.0</b>	<b>678.5</b>	<b>637.2</b>	<b>609.3</b>	<b>580.9</b>
Circular Random	<b>869.9</b>	<b>704.1</b>	<b>615.6</b>	<b>564.1</b>	<b>532.1</b>	<b>510.8</b>	<b>483.5</b>
Ocean for PCS	<b>928.7</b>	<b>735.9</b>	<b>629.2</b>	<b>564.3</b>	<b>521.7</b>	<b>491.4</b>	<b>448.7</b>
Non Spinnaker	<b>926.6</b>	<b>743.6</b>	<b>644.4</b>	<b>586.2</b>	<b>549.9</b>	<b>526.2</b>	<b>497.4</b>

### 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>42.9°</b>	<b>42.1°</b>	<b>38.9°</b>	<b>37.3°</b>	<b>36.6°</b>	<b>36.2°</b>	<b>36.0°</b>
Beat VMG	<b>3.52</b>	<b>4.27</b>	<b>4.73</b>	<b>4.97</b>	<b>5.13</b>	<b>5.24</b>	<b>5.31</b>
52°	<b>5.39</b>	<b>6.32</b>	<b>6.86</b>	<b>7.10</b>	<b>7.23</b>	<b>7.30</b>	<b>7.36</b>
60°	<b>5.74</b>	<b>6.56</b>	<b>7.10</b>	<b>7.31</b>	<b>7.43</b>	<b>7.51</b>	<b>7.58</b>
75°	<b>6.00</b>	<b>6.74</b>	<b>7.24</b>	<b>7.55</b>	<b>7.76</b>	<b>7.88</b>	<b>8.03</b>
90°	<b>5.97</b>	<b>6.84</b>	<b>7.36</b>	<b>7.70</b>	<b>7.89</b>	<b>8.13</b>	<b>8.43</b>
110°	<b>5.76</b>	<b>6.62</b>	<b>7.20</b>	<b>7.57</b>	<b>8.02</b>	<b>8.43</b>	<b>8.89</b>
120°	<b>5.37</b>	<b>6.37</b>	<b>7.02</b>	<b>7.42</b>	<b>7.81</b>	<b>8.26</b>	<b>9.24</b>
135°	<b>4.64</b>	<b>5.78</b>	<b>6.53</b>	<b>7.10</b>	<b>7.46</b>	<b>7.83</b>	<b>8.70</b>
150°	<b>3.88</b>	<b>4.93</b>	<b>5.89</b>	<b>6.55</b>	<b>7.09</b>	<b>7.44</b>	<b>8.18</b>
Run VMG	<b>3.36</b>	<b>4.27</b>	<b>5.11</b>	<b>5.85</b>	<b>6.44</b>	<b>6.96</b>	<b>7.64</b>
Gybe Angles	<b>143.2°</b>	<b>149.0°</b>	<b>152.9°</b>	<b>166.0°</b>	<b>171.7°</b>	<b>174.4°</b>	<b>176.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **HAYATORI**  
Sail Nr **JPN 5713**

Certificate Number **091070**  
Issued On **5/29/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1156.2</b>	<b>950.8</b>	<b>859.0</b>	<b>813.1</b>	<b>784.4</b>	<b>766.8</b>	<b>753.5</b>
52°	<b>739.1</b>	<b>628.7</b>	<b>578.8</b>	<b>557.1</b>	<b>545.4</b>	<b>537.8</b>	<b>530.8</b>
60°	<b>690.8</b>	<b>600.1</b>	<b>558.8</b>	<b>536.7</b>	<b>525.7</b>	<b>518.4</b>	<b>511.0</b>
75°	<b>657.1</b>	<b>579.9</b>	<b>540.9</b>	<b>518.7</b>	<b>500.8</b>	<b>491.4</b>	<b>481.8</b>
90°	<b>645.4</b>	<b>564.6</b>	<b>526.9</b>	<b>502.0</b>	<b>489.8</b>	<b>481.7</b>	<b>461.5</b>
110°	<b>664.5</b>	<b>577.8</b>	<b>536.2</b>	<b>505.6</b>	<b>480.0</b>	<b>460.6</b>	<b>440.5</b>
120°	<b>704.5</b>	<b>598.2</b>	<b>548.6</b>	<b>516.0</b>	<b>488.4</b>	<b>465.0</b>	<b>426.6</b>
135°	<b>813.6</b>	<b>653.9</b>	<b>580.1</b>	<b>540.5</b>	<b>511.0</b>	<b>485.3</b>	<b>441.6</b>
150°	<b>974.7</b>	<b>757.0</b>	<b>640.9</b>	<b>577.5</b>	<b>540.6</b>	<b>512.3</b>	<b>466.1</b>
Run VMG	<b>1125.5</b>	<b>874.1</b>	<b>734.4</b>	<b>646.0</b>	<b>587.4</b>	<b>550.0</b>	<b>497.7</b>

### Selected Courses

Windward / Leeward	<b>1161.7</b>	<b>929.5</b>	<b>808.7</b>	<b>738.8</b>	<b>694.3</b>	<b>665.7</b>	<b>631.1</b>
Circular Random	<b>943.7</b>	<b>763.4</b>	<b>667.3</b>	<b>611.6</b>	<b>577.1</b>	<b>554.2</b>	<b>524.7</b>
Ocean for PCS	<b>1008.7</b>	<b>798.4</b>	<b>682.1</b>	<b>611.4</b>	<b>565.0</b>	<b>531.9</b>	<b>484.2</b>
Non Spinnaker	<b>1014.4</b>	<b>812.5</b>	<b>703.0</b>	<b>638.7</b>	<b>598.7</b>	<b>572.4</b>	<b>539.7</b>

### 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>45.5°</b>	<b>43.2°</b>	<b>41.6°</b>	<b>40.4°</b>	<b>39.5°</b>	<b>38.8°</b>	<b>38.4°</b>
Beat VMG	<b>3.11</b>	<b>3.79</b>	<b>4.19</b>	<b>4.43</b>	<b>4.59</b>	<b>4.70</b>	<b>4.78</b>
52°	<b>4.87</b>	<b>5.73</b>	<b>6.22</b>	<b>6.46</b>	<b>6.60</b>	<b>6.69</b>	<b>6.78</b>
60°	<b>5.21</b>	<b>6.00</b>	<b>6.44</b>	<b>6.71</b>	<b>6.85</b>	<b>6.94</b>	<b>7.05</b>
75°	<b>5.48</b>	<b>6.21</b>	<b>6.66</b>	<b>6.94</b>	<b>7.19</b>	<b>7.33</b>	<b>7.47</b>
90°	<b>5.58</b>	<b>6.38</b>	<b>6.83</b>	<b>7.17</b>	<b>7.35</b>	<b>7.47</b>	<b>7.80</b>
110°	<b>5.42</b>	<b>6.23</b>	<b>6.71</b>	<b>7.12</b>	<b>7.50</b>	<b>7.82</b>	<b>8.17</b>
120°	<b>5.11</b>	<b>6.02</b>	<b>6.56</b>	<b>6.98</b>	<b>7.37</b>	<b>7.74</b>	<b>8.44</b>
135°	<b>4.42</b>	<b>5.51</b>	<b>6.21</b>	<b>6.66</b>	<b>7.05</b>	<b>7.42</b>	<b>8.15</b>
150°	<b>3.69</b>	<b>4.76</b>	<b>5.62</b>	<b>6.23</b>	<b>6.66</b>	<b>7.03</b>	<b>7.72</b>
Run VMG	<b>3.20</b>	<b>4.12</b>	<b>4.90</b>	<b>5.57</b>	<b>6.13</b>	<b>6.55</b>	<b>7.23</b>
Gybe Angles	<b>143.8°</b>	<b>148.1°</b>	<b>157.1°</b>	<b>165.8°</b>	<b>171.8°</b>	<b>174.8°</b>	<b>175.3°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **Freedom** Certificate Number **091080**  
 Sail Nr **JPN 6420** Issued On **6/2/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1084.3</b>	<b>894.4</b>	<b>816.2</b>	<b>778.7</b>	<b>756.7</b>	<b>743.9</b>	<b>736.5</b>
52°	<b>707.9</b>	<b>613.3</b>	<b>570.4</b>	<b>555.3</b>	<b>545.9</b>	<b>539.7</b>	<b>535.3</b>
60°	<b>672.2</b>	<b>592.4</b>	<b>553.9</b>	<b>537.2</b>	<b>526.5</b>	<b>519.4</b>	<b>513.7</b>
75°	<b>648.6</b>	<b>564.6</b>	<b>542.8</b>	<b>511.4</b>	<b>495.2</b>	<b>485.6</b>	<b>475.2</b>
90°	<b>612.0</b>	<b>547.3</b>	<b>519.0</b>	<b>503.1</b>	<b>485.7</b>	<b>456.2</b>	<b>435.2</b>
110°	<b>623.2</b>	<b>558.0</b>	<b>514.3</b>	<b>474.6</b>	<b>453.6</b>	<b>435.7</b>	<b>402.5</b>
120°	<b>650.9</b>	<b>573.5</b>	<b>531.5</b>	<b>487.8</b>	<b>441.3</b>	<b>413.0</b>	<b>369.1</b>
135°	<b>740.8</b>	<b>618.5</b>	<b>561.5</b>	<b>523.5</b>	<b>484.5</b>	<b>440.8</b>	<b>329.6</b>
150°	<b>888.6</b>	<b>705.7</b>	<b>612.7</b>	<b>561.4</b>	<b>525.7</b>	<b>489.8</b>	<b>398.1</b>
Run VMG	<b>1026.1</b>	<b>814.9</b>	<b>700.3</b>	<b>623.9</b>	<b>572.9</b>	<b>538.2</b>	<b>459.7</b>

### Selected Courses

Windward / Leeward	<b>1076.3</b>	<b>871.8</b>	<b>769.2</b>	<b>710.2</b>	<b>672.6</b>	<b>647.4</b>	<b>601.7</b>
Circular Random	<b>892.0</b>	<b>727.5</b>	<b>640.2</b>	<b>588.7</b>	<b>554.9</b>	<b>529.8</b>	<b>490.9</b>
Ocean for PCS	<b>951.3</b>	<b>759.6</b>	<b>653.6</b>	<b>587.5</b>	<b>541.1</b>	<b>504.5</b>	<b>444.7</b>
Non Spinnaker	<b>983.3</b>	<b>790.9</b>	<b>687.2</b>	<b>626.1</b>	<b>587.4</b>	<b>560.8</b>	<b>524.0</b>

### 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>40.3°</b>	<b>38.0°</b>	<b>36.7°</b>	<b>35.9°</b>	<b>35.6°</b>	<b>35.5°</b>
Beat VMG	<b>3.32</b>	<b>4.02</b>	<b>4.41</b>	<b>4.62</b>	<b>4.76</b>	<b>4.84</b>	<b>4.89</b>
52°	<b>5.09</b>	<b>5.87</b>	<b>6.31</b>	<b>6.48</b>	<b>6.60</b>	<b>6.67</b>	<b>6.73</b>
60°	<b>5.36</b>	<b>6.08</b>	<b>6.50</b>	<b>6.70</b>	<b>6.84</b>	<b>6.93</b>	<b>7.01</b>
75°	<b>5.55</b>	<b>6.38</b>	<b>6.63</b>	<b>7.04</b>	<b>7.27</b>	<b>7.41</b>	<b>7.58</b>
90°	<b>5.88</b>	<b>6.58</b>	<b>6.94</b>	<b>7.16</b>	<b>7.41</b>	<b>7.89</b>	<b>8.27</b>
110°	<b>5.78</b>	<b>6.45</b>	<b>7.00</b>	<b>7.59</b>	<b>7.94</b>	<b>8.26</b>	<b>8.94</b>
120°	<b>5.53</b>	<b>6.28</b>	<b>6.77</b>	<b>7.38</b>	<b>8.16</b>	<b>8.72</b>	<b>9.75</b>
135°	<b>4.86</b>	<b>5.82</b>	<b>6.41</b>	<b>6.88</b>	<b>7.43</b>	<b>8.17</b>	<b>10.92</b>
150°	<b>4.05</b>	<b>5.10</b>	<b>5.88</b>	<b>6.41</b>	<b>6.85</b>	<b>7.35</b>	<b>9.04</b>
Run VMG	<b>3.51</b>	<b>4.42</b>	<b>5.14</b>	<b>5.77</b>	<b>6.28</b>	<b>6.69</b>	<b>7.83</b>
Gybe Angles	<b>142.8°</b>	<b>148.2°</b>	<b>158.4°</b>	<b>166.5°</b>	<b>173.2°</b>	<b>173.4°</b>	<b>137.4°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **BLUE RIBBON** Certificate Number **091090**  
 Sail Nr **JPN 157** Issued On **6/2/2009**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1003.3</b>	<b>830.6</b>	<b>755.6</b>	<b>717.5</b>	<b>694.9</b>	<b>681.0</b>	<b>669.5</b>
52°	<b>653.0</b>	<b>564.3</b>	<b>525.5</b>	<b>509.7</b>	<b>501.0</b>	<b>495.5</b>	<b>490.4</b>
60°	<b>617.9</b>	<b>545.0</b>	<b>509.6</b>	<b>495.6</b>	<b>487.4</b>	<b>481.5</b>	<b>475.2</b>
75°	<b>593.9</b>	<b>531.3</b>	<b>499.5</b>	<b>479.1</b>	<b>465.5</b>	<b>457.6</b>	<b>448.5</b>
90°	<b>594.0</b>	<b>522.5</b>	<b>489.8</b>	<b>467.8</b>	<b>456.8</b>	<b>442.8</b>	<b>426.7</b>
110°	<b>611.5</b>	<b>537.4</b>	<b>500.2</b>	<b>473.4</b>	<b>446.5</b>	<b>425.1</b>	<b>402.8</b>
120°	<b>649.4</b>	<b>557.7</b>	<b>511.9</b>	<b>485.2</b>	<b>457.8</b>	<b>432.1</b>	<b>386.2</b>
135°	<b>759.1</b>	<b>611.3</b>	<b>545.2</b>	<b>506.9</b>	<b>482.5</b>	<b>457.1</b>	<b>407.2</b>
150°	<b>916.2</b>	<b>713.1</b>	<b>603.2</b>	<b>544.6</b>	<b>508.1</b>	<b>484.4</b>	<b>437.6</b>
Run VMG	<b>1058.0</b>	<b>823.4</b>	<b>693.4</b>	<b>609.6</b>	<b>554.7</b>	<b>517.0</b>	<b>470.3</b>

### Selected Courses

Windward / Leeward	<b>1050.0</b>	<b>842.7</b>	<b>735.0</b>	<b>672.2</b>	<b>632.2</b>	<b>605.7</b>	<b>575.7</b>
Circular Random	<b>858.7</b>	<b>696.8</b>	<b>610.7</b>	<b>560.9</b>	<b>529.7</b>	<b>508.6</b>	<b>480.4</b>
Ocean for PCS	<b>917.2</b>	<b>728.5</b>	<b>624.4</b>	<b>561.3</b>	<b>519.7</b>	<b>489.8</b>	<b>446.7</b>
Non Spinnaker	<b>916.2</b>	<b>736.7</b>	<b>639.8</b>	<b>583.0</b>	<b>547.7</b>	<b>524.3</b>	<b>494.8</b>

### 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>43.9°</b>	<b>41.1°</b>	<b>38.8°</b>	<b>37.0°</b>	<b>35.9°</b>	<b>35.4°</b>	<b>35.2°</b>
Beat VMG	<b>3.59</b>	<b>4.33</b>	<b>4.76</b>	<b>5.02</b>	<b>5.18</b>	<b>5.29</b>	<b>5.38</b>
52°	<b>5.51</b>	<b>6.38</b>	<b>6.85</b>	<b>7.06</b>	<b>7.19</b>	<b>7.27</b>	<b>7.34</b>
60°	<b>5.83</b>	<b>6.61</b>	<b>7.06</b>	<b>7.26</b>	<b>7.39</b>	<b>7.48</b>	<b>7.58</b>
75°	<b>6.06</b>	<b>6.78</b>	<b>7.21</b>	<b>7.51</b>	<b>7.73</b>	<b>7.87</b>	<b>8.03</b>
90°	<b>6.06</b>	<b>6.89</b>	<b>7.35</b>	<b>7.70</b>	<b>7.88</b>	<b>8.13</b>	<b>8.44</b>
110°	<b>5.89</b>	<b>6.70</b>	<b>7.20</b>	<b>7.60</b>	<b>8.06</b>	<b>8.47</b>	<b>8.94</b>
120°	<b>5.54</b>	<b>6.46</b>	<b>7.03</b>	<b>7.42</b>	<b>7.86</b>	<b>8.33</b>	<b>9.32</b>
135°	<b>4.74</b>	<b>5.89</b>	<b>6.60</b>	<b>7.10</b>	<b>7.46</b>	<b>7.88</b>	<b>8.84</b>
150°	<b>3.93</b>	<b>5.05</b>	<b>5.97</b>	<b>6.61</b>	<b>7.09</b>	<b>7.43</b>	<b>8.23</b>
Run VMG	<b>3.40</b>	<b>4.37</b>	<b>5.19</b>	<b>5.91</b>	<b>6.49</b>	<b>6.96</b>	<b>7.66</b>
Gybe Angles	<b>142.5°</b>	<b>147.0°</b>	<b>154.7°</b>	<b>165.7°</b>	<b>171.9°</b>	<b>175.2°</b>	<b>175.2°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **CRESCENT II** Certificate Number **2010**  
 Sail Nr **JPN 4252** Issued On **2009/06/07**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>982.0</b>	<b>804.6</b>	<b>732.4</b>	<b>695.1</b>	<b>673.3</b>	<b>660.6</b>	<b>652.7</b>
52°	<b>635.4</b>	<b>541.6</b>	<b>505.9</b>	<b>490.3</b>	<b>481.1</b>	<b>475.4</b>	<b>471.4</b>
60°	<b>599.2</b>	<b>521.6</b>	<b>487.5</b>	<b>473.9</b>	<b>465.0</b>	<b>459.2</b>	<b>454.7</b>
75°	<b>574.7</b>	<b>509.5</b>	<b>473.5</b>	<b>451.5</b>	<b>441.4</b>	<b>434.3</b>	<b>427.2</b>
90°	<b>563.0</b>	<b>493.0</b>	<b>456.6</b>	<b>440.8</b>	<b>428.5</b>	<b>414.1</b>	<b>402.0</b>
110°	<b>579.1</b>	<b>510.0</b>	<b>472.6</b>	<b>439.7</b>	<b>409.4</b>	<b>391.0</b>	<b>368.3</b>
120°	<b>615.6</b>	<b>530.4</b>	<b>487.6</b>	<b>457.1</b>	<b>426.5</b>	<b>394.7</b>	<b>348.7</b>
135°	<b>727.4</b>	<b>587.4</b>	<b>521.9</b>	<b>484.4</b>	<b>456.1</b>	<b>429.8</b>	<b>370.2</b>
150°	<b>882.3</b>	<b>688.7</b>	<b>582.3</b>	<b>523.3</b>	<b>487.3</b>	<b>460.1</b>	<b>411.4</b>
Run VMG	<b>1018.8</b>	<b>795.2</b>	<b>670.6</b>	<b>590.9</b>	<b>536.1</b>	<b>498.9</b>	<b>447.7</b>

### Selected Courses

Windward / Leeward	<b>1018.8</b>	<b>815.7</b>	<b>711.7</b>	<b>651.1</b>	<b>611.9</b>	<b>586.2</b>	<b>555.3</b>
Circular Random	<b>826.8</b>	<b>669.5</b>	<b>585.5</b>	<b>536.5</b>	<b>505.6</b>	<b>484.5</b>	<b>456.3</b>
Ocean for PCS	<b>884.4</b>	<b>700.5</b>	<b>598.6</b>	<b>536.3</b>	<b>494.8</b>	<b>464.6</b>	<b>420.7</b>
Non Spinnaker	<b>892.2</b>	<b>715.1</b>	<b>619.0</b>	<b>562.4</b>	<b>526.9</b>	<b>503.2</b>	<b>473.0</b>

### 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>44.2°</b>	<b>41.6°</b>	<b>39.2°</b>	<b>37.7°</b>	<b>36.7°</b>	<b>36.0°</b>	<b>35.8°</b>
Beat VMG	<b>3.67</b>	<b>4.47</b>	<b>4.92</b>	<b>5.18</b>	<b>5.35</b>	<b>5.45</b>	<b>5.52</b>
52°	<b>5.67</b>	<b>6.65</b>	<b>7.12</b>	<b>7.34</b>	<b>7.48</b>	<b>7.57</b>	<b>7.64</b>
60°	<b>6.01</b>	<b>6.90</b>	<b>7.38</b>	<b>7.60</b>	<b>7.74</b>	<b>7.84</b>	<b>7.92</b>
75°	<b>6.26</b>	<b>7.07</b>	<b>7.60</b>	<b>7.97</b>	<b>8.16</b>	<b>8.29</b>	<b>8.43</b>
90°	<b>6.39</b>	<b>7.30</b>	<b>7.89</b>	<b>8.17</b>	<b>8.40</b>	<b>8.69</b>	<b>8.96</b>
110°	<b>6.22</b>	<b>7.06</b>	<b>7.62</b>	<b>8.19</b>	<b>8.79</b>	<b>9.21</b>	<b>9.77</b>
120°	<b>5.85</b>	<b>6.79</b>	<b>7.38</b>	<b>7.88</b>	<b>8.44</b>	<b>9.12</b>	<b>10.33</b>
135°	<b>4.95</b>	<b>6.13</b>	<b>6.90</b>	<b>7.43</b>	<b>7.89</b>	<b>8.38</b>	<b>9.72</b>
150°	<b>4.08</b>	<b>5.23</b>	<b>6.18</b>	<b>6.88</b>	<b>7.39</b>	<b>7.82</b>	<b>8.75</b>
Run VMG	<b>3.53</b>	<b>4.53</b>	<b>5.37</b>	<b>6.09</b>	<b>6.72</b>	<b>7.22</b>	<b>8.04</b>
Gybe Angles	<b>141.6°</b>	<b>145.7°</b>	<b>153.3°</b>	<b>163.0°</b>	<b>169.9°</b>	<b>173.7°</b>	<b>174.0°</b>



World Leader in Rating Technology

# 2009

## ORC Club Certificate Appendix

### BOAT

Name **KINE KINE 11** Certificate Number **2011**  
 Sail Nr **JPN 5910** Issued On **2009/06/07**

### TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>958.2</b>	<b>792.9</b>	<b>716.3</b>	<b>676.9</b>	<b>653.0</b>	<b>638.6</b>	<b>628.5</b>
52°	<b>622.3</b>	<b>525.1</b>	<b>484.9</b>	<b>467.7</b>	<b>457.9</b>	<b>452.0</b>	<b>447.7</b>
60°	<b>582.4</b>	<b>501.0</b>	<b>465.1</b>	<b>451.1</b>	<b>442.4</b>	<b>436.9</b>	<b>432.4</b>
75°	<b>553.4</b>	<b>484.9</b>	<b>450.6</b>	<b>430.7</b>	<b>421.4</b>	<b>414.8</b>	<b>408.0</b>
90°	<b>547.5</b>	<b>472.0</b>	<b>437.7</b>	<b>422.1</b>	<b>411.2</b>	<b>397.5</b>	<b>387.1</b>
110°	<b>561.9</b>	<b>486.5</b>	<b>449.4</b>	<b>422.0</b>	<b>397.5</b>	<b>380.0</b>	<b>361.1</b>
120°	<b>601.8</b>	<b>509.0</b>	<b>463.1</b>	<b>435.0</b>	<b>410.1</b>	<b>386.0</b>	<b>345.7</b>
135°	<b>702.3</b>	<b>569.1</b>	<b>499.2</b>	<b>460.0</b>	<b>433.9</b>	<b>410.9</b>	<b>364.6</b>
150°	<b>844.5</b>	<b>670.3</b>	<b>564.2</b>	<b>502.0</b>	<b>463.9</b>	<b>438.2</b>	<b>395.7</b>
Run VMG	<b>975.1</b>	<b>774.0</b>	<b>651.3</b>	<b>572.6</b>	<b>516.6</b>	<b>477.4</b>	<b>428.5</b>

### Selected Courses

Windward / Leeward	<b>985.8</b>	<b>796.4</b>	<b>693.9</b>	<b>632.3</b>	<b>591.7</b>	<b>564.4</b>	<b>533.9</b>
Circular Random	<b>799.6</b>	<b>647.0</b>	<b>565.0</b>	<b>516.9</b>	<b>486.6</b>	<b>466.2</b>	<b>440.0</b>
Ocean for PCS	<b>855.0</b>	<b>677.0</b>	<b>577.7</b>	<b>516.6</b>	<b>476.0</b>	<b>446.9</b>	<b>406.0</b>
Non Spinnaker	<b>861.7</b>	<b>690.3</b>	<b>596.8</b>	<b>541.3</b>	<b>506.3</b>	<b>483.0</b>	<b>454.3</b>

### 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>43.6°</b>	<b>43.2°</b>	<b>40.3°</b>	<b>38.9°</b>	<b>38.4°</b>	<b>37.8°</b>	<b>37.3°</b>
Beat VMG	<b>3.76</b>	<b>4.54</b>	<b>5.03</b>	<b>5.32</b>	<b>5.51</b>	<b>5.64</b>	<b>5.73</b>
52°	<b>5.79</b>	<b>6.86</b>	<b>7.42</b>	<b>7.70</b>	<b>7.86</b>	<b>7.96</b>	<b>8.04</b>
60°	<b>6.18</b>	<b>7.19</b>	<b>7.74</b>	<b>7.98</b>	<b>8.14</b>	<b>8.24</b>	<b>8.32</b>
75°	<b>6.50</b>	<b>7.42</b>	<b>7.99</b>	<b>8.36</b>	<b>8.54</b>	<b>8.68</b>	<b>8.82</b>
90°	<b>6.57</b>	<b>7.63</b>	<b>8.23</b>	<b>8.53</b>	<b>8.75</b>	<b>9.06</b>	<b>9.30</b>
110°	<b>6.41</b>	<b>7.40</b>	<b>8.01</b>	<b>8.53</b>	<b>9.06</b>	<b>9.47</b>	<b>9.97</b>
120°	<b>5.98</b>	<b>7.07</b>	<b>7.77</b>	<b>8.28</b>	<b>8.78</b>	<b>9.33</b>	<b>10.41</b>
135°	<b>5.13</b>	<b>6.33</b>	<b>7.21</b>	<b>7.83</b>	<b>8.30</b>	<b>8.76</b>	<b>9.87</b>
150°	<b>4.26</b>	<b>5.37</b>	<b>6.38</b>	<b>7.17</b>	<b>7.76</b>	<b>8.21</b>	<b>9.10</b>
Run VMG	<b>3.69</b>	<b>4.65</b>	<b>5.53</b>	<b>6.29</b>	<b>6.97</b>	<b>7.54</b>	<b>8.40</b>
Gybe Angles	<b>142.3°</b>	<b>147.0°</b>	<b>150.8°</b>	<b>160.7°</b>	<b>165.9°</b>	<b>172.1°</b>	<b>174.5°</b>