

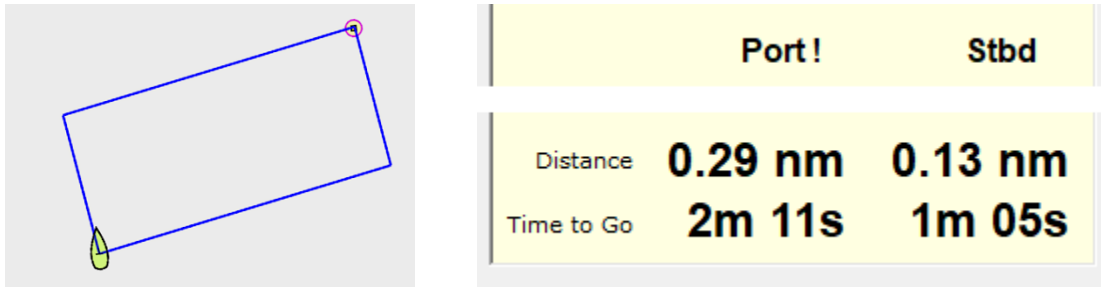
Layline-related Data on the Tactic Page

During a windward-leeward race, most of the time is spent tacking or gybing, with the optimal path limited by the layline.

The tactician will focus on the boat's position relative to the laylines to make crucial decisions.

On the “Tactic” page, EVOLUTION provides information about the boat’s position relative to both port and starboard laylines. The system shows the time needed to sail from the boat’s current position to each layline and, up to version 3.2.25, the corresponding distance.

In the following example, as the boat sails upwind toward the tactic mark, EVOLUTION indicates that the distance to sail on port is 0.29 nautical miles, and on starboard, it is 0.13 nautical miles. The expected time to sail in each tack is also given on the line below.



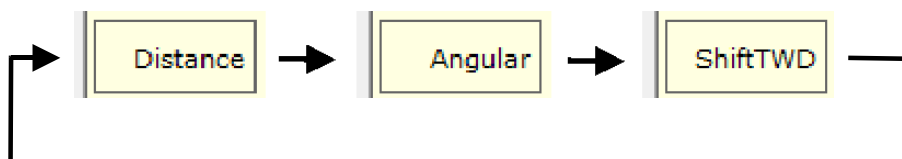
Most tacticians will rely on the time to reach the laylines as part of their decision-making process. More experienced tacticians may find it helpful to incorporate the wind behavior into their calculations.

Starting with version 3.2.26, EVOLUTION adds two new methods for interpreting the distance to the laylines. These methods rely on angular distances and are unaffected by how far you are from the tactic mark, which is your immediate destination.

- The first one is the angular distance to each layline in relation to your bearing to the tactic mark.
- The second is the hypothetical shifted true wind direction that will put you on the layline; in a way, it's the layline coming to you.

Hopefully, these ideas will become clearer in the next section!

The data for the three methods (linear distance, angular distance, and shifted TWD) are shown on the same line. The original “Distance” label serves as a switch between modes. By clicking or tapping on the label, the displayed data changes from linear distance to angular distance, then to shifted TWD, and back to linear distance.

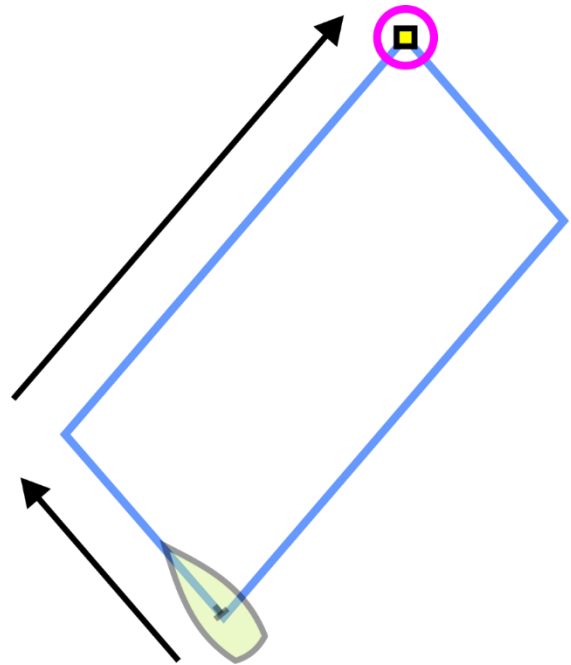


Linear Distance

This is simply the **total** distance to sail on port and starboard tacks to reach the tactic mark.

It doesn't matter how many actual tacks you decide to make; remember, this is the predicted **total** distance on each tack.

	Port!	Stbd
Distance	0.29 nm	0.13 nm



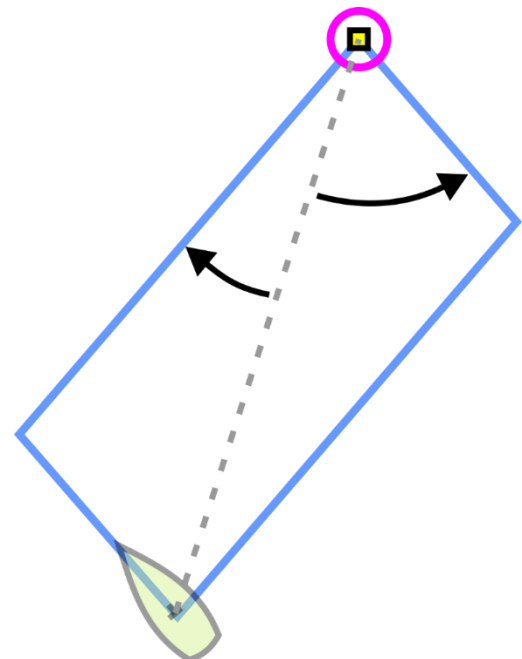
Angular Distance

These are the angles between the laylines and the line from the boat to the tactic mark. Each angle corresponds to the degrees to cover before reaching the respective layline.

These values are independent of the boat's distance from the tactic mark.

With this information, the tactician can make a more informed guess about when to tack, based on the TWD behavior.

	Port!	Stbd
Angular	025° -	063° -



If you cross the laylines, you will be in reaching mode, and EVOLUTION will show how many degrees you are over the layline. In this case, you will see a plus sign.

Angular	004° +
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Shifted True Wind Direction (TWD)

This is the hypothetical true wind direction that will put you on the layline; in a way, it's the layline coming to you.

For a savvy tactician, this valuable data helps him decide when to tack in shifting winds. He will likely monitor the wind behavior using the actual TWD displayed on the mast and compare it to the theoretical TWD to meet the layline.

	Port!	Stbd
ShiftTWD	109° M	197° M

