Ellipsoidal JP direction measure

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$$w_i = \cos\left(\frac{4x_i}{L}\right) \cdot \Theta(y_i)$$

$$\text{Direction measure} = \sum_i w_i \cdot I_i$$

x and y are in the particle frame. So they are shifted to the binary COM and rotated. x measures aong the major ellipsodal axis. y along the minor ellips axis. Θ is the "step function". L is the major axis length.