Abstract: I will describe a couple of applications of the relative trace formula to central values of twisted quadratic base change L-functions for GL(2). The first is to prove explicit formulae, generalizing work of Gross and Zhang (amongst others), relating this central value to integrals of automorphic forms over tori. The second is to obtain exact average value results for Hilbert modular forms. This talk is based on separate joint works with Kimball Martin and Brooke Feigon.