



S9 Fig. Single-fly thermotactic and optogenetic assays of *HC>GtACR2/CsChrimson*.  
 (A) PI of *HC>GtACR2/CsChrimson* that were raised with (+) or without (-) dietary retinal (ATR) under ambient room light condition.  $n = 30$ ; Mann-Whitney test; \*\*,  $p < 0.01$ .  
*HC>GtACR2/CsChrimson* is *HC-Gal4;UAS-GtACR2.EYFP/UAS-CsChrimson.mVenus*.  
 (B) PI of *HC>GtACR2/CsChrimson* that were raised with (+) or without (-) dietary retinal (ATR) under blue light condition.  $n = 30$ ; Mann-Whitney test; \*\*\*\*,  $p < 0.0001$ .  
 (C) PI of *HC>GtACR2/CsChrimson* that were raised with (+) or without (-) dietary retinal (ATR) under red light condition.  $n = 30$ ; Mann-Whitney test; \*\*\*\*,  $p < 0.0001$ .