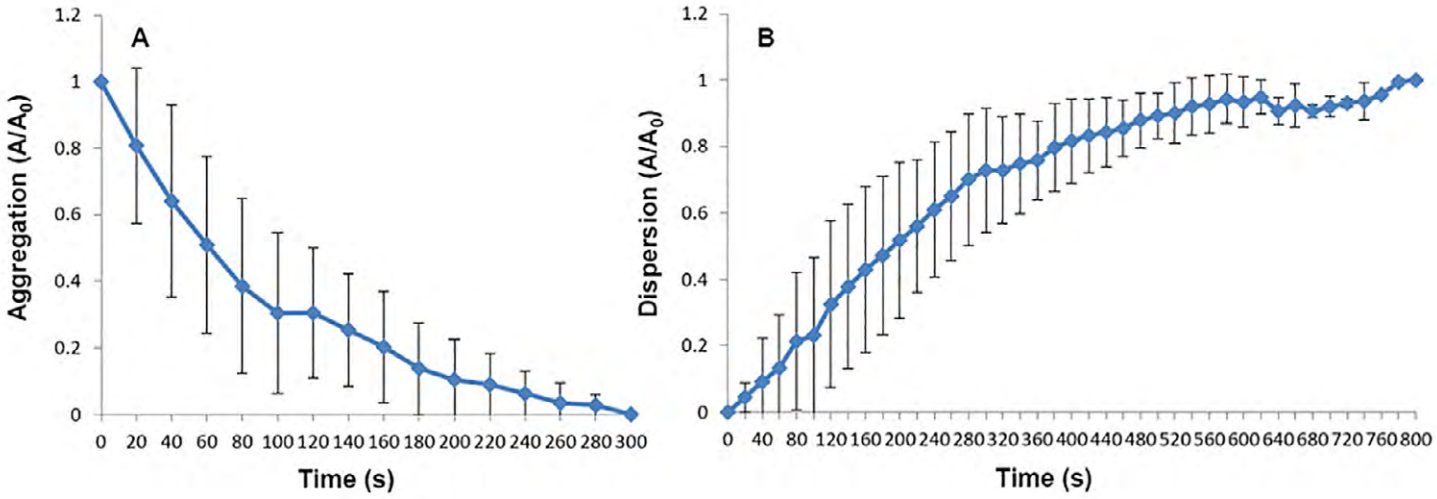

Figure S1 Time course of erythrophore photoresponses.

(A,B) Time course of aggregation (A; n=26) and dispersion (B; n=20) of erythrophores in response to light at 380 nm (12.89 log photons cm^{-2} s^{-1}) and 500 nm (13.21 log photons cm^{-2} s^{-1}), respectively. The time required to reach half-maximal photoresponses ($A/A_0 = 0.5$) was employed for measuring erythrophore aggregations (61s) and dispersions (194s). UV light employed to obtain full aggregation in dispersion experiment might affect the β band of RH2b and desensitize the RH2b to some degree, leading to the difference in aggregation and dispersion rate. However, it is more likely that the components and the molecular interaction of the signaling pathways might not be identical in aggregation and dispersion of erythrophores in spite of their similar phototransductions (Nery and Castrucci, 1997; Ban et al., 2005).

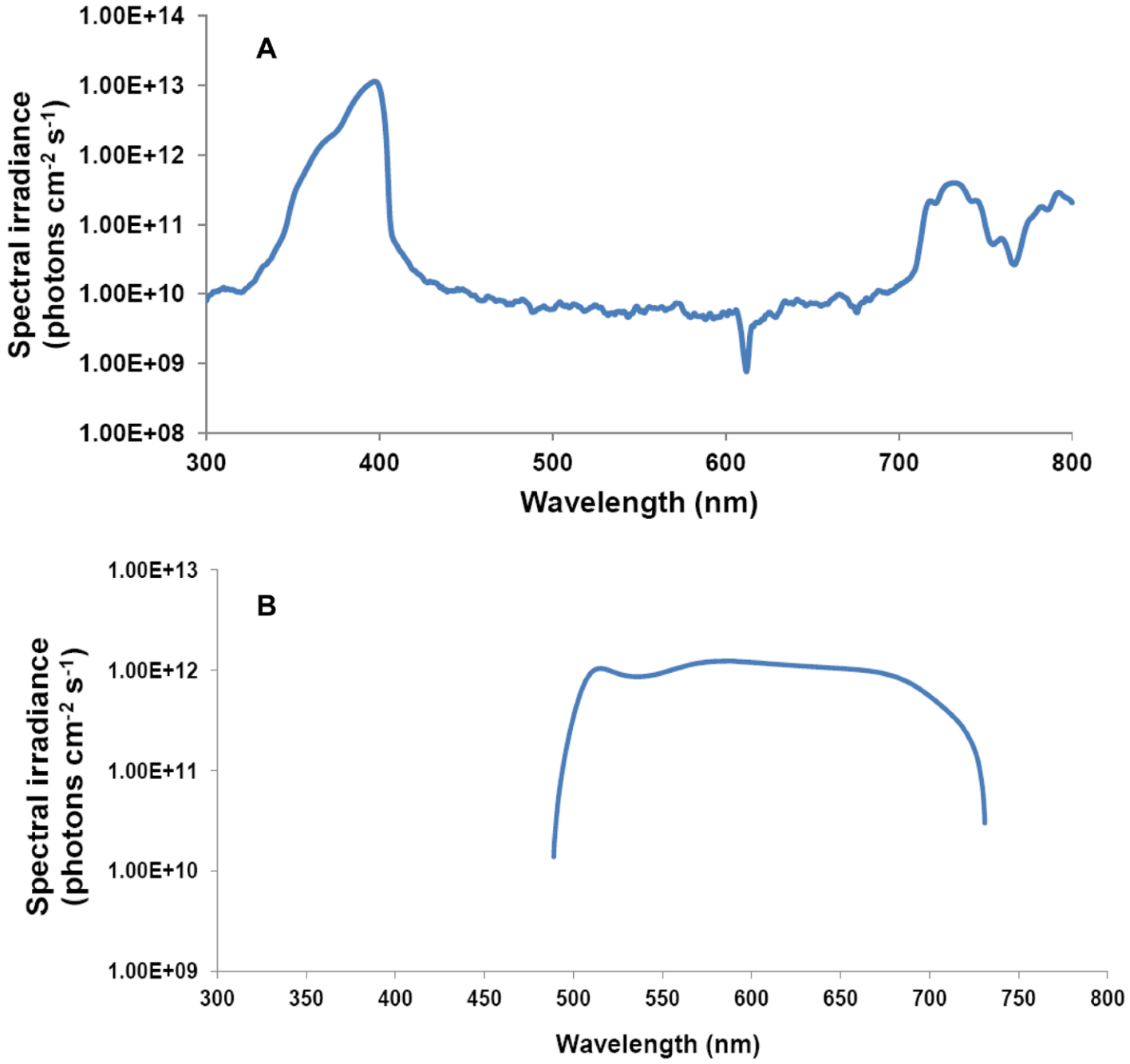

Figure S2 Spectral irradiance of background illuminations for chromatic adaptation.

(A,B) Two background light conditions were used to bleach particular opsins. (A) UV background for SWS1. (B) Yellow background for RH2b (by the filter 500LP).

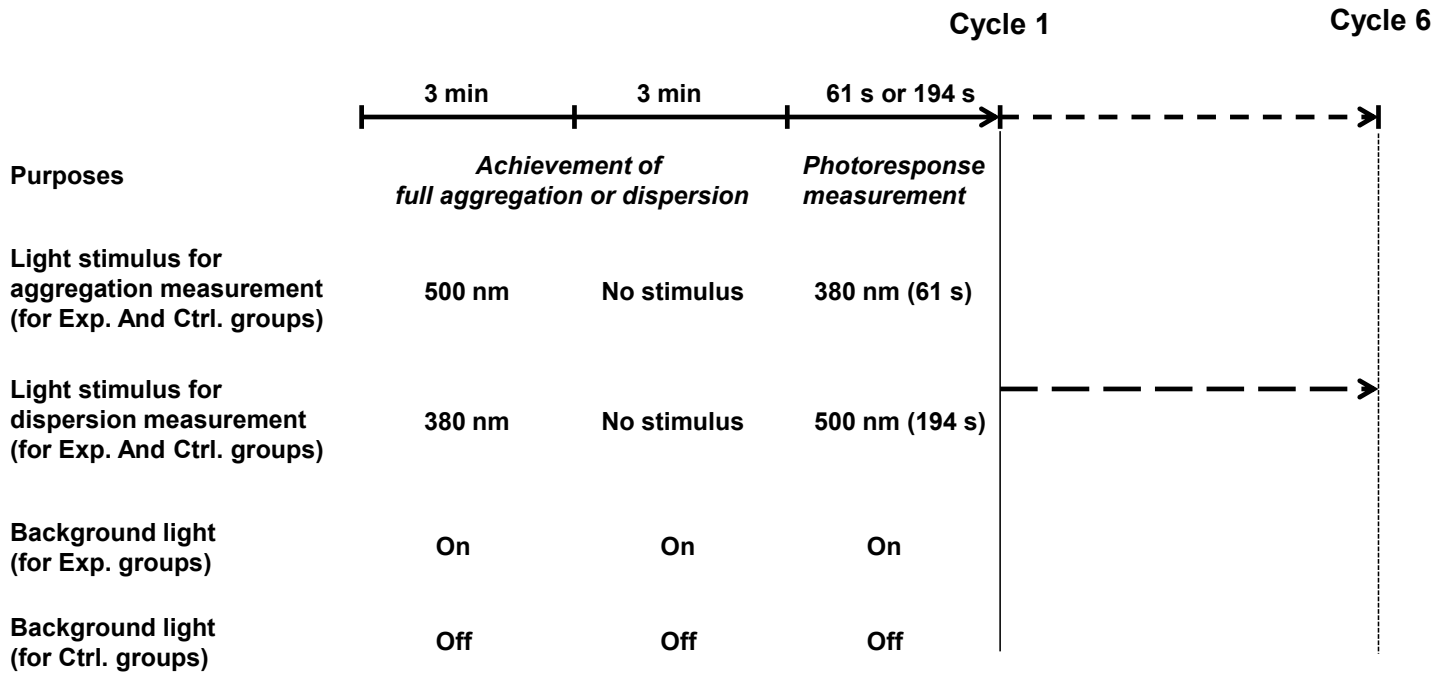

Figure S3 A diagram showing the experimental design for measuring photoresponses under different light backgrounds.