**Supplementary Figure S1.** Scotopic ERG results for young WT and *Arr4*−/− mice. **S1A.** Representative scotopic ERG tracings from one animal of each genotype. **S1B.** Scotopic ERG b-wave amplitudes are charted for each genotype, plotted as mean +/- SEM. A t-test determined there is no significant difference between the two groups.
Supplementary Figure S2. Photopic ERG amplitudes across multiple flash intensities. 

**S2A and S2B.** Representative single-flash ERG tracings from a young (2 mo.) WT (A) and Arr4^/- (B) mouse at flash intensities from -0.99 to 2.01 log cd-s/m2. **S2C.** Semi-log plots of single-flash A-wave amplitudes of young WT and Arr4^/- mice across flash intensities from -1.59 to 2.01 log cd-s/m^2. There is no significant difference between the two genotypes at any intensity. **S2D.** Single-flash B-wave amplitudes of young WT and Arr4^/- mice across flash intensities from -1.59 to 2.01 log cd-s/m^2. The only significant difference between WT and Arr4^/- was observed at 2.01 log cd-s/m^2 (**, p<0.01). **S2E and S2F.** Representative 10 Hz flicker ERG tracings from a young (2 mo.) WT (E) and Arr4^/- (F) mouse at flash intensities from -1.59 to 2.01 log cd-s/m2. **S2G.** 10 Hz flicker b-wave amplitudes of the same groups of animals and the same range of intensities as S1A and S1B. The only significant difference between genotypes is observed at 1.41 log cd-s/m^2 (*p<0.05).
Supplementary Figure S3. Light adaptation of young WT and Arr4⁻/⁻ mice. **S3A.** Light adaptation of the A-wave amplitudes of young and old WT and Arr4⁻/⁻ mice through 15 min of continuous white light background at 8 fc (200 cd). An average of 20 sweeps at 2 Hz was recorded for each mouse at each time point and each curve represents an average of at least 8 mice. At some time points, there is a significant difference between the amplitudes of the young Arr4⁻/⁻ and old Arr4⁻/⁻ mice (*p<0.05). **S3E.** Light adaptation of b-wave amplitudes of the same groups as S1D. Note that all groups light adapt normally, as shown by the increase in b-wave amplitudes across the 15 min time period. At all time points, there is a significant difference between young WT and young Arr4⁻/⁻ (*p<0.05; **p<0.01) and between young Arr4⁻/⁻ and old Arr4⁻/⁻ (*p<0.05; **p<0.01; ***p<0.001).