

# LUTEIN STUDY 3

## DECREASED HEADACHE AND EYE STRAIN



To determine, via questionnaire, relationships between overall blue light exposure, eye strain, eye fatigue and headache frequency, a 6-month, placebo-controlled study<sup>8</sup> was conducted with 45 college- aged students who received 20 mg of lutein and 4 mg of zeaxanthin daily (Lutemax2020) or placebo.

Inclusion criteria for all subjects were high blue-light exposure from digital screen time, especially playing engaging, cognitively-tasking video games (e.g., “first-person shooters”) at least 4 hours/day. Also, 2-3 hours of outside activity/day due to blue light exposure. In addition, macular pigment optical density of subjects were  $\leq 0.69$ , and they had at least one or more of the following symptoms: Accommodative issues (difficulty seeing in the distance after prolonged nearwork); digital eyestrain; computer vision syndrome; blurry vision; difficulty focusing; dry and irritated eyes; headaches; neck and or back pain. Thirty subjects were supplemented with lutein/zeaxanthin, and 15 subjects received a placebo. The results of the study were that Lutemax 2020:

- Decreased headache over placebo, and within group analysis headache decreased in Lutemax 2020 group at 3 months and continued to decrease at 6 months.
- Decreased eye strain at 3 months and continued to decrease at 6 months and no significance in placebo group.
- Decreased eye fatigue at 3 months and continued to decrease at 6 months and no significance in placebo group.

<sup>8</sup> Blue Light Study Eye Stress. Unpublished. 2016: 2 pgs.