

P21 **Effect of yellow filter on mesopic pupil size**

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PURPOSE: It has been recently reported that pupil size is independent of the wavelength for adapting luminances from photopic to mesopic. Herein, we tried to determine whether blue-blocking filters really increase pupil size, as has been reported previously, in an effort to establish if this type of lens has any effect on vision at night when blue takes on much greater importance. **METHODS:** Mesopic pupil size was measured in 62 eyes of 31 healthy subjects (mean age 37 +/- 13 years) using the digital (Procyon 2000) infrared pupillometer for binocular simultaneous measurements of pupil diameter. Measurements were performed at a low mesopic illuminance level (0.40 lux) after 5 min of dark adaptation and while the observer viewed through a yellow coated filter (X-482 nm cut-off), through a neutral density (ND) filter, or no filter. **RESULTS:** For right eyes, mean mesopic pupil diameter was 6.05 +/- 1.41 mm (range 3.05-8.17 mm) with the yellow filter, 5.97 +/- 1.37 mm (range 3.01-8.15 mm) with the ND filter, and 5.87 +/- 1.30 mm (range 3.02-8.28 mm) without a filter. No significant differences were shown between the pupil sizes of both eyes. No pupil size differences were detected whether a filter was used or not, nor when the population was divided into three age groups. **CONCLUSIONS:** The yellow filter had no effect on pupil size under mesopic luminance conditions. Accordingly, its use would not compromise visual quality at night.

Keywords: yellow filter, pupil size, mesopic.