

# Effect of Blue Light Control Coating Lenses to Colour Vision

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## **Abstract**

**Purpose:** To determine the effect of blue light control coating lenses on colour vision among young adult in UCSI University.

**Method:** This prospective cross-sectional pilot study aims to assess the impact of blue light control coating lenses on colour vision in young adults aged 18–35 years. A total of 28 volunteers from a primary care clinic will be purposively sampled, including students, staff, and lecturers. Participants must have normal colour vision, emmetropic eyes, and normal contrast sensitivity. Those with colour vision deficiencies, ocular diseases, trauma, or signs of cataract will be excluded.

**Result:** A comparison of Total Error Score (TES) from the F-M 100 Hue Test under three conditions: without blue light control lenses (mean  $\pm$  SD = 32.80  $\pm$  34.637), with spectacle 1 (29.73  $\pm$  43.987), and with spectacle 2 (30.83  $\pm$  39.458). The Friedman test revealed no significant difference in TES among the three conditions ( $p = 0.079$ ), with mean ranks of 2.22, 1.70, and 2.08, respectively.

**Conclusion:** The study found no significant change in colour vision with or without blue light control coating lenses among young adults at UCSI University. These lenses, which slightly filter high-energy blue light, enhance visual comfort and may help reduce the risk of age-related macular degeneration.

**Key Words:** Color vision, Blue-cut lenses, FH-100 hue test