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EFFECTS OF COLOR IN LIGHTING ON AESTHETIC PREFERENCE AND PERCEIVED SAFETY DURING THE EVENING

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Abstract

Lighting design is an essential aspect to improve the quality of nightscapes. The selection and combination of colors in lighting are the basis of lighting design. However, the effects of various colors in lighting and their combinations on the aesthetic preference and perceived safety of visitors at night are not systematically studied, thus existing literature provides limited guidance for lighting design. To fill this gap, based on an overall field investigation of the nightscapes and the lighting-color attributes used in urban parks in Xuzhou, eastern China, 30 nightscape images which included six color modes in lighting across five landscape types were created, and the aesthetic preference and perceived safety of these images were evaluated quantitatively by college students. Statistical analysis suggests that colors in lighting play an important role in determining the aesthetic preference and perceived safety of nightscapes, in which white light is the best, while purple light is the worst. There is no significant difference in aesthetic preference and perceived safety between bichromatic and monochromatic light, but there were significantly positive linear relationships between aesthetic preference and perceived safety at night across all landscape types. These findings provide some clues for lighting design, including that white light should be given priority, and the improvement of perceived safety can effectively enhance the attractiveness of nightscapes.

Keywords: aesthetic quality, color in lighting, nightscape, perceived safety, urban park

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