



Giant fabric "chess pieces" help light the Glendale Chess Park, Glendale, Calif., for safety and public use at night. Taut geometric forms symbolize the activity intended for the park, while simultaneously acting as lamps with a glow that does not overpower.

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Lighting the way

Fabric's traditional role in architecture has centered on shading, with awnings or other fabric constructions tempering the sun. Yet today, sunlight — the natural light form — has competition

By Todd Willmert

Writing in the early 1900s, the noted Swiss-French architect Le Corbusier struggled — along with other designers and architects — with the new phenomenon of electric lighting. He described this modern artificial light as "intense, sharp." A century later, the medium still proves a design challenge. Indoors, the fluorescent lightscape of offices, particularly with deep floor plates, creates a soulless environment. Certainly, winter depression or Seasonal Affective Disorder (SAD), which may affect as many as 11 million people in the United States alone, is not ameliorated in the typical office setting. Outdoors, "light pollution" — the adverse effect of man-made light from poorly designed lighting of streets and parking lots, including sky glow, glare, light trespass, light clutter — negates the simple wonder of the night sky. The safety and security provided by light is critical, but municipalities and other governmental agencies are struggling with the energy waste of indiscriminant lighting, which actually can decrease visibility. (www.darksky.org)

Challenges remain, yet since Le Corbusier's time the lighting industry — designers, engineers and manufacturers — have developed more complex and richer lighting methodologies. Fixtures (ranging from the smallest pinpoint diode to large high-wattage lamps), and mediating accessories (such as filters and louvers) have evolved. Moreover, the concept of lighting is much more sophisticated, differentiating for instance between interior and exterior usage, or the scale of the space or object to be lit. Illumination for close environments, such as spas and bedrooms, varies radically from lighting bridges and towers.

As professionals explore electric lighting, fabric is playing a prime role. Many innovative solutions integrate "artificial" lighting with fabric, a material which can admirably alleviate the harshness Le Corbusier associated with electric lighting. Of course banal solutions exist, such as the back lit awnings pervasive in the strip malls of the suburban landscape, but more progressive designs are also possible.

AIA/Fabric Architecture Continuing Education

To earn one AIA/CES Learning Unit, read this article; then answer the questions on page 43 and follow the instructions for reporting.

Learning objectives

After reading the article you will be able to:

1. Explore eleven fabric types and learn their transmission levels
2. List the necessary design tools for determining lighting with scrims
3. Describe footcandle and lumen units
4. Understand why fabric can enhance some architectural lighting

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Giant Chess Pieces - Glendale, CA

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