

# Lighting among Most Powerful of Design Elements

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Light has intrigued man since the beginning of time. Without light, there is no color. In his quest for the control of light, man soon supplemented daylight with an array of artificial devices. Tallow candles and gas lights gave way to electric sources with the invention of the tungsten filament light bulb.

To understand light, and how it affects color, one has to recognize the fact that color perception is due to the eye seeing a specific reflected ray of color. A red carpet results when all other colors of the light spectrum, with the exception of red, are absorbed by the carpet, making it possible for the eye to see only red in the flooring.

At this point, the kind of light used takes a prominent role in determining how the color is perceived. Different types of lighting, including daylight,

accentuate different areas of the spectrum. A red carpet viewed under a light that emphasizes bluish-green tones will look dull and lifeless. To avoid the problem of color shifts, it is imperative that anything under consideration for a project be seen in the same lighting condition as where it is to be placed.

Prior to the energy crisis, lighting levels could be kept high to achieve design goals without undue problems. Current energy conservation considerations imposed by law have given rise to the creative concept of design with "pools of light". By accentuating key areas through a combination of brighter colors and higher lighting levels, amidst a relatively darker background, the eye is allowed to focus only on areas deemed important to the design solution. Where the quantity of light is limited, relative brightness can be adjusted through sheer contrasts of color to become intensified or subdued, making it a powerful tool for the manipulation of space.

Darkness, the antithesis of light, is an important element in any lighting scheme. Shadows not only help define a space, but through contrast, expand the sense of scale and emphasize the sculptural quality of any object being illuminated. Thoughtfully applied, they can be an effective remedy for awkwardly shaped spaces. On the other hand, should the perimeter of a room be illumi-

nated, the space psychologically appears to be bigger and more relaxing to the occupant.

To achieve the desired lighting effects, one has to determine the purpose of the lighting scheme. Such lighting may be required for work, leisure, or safety considerations. The amount of light will need to be evaluated relative to the task and visual acuity of the user. Generally speaking, vision starts deteriorating after 40 years of age, thereby requiring better lighting and stronger colors as a means of compensation. With 20% of the population reaching 65 years or older by the year 2000, there will be a corresponding surge in the demand for higher levels of illumination. That may in turn stimulate the interest to harness daylight as a cost effective solution for increasing brightness in a space.

Despite advances in lighting technology, incandescent and mercury fluorescent lamps remain the dominant choice for interior applications. The old cold white fluorescent is now joined by deluxe cool white, warm white, and deluxe warm white varieties. As the color rendition of these newer products continue to improve, specification of fluorescent lamps ceases to be a dreaded and painful task. With their high light output and low cost, they remain a most economical way of providing uniform, shadowless lighting over an extended pe-

riod of time, especially for use in wall washes or coved ceilings.

On the incandescent front, low voltage tungsten halogen lamps have become the rage. They give a much more controlled, brighter and whiter light than the conventional incandescent sources, and cause objects like glassware, crystal, gems and fabrics to sparkle and come alive. The lamp's point source is especially effective for high-lighting displays since there is minimal light spillage from the beam. Additionally, low voltage fixtures can be used to cast distinct patterns on the wall or ceiling for special effects. In fact a host of accessories now accompany low voltage lighting: from louvers to color filters to specialty shutters, so it can be tailored to suit the specific needs of a design.

Advances in lighting products have enabled designers to create more dramatic interiors that are also responsive to the functional needs of the client. The quality and quantity of light have to be balanced with the users' psychological and physiological needs in mind. Indeed, it is one of the most powerful elements of design in which the importance of its presence can only be overshadowed by the significance of its absence.