DJCOALITION

BIOPHILIC LIGHTING DESIGN

"Nature is a part of our humanity, and without some awareness and experience of that divine mystery, man ceases to be man. When the Pleiades and the wind in the grass are no longer a part of the human spirit, a part of very flesh and bone, man becomes, as it were, a cosmic outlaw, having neither the completeness and integrity of the animal nor the birthright of a true humanity." Henry Beston.

Close your eyes and picture yourself in a place where you feel a deep sense of calm and relaxation. Did you imagine somewhere in nature? Light can enhance our connection with nature while still maintaining our desire to produce and be active; this is called Biophilic Lighting Design. Based upon biophilic attributes defined by Stephen Kellert – a leading proponent of biophilic design - we recommend lighting design tips to promote a deeper connection with our natural world.

Direct Experience Of Nature

A direct experience of Nature is achieved by using natural light sources to light space and the use of light to reveal the environmental characteristics. Lighting design techniques that do this are:

- Where possible, use natural light to provide illumination for day-time tasks.
- Control lighting within space to change with time, to reinforce the natural passage of day and night on our planet.
- At night, control the use of artificial lighting so as not to mask the view of the night sky. Limit light time exposure with presence detection.
- At night, use long wavelength red or amber toned lighting which is less visible to most nocturnal life forms.
- Use luminescence to indicate pathways and guide people by night with a naturally occurring light source.
- Use fire as a source of light at night – incorporate candles and portable lamps into night lighting schemes.
- Locate and aim light fittings to project naturally occurring patterns. For example, shadows of plants and reflections off water bodies.

Indirect Experience Of Nature

This attribute of Biophilic lighting design refers to making a representation of the natural world through lighting design. To provide indirect experiences of nature consider using the following lighting techniques:

- Mimic the natural changes in colour and intensity in daylight over time for spaces away from windows. This dynamic system is called human-centric lighting and is programmed to follow the natural cycle of time.
- Illuminate spaces with a variation of light intensity to remind us of natural conditions. Create brighter pools of light for performing tasks and contrast this with lower illuminance for places of reflection.
- Mark the passage of time at night with changing light effects. The use of colour can simulate firelight to prepare us for rest.
- Plan spaces with a mix of light directions, for example uplighting and side lighting. Light room surfaces so spaces are lit with a mix of direct and diffuse, reflected light.
- Use natural materials to make lights: wood, fabrics or stone provided from the local environment.
- Use biomimicry – borrowing forms and patterns found in nature – in the design of light fittings.

Experience Of Place

Biophilic lighting design uses light to make spaces characteristic of the natural environment and reinforce the uniqueness of a place. Lighting design techniques that do this are:

- Illuminate the facades of old and important buildings. Light can render their details in a way that reminds us of our history and connects us to our cities.
- Design lights using local materials and local forms from the place where the project is.
- Reinterpret local lighting techniques to provide lighting in way that references the culture of a place.
- Use light to mould space so it offers both prospect and refuge for its occupant. Create long views by lighting distant objects.
- Define spaces with contrasts in illumination to provide human scaled centres for activities.
- Connect spaces and define natural paths with light at night to provide a sense of safety. Illuminate changes in height and reveal the spaces along the path to encourage use.
- Illuminate the ends of transitional spaces and paths to provide orientation, identify the natural path. Repeating light patterns draw people along pathways.