Illumination in Landscape and Outdoors

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Abstract:
The role of illumination in the landscape is significant in creating lighting effects, emphasizing the garden elements to stand out and beautify themselves in the dark background. Illumination makes an overall impact on any feature or surrounding and enhances a person's mood and emotions. Lighting can illuminate an area, provide atmosphere and amplify landscape via enhancing colors and materials, highlighting walls, trees, facades, redrawing boundaries and highlighting masterpieces, and creating shadows and spread to maximize their effect and impact. Landscape lighting is an essential part of designing. At night-time, it makes a massive difference in creating aesthetics, creates a pleasing atmosphere, and ensures safety and security; while designing, a client brief about the layout of features and placement of trees in the garden. Still, most of the time, we never discuss the lighting part or how it would look in the nightscape. The role of illumination is thus essential and considered as a significant factor in designing. The current conventional cultural character towards the street and outdoor lighting are more are better. Lighting design in landscape architecture plays a crucial role in shaping that experience.

Keywords: illumination, nightscape, facades

1. Introduction:
Illumination in landscape refers to the lighting in the outdoor space of gardens and landscape for safety, aesthetics, highlighting landscape features, utility, etc. Lighting can enhance outdoor spaces at night and also serve the purpose of utility. An overall effect is created by the illumination, which gives comfort to the eyes, and by the usage of techniques and fixtures, the goal can be achieved. Fundamentally, landscape and outdoor lighting is used to light up the dark area for human usage and extend outdoor space usage. Lighting can illuminate a room, provide atmosphere and amplify landscape via enhancing colors and materials, highlighting walls, trees, facades, redrawing boundaries and highlighting masterpieces, and creating shadows and spread to maximize their effect and impact.

Illumination is the intentional use of light to achieve a practical and aesthetic effect. It includes the usage of artificial light like lamps, lanterns, etc., and natural light like daylighting, which is the primary source of light in the daytime.

Landscape lighting is an integral part of designing. It creates a massive difference at night-time to design aesthetics, creates a pleasing atmosphere, and ensures safety and security. The broader choice of fixtures and techniques has made the addition of illumination to landscape both affordable and practical. The increased use of lighting in public space has proved to be an example of how light can emphasize space's appearance. Landscape illumination is the creation of a lighting effect, not the placement of lighting fixtures.

Landscape lighting offers security. Lighting areas where people walk will ensure safety in these areas, as adding light around the walkways and stairs prevent undesired and harmful falls. The positioning of lighting around the pool, patio, deck, and seating area will provide plenty of lighting to ensure safety. Landscape light adds warmth and appeal to a zone. Landscape lighting extends the use of the garden and outdoor areas well into the night. It also adds stunning ambiance and highlights the textures and plants of the surroundings.

Lighting is an essential factor of space as it provides light and brightness to the user. The light fixtures can be used in various ways for interior and exterior illumination, considering color placement, intensity, glare, etc. Designing a space without lighting can affect its aesthetic beauty. It defines the depth with vertical lighting, arrangements, and segregation of different zones, comprehensive with ambient lighting. In ancient times, the primary source of light was the sun. It is a natural light source, which is not controllable, adjustable, so humans started to illuminate the surrounding with an alternative method like burning fuel, fire, animal lamps, etc.

2. Purpose of Lighting:
The landscape and gardens have been lightened for as long as interior structures have - for beauty, security, circulation, and social occasion; since ancient times by firelight from wood, candles, and torches, sconces, and lanterns. Since the 17th century's introductions of new interior illumination fuels, the technology has then been used outdoors and in gardens as systems were developed for power delivery. Often considered as an unnecessary option, landscape lighting extends the use of your garden and outdoor areas well into the night. It also adds stunning ambiance and highlights the surroundings' textures and plants - an experience that would be missed without strategic lighting.

Identifying lighting needs:
- The positioning of lighting controls
- Power consumption
- Serviceability and upgradability
- Type of circuitry for lighting

3. Psychological impact of light and vision.

Lighting is an essential factor of space as it provides light and brightness to the user. The light fixtures can be used in various ways for interior and exterior illumination, considering color placement, intensity, glare, etc. Lighting produces changes in the reaction of impact such as spaciousness, privacy, relaxation, peace, etc.
Light affects the mind, body, and soul of a human as it stimulates the organs and helps the body respond. Lightning helps create an environment and bring a sense of calm and soothing effect to space. It influences the well-being, shape of space, mood, spirituality, developments in the user. Designing a space without lighting can affect its aesthetic beauty. It defines the depth with vertical lighting, placements, and segregation of different zones, comprehensive with ambient lighting.

Five main types of lighting:
- Amenity lighting
- Task lighting
- Accent Lighting
- Ambient Lighting
- Access Lighting
- Safety and security lighting

Garden Features Where Illumination Is Needed:

**Pergolas:** Pergolas are illuminated by uplighting the climbing plants that are scrambling up the supporting piers or by down lighting with illuminators on cross beams or top of posts or columns.

**Trees:** Uplighting is the typical technique used for illuminating trees, but the position and type of light fixture and fixture type and power choice can produce varying results. Uplighting creates effects according to the luminaire’s position; uplighting the tree from beneath means lighting the canopy. The lamp chosen should have a sufficiently wide beam to a good light portion of the canopy. It reveals them against the silhouette of the shady outer canopy, which provides depth.

**Statues and sculptures:** Sculptures and ornaments can be lit using uplighting and downlighting techniques or combining both and using one fitting or multiple fittings. By positioning the fixture to encompass the trees, plants, fixtures in addition to the sculpture itself, another aspect is added while the dark side is left to the client’s imagination. If the statue is placed in front of a surface wall, you can cast light behind the sculpture to create a profile or silhouette against the backdrop.

**Walkways and stairs:** Fixtures placed on the same side of a pathway usually produce a more even spread of light than alternate fixtures on either side of the path.

**Plants:** Different techniques are used like Halo technique, Shadows technique, Wash technique, Silhouette technique, etc.

**Waterfalls, fountains, and water features:** At night, water contributes a magical range to the palette of garden-lighting effects. Underwater up lighting of moving water, for example, a simple waterfall or fountain using a waterproof underwater spotlight, is a common and useful technique. Lighting a bridge often provides sufficient illumination to define the horizontal pathway’s positions, vertical structure, and water’s edge.

**CASE STUDY:**

**YAZOO PARK. LOCATION: MUMBAI**
**AREA: 12 ACRES**
**LANDSCAPE ARCHITECT: AR. VIKAS BHOSEKAR**

The concept behind the park’s lighting design is entertainment of public with eco-friendly and futuristic lighting to keep the
place engaged during hours after dusk. Attracting people in the park since it operates from 4:00 pm till 11.00 pm.

Central Aspects Of Consideration:

1. Environment Friendliness

2. Safety And Security
   - Entrance lighting: Floodlights were used. Fixtures used: Metal Halide, emitting bright white light (75-100 lumens/watt)
   - Uplights: used in outside curved walls, canopy areas for indirect lighting
   - Wall washers: Applied for screen wall for both sides of the entrance
   - Water wall lights: there are walls approx. 10 m high with waterfalling on either side of entrance illuminated by LED color changing lights.

Pathways:

Vertical illumination is applied. For this, column lights with diffusers have been used. A diffuser omits the glare from the light source to produce soft light.

Conclusion:

Landscapes emerge in the dark under subtle outdoor landscape lighting to create beautiful shapes in boldly beautiful sculptured drama. To light up an overall outdoor look and highlight the best features, can make a compelling landscape lighting system.

Landscape lighting is breathtaking in its beauty and provides a safe and secure, and welcoming environment. Landscape illumination is easy and safe to install. It is a great way to line your driveway or sidewalks.