

## **ARTIFICIAL LIGHTING AS AN ELEMENT OF THE AESTHETIC IMAGE OF PARKS AND SQUARES**

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Today, life without light is impossible to imagine. It accompanies us every step of the way. However, open spaces such as parks, squares, boulevards and seafronts should be considered, as they are very important for the life of the city and the right lighting makes them unique. In the dark, an important component of parks, squares and boulevards is the artificial lighting of green areas. Properly designed lighting is the comfort and safety of people in the dark. The types of lighting have improved a lot lately. Using lanterns is not the only way to illuminate cities. It was especially popular to get light using solar panels.

Squares and parks are an important component of the city's infrastructure. They improve the quality of the air, are the habitat of diverse flora and fauna. Not every park boasts a large number of fountains, sculptures, flower beds, flower arrangements and simply the presence of interesting objects. Thus, different lighting equipment is used for different styling tasks. In this regard, there was a need for theoretical understanding of issues related to the design of artificial lighting in architectural, artistic, lighting, electrical and economic aspects.

The life of modern cities lasts not only in sunlight, but also in the evening and at night. Some processes of urban life are particularly stressful in the evening under artificial light. It is quite clear that in the evening, the park traffic in the central part of the city will be much higher than the traffic in the suburbs, which usually attracts visitors on weekends. That is why in the area of green space artificial lighting should perform the following tasks:

- creation of a unique evening landscape of greened territory (with the selection of separate groups of trees, shrubs, flower beds in combination with water pools, fountains);
- creating a convenient orientation for visitors to green areas, which is very important in large parks;
- creating conditions for comfortable and pleasant stay on alleys, playgrounds and pools.

To create an artistic image of the object or the whole ensemble in the evening, the architect and lighting technician have a set of the following techniques: general lighting; local lighting; glowing facades; silhouette lighting; light graphics; illumination lighting; contour lighting; landscape lighting; dynamic lighting. Canvas lighting is traditionally made up of street lamp posts that frame the main paths of the park, and light accents, if necessary, are placed with lamps and spotlights with directional beam.

However, in recent years, new technologies have emerged in street lighting systems, as well as new classes of energy efficient lighting, such as using LEDs. Unlike other technologies, LEDs have a very high efficiency - at least 90%. Due to its high efficiency, LED technology provides low power consumption and low heat dissipation. In addition, LEDs have a set of characteristics unattainable for other technologies: mechanical and temperature resistance, resistance to voltage drops, long life, excellent contrast and color reproduction. Plus environmental friendliness, no shimmer and even light.

At present, solar-powered lanterns are quite common. Initially, they were designed for the needs of the space industry, and today are actively used by man to meet his needs in heat and light. With particular efficiency, they are used in the street lighting system. These lanterns, equipped with solar convectors, work because of the accumulation in the battery of the electric charge received from the solar battery. This design is completely self-contained because all the elements in it are miniature in size and mounted directly into the lamp. [2] On a clear sunny day, these lighting devices accumulate enough energy to illuminate the space for more than 10 hours. LED lights are made of different materials, such as: cast bronze, transparent glass, light steel, attractive rattan, natural bamboo and other materials.

Due to this, lanterns are often attractive elements of decor, which are not only useful due to their illuminated function, but also have a good aesthetic effect.

As for the advantages of such lights, the main thing is the built-in solar battery. Also, the device of the lantern does not imply the presence of any moving elements, so it is almost invulnerable. Solar panels do not require special care. They do not need to be refueled, carry out preventive maintenance, etc. Although the lifetime of such fixtures is limited, it is still quite large. Even with daily 8-10 hour operation, such a lantern can last up to 27 years. Also a clear advantage is the environmental friendliness of such lighting systems.

Almost all the disadvantages of using lanterns are: unstable sunlight; in hot weather, it is best to install an additional cooling system; solar panels are demanding in absorbing energy; during very cold weather, the battery may be malfunctioning; protective glass that protects the appliance from dust and moisture gets dirty over time, which also reduces the efficiency of the appliance. [2]

So the lanterns are designed not only to illuminate, but also to emphasize the beauty of architectural elements, landscapes, facades and create a unique image of squares, parks, alleys, boulevards, and more. To conserve electricity and the environment, it is proposed to combine the use of electric lights, LEDs and solar-powered lights.

#### **References:**

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