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APPLICATION OF PHOTOMETRY IN THE PROCESSES OF ILLUMINATION OF IMAGING OBJECTS

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Annotation
Electric lighting is used in different places and in different industries. It allows us to perform various works at any time of the day, its impact on our home life, production, and the development of architecture and culture is great. In other words, the application of electric lighting has its impact on various aspects of our society.

Keywords: electric lighting, lighting technique, lamps, gas lamps, oil lamps

Introduction

But the process of developing the lighting technique lasted very slowly. As a source of light, the following were used for electric lighting: fire, oil lamps, candles, kerosene lamps, gas lamps. The emergence of lamps was a strong impetus to the development of artificial light sources. The role of Russian electro technics in the development and improvement of Arc and sinking electric light sources is enormous. There are many types of gas discharge lamps that our industry is currently producing. They are all different in shape, size, lighting indicators, type of discharge and the spectral composition of radiation. Currently, incandescent lamps are the most widely used source of light. They have 810 units. And the gas-discharge lamps have about 210. The production of light sources is a separate network of our industry. Currently, methods of calculation and design of lighting equipment are created, which can purposefully cope with the tasks of electric lighting of industrial enterprises, public places, residential areas and open spaces.

The so — called" photometry "consists of two Greek words," fotos "(φώζ) — light and" METREO " (μετρεω) - give the meanings I measure. Thus, photometry in Uzbek means "measurement of light". The meaning of "light"in the living is that the wavelength is formed when electromagnetic radiation in the range from 380 nm to 780 nm falls on the human eye.

The analytical view of the imaging point exposition is represented by the following formula: H = (0,25 E·r·t·τ·v·cos4ω) / n2 ·(1+ 1/m)2 , lk·sek (2.3) here:

E — the luminosity of the object of attraction at the point of exposure(in Lux); g-the coefficient of clarity of the surface of the object at the given point;

t-viderjka (in seconds)

t is the conversion coefficient of the lens, and its construction and the lens has been painted depending on the object the main source of light in the camera luxmetr 104 sharpness of the lens;

ω-the falling angle of light falling on the plank at a given point (between the optical axis and the beam);

the optical image in the V-OB Gard flange is the indicator (ω and N dependent).; 1 / m – Description scale. In practice, this formula is not used, because for each case in the drawing and individual points of the object, it is difficult to take into account all exactly.

The calculator of the exponents is calculated so that the same answer should be generated when measuring the object's illumination and its general clarity (sometimes also called integral or average measured).

There is no exact definition of such an object, but one can say some of its conditional features. Since there are low and high local clarity in this object, none of them will have a surface that will prevail over the staff. All clarity will be balanced, at the border of a not so high interval, a little-more along the surface around 1:30-1:60. Such an object should not contain high-resolution objects that emit light from itself, for example, sources of combustible light. Such a brightness level corresponds to an average-105 gray color. The luminosity of the average object and the finite expression of the total clarity are achieved by selecting the density of the glazed glass in front of the photoelement in the exponent. This glass transfers approximately 20% of the light, that is, the average-the gray surface or the average object to which the image is taken, the more it rotates, the more it passes. If the total exposure on the exponent calculator is calculated not by the total clarity of the object, but by the clarity of its optionally selected detail, then the error in calculating how many times the coefficient of Return of the selected detail is greater than 0,2 will also be times greater. The calculation of the general exposition includes four dimensions: the total clarity of the object or its luminosity (provided that these dimensions are expressed in the exponential scale with the same number), the aperture of the lens, the sensitivity of the and the plank to light. The calculator is brought to the working state by adjusting to a certain value of the sensitivity of the film to light. After that, his work will consist in the mechanical solution of one unknown equation through three known ones. However, when calculating the sensitivity of the film to light on the basis of the obtained successful negatives, it is always necessary to take into account that if the clarity of the selected detail of the subject is obtained, then for this same film, so many different values of "practical" sensitivity are obtained, as well as different details of the subject are obtained to

To change the size of the overall staff exposition, the following tools can be used. Change the overall illumination of the object in the image tart. When working with artificial light (for example, with incandescent lamps), this is achieved in different ways: a) by changing the power of the lamp. The illumination of the object and the

exposition varies exponentially, which is a unit of electrical power. b) with changing the distance from the light source to the object. In the point light source, the law of inverse squares of distance is valid. A non-point source can be considered a point source, if the distance from which the object is being illuminated is once smaller than its dimensions 40 and greater. c) with the change of the width of the light beam by means of the tooling the light source in the luminaire of the lighting instrument. d) with the help of a rheostat or a transformer, changing the voltage coming from the electrical network to the instrument terminal. This method is not used when taking color images, because in this case the color temperature of the light remains unchanged. e) With a variety of absorbent suspension, which does not change its spectral composition to the luminescent devices.

2. With the aperture of the imaging camera lens. The exposition changes in the form of geometrical progression when one diaphragm passes the next army to the diaphragm in a row.

3. With a change in the frequency of reception of images. Exposure is inverse proportional to frequency.

4. With the change of the opening angle of the obturator slit. The exposition will be correct proportional to the corner size of the shutter.

5. With the installation of a gray light filter in front of the object to the entire frame. The exposure is directly proportional to the conduction coefficient of the light filter and inversely proportional to the multiplicity of its optical density.

The size of the local exposition can be controlled in four ways:

a) Change the clarity of the individual details of the shooting object, with the change of its local illumination;

b) The coefficient of Return of the object can be changed by repainting it with a lighter or fuller paint, sometimes simply by means of soaking its surface with water. Especially it is effective for surfaces with glue paint.

c) With the application of a light filter to take a color image, which absorbs the color radiation of the details of which the object is excessively bright. The color of the light filter is obtained as a complement to the color of the excess bright detail.

d) With the application of a gray light filter, which is applied to the image, which discovers the excess bright areas of the frame.

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