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# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

# GB 50582-2010

## Standard for lighting design of outdoor work places

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## 1 General

1.0.1 In order to implement national laws, regulations and technical and economic policies

in the lighting design of outdoor work sites, meet the functions of outdoor work sites, facilitate visual operations, visual comfort and improve work efficiency, and achieve safe use, economical rationality, Advanced technology, convenient maintenance and management, implementation of green lighting, formulate this standard.

1.0.2 This standard applies to newly built, rebuilt and expanded airports, railway yards, port terminals, shipbuilding (repair) yards, petrochemical factories, gas stations, power plants, substations, power and thermal plants, construction sites, parking lots, Water supply and sewage treatment plants and other outdoor work site lighting design.

1.0.3 The lighting design of the outdoor work site shall not only comply with this standard, but also comply with the current relevant national standards.



## 2 terms

2 terms

### 2.0.1 green lighting green lights

Saving energy and protecting the environment are beneficial to improving people's production, work, learning efficiency and quality of life, and protecting lighting for physical and mental health.

### 2.0.2 visual task

The process of observing details and objects presented in front of the background in work and activity.

### 2.0.3 Luminous flux

The photometric quantity derived from the radiant flux Phie according to the action of radiation on the CIE standard photometric observer.

### 2.0.4 luminous intensity

The luminous intensity of a luminous body in a given direction is the quotient obtained by dividing the luminous flux dPhi transmitted by the luminous body in the solid angle element dohm of the direction by the solid angle element, that is, the luminous flux per unit solid angle.

### 2.0.5 Luminance

Luminous intensity per unit projected area.

### 2.0.6 illuminance

The illuminance of a point on the surface is the quotient obtained by dividing the luminous flux dPhi incident on the panel containing the point by the area dA of the panel.

### 2.0.7 maintained average illuminance

The average illuminance on a specified surface at the moment when the lighting installation must be maintained.

### 2.0.8 reference plane reference surface

The plane on which illuminance is measured or specified.

### 2.0.9 working plane

A plane on which to work.

### 2.0.10 luminance contrast

The ratio of the brightness difference between the identified object and the background in the field of view to the brightness of the background.

### 2.0.11 maintenance factor

After a lighting device has been used for a certain period of time, the ratio of the average illuminance or average brightness on a specified surface to the average illuminance or average brightness obtained on the same surface when the device is newly installed under the same conditions.

### 2.0.12 general lighting

Uniform lighting set to illuminate the entire site.

### 2.0.13 localized lighting

For a specific area, such as the place where work is performed, it is designed to illuminate the general lighting of the area with different illuminance.

### 2.0.14 local lighting local lighting

Lighting set up to illuminate a part for a specific visual work.

### 2.0.15 mixed lighting mixed lighting

Lighting consisting of general lighting and local lighting.

### 2.0.16 flood lighting

Usually, a spotlight is used to illuminate a certain scene or target, so that its illuminance is significantly higher than its surrounding illuminance.

### 2.0.17 normal lighting

Lighting used under normal conditions.

### 2.0.18 emergency lighting emergency lighting

Lighting enabled due to power failure for normal lighting. Emergency lighting includes evacuation lighting, safety lighting, and standby lighting.

### 2.0.19 Escape lighting

As part of emergency lighting, lighting used to ensure that evacuation routes are effectively identified and used.

### 2.0.20 safety lighting safety lighting

As part of emergency lighting, lighting used to ensure the safety of people in potential danger.

### 2.0.21 standby lighting stand-by lighting

Lighting used to ensure the continuation of normal activities as part of emergency lighting.

### 2.0.22 duty lighting on-duty lighting

Lighting set up for duty during non-working hours.

### 2.0.23 security lighting

Lighting provided for warning.

### 2.0.24 obstacle lighting obstacle lighting

The lighting of marker lights installed on buildings or structures that may endanger the safety of navigation.

### 2.0.25 Luminous efficacy of a light source

The quotient of the luminous flux emitted by the light source divided by the power of the light source is referred to as the light effect of the light source.

### 2.0.26 Luminaire efficiency

Under the same conditions of use, the ratio of the total luminous flux emitted by the