



## LUX AND LUX LEVELS

Lux is a unit of measurement for light intensity that is used in lighting design and analysis. It is defined as the amount of luminous flux per unit area and is commonly used to express the illuminance on a surface. The lux level is a measure of the amount of light that falls on a surface, and is used to assess the adequacy and quality of lighting in a space.

The lux level is an important factor in lighting design, as it determines the visibility, comfort, and safety of a space. A higher lux level results in better visibility and increased safety but can also lead to discomfort due to glare or high levels of illumination. A well-designed lighting system should aim to provide an appropriate and consistent lux level throughout the space, while also considering factors such as energy efficiency and visual comfort

The typical lux levels required for different applications vary based on the specific use and requirements of the space. Here are some general guidelines for common applications:

- ⊠ Office spaces: 400 to 500 lux
- ⊠ Residential spaces: 50 to 100 lux
- ⊠ Classrooms: 400 to 500 lux
- ⊠ Retail spaces: 100 to 1000 lux
- ⊠ Industrial spaces: 100 to 500 lux
- ⊠ Hospitals: 300 to 500 lux
- ⊠ Street lighting: 2 to 10 lux
- ⊠ Emergency lighting: 0.3 to 3 lux
- ⊠ Museums and art galleries: 50 to 150 lux

It's important to note that these are very general guidelines and may vary depending on the specific requirements of each space.

The lux level required for a space may be influenced by several factors, including the size and layout of the space, the activities performed within the space, the colour and texture of surfaces, and the availability of natural light. A lighting designer or engineer will assess these factors and



make recommendations for the appropriate lux level based on the specific needs of the space

For specific assistance with a workplace requirement please contact one of our IESSA accredited lighting specialists for assistance

Specialised

### **Lux levels for mining applications**

The lux levels required in underground mining applications vary based on the specific use and conditions of the mine. In general, the lux level must be sufficient to ensure the safety and productivity of workers, while also meeting relevant health and safety regulations

According to international mining standards and regulations, such as the International Labour Organization (ILO) and the South African Department of Mineral Resources, the standard recommends a minimum illuminance of 20 lux for haulage roads, 50 lux for loading and tipping points, and 100 lux for work areas where visual tasks are performed. The standard also recommends higher levels of illuminance for emergency areas and areas where safety-related tasks are performed. Kindly note that these are general guidelines, and the actual lux level required in a mine may vary based on the size and layout of the mine, the type of ore and minerals being extracted, and the specific lighting fixtures and systems used.

A lighting designer or engineer will assess these factors and make recommendations for the appropriate lux level based on the specific needs of the mine.