

# THE CITY AND COUNTY OF CARDIFF

## CODE OF GUIDANCE

### LIGHTING

#### Purpose

The purpose of this Code of Guidance is to provide advice on lighting in the workplace. Lighting is one of the most important environmental criteria that make up a safe and effective working environment.

The Code of Guidance addresses the following:

1.0 Legal requirements in respect of lighting in the workplace

2.0 Lighting standards

#### 1.0 **Legal requirements in respect of lighting in the workplace**

The Management of Health and Safety at Work Regulations 1999 require that employers make an assessment of the risks to the health and safety of employees and others. In respect of lighting this generally relates to the level of lighting, glare and the safety of the lighting equipment itself.

The Workplace (Health, Safety and Welfare) Regulations 1992 specify that:

- (i) Every workplace shall have suitable and sufficient lighting.
- (ii) The lighting provided shall, so far as is reasonably practicable, be by natural light
- (iii) Without prejudice to the general requirement for suitable and sufficient lighting, suitable and sufficient emergency lighting shall be provided in any room in circumstances in which persons at work are specially exposed to danger in the event of failed artificial lighting.

The Approved Code of Practice for the Workplace (Health, Safety and Welfare) Regulations 1992 advises that:

- (i) Lighting should be sufficient to enable people to work, use facilities and move from place to place safely and without experiencing eyestrain
- (ii) Stairs should be well lit and shadows should not be cast over the main part of the treads
- (iii) Where necessary, local lighting should be provided at workstations and at places of particular risk e.g. pedestrian crossing points on vehicular traffic routes

- (iv) Outdoor traffic routes should be adequately lit after dark
- (v) Dazzling lights and annoying glare should be avoided
- (vi) Lights and light fittings should not cause a hazard and light switches should be positioned so they can be easily found.

The Provision and Use of Work Equipment Regulations 1998 require suitable and sufficient lighting at anyplace where a person uses work equipment, taking account of the operations carried out.

The Health and Safety (Display Screen Equipment) Regulations 1992 require workstations to meet a number of minimum requirements including in respect of lighting. The lighting requirements in respect of the use of display screen equipment are:-

- (i) Room or task lighting shall ensure satisfactory lighting condition and an appropriate contrast between the screen and background environment, taking into account the type of work and the vision requirements of the user.
- (ii) Possible disturbing glare and reflections on the screen or other equipment shall be prevented by co-ordinating workplace and workstation layout with the positioning and technical character of artificial light sources.
- (iii) Workstations shall be designed so sources of light, such as windows, transparent walls, bright coloured objects, etc do not cause direct glare or distracting reflections on the screen.
- (iv) Windows shall be fitted with a suitable system of adjustable covering to attenuate the daylight that falls on the workstation.

Specific lighting requirements are covered in other Regulations, for example, Electricity at Work Regulations 1989 and the Construction (Health, Safety and Welfare) Regulations 1996.

## 2.0 Lighting Standards

Note. Any design or assessment of the adequacy of natural or artificial lighting should be undertaken by qualified professionals in possession of calibrated measuring instruments.

There are two issues which need particular consideration in lighting design:

- (a) the quantity of light required for a given task
- (b) quality of the lighting, with regard to its distribution, the avoidance of glare, colour rendition and brightness.

## Quantity of Light

Lighting standards for work inside and outside buildings are detailed in the HSE Guidance Note HS(G)38 'Lighting at Work', but these standards only consider safety and no perception of detail. In practice good lighting design is normally to a higher standard as prescribed in the Chartered Institute of Building Services Engineers (CIBSE) Code of Practice for Interior Lighting and the associated Lighting Guides. In order to ensure satisfactory standards in respect of quantity of light are achieved, competent staff should be consulted, e.g Health and Safety Advisers or staff in Development and European Affairs.

## Quality of Light

'Glare is experienced when parts of the visual field are excessively bright compared with the general surroundings. It frequently occurs when the light source is directly in line with the task being undertaken or when light is reflected off a given object or surface. It can occur in three forms:

- (i) Disability glare – caused by bright bare lamps directly in the line of sight
- (ii) Reflected glare – reflection of bright light sources on wet or shiny surfaces e.g. glass. It can be resolved by using sources of low brightness and careful design of the lighting installation
- (iii) Discomfort glare – caused by too much contrast of an object and its background. This situation can be resolved by keeping lighting levels as high as possible, maintaining lamps parallel to the main direction of lighting and careful design of shades which screen the lamp.

Lighting distribution is an important feature of lighting design. For good general lighting, regularly spaced lamps should be used to give an evenly distributed illuminance.

## **Further Information**

Management of Health and Safety at Work Regulations 1999  
Workplace (Health, Safety and Welfare) Regulations 1992  
Health and Safety (Display Screen Equipment) Regulations 1992  
HSE Guidance Note HS(G)38 'Lighting at Work'  
Code of Guidance – Display Screen Equipment.  
The Chartered Institute of Building Services Engineers (CIBSE) Code of Practice for Interior Lighting and associated 11 Lighting Guides.