In Section 8 of the Offices, Shops and Railway Premises Act 1963, reference is made to suitable and efficient lighting, either natural or artificial. Again the need for maintenance is highlighted.

Most associated Regulations and Acts call for adequate lighting and installation maintenance. Some are listed below:

- Health and Safety (Signs and Signals) Regulations 1996, (plus BS 5266, EN 1838)
- Building Regulations, Part L: Conservation of fuel and power
- Building Regulations, Part B: Fire safety
- Fire Precautions (Workplace) Regulations 1997
- Visual Display Screens Act 1992
- Electricity at Work Regulations 1989.

Guidance on lighting for specific industries is given in the SLL Lighting Guide 1: *Industrial lighting.*

10.2.2 The environment

Industrial lighting may be required to operate in extremes of temperature and humidity, may be exposed to atmospheres that are corrosive, explosive or dirty, and may need to be capable of withstanding water jets and vibration.

Some light sources are temperature sensitive. For example, fluorescent lamps only produce their full light output at a specific ambient temperature, higher or lower temperatures causing a significant reduction in light output. LEDs produce less light output and have shorter lives as the ambient temperature increases. Where ambient temperatures are low, for example in a cold store, care is necessary to avoid starting problems with discharge lamps.

Control gear has a maximum operating temperature above which life will be reduced. Electronic control gear is more sensitive than electromagnetic control gear in this respect. Therefore, care should be taken in selecting and locating control gear when lighting industries where the ambient temperature near the luminaires is high, such as in a foundry.

Luminaires designed to cope with damp, corrosive, explosive, flammable or dirty atmospheres are available, at a price. Luminaires capable of operating in damp and dirty conditions are classified using the International Protection (IP) system (see Table 4.10).

Some industrial activities produce considerable vibration, for example movement of an overhead crane. Light sources where a hot filament is used are sensitive to vibration.

10.2.3 Daylight availability

Many industrial premises have the potential to use daylight. For new buildings, this can be done through a special roof construction, such as a north light (Figure 10.1). For existing roofs, it is sometimes possible to replace existing roof panels with simple translucent panels. The lighting objective for any daylighting system should be to provide diffuse daylight without direct sunlight. Direct sunlight can cause glare and strong shadows on the workplace and should be avoided.