4.1.7 Environmental

Luminaires may contain a variety of materials and some of these could be hazardous to the environment when the luminaire is disposed of at the end of life. To stop environmental pollution there are two sets of European regulations, WEEE and RoSH.

WEEE or more fully the Waste Electrical and Electronic Equipment Directive requires that all luminaires are recycled at the end of life and are not just thrown away. To ensure that this occurs, luminaire suppliers are required to make provision for the collection and recycling of old luminaires; see http://www.lumicom.co.uk for more information.

RoHS, the Restriction of Hazardous Substances Directive, controls the use of certain materials used in luminaires. These materials such as lead, mercury, cadmium and polybrominated biphenyls are all toxic and their use in luminaires is limited.

4.2 Luminaire types

The lighting industry produces many thousands of different luminaires. Given below are brief outlines of the main types of luminaire used in interior and exterior lighting.
Details of any specific luminaire are best obtained from the manufacturers.

4.2.1 Interior lighting

Direct luminaires

Direct luminaires are luminaires in which the light distribution is predominantly downward (see Table 4.7). Such luminaires are typically recessed into or surface mounted on the ceiling. They are widely used in offices where the ceiling height is restricted. The usual light source is a fluorescent lamp, either linear or folded. Many different forms of optical control are available, from diffusers through prismatic refractors to parabolic reflectors and louvres. Consequently, direct luminaires are available with a wide range of luminous intensity distributions. Direct luminaires are available for operation in dirty, corrosive or hazardous conditions. Direct luminaires are available with dimming or switching facilities linked to manual, occupancy sensor and photocell control. The most common problems with lighting installations using direct luminaires is the creation of a dark ceiling and poor illuminance uniformity in obstructed spaces. This problem can be overcome by choosing direct luminaires with a little upward light output or by having high reflection factors in the space. Figure 4.10 shows a direct luminaire.

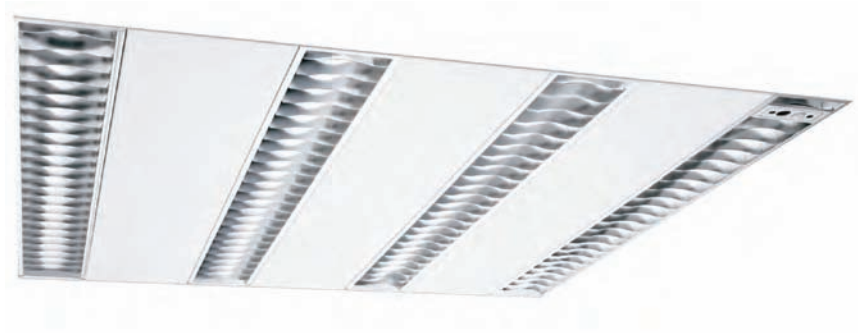

Figure 4.10 An example of a direct luminaire