The appearance of the office will also be affected by the illuminance of the walls and ceiling as well as the working plane. Figure 9.2 shows desirable ranges of illuminance on the walls and ceiling as a percentage of the average working plane illuminance. What illuminances are actually achieved on the walls and ceilings will depend on the type of office lighting used. For direct lighting, the ceiling illuminance will be at the bottom end of the specified range. If this cannot be achieved, some form of supplementary lighting to brighten up the ceiling is required. For indirect lighting, it will not be possible to achieve a ceiling illuminance within the range specified, unless the illuminance on the working plane is increased through supplementary lighting. For direct/indirect lighting it should always be possible to achieve wall and ceiling illuminance percentages within the ranges specified.

9.3.3 Maximum luminances

One of the concerns of people working in offices is the reflection of high luminance objects in computer screens. Such reflections can be disturbing because they mask the display or distract attention from it. This used to be a major problem when screens used bright characters on a dark background and were highly reflective but the development of better quality, higher luminance screens that allow dark characters on a bright background, and the wider use of screen treatments to reduce both diffuse and specular reflections made it less of a problem. Nonetheless, there are still many of the older type of screens in use and some of the new screens designed to provide a crisp image are very specular so it is necessary to recognise that lighting needs to be designed with care if problems are to be avoided.

The obvious solution to reflections from screens is to obtain a better quality screen. However, if it is necessary to solve a screen reflection problem by doing something about the lighting then the answer is not to exceed the maximum luminance limits set for luminaires. Table 9.7 gives the maximum luminances of any part of a luminaire that can be seen in a screen, for different screen types. The luminance limit is normally applied at and above a 65° angle of elevation where the screens are not tilted back more than 15°. Where screens are unusually sensitive to reflections, it may be necessary to use a 55° luminaire luminance limit angle.

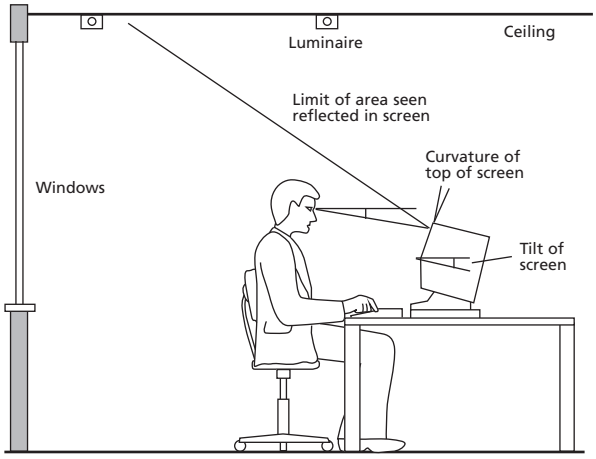

Figure 9.3
Defining what can be seen reflected in a display screen