As far as possible, the electric lighting should not mask either the natural variations of daylight across surfaces or the way in which natural lighting changes with time and weather.

When the quantity of daylight in the space is small, the electric lighting is required to give general illumination over all room surfaces. Particular illumination may still be required on surfaces around windows – for instance, in the case of a small pierced window through which an area of bright sky is visible.

Where both daylight and electric light provide task lighting, the combined illuminance should satisfy the criteria given in the Lighting schedule (section 2.5). The directionality of daylight is usually an advantage in achieving good modelling, but electric lighting may be required to increase the luminance of surfaces in shadow. Care should be taken, in the provision of daylight, that tasks are not viewed against the sky or a very bright area of the interior – see Figure 1.10). If this is unavoidable, the background luminance should be such that there is a satisfactory brightness contrast between task and background (see section 2.3.4, Luminance and illuminance ratios).

2.3.1 Colour

The sky varies in colour with time, azimuth and altitude. These variations are very great, and no electric lamp matches continuously the colour appearance of daylight. Whilst there are devices available that can mimic the changing colour of daylight, they are only rarely used to provide artificial lighting. In general room lighting, apparent discrepancies between the colour of electric light and daylight can be reduced by using lamps of intermediate colour temperature (3300–5300 K) and screening them from the view of the occupants, using opaque louvres rather than translucent diffusers.

When discrimination of surface colour is essential for task performance, the choice of lamp should be that recommended for the task under entirely electric lighting (see section 1.8.2, Colour rendering). It may be necessary for the user to know whether the task is illuminated primarily with electric light or with daylight.

2.3.2 Illuminance

The illuminance and its distribution on the task area and its surrounding area have a great impact on how quickly, safely and comfortably a person perceives and carries out a visual task.

The values given in the Lighting schedule (section 2.5) are maintained illuminances over the task area on the reference surface, which may be horizontal, vertical or inclined. The average illuminance for each task shall not fall below the value given in the Lighting schedule, regardless of the age or the condition of the installation. The values are valid for normal visual conditions, and take into account the following factors:

— psycho-physiological aspects such as visual comfort and well-being

— requirements for visual tasks

— visual ergonomics

— practical experience