

natural variation of daylight is valuable. The light from a side window, in particular, enhances the architectural modelling of a room, and its variation with time gives information about the weather and the time of day.

The character of a naturally lit room is often considered valuable by users. A room can appear daylit even though the principal illumination on the working plane is from electric sources. Contrast between inside and outside is reduced when there is a high level of diffuse daylight internally and when light from luminaires falls on the walls and ceiling. The detailed design of the window frames or surrounds is also important.

Provided that it does not cause thermal or visual discomfort, or deterioration of materials, direct sunlight is appreciated by users. It is especially welcomed in habitable rooms used for long periods during the day, and in buildings where occupants have little direct contact with the outside (such as those used by the elderly). Good control of the sunlight is, however, essential, particularly in working interiors. Generally, sunlight should not fall on visual tasks or directly on people at work. Criteria for window sizes to achieve good general lighting are given in section 2.2, Recommendations for daylighting. Direct sunlight is covered in detail in *Lighting Guide 10: Daylighting and Window Design*.

1.2.3 Illumination for task performance

When there are visual tasks to be carried out, the principles of lighting design using daylight are the same as those for electric lighting: it is necessary both to achieve a given quantity of illumination and to take account of the circumstances that determine its quality. Daylight has particular characteristics as a task illuminant:

- (a) A constant illuminance on the task cannot be maintained. When the sky becomes brighter, the interior illuminance increases and, although control is possible with louvres, blinds and other methods, fluctuations cannot be avoided. Conversely, in poor weather and at the end of the working day, daylighting may need to be supplemented with electric lighting.
- (b) Windows, acting as large diffuse light sources to the side of a worker, give excellent three-dimensional modelling. Roof-lights, which give a greater downward lighting component, give similar modelling to large ceiling-mounted luminaires.
- (c) The spectral distribution of daylight varies significantly during the course of a day, but the colour rendering is usually considered to be excellent.
- (d) When tasks are seen in the same field of view as the bright sky, performance can be impaired by disability glare. If surfaces are placed so that the view of the window is mirrored in them (as when pictures are on a wall which faces a window), visibility can be impaired by the glossy reflections.

The use of windows to provide task lighting in working interiors is economically valuable in many buildings, but the success is dependent on good control of the electric lighting. This is described in section 3.7, Energy management, and in Lighting controls (see CD).