Topics related to (a) and (b) are discussed in Part 3, Lighting design, and also in Lighting equipment (see CD). Spatial variation will be discussed in more detail in the following sections, with the terms 'uniformity' related to variation in illuminance over the task area and 'diversity' to changes throughout the interior.

Note: For a more formal definition of some of the terms, involved see Part 4, Glossary.

1.4.2 Spatial variation of illuminance in working locations

Variation of illuminance can be considered in two areas: on and around the visual task itself, and over the whole interior. The task area may be considered as the area containing those details and objects necessary for the performance of the given activity, and includes the immediate surround (or background) to the details or objects. Excessive rates of change of illuminance over the task can be distracting and cause changes in visual adaptation across the task, which will reduce visual performance. Excessive variations of illuminance within an interior may affect comfort levels and visual performance by causing transient adaptation problems. These problems are partly addressed by other recommendations, such as those governing the wall-to-task and ceiling-to-task illuminance ratios, and the surface reflectance recommendations (see sections 2.3.4, Luminance and illuminance ratios, and 2.3.5, Room surfaces). Excessive variation in horizontal illuminance will also contribute to these problems, and should be avoided (see section 2.3.3, Illumination variation).

General lighting installations lit by ceiling-mounted arrays of luminaires will usually provide acceptable uniformity conditions over the task areas if luminaires are installed within their recommended spacing-to-height ratios as published by lighting manufacturers (see sections 3.6.2, Selection of luminaire characteristics, and 3.8.3.4, Maximum spacing-to-height ratio (SHR_{max})).

Further information on the effects of obstructions and illuminance variation when using local or localised lighting will be found in sections 2.3.3, Illuminance variation, and 3.8.4, Specification and interpretation of illuminance variation, and also in Verification of lighting installation performance (see CD).

1.4.3 Illuminance variation in non-task locations

There are many lighting applications that do not demand the performance of an exacting visual task for long periods. In public and private areas, the lighting design may be required to entertain and stimulate those using the space. In other areas, leisure, relaxation or even contemplation may be required. To achieve this the lighting designer may be justified in introducing more or less variation. This approach is discussed further in sections 1.4.6, Adaptation, and 2.3.8, Modelling and emphasis. However, it is important to remember to ensure that there is sufficient illumination to ensure the safe circulation of people within the space.