

Table 1.1 Lamp luminance and shielding

Lamp luminance (kcd/m^{-2})	Minimum shielding angle ($^{\circ}$)
1 to < 20	10
20 to < 50	15
50 to < 500	20
≥ 500	30

area, low background luminance and a position close to the line of sight all increase discomfort glare. Unfortunately, most of the variables available to the designer alter more than one factor – for example, changing the luminaire to reduce the source luminance may also reduce the background luminance. These factors could counteract each other, resulting in no reduction of discomfort glare. However, as a general rule, discomfort glare can be avoided by the choice of luminaire layout and orientation, and the use of high-reflectance surfaces for the ceiling and upper walls. In any proposed lighting installation, the likelihood of discomfort glare being experienced can be estimated by calculating the unified glare rating (UGR) (see section 3.8.5, Discomfort glare; see also Calculation of discomfort glare, see CD). Recommended limiting glare ratings for specific applications are given in section 2.5, Lighting schedule, and for luminous ceilings and indirect lighting installations maximum luminances are given in section 2.3.5.1, Ceilings.

1.5.3 Discomfort glare from windows

Severe visual discomfort arises when a person is looking through a window in the direction of the sun, or when direct sunlight falls on a light-coloured surface in the immediate field of view. In such circumstances there may also be thermal discomfort. Solar control is essential in most buildings; this may be in the form of the design of the building's overall form and orientation, or the use of external screens and louvres, glass of low transmittance, or internal blinds and curtains. All of these reduce the total amount of light entering a room, and this must be considered by the lighting designer.

Glare can also arise when an overcast sky is viewed through a window. It may be reduced by solar control devices, or by other means of decreasing the contrast between the interior and the view of the sky. These include the use of splayed window reveals to give areas of intermediate brightness, ensuring that the window wall is light-coloured, and using electric lighting to increase the luminance of the window wall.

1.5.4 Veiling reflections

Veiling reflections (Figure 1.13) are high-luminance reflections that overlay the detail of the task. Such reflections may be sharp-edged or vague in outline, but regardless of form they may affect task performance and cause discomfort. Task performance will be affected because veiling reflections usually reduce the contrast of a task, making task details difficult to see, and may give rise to discomfort.