Automatic photoelectric controls can also be used to dim the electric lighting in response to daylight. Figure 6.5 shows the percentage of a normal working year during which the luminaires would have to be switched off in order to ensure the energy saving obtainable by continuous photo-electric dimming are achieved. It applies to dimmer systems that can control down to 10 percent light output or less.

Recommendations for daylighting and supplementary electric lighting are given in BS 8206: Part 2.

Integration with the surroundings

For exterior lighting, the lighting of the surrounding area has an impact on the perception of the brightness of the installation. The same installation in rural and urban settings will look very bright in the former and dim in the latter. This means that the maintained illuminance selected needs to be matched to the illuminances of the surroundings if the expected appearance is to be achieved.

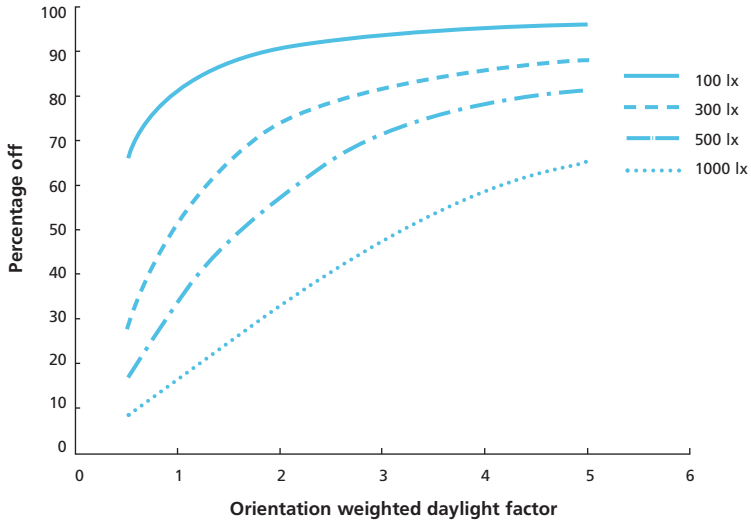

Figure 6.5 The percentage of the working year that electric lighting will be switched off plotted against orientation-weighted daylight factor for different 'design' illuminances, assuming a top-up photoelectric dimming system (from Hunt, 1979)

6.3.4 Equal and approved

One problem that frequently afflicts lighting designers is the substitution of a cheaper luminaire for the one specified in the original design. Such substitutions are usually made in an effort to save money. Sometimes, substitutions are justified, sometimes they are not. The key to determining if a substitution is justified is a review carried out by the original designer to determine if the substitute luminaire is the equal of the originally specified luminaire and approved to the relevant standards, i.e. if it is equal and approved. The factors to be considered in the review are the photometric characteristics, the construction and the aesthetics of the substitute luminaire. In addition, attention should be paid to the electrical characteristics, conformity to the relevant standards and the impact on maintenance. Further details of these elements of the review can be found in the joint statement issued by the Society of Light and Lighting, the Electrical Contractors Association, the Institution of Lighting Engineers and the Lighting Industry Federation in 2004 (Joint statement, 2004).