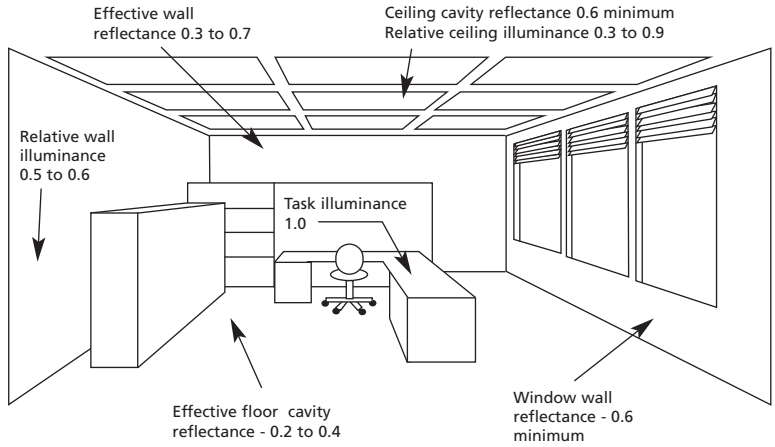
Figure 9.2
Recommended ranges of floor and ceiling cavity reflectance, wall reflectance and relative surface illuminance in offices



When estimating the average surface or cavity reflectance it is necessary to take into account all the reflectances forming the surface or cavity. For example, if a painted wall is lined with filing cabinets, the average wall reflectance is made up of the reflectances of the painted surface and the filing cabinets weighted by the area of each. Table 9.1 gives the reflectances of some common materials found in buildings and some paint colours. Details of the reflectance of other materials can often be obtained from the manufacturers or by the methods described in SLL Lighting Guide 11: *Surface reflectance and colour.*

For direct lighting, where the luminaires are recessed into the ceiling, light reaching the ceiling and upper part of the walls is first reflected from the floor and work stations. To avoid a gloomy appearance caused by dark walls and ceiling it is necessary to have a floor cavity reflectance towards the top end of the range given in Figure 9.2. Unfortunately, it is difficult to achieve this without using a light floor finish, something that is not practical in heavily trafficked offices. The solution to this problem is a supplementary lighting installation designed to light the ceiling directly.

There are also limitations on the colour of the floor finish. Where direct lighting with luminaires recessed into the ceiling is used, the ceiling is illuminated primarily by light reflected from the floor. Consequently, a strongly coloured floor will result in a strongly coloured ceiling.