3.8.1.4 Conventional switching

Field studies of switching behaviour have shown that with traditional switching arrangements, electric lighting is usually either all switched on or all switched off. The act of switching is almost entirely confined to the beginning and end of a period of occupation; people may switch lighting on when entering a room, but seldom turn it off until they all leave. The year-round probability that an occupant will switch lights on when entering a room depends on the time of day, the orientation of the windows, and the minimum orientation-weighted daylight factor on the working area (see Figure 3.12). Daylight factor calculations are covered in section 3.4, Daylight, and *BRE Digest 303: Estimating Daylight in Buildings*. When these are to be used with Figure 3.12, the following orientation weighting factors should be included:

— North-facing windows: 0.77

— East-facing windows: 1.04

— South-facing windows: 1.2

— West-facing windows: 1.00.

For example, if the minimum orientation-weighted daylight factor is 0.6 per cent and work starts at 0900 h, Figure 3.11 shows a 56 per cent probability of switching. If the room is continually occupied, even through the lunch hour, it may be concluded that this same figure, 56 per cent, is the probability that the lights will be on at any moment during the working day. Thus for a lighting installation with a load of 3 kW and a working year

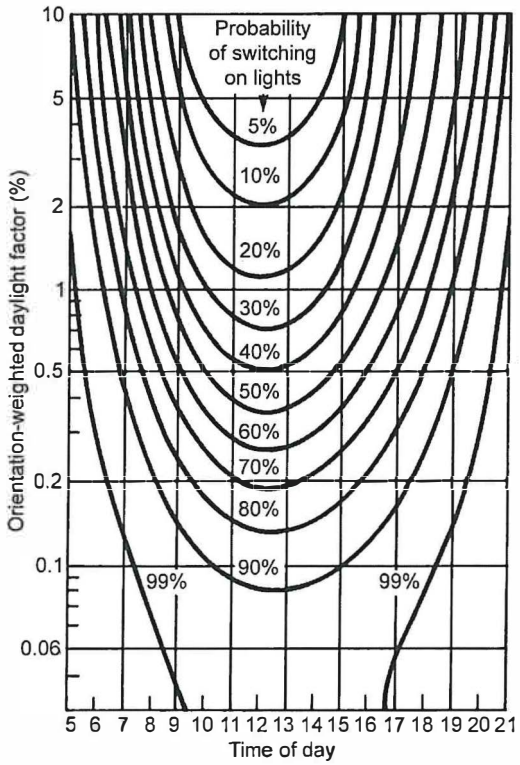

Figure 3.12 Probability of luminaires being switched on