Integration within the space
A lighting installation can be visible and express the interior design or it can disappear into the background with only its effect being seen. Both approaches rely heavily on attention to detail, Specifically, attention to the appearance of the luminaire, lit and unlit, is necessary for a design that is intended to express the interior design, while attention to the builder's work details is required if the intention is to hide the luminaires.

The other aspects of the space that can interact with the lighting are the reflectances and colours of the interior décor. Large areas of low reflectance reduce the amount of inter-reflected light. If inter-reflected light is planned to make a significant contribution to the amount of light delivered, large areas of high reflectance surfaces are needed. As for surface colour, the extent to which they interact with the lighting depends on the saturation of the colour and the area it covers. Large areas of saturated colour can distort the colour of the light delivered. However, spaces without colour can be very uninteresting. The use of saturated colours over small areas provides some interest without distorting the lighting.

Integration with other services
Most services like sprinklers, loudspeakers, fire detectors and supply and extract grilles/diffusers have an optimum spacing to cover the area under consideration and lighting to some extent is the same. Creating a ceiling plane that is restful and harmonious to the eye requires compromise.

Integration with air conditioning systems needs particular care. Luminaires on the ceiling can short circuit or deflect airflows thereby creating overheating or draughts. Also, the light output of fluorescent lamps is affected by the ambient temperature. This means extracting hot air through luminaires and integrating luminaires into chilled beams needs careful consideration.

Integration with daylight
To integrate electric lighting with daylight requires zoning of the electric lighting according to the distribution of daylight and a choice between switching and dimming control.

For buildings with perimeter glazing a rough guide to zoning is to divide the floor plate into 3 m wide strips starting at the perimeter. For buildings with a regular array of rooflights, zoning may not be necessary.

As for switching or dimming, field studies of switching behaviour have shown that, with manual switching, electric lighting is usually either all on or all off. 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, orientation of the windows and the minimum orientation-weighted daylight factor on the working area (see Chapter 7).

Figure 6.3 can be used to estimate the likely energy consumption of an electric lighting installation when manual switching is used to adjust it to daylight. If the minimum orientation-weighted daylight factor in the room is 1 percent and work starts at 0800 hours, Figure 6.3 shows a 60 percent probability of switching on on entering. If the room is continually occupied, we may conclude that 60 percent is the probability that the lighting 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 consisting of 260 days, each of 8 hours, the total annual energy consumption would be
$260 \times (8 \times 0.60) \times 3 = 3744$ kW·h