More formally, nine distinct aspects of lighting need to be considered. They are:

- legal requirements
- visual function
- visual amenity
- architectural integration
- energy efficiency and sustainability
- maintenance
- costs
- photopic or mesopic vision
- light trespass and sky glow.

All these aspects will contribute to the success of a design, but they may not all carry equal weight depending on the particular application and situation. Also there is no particular order in which they should be considered. The important issue is that all the elements are considered, perhaps more than once, for a satisfactory solution to emerge.

6.2.1 Legal requirements

There are a number of legal requirements that apply to all lighting installations. Some are general, e.g. the Construction (Design and Management) Regulations. Some are specific about the type and form the lighting that should be provided, e.g. emergency lighting in buildings (see Chapter 8). Others influence lighting design by the limits they place on the type or amount of equipment that can be used, e.g. Building Regulations. Details of the requirements of the Construction (Design and Management) Regulations can be obtained from the Health and Safety Executive publications. Details of the significance of Part L of the Building Regulations can be found in SLL Factfile 9: *Lighting and the 2006 Building Regulations*. It is essential that the designer and the client are aware of the relevant legal requirements.

6.2.2 Visual function

This aspect is related to the lighting required for doing tasks without discomfort. Chapter 2 has shown how the illuminance incident on the task will affect the level of visual performance achievable. Recommended illuminances for different tasks are given in the SLL *Code for lighting*, various SLL Lighting Guides as well as in Part 3 of this *Handbook*. These values apply to the task area and do not necessarily need to apply to the whole working plane.

The traditional way of lighting an interior work place has been a regular array of luminaires. For this approach, a minimum task illuminance uniformity (minimum/average task illuminance ≥ 0.7) is recommended. This approach has the benefit that the tasks can be carried out on the horizontal plane anywhere in the work place.

In some cases the task will have a colour recognition element. In such cases it will be necessary to use lamps with a high general colour rendering index (CRI). For such tasks it will be appropriate to use lamps with a CRI ≥ 80 but for tasks with a requirement for very good colour discrimination, lamps with a CRI ≥ 90 will be necessary.

The human visual system can adapt to a wide range of luminances but it can only cope with a limited luminance range at any single adaptation state. When this range is exceeded, glare will occur. If a field of view contains bright elements that cause glare it is likely that they will affect performance or at least cause stress and fatigue which in turn will cause problems.

To avoid this will mean using luminaires and windows that have limited luminances within the normal fields of view relative to the adaptation level. Glare limits for different tasks are given in the SLL *Code for lighting*, various SLL Lighting Guides as well as in Part 3 of this *Handbook*.