be taken together to establish the lowest overall investment (see Financial appraisals on CD).

Other constraints which may affect the design objectives are:

— energy consumption

— hazardous or onerous environmental considerations (which may limit the range of acceptable luminaires)

— physical problems affecting the installation of equipment

— access for maintenance.

These constraints must be recognised when setting the objectives of the design.

3.2 Specification

The designer must always take due note of statutory instruments that affect lighting conditions. Lighting designers have a responsibility to ensure that lighting is not liable to cause injury to the health of occupants. Bad lighting can contribute towards accidents or result in inadequate working conditions.

The lighting objectives now need to be expressed in a suitable form. Although many can be expressed in physical terms, suitable design techniques may not exist or may be too cumbersome. For example, obstruction losses (see section 3.8.4, Specification and interpretation of illuminance variation) and contrast-rendering factors are two quantities that are difficult to calculate and predict accurately. Not all design objectives can be expressed as measurable quantities. For example, the need to make an environment appear 'prestigious', 'efficient' or 'vibrant' cannot be quantified. This does not mean that these objectives should be ignored, but experience and judgement may have to replace calculation.

A full specification can be established by reference to Part 2 of this *Code* and by taking the design objectives into account.

3.3 General planning

The remaining stage of design is to translate the design specification into the best possible solution, to meet the original objectives. The specification is therefore only a stepping stone; if it proves difficult to plan an installation that meets the design specification, it may be necessary to reassess the original objectives.

At the general planning stage, as distinct from detailed planning (see section 3.8, Detailed planning), the designer aims to establish whether the original objectives are viable, and to resolve what type of design can be employed to satisfy these objectives. The initial stage in the general planning of a lighting installation is to consider the interior to be lit, its proportions, its contents, and the daylight available. The first two topics covered here are:

— daylight

— choice of electric lighting systems.