

is described by the term 'modelling'. Directional lighting of a visual task may also affect its visibility.

Modelling is the balance between diffuse and directional light, and is a valid criterion of lighting quality in virtually all types of interiors. The general appearance of an interior is enhanced when its structural features and the people and objects within it are lit so that form and texture are revealed clearly and pleasantly. This occurs when the light comes predominantly from one direction; the shadows so essential to good modelling are then formed without confusion.

The lighting should not be too directional or it will produce harsh shadows; neither should it be too diffuse or the modelling effect will be lost entirely, resulting in a very dull luminous environment.

The relationship between the intensity of the directional lighting and the diffuse illuminance is expressed as the vector/scalar ratio (see section 3.6.3, Illuminance ratio charts). This objective ratio is a useful criterion when considering the relative values of directional lighting to non-directional or reflected lighting. A vector/scalar ratio from 1.2 to 1.8 will prove satisfactory in normal general lighting conditions where perception of faces is important. Under such conditions, facial modelling will usually appear balanced and natural.

Display lighting calls for greater impact and emphasis. Table 2.3 is intended to give general guidance on the display illuminance ratios (DIR) that must be provided to achieve increasing degrees of emphasis from 'subtle' to 'dramatic' (Figure 2.1). The display illuminance ratio is that between the general horizontal plane illuminance in the room and the value of local illuminance in the plane of the object to be displayed. Greater degrees of emphasis are likely to require lower values of general diffused lighting to avoid the need for excessive values of local display illuminance.

**Table 2.3** Direct illuminance ratio

| Display effect | Objective display illuminance ratio (DIR) | Subjective apparent brightness ratio |
|----------------|---|--------------------------------------|
| Subtle         | 5 : 1                                     | 2.5 : 1                              |
| Moderate       | 15 : 1                                    | 5 : 1                                |
| Strong         | 30 : 1                                    | 7 : 1                                |
| Dramatic       | 50 : 1                                    | 10 : 1                               |

Table 2.3 also shows that, because of visual adaptation, the apparent brightness difference between the object on display and its surroundings is less than the measured illuminance difference.

### 2.3.9 Glare

Glare is the sensation produced by bright areas in the field of view, and may be experienced either as discomfort glare or as disability glare (see section 1.5, Glare, for more information).