

18.4.2 Public spaces

The ultimate aim of the lighting of public spaces is to make the space look attractive and safe and hence encourage its use at night (Leslie and Rodgers, 1996). Lighting can contribute to this perception by allowing action at a distance. What this means is that by enhancing the visibility of people and faces, suspicious or threatening behaviour may be detected early enough for an escape to be made. Similarly, greater visibility provided by lighting may enable people behaving in a suspicious manner to be recognised or at least described. Such observations at a distance are a benefit to the law-abiding and a disadvantage to the criminal.

Lighting designed to allow action at a distance requires that attention be paid to the illuminance provided, the uniformity of illuminance, the presence of disability glare and the spectral power distribution of the light source. For people to have a reasonable perception of safety at night in car parks and on business streets, the horizontal illuminance on the ground should lie somewhere between 10 and 50 lx depending on the ambient illuminance (Figure 18.6). Below 10 lx, perceptions of safety deteriorate rapidly. Above 50 lx, perceptions of safety are close to the maximum possible, so there is little more to gain from higher illuminances (Boyce et al, 2000).

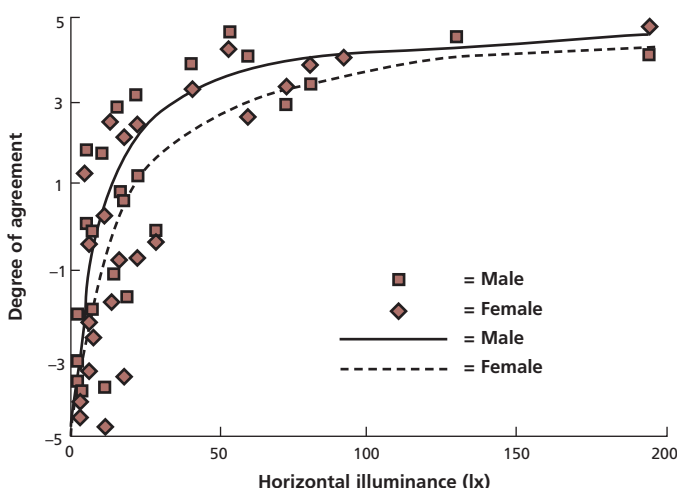


Figure 18.6 Mean levels of agreement with the statement ‘This is a good example of security lighting’ plotted against horizontal illuminance, for sites in New York City and Albany, NY, for male and female subjects separately. A value of +5 indicates strong agreement and –5 indicates strong disagreement (after Boyce et al., 2000).

As for illuminance uniformity, if the principal of action at a distance is to be followed, it is essential that excessive variations in illuminance be avoided. Close spacing of luminaires is particularly important if excessive variation in the vertical illuminances on faces is to be avoided. To avoid excessive variation in vertical illuminance, the spacing used should be less than two thirds of the maximum spacing suggested by manufacturers.

The most common sources of disability glare at night are luminaires in unsuitable locations, poor aiming of luminaires or poor luminaire design. This last problem is particularly common in ‘historic’ luminaires, which combine little shielding of the light source with low mounting heights. Care in the selection of luminaires, their aiming and mounting heights are essential if disability glare is to be avoided.