7 AMBIENT LIGHTING

7.1 Illumination of urban ambients (Cabarkapa and Djokic 2019)

Urban ambients are outdoor spaces where people congregate for pleasure, business, social interactions or tourism purposes. They usually refer to squares, parks, pedestrian paths, landscapes and markets, but can also refer to fortifications and archaeological sites. Illumination of these spaces should contribute to all of the following needs: safety, security, orientation, amenity and well-being.

Safety means that pedestrians are able to see obstacles and hazardous irregularities in the pavement in order to prevent their tripping or falling (Van Bommel 2014), while security can be actual or perceived. The former, reflecting actual crime rates in the considered area that may cause people to feel unsafe without real danger (Park et al. 2008), cannot always be improved by lighting. However, perceived security can, providing the pedestrian sufficient visual information about the facial expression and body language of people he/she meets (Meeren et al. 2005; Davoudian and Raynham 2012; Fotios and Yang 2013; Van Bommel 2014).

Experienced lighting designers know very well that the fulfillment of all quantitative (objective) requirements for ambient lighting, necessary for good visibility, will not guarantee achieving the best lighting solution, because its quality equally depends on the subjective criteria. Therefore, besides taking into account the quantitative advice referring to illuminance level and uniformity, glare control and visibility of faces (in the areas where people walk or gather), it is paramount to evaluate the solution through tryouts on-site.

Attractive illumination of urban ambients contributes greatly to the impression of cities. Appropriately illuminated environments induce feelings of security and pleasantness, certainly extending the time people spend outdoors. Illuminated ambients can also represent highlights of the urban night image. **Figure 7.1** shows the old town ambient of Mostar, preserved to date and attractive. The quality of the ambient owes to both the urban structure and the application of highly suitable LED luminaires (predominantly regarding their colour appearance and colour rendering, described in detail in subsections 2.4.3 and 2.4.4, respectively).

Figure 7.1 Three views of the old town ambient of Mostar, Bosnia and Herzegovina

Even though LED lighting is still developing, it is already convenient for and often favourable in ambient lighting. Figure 7.2 shows an ambient within a housing block where the warm LED light reaches all surrounding surfaces meant to be illuminated, creating a pleasant atmosphere. Both the atmosphere and the feeling of security are enhanced by the illumination of the ground floor area immediately surrounding the buildings, as well as by the light coming from the commercial interiors. Contribution of the latter should not be underestimated, as can be seen when comparing Figs. 7.2 and 7.3. Figure 7.3 shows outdoor lighting which is functional, but without much support from the surrounding buildings. Even though all surfaces are clearly visible, and linear ground lights illuminate the surrounding buildings, the ambient in this case does not create a welcoming atmosphere, due to the black holes of the commercial interiors, which are mainly in the dark. The neutral white light in Fig. 7.3 seems much cooler than the warm white light shown in Fig. 7.2, showing how colour of light influences an ambience.

Besides good visibility and visual comfort, as well as the creation of a pleasant and attractive atmosphere, quality ambient lighting should stimulate emotions, which requires from lighting designers to be imaginative and innovative. The quality depends on the lighting concept, primarily referring to the choice of urban elements to be illuminated, the method of their illumination and the applied lighting equipment.

Numerous urban ambients worldwide are poorly lit, because the lighting designers have not been familiar with all of the important lighting principles or have not investigated available possibilities. Also, there are ambient lighting installations which degrade the appearance of urban spaces due to inappropriate use of modern (usually LED) technologies.

Figure 7.2
A housing block ambient in Belgrade

Figure 7.3
Another housing block ambient in Belgrade

Illumination of urban ambients is more complex than that of streets, facades or monuments, because ambient lighting involves not only the principles related to both street and architectural lighting, but also the appearance of the space as an urban entity and, most of all, the appearance of people.