4.2.2 Exterior lighting

Road lighting luminaires

Road lighting luminaires used for lighting traffic routes are designed to deliver light to a road so that the surface is seen to be of uniform luminance and objects on the road can be seen in silhouette. The light distribution is therefore dependent on the position of the luminaire relative to the road. Most road lighting luminaires are mounted on columns placed at regular intervals at the side of the road or between crash barriers in the median. A few installations use a catenary system in which the luminaires are suspended over the median in a continuous series. For conflict areas and subsidiary roads (see Chapter 16) the luminaires are designed with a wide light distribution so as to give a uniform illuminance across the road. The light sources used in road lighting luminaires are typically low pressure sodium, high pressure sodium or metal halide. Road lighting luminaires are often provided with adjustable lamp holders and/or reflectors so as to allow the light distribution to be optimised for the light source and road layout. Two broad classes of road lighting luminaire are semi-cutoff and full cutoff (see Section 4.3.2, Table 4.9) these classes reflecting a different balance between luminaire efficiency and the control of glare. Road lighting luminaires need protection against dust and moisture and so are classified according to the IP system (see Section 4.3.2, Table 4.10). They are almost always fitted with a photoelectric control package. Figure 4.17 shows a selection of road lighting luminaires.

Figure 4.17 Examples of road lighting luminaires

Post tops

Post top luminaires are a form of road lighting luminaire but unlike the road lighting luminaires described above, which are intended for the lighting of high speed traffic routes, post top luminaires are intended for urban areas, where pedestrians are considered as important as drivers and the decorative aspect of the luminaire is as important as the functional. Post top luminaires are available with either rotationally symmetric or road lighting light distributions, so that the same luminaire can be used to light both roads and open pedestrian areas in a city. Post top luminaires take many different forms, some mimicking traditional styles for historic areas, while others represent the latest design trends. Because of their use in urban areas, low pressure sodium light sources are not used in post top luminaires, the most common light sources being high pressure sodium, metal halide, compact fluorescent and induction lamps. Post top luminaires need protection against dust and moisture and so are classified according to the IP system (see Section 4.3.2, Table 4.10). Because of their relatively low mounting heights, post top lanterns are often constructed of materials that resist attacks by vandals. They are almost always fitted with a photoelectric control package. The most common problem with post top luminaires is glare. This problem can be avoided if there is no direct view of the light source. Figure 4.18 shows a selection of post top luminaires.