16.3.2   Lighting design for subsidiary roads

The design process for lighting of subsidiary roads and associated areas, footpaths and cycle tracks consists of the following stages:

Selection of the lighting class and definition of relevant area: the lighting class is selected (Table 16.9) and the relevant areas defined.

Collection of preliminary data: the following data is required before calculation can start: Mounting height, luminaire type and optic setting, lamp type, initial luminous flux of lamp.
IP rating of luminaire, cleaning interval planned for luminaire, pollution category for location, luminaire maintenance factor, lamp replacement interval, lamp lumen maintenance factor at replacement interval, maintenance factor, luminaire tilt, width of relevant area, luminaire transverse position relative to the calculation grid, luminaire arrangement, glare index of luminaire.

Calculation of design spacing: the calculation procedure for subsidiary roads and associated areas, footpaths and cycle tracks is given in BS EN 13201: Part 3, Section 7.

Plotting of luminaire positions: having determined the ideal spacing, the luminaire positions are identified, starting with T-junctions, areas of traffic calming measures, and severe bends. After these are settled, the luminaire positions for the straight sections of the roads, paths or tracks are fitted to match. Finally, a check is made to determine if the luminaire positions are compatible with possible column positions.

16.4   Lighting for urban centres and public amenity areas

Urban centres and public amenity areas are used by pedestrians, cyclists and drivers. In such places, the lighting of the road surface for traffic movement is not the only or even the main consideration. Rather, the functions of lighting in urban centres and public amenity areas are to do what can be done for public safety and security, while also providing an attractive nighttime environment. To fulfill these functions, a master plan should be produced to meet some or all of the following objectives:

● to provide safety for pedestrians from moving vehicles

● to deter anti-social behaviour

● to ensure the safe movement of vehicles and cyclists

● to match the lighting design and lighting equipment to the architecture and environment

● to control illuminated advertisements and integrate floodlighting, both permanent and temporary

● to illuminate road and directional signs

● to blend light from private and public sources

● to limit light pollution

● to maintain lighting installations and protect them from vandalism

● to facilitate CCTV surveillance.