5.8 Thermal

All luminaires increase in temperature when in operation. The internal temperature of the luminaire can affect the efficiency of some light sources and the associated control gear. These changes in efficiency contribute to the light output ratio of the luminaire. The external surface temperature of a luminaire may also pose a fire hazard if mounted on a flammable surface (see Chapter D / 7.4.6).

NOTE1 Please refer to Abu Dhabi DMA Roadway & Public Realm Lighting Specifications and Roadway Project Compliance Checklist Tables; exact Figures for temperature ratings of LEDs, drivers, ballasts and ambient climatic conditions are given.

5.9 Environmental

Luminaires may contain a variety of materials and some of these could be hazardous to the environment when the luminaire is disposed of at the end of life. To stop environmental pollution there are local regulations, for more information refer to ESMA, ESTIDAMA, etc. It is required that all luminaires are recycled at the end of life and are not just thrown away. To ensure that this occurs, luminaire suppliers are required to make provision for the collection and recycling of old luminaires in the future. Materials such as lead, mercury, cadmium and polybrominated biphenyls are all toxic and therefore professional recycling and/or disposal is mandatory. Abu Dhabi local laws and standards are to be followed in all aspects. Lamps, luminaires, parts of luminaires, drivers, and ballasts should not be placed along with normal waste, special treatment is required.

6.0 Luminaire Types

The lighting industry produces many thousands of different luminaires. Given below are brief outlines of the main types of luminaire used in exterior lighting. Details of any specific luminaire are best obtained from the manufacturers.

6.1 Exterior Lighting

6.1.1 Road Lighting Luminaires

Road lighting luminaires used for lighting traffic routes are designed to deliver light toa 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. For conflict areas and subsidiary roads (see Chapter G / 3.5.4 and following) 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, but LED has become more and more important for Road lighting and statutory under the DMA Lighting Specifications. 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 Chapter G / 3.2 / Table 28) these classes reflecting a different balance between luminaire efficiency and the control