

2.10.2 LED Luminaire Requirements

(As per DMA Lighting Specifications)

As a part of the overall sustainable lighting strategy for Abu Dhabi, the DMA/DoT requires quality energy efficient technologies and solutions which are LED or equivalent to be used on roads and put forward wherever possible elsewhere in the public realm. Where specific tasks may indeed be proved better performed by an energy-efficient lighting technology other than LED then either the relevant municipality or DoT will accept their inclusion as an option in the design proposals and review the technical details before taking the final decision.

NOTE 1 Within the luminaire:

The light source shall be high brightness white light emitting Diodes (LED) with individual minimum efficacy as per current DMA specifications arranged modularly (where possible) to provide the required light output. All lumen Figures shall be deliver (hot) lumens and all luminaires must have certification provided to show compliance with listed relevant standards and technical requirements of DMA or clients specifications.

NOTE 2 LEDs shall be from a reputed manufacturer of LEDs with proven past performance in accordance with ANSI/NEMA/ANSI C78.377-2008 (America National Standard for Chromaticity of Solid State Lighting Products) or with a similar approved international standard.

NOTE 3 LEDs shall only be from MacAdam Ellipse Step-2, Step-3 or maximum Step-5 Bins. Other binning is not acceptable. The CRI must be as per current DMA specifications.

NOTE 4 The LEDs shall be removable/replaceable on site by modular means, wherever possible – depending on type and use of the luminaire. Such replacement must be possible without any risk to maintaining luminaire photometry, the IP rating and without the need to demount the luminaire for sake of future up-grading or maintenance requirements.

NOTE 5 Whole luminaire efficacy; the optimum efficiency of the luminaire shall be $> 50 \text{ lm/cctW}$ (@min.50°C, min95%RH). Which is given as a total luminaire design (deliver) lumen output (lm) over total luminaire circuit watts (cctW) at minimum 50°C-60°C operating outside ambient temperature and minimum 95% relative humidity, as per latest DMA specifications.

NOTE 6 Luminaire maximum % direct up-light shall be as per CIE 126-1997 or less and as required/allowed for the project for the ESTIDAMA application as applicable.