

Preface:

Abu Dhabi City Municipality and the contributors produce this “Abu Dhabi Public Realm & Street Lighting Handbook” to guide and to give authoritative recommendations to those who design, specify, install, and maintain lighting systems, and as an impartial source of information for the public. The “Abu Dhabi Public Realm & Street Lighting Handbook” contains a mix of science, technology and design; mirroring the nature of lighting itself.

Four main sections are represented in this first edition: *Visual Effects of Lighting*, *Recommendations – ADM Sustainable Lighting Strategy – Efficiency – The Problem of Light Pollution – Visual Hierarchies for Public Realm Lighting*, *Equipment and Lighting Design Standards*.

Visual Effects chapters describe the science and technology related to lighting, including vision, optics, non-visual effects of optical radiation, photometry and light sources.

Recommendations – ADM Sustainable Lighting Strategy – Efficiency – The Problem of Light Pollution – Visual Hierarchies for Public Realm Lighting chapters include not only fundamental considerations of artificial lighting, but also energy management, controls, and economics.

Equipment and Lighting Design Standards chapters establish the design context for many

lighting applications, especially for outdoor and in detail for all public realm lighting, provide luminance recommendations for specific tasks and areas, and identify some of the analytic goals of lighting design using science and technology.

During the past years, the science, technology, and the design practice related to lighting has advanced significantly. Vision and biological sciences have deepened knowledge of complex relationship between light and health, adding both opportunity and awareness of the public of how lighting affects our lives. Technology has transformed lighting with the light emitting diode, now a practical source for general illumination in many cases. New equipment, new testing procedures, and new application considerations have all risen in response to this development. And the philosophy, goals, and practice of architectural design have been deeply affected by concerns for the natural environment and desires for more sustainable buildings and public grounds. New developments in sustainable practices and lighting control technology provide ways to respond to these concerns and expectations.

New and helpful information is provided in the chapters of visual effects and equipment and in the lighting design standards chapters. The aim is that in the future artificial lighting,