Street lighting standards — Middle East

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Standards and rules in the Middle East

Topic	Main references
Road lighting	Road authority manuals (for example Dubai RTA, Abu Dhabi ITC, Qatar Ashghal, Saudi municipal and transport authorities). Most are based on EN 13201, BS 5489-1, or CIE 115.
Electrical installation	Utility wiring regulations (for example DEWA in Dubai, Abu Dhabi distribution companies, Kahramaa in Qatar), Saudi Building Code SBC 401. BS 7671 and IEC 60364 are widely referenced.
Supply	230/400 V. 50 Hz in most GCC countries, 60 Hz in Saudi Arabia.
Product conformity	UAE: ECAS / EQM. Saudi Arabia: SASO regulations through SABER. GCC: GSO conformity mark (G-mark) for some low-voltage products. IEC test reports from accredited labs.
Telecom and radio	Type approval by the national regulator (for example TDRA in the UAE, CST in Saudi Arabia)
Cybersecurity	UAE: TDRA IoT policy, national information assurance standards. Saudi Arabia: NCA Essential Cybersecurity Controls.
Data	UAE PDPL, Saudi PDPL, and data residency rules for government data
Safe work	Authority HSE rules, permit-to-work, summer midday work bans
Procurement	Local content and in-country value programmes (for example Saudi LCGPA, UAE ICV)
Energy services	ESCO programmes, for example Etihad ESCO (Dubai) and Tarshid (Saudi Arabia)

International: road lighting

Standard	Covers
CIE 115	International recommendation for road lighting
CIE 140	Road lighting calculations
CIE 150	Limits for obtrusive light
EN 13201-5	Energy indicators PDI and AECI, useful anywhere

International: luminaires, LEDs, and drivers

Standard	Covers
IEC 60598-1, 60598-2-3	Luminaire safety; road and street luminaires
IEC 62722-2-1, IEC 62717	Performance of LED luminaires and modules
IEC 61347-1, -2-13	Safety of LED control gear
IEC 62471	Photobiological safety
IEC 60529, IEC 62262	IP and IK ratings
IEC 61000-3-2, CISPR 15, IEC 61547	Harmonics, emissions, immunity
IEC 61643-11	Surge protection devices
IES LM-79, LM-80, TM-21	Luminaire photometry, LED lumen maintenance, lifetime projection
IES LM-63, EULUMDAT	Photometric file formats
Zhaga Book 15	Replaceable LED modules for outdoor luminaires

International: controls and connectivity

Standard	Covers
Zhaga Book 18, Zhaga-D4i	Node and sensor interface; joint certification with D4i
ANSI C136.10, C136.41	NEMA photocontrol and dimming receptacles (used well beyond the USA)
IEC 62386 (DALI, DALI-2)	Digital lighting control
IEC 62386-250 to -253	D4i: power, luminaire data, energy, diagnostics
IEC 60929 Annex E	1–10 V dimming
TALQ, uCIFI	CMS interoperability and smart city data model
LoRaWAN, Wi-SUN, 3GPP LTE-M/NB-IoT	Field networks
MQTT, OMA LwM2M	Device messaging and management
IEC 62443	Industrial control system security

International: management systems

Standard	Covers
EN 13306, EN 15341	Maintenance terms and KPIs
ISO 55000 to 55002	Asset management
ISO 50001, ISO 50015, IPMVP	Energy management, measurement and verification
ISO 9001, 14001, 45001	Quality, environment, occupational safety
ISO/IEC 27001	Information security management
GHG Protocol	Carbon accounting (Scope 1, 2, 3)
IEC 62124, 62509, 62619, 61215, 61730	Solar street light systems, charge controllers, batteries, PV modules

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