# Street lighting standards — South Asia

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## Standards and rules in South Asia

| Topic | Main references (India) |
|---|---|
| Road lighting | IS 1944 (Parts 1 and 2). CIE 115 or EN 13201 in some smart city and highway projects. |
| Electrical installation | IS 732 (wiring), IS 3043 (earthing), National Electrical Code (SP 30) |
| Safety rules | CEA (Measures relating to Safety and Electric Supply) Regulations |
| Luminaires and LEDs | IS 10322 (luminaire safety), IS 16101 to 16108 (LED products), BIS Compulsory Registration Scheme |
| Solar street lights | MNRE specifications, BIS standards for PV modules and batteries |
| Poles | IS 2713 (tubular steel poles), project specifications |
| Traffic in work zones | IRC:SP:55 |
| Cybersecurity and data | CERT-In directions, Digital Personal Data Protection Act 2023 |
| Procurement | GeM (Government e-Marketplace), Public Procurement (Make in India) Order |
| Energy services | EESL Street Lighting National Programme (annuity model), BEE guidance |

Pakistan, Bangladesh, Sri Lanka, Nepal: most projects use IEC standards, BS practice, or CIE 115, with national standards bodies (PSQCA, BSTI, SLSI, NBSM) and utility rules for connection. Donor-funded projects often add the funder's specifications.

## 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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