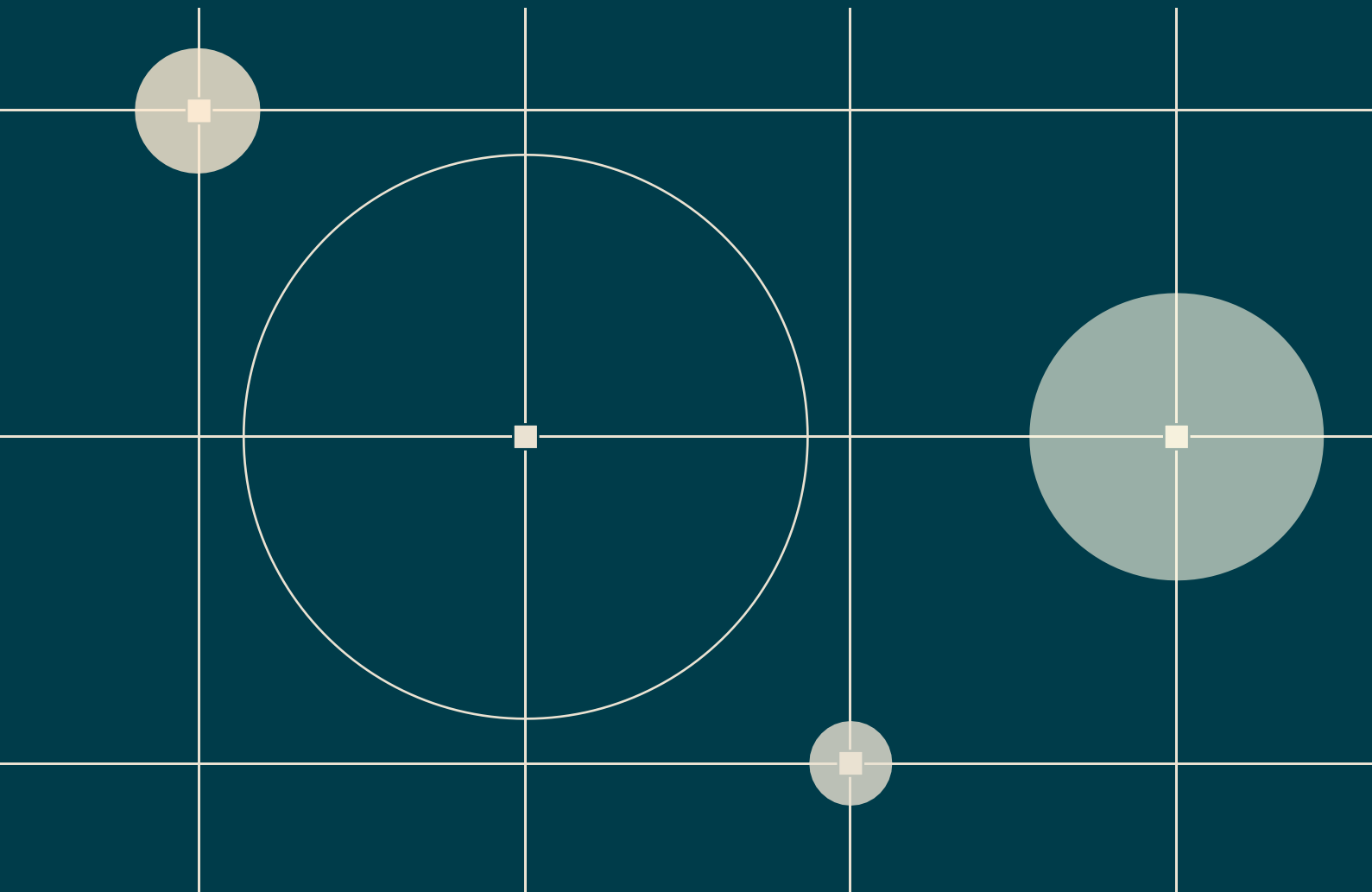
Niteko

DATASHEET | URBAN LIGHTING

# URBAN KIT

## Relamping LED kit

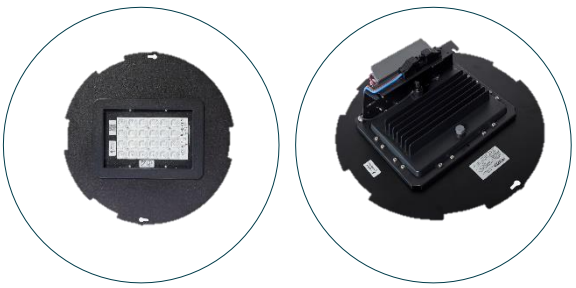




# URBAN KIT

**Tailored technology for heritage lighting.**

Designed for the custom upgrade of artistic fixtures, historic luminaires and period street lighting fixtures. The ideal solution for restoration and energy retrofitting: cutting-edge performance with full respect for historic value and the original architectural context.



# TECHNICAL DESCRIPTION

**LED lighting system** for retrofitting **urban, road and industrial** lighting fixtures**, NITEKO** brand**, URBAN KIT** series, suitable for fitting inside a traditional luminaire to replace the existing lighting technology.

Luminaire equipped with **5050-type high-power LEDs** powered by a constant current up to a maximum of **500mA**, with a correlated colour temperature of **3,000K** in the standard version, or with optional CCTs of **1,800K**, **2.200K**, **2,700K**, **3,000K**, **5.000K**, a colour rendering index **(CRI)** greater than **70** in the standard version, or **CRI>80** or **CRI>90** on request, and a photobiological risk class not exceeding **RG1**.

LEDs fitted with high-precision **PMMA secondary collimators** for focusing the light beam, with an overall minimum optical system efficiency of not less than **75%**, a wide choice of photometric curves suitable for any type of application, featuring asymmetrical, rotosymmetrical, symmetrical, or elliptical light beams, with a luminous intensity class of no less than **G*2**; all are **full cut-off,** in full compliance with legislation against light pollution, with zero luminous intensity beyond 90° in their standard installation position.

**Light source**

Light source efficiency greater than **190 lm/W** (3,000 K) and lifetime, under optimal operating conditions, of:

- Lifespan 100,000 h (L95 B10: $T_a$ = 25 °C; IF ≤ 500mA);
- Lifespan 120,000 h (L90 B10: $T_a$ = 25 °C; IF ≤ 500mA);
- Lifespan 270,000 h (L80 B10: $T_a$ = 25 °C; IF ≤ 500mA);
- Lifespan 450,000 h (L70 B10: $T_a$ = 25 °C; IF ≤ 500mA).

Luminaire's luminous flux from **1,403lm** to **13,281lm,** with luminous efficacy greater than **135lm/W** (3,000K) depending on the configuration (number of LEDs and supply current, CCT, CRI, optics) and an energy efficiency rating higher than **A++.**

**Power**

Luminaire with an effective power output of between **10.8W** and **75W** with 175–264V AC – 50/60Hz power supply in the standard version, or 120–277V AC – 50/60Hz power supply available on request in the optional version. High-efficiency electronic drivers integrated into the electrical compartment of the luminaire, characterised by a power factor greater than **PF>0.95** with a failure rate of less than 12% after 100,000 hours of operation and a minimum efficiency of **90%**.

In the standard version, the power supply unit comes with the following functions:

- Pre-programmed automatic dimming for up to 5 daily time profiles (PRG5);
- Control via a 1–10 V analogue signal (DIM);
- Constant lighting control during the lifetime (CLO.LITE).

**Protection**

Thermal protection, short-circuit protection and standard surge protection up to **10kV** in common mode and **6kV** in differential mode. On request, the luminaire can be equipped with an **SPD device** integrated into the electrical compartment, providing surge protection up to **10kV, 12kV** or **20 kV**, in both common mode and differential mode.

**EOS-free** luminaire equipped with specific technical features designed to prevent the formation of parasitic capacitance, thereby minimising damage caused by electrical overstress (EOS).

**VOC-free** luminaire constructed using non-metallic materials and components with high chemical compatibility with the LED source to prevent the release of volatile organic compounds (VOCs) that could affect performance, stability and colour temperature over time.

**Class II** insulated luminaire (or optional **Class I**) with an **IP66** protection rating for the optical compartment and **IP20** for the electrical compartment in standard version, (or optional IP66 depending on the requirements of the retrofitted luminaire), impact resistance rating of **IK08**, with an operating temperature range of **-40°C** to **+50°C** and a storage temperature range of **-40°C to +80°C**, consisting of:

- a die-cast aluminium **body**, which can be opened by removing the relevant fixing screws, with a built-in heat sink featuring large cooling fins dimensioned to ensure a long service life and maximum efficiency of the diodes; the body has undergone sandblasting, cataphoresis and polyester powder coating in the standard black colour **RAL 9005** (other colours available on request), free from VOCs and EOS, resistant to corrosion, abrasion, flaking, UV rays and salt spray;

- flat **protective screen** made of 4mm-thick extra-clear tempered glass, guaranteed against yellowing and ageing, with an anti-ageing internal seal that ensures IP66 protection;

- **gaskets** made from non-toxic, age-resistant synthetic material, shaped to the geometry of the heat sink and free from joints, ensuring the air-tightness of the optical compartment;

- optional version equipped with an electrical box with an IP66 and IK08 protection rating for housing electronic devices and their wiring;
- **adaptation plate** designed to mechanically fit the illuminating body to be modified with the LED technology;
- mechanical parts assembled with screws that have undergone special treatments to prevent galvanic corrosion.

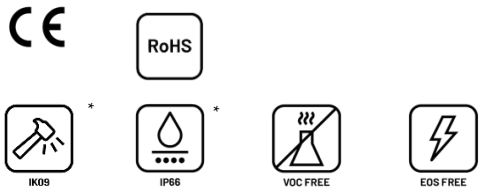
**Remote-control**

On request, the luminaire can be equipped with a **remote-control** interface integrated into the luminaire body, available in the following versions:

- Control via DALI and DALI2.0 digital signals (DALI/DALI2.0);
- Automatic flux dimming according to pre-programmed settings (CLO-FULL);
- Voltage variation regulation (PLV);
- Power line carrier regulation (LPL);
- Interface with emergency lighting devices (DCE-DIM);
- Radio-frequency control (Nema Socket and Zhaga Socket).

**Certifications**

This appliance complies with product standards and meets the Minimum Environmental Criteria (CAM) in accordance with Ministerial Decree of 27 September 2017 (Official Gazette No. 244 of 18 October 2017).




*optical compartment

## TECHNICAL SPECIFICATIONS

| | | |
|---|---|---|
| **MAIN Features** | Luminaire type | LED lighting system |
| | Applications | Relamping kit for the retrofitting of existing traditional lighting luminaires |
| | Brand | Niteko |
| | Series | URBAN KIT |
| | Mounting | Inside existing traditional lighting fixtures, using a custom-designed and custom-made adapter plate |
| | Effective power | 10.8W – 75.7W (Tolerance ±5%) |
| | Luminaire efficacy | $\eta_{app}$ > 135 lm/W (3,000K) |
| | Operating temperature | Operating temperature: -40°C to + 50°C; Storage temperature; -40°C to +80°C |
| | Estimated service life | L95 B10: > 100.000 h ($T_a$ = 25 ° C ; IF ≤ 500mA);<br>L90 B10: > 120.000 h ($T_a$ = 25 ° C ; IF ≤ 500mA);<br>L80 B10: > 270.000 h ($T_a$ = 25 ° C ; IF ≤ 500mA);<br>L70 B10: > 450.000 h ($T_a$ = 25 ° C ; IF ≤ 500mA); |
| | Certifications | CE, RoHS, IP66 (optical compartment), IK10 (optical compartment), photobiological safety, photometric certification, EOS Free, VOC Free. |

| | | |
|---|---|---|
| **OPTICAL Features** | Light source | High-power LEDs powered by a constant current of less than 500mA |
| | Source luminous flux | Independent and replaceable PMMA LED and optical modules |
| | Source luminous efficacy | From 1,403lm (10W 1,800K CRI>70) to 13,281lm (75W 4,000K CRI>70) (Tolerance ±7%) |
| | Colour temperature | $\eta_{LED}$ ≥ 190 lm/W (3,000K) |
| | Colour Rendering Index | Standard: 3,000K; Optional: 1,800K, 2,200K, 2,700K, 4,000K, 5,000K, 5,700K |
| | Photometry | Standard: CRI>70; Optional: CRI>80, CRI>90 |
| | Optical Efficiency | Asymmetrical, rotosymmetrical, elliptical and symmetrical |
| | Photometric classes | 75-90% |
| | Photobiological safety | Luminous intensity class G*2; Glare index class D.6 |
| | Switch-on/re-switch-on time | Risk class: RG1; IR and UV radiation: absent |
| | Source luminous flux | $t_A$ < 1sec. ; $t_R$ < 1sec. |

| | | |
|---|---|---|
| **ELECTRICAL Features** | Power supply | Standard: 175/264 V a.c. – 50/60 Hz; Optional: 120/277 V a.c. – 50/60 Hz;<br>Electronic power supplies built into the appliance's electrical compartment with efficiency η>95% and power factor PF>0.97 (Active PFC). Available standard functions:<br>- Pre-programmed automatic dimming for up to 5 daily time profiles (PRG5);<br>- Control via a 1–10 V analogue signal (DIM);<br>- Constant lighting control during the lifetime (CLO.LITE). |
| | Electrical connection | Standard: safety isolating switch with disconnection upon opening of the electrical compartment<br>Optional: outgoing power supply cable with an IP66 electrical connector |
| | Insulation class | Standard: Class II; Optional: Class I |
| | Electrical protection | Standard: surge protection up to 10kV in common mode and 6kV in differential mode<br>Optional: additional protection with an SPD device built into the electrical compartment, protecting the unit up to 10kV, 12kV or 20 kV, both in CM and DM. |
| **MECHANICAL Features** | Materiali | Heat sink: single-piece die-cast aluminium alloy body featuring large cooling fins;<br>Screen: 4mm-thick extra-clear tempered glass. |
| | Colour | Standard: RAL 9005; Optional: other RAL colours available on request |
| | Protection rating | Optical compartment: IP66; Electrical compartment: IP20 (Optional: IP66);<br>Impact rating: IK08. |
| | Dimensions and weight | 265x230x51mm / 3,5 kg max |

## LIGHTING FEATURES

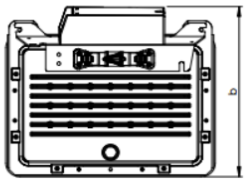
| PRODUCT ITEM CODE | POWER | NOMINAL LUMINOUS FLUX (xxyy) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 4070<br>5070 | 3070 | 2270<br>3580<br>4080<br>5080<br>5780 | 3080 | 2270<br>2780 | 1870<br>2790 |
| | W | lm | | | | | |
| **URBAN KIT-20W-**xxyy-zz-**66**-ee | 10,8 | 1.994 | 1.883 | 1.845 | 1.716 | 1.665 | 1.403 |
| | 15,6 | 2.837 | 2.683 | 2.624 | 2.445 | 2.372 | 1.999 |
| | 20,6 | 3.664 | 3.466 | 3.410 | 3.160 | 3.065 | 2.583 |
| **URBAN KIT-40W**-xxyy-zz-**66**-ee | 25,6 | 4.639 | 4.393 | 4.290 | 4.004 | 3.884 | 3.274 |
| | 30,4 | 5.572 | 5.278 | 5.154 | 4.811 | 4.667 | 3.934 |
| | 35,3 | 6.359 | 6.025 | 5.881 | 6.027 | 5.846 | 4.491 |
| | 38,6 | 6.882 | 6.870 | 6.361 | 5.940 | 5.762 | 4.857 |
| **URBAN KIT-50W**-xxyy-zz-**66**-ee | 10,1 | 1.909 | 1.801 | 1.765 | 1.641 | 1.592 | 1.341 |
| | 15,3 | 2.866 | 2.708 | 2.651 | 2.469 | 2.395 | 2.018 |
| | 20,6 | 3.807 | 3.601 | 3.521 | 3.282 | 3.184 | 2.683 |
| | 25,2 | 4.733 | 4.479 | 4.378 | 4.082 | 3.960 | 3.338 |
| | 30,5 | 5.644 | 5.344 | 5.221 | 4.871 | 4.725 | 3.983 |
| | 35,4 | 6.454 | 6.112 | 5.969 | 5.571 | 5.404 | 4.555 |
| | 40,3 | 7.253 | 6.909 | 6.709 | 6.263 | 6.075 | 5.121 |
| | 45,4 | 8.305 | 7.868 | 7.681 | 7.172 | 6.957 | 5.865 |
| | 50,3 | 9.083 | 8.607 | 8.402 | 7.845 | 7.610 | 6.415 |
| **URBAN KIT-75W**-xxyy-zz-**66**-ee | 55,2 | 10.329 | 9.767 | 9.554 | 8.903 | 8.636 | 7.281 |
| | 60,6 | 11.229 | 10.498 | 10.268 | 9.785 | 9.491 | 7.825 |
| | 65,4 | 11.994 | 11.344 | 11.094 | 10.340 | 10.030 | 8.456 |
| | 70,1 | 12.753 | 12.063 | 11.796 | 10.996 | 10.666 | 8.991 |
| | 75,7 | 13.281 | 12.556 | 12.284 | 11.445 | 11.102 | 9.359 |

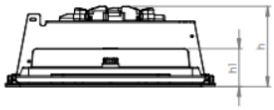
## TECHNICAL DRAWINGS

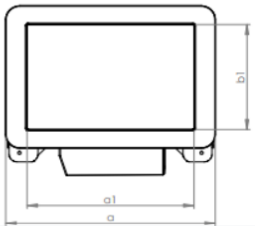
### URBAN KIT

a 265 mm
b 230 mm
h 107 mm
a1 210 mm
b1 140 mm
h1 51 mm

Weight 3,5kg

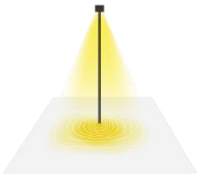


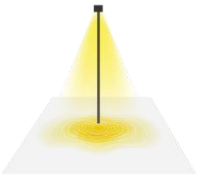



## PHOTOMETRIC DATA

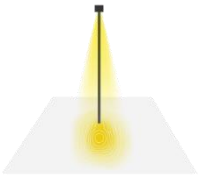
**Asymmetrical**



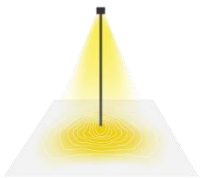
A1 - 150°x 50°
η 83,8% - G*6



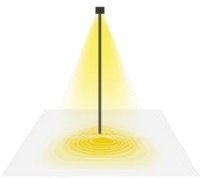
A2 - 140°x 45°
η 84,7% - G*4



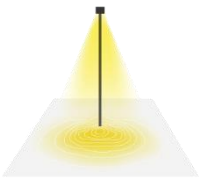
A3 - 90°x 60°
η 86,7% - G*6



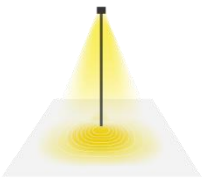
A4 - 145°x 55°
η 82,9% - G*4



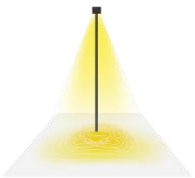
A7 - 140°x 70°
η 79,1% - G*2



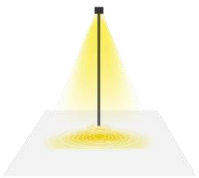
A8 - 155°x 60°
η 81,9% - G*1



A9 - 145°x 55°
η 85,2% - G*4

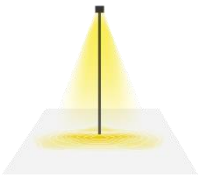


A10 - 155°x 65°
η 75,6% - G*2

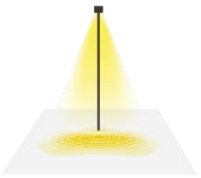


A15 - 145°x 150°
η 84,7% - G*4

**Black light stop**



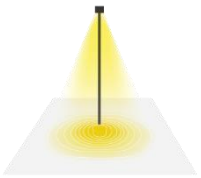
AB2 - 140°x 50°
η 84,6% - G*3



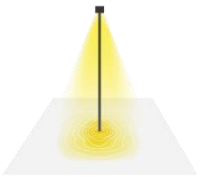
AB4 - 145°x 60°
η 83,9% - G*3

## PHOTOMETRIC DATA

**Elliptical**

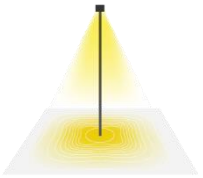


E3 - 145° x 110°
η 87,0% - G*6



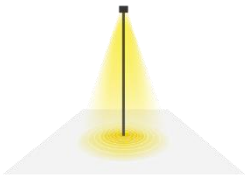
E4 - 140° x 100°
η 81,4% - G*6

**Rotosymmetrical**

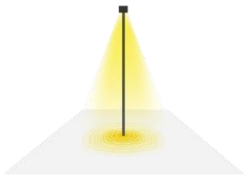


R1 - 140°x 140°
η 82,1% - G*6

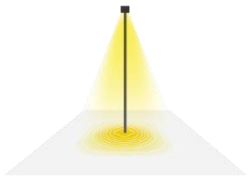
**Symmetrical**



25 - 35°x 35°
η 90,4% - G*6



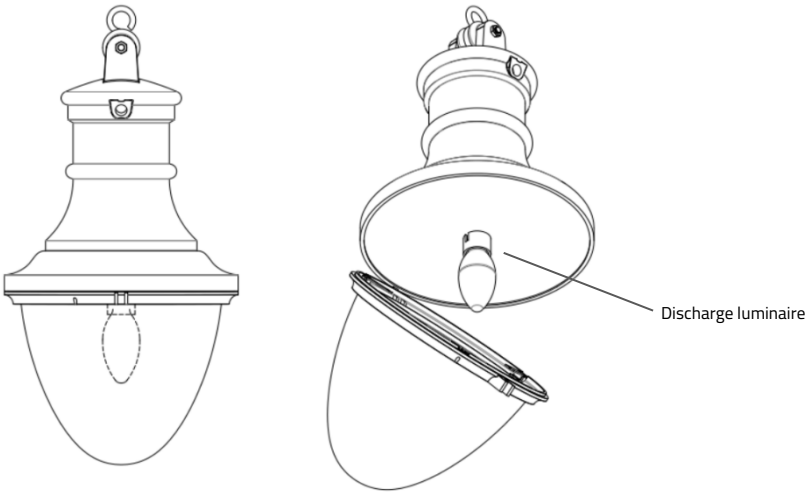
50 -60°x 60°
η 89,7% - G*6



100 - 100°x 100°
η 86,4% - G*6

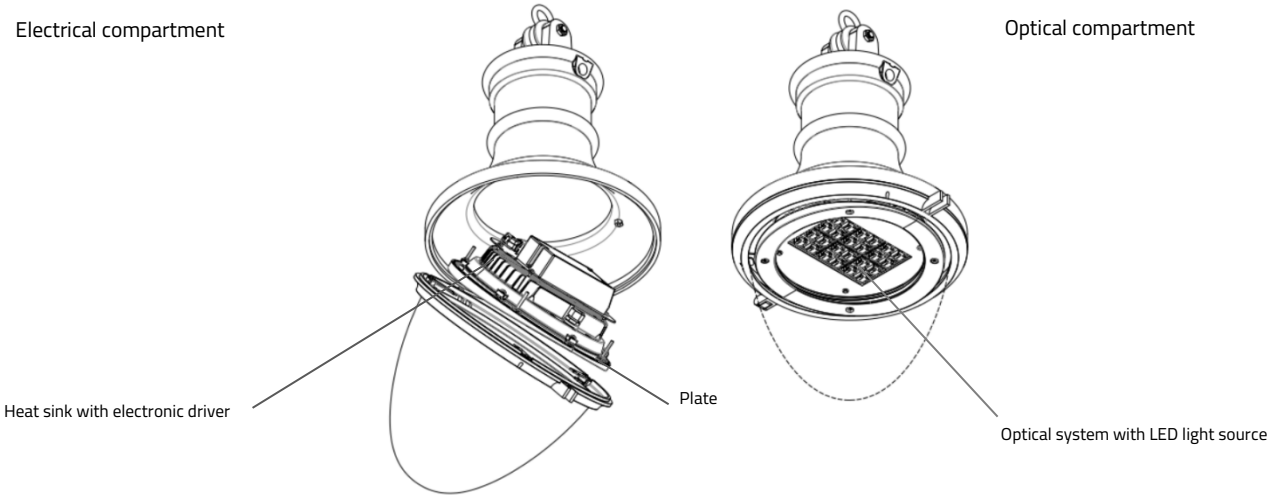
## MOUNTING EXAMPLES

Traditional luminaire




Electrical compartment

Optical compartment



## REFERENCE



**NITEKO s.r.l.**
Viale della Libertà, 8
74020 Montemesola (TA) - Italia
Tel +39 099 567 12 19
Fax +39 099 567 11 12
e-mail info@niteko.com

**niteko.com**