

## PRODUCT DATASHEET

### HQL LED 2000 lm 14.5 W/4000 K E27

HQL LED PRO | LED replacement for HID lamps for outdoor application



#### Areas of application

- Streets
- Area lighting
- Pedestrian zones
- Parks
- Outdoor applications only in suitable luminaires

#### Product benefits

- Saves up to 78 % energy when used as replacement for mercury vapor lamps (HQL)
- Low maintenance costs thanks to long lifetime
- Instant 100 % light, no warm-up time

#### Product features

- Replacement for HQL: Suitable for operation with conventional control gear (CCG) for HQL or 230 V mains
- Replacement for other HID: Suitable for operation with line voltage without control gear
- Power factor: 0.9
- Type of protection: IP65
- High surge protection: up to 6 kV (L-N)



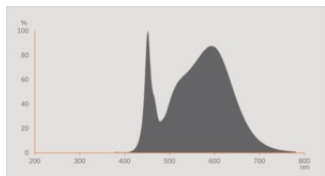
## TECHNICAL DATA

### Electrical data

|  |   |
|--|---|
| Nominal wattage  | 14.5 W  |
| Construction wattage                                     | 14.50 W   |
| Nominal voltage  | 220...240 V   |
| Operating mode   | Conventional control gear (CCG) without ignitor, AC Mains |
| Claimed equiv. conventional lamp power                   | 50 W  |
| Nominal current  | 67 mA   |
| Type of current  | AC  |
| Operating frequency                                      | 50/60 Hz  |
| Mains frequency  | 50/60 Hz  |
| Max. lamp number on MCB B10 A                            | 94  |
| Max. lamp number on MCB B10 A - CCG without compensation | 80  |
| Max. lamp number on MCB B10 A - CCG with compensation    | 70  |
| Max. lamp number on MCB B16 A                            | 150   |
| Max. lamp number on MCB B16 A - CCG without compensation | 128   |
| Max. lamp number on MCB B16 A - CCG with compensation    | 112   |
| Total harmonic distortion                                | 20 %  |
| Power factor $\lambda$                                   | > 0.90  |

### Photometrical data

|   |                     |
|---|---------------------|
| Luminous flux                           | 2000 lm             |
| Nominal useful luminous flux 90°        | 2000 lm             |
| Luminous efficacy                       | 137 lm/W            |
| Lumen main.fact.at end of nom.life time | 0.70                |
| Light color (designation)               | Cool White          |
| Color temperature                       | 4000 K              |
| Color rendering index Ra                | 80                  |
| Light color                             | 840                 |
| Standard deviation of color matching    | ≤6 sdc <sub>m</sub> |
| Rated LLMF at 6,000 h                   | 0.80                |
| Flickering metric (Pst LM)              | 1                   |
| Stroboscope effect metric (SVM)         | 0,4                 |

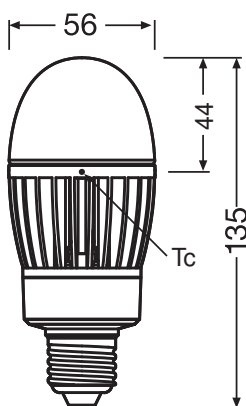


EPREL data spectral diagram PROF LEDr 4000K

Light technical data

|                     |          |
|---------------------|----------|
| Beam angle          | 360 °    |
| Warm-up time (60 %) | < 0.50 s |
| Starting time       | < 0.5 s  |

Dimensions & Weight



|                |           |
|----------------|-----------|
| Overall length | 138.00 mm |
| Diameter       | 56.00 mm  |
| Product weight | 210.00 g  |

Temperatures & operating conditions

|                                      |              |
|--------------------------------------|--------------|
| Ambient temperature range            | -20...+60 °C |
| Maximum temperature at tc test point | 105 °C       |

Lifespan

|                           |         |
|---------------------------|---------|
| Lifespan L70/B50 at 25 °C | 60000 h |
|---------------------------|---------|

|  |        |
|--|--------|
| Number of switching cycles                   | 100000 |
| Lumen maintenance at end of service lifetime | 0.70   |
| Rated lamp survival factor at 6,000 h        | ≥ 0.90 |

#### Additional product data

|                             |        |
|-----------------------------|--------|
| Base (standard designation) | E27    |
| Mercury content             | 0.0 mg |

#### Capabilities

|          |    |
|----------|----|
| Dimmable | No |
|----------|----|

#### Certificates & Standards

|  |                        |
|--|------------------------|
| Energy efficiency class                      | D <sup>1)</sup>        |
| Energy consumption                           | 15.00 kWh/1000h        |
| Type of protection                           | IP65                   |
| Standards                                    | CE / EAC / UKCA / ENEC |
| Photobiological safety group acc. to EN62778 | RG0                    |

<sup>1)</sup> Energy efficiency class (EEC) on a scale of A (highest efficiency) to G (lowest efficiency)

#### Country-specific categorizations

|                 |                 |
|-----------------|-----------------|
| Order reference | HQLLED2000 14,5 |
|-----------------|-----------------|

#### LOGISTICAL DATA

|                              |              |
|------------------------------|--------------|
| Temperature range at storage | -30...+80 °C |
|------------------------------|--------------|

#### Energy labelling regulation data acc EU 2019/2015







|   |              |
|---|--------------|
| Lighting technology used                            | LED          |
| Non-directional or directional                      | NDLS         |
| Mains or non-mains                                  | MLS          |
| Light source cap-type (or other electric interface) | E27          |
| Connected light source (CLS)                        | No           |
| Color-tuneable light source                         | No           |
| Envelope  | No           |
| High luminance light source                         | No           |
| Anti-glare shield                                   | No           |
| Correlated colour temperature type                  | SINGLE_VALUE |
| Claim of equivalent power                           | No           |



|  |            |
|--|------------|
| Length   | 138.00 mm  |
| Height   | 56.00 mm   |
| Width  | 56.00 mm   |
| Chromaticity coordinate x                            | 0,382      |
| Chromaticity coordinate y                            | 0,380      |
| R9 Colour rendering index                            | >0         |
| Beam angle correspondence                            | SPHERE_360 |
| Survival factor                                      | 0,90       |
| Displacement factor                                  | >0,9       |
| LED light source replaces a fluorescent light source | No         |
| EPREL ID   | 1157786    |
| Model number   | AC41488    |

### Safety advice

- The bulb may be larger and heavier than the replaced bulb. Before installation it must be checked, if the luminaire and especially the holder is capable of carrying the weight of the lamp. If possible, please install the safety rope included in the package containing the lamp for the types 90 W lamps.
- Not suitable for operation with ignitors
- Operation on the capacitor can lead to a reduction of the power factor of the system.
- When installed horizontally, the  $t_c$  point of the lamp is located on the top side of the lamp.
- Use in tight luminaires and luminaires with tight reflectors not recommended.

### DOWNLOAD DATA

| Documents and certificates   |                                 | Document name                   |
|--|---------------------------------|---------------------------------|
|  | User Instruction                | HQL LED                         |
|  | Declarations of conformity      | CE Declaration HQL LED E27 Gen6 |
|  | Declarations Of Conformity UKCA | HQL LED E40 E27                 |
| Photometric and lighting design files  |                                 | Document name                   |
|  | IES file (IES)                  | HQL LED 2000 14,5W 840 E27      |
|  | LDT file (Eulumdat)             | HQL LED 2000 14,5W 840 E27      |
|  | UGR file (UGR table)            | HQL LED 2000 14,5W 840 E27      |

|   | Photometric and lighting design files | Document name                               |
|---|---------------------------------------|---|
|   | LDC typ polar                         | HQL LED 2000 14,5W 840 E27                  |
|  | Spectral power distribution           | EPREL data spectral diagram PROF LEDr 4000K |

**LOGISTICAL DATA**

| Product code  | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Gross weight | Volume                |
|---------------|------------------------------|--------------------------------------|--------------|-----------------------|
| 4058075765870 | Folding box<br>1             | 85 mm x 85 mm x 185 mm               | 250.00 g     | 1.34 dm <sup>3</sup>  |
| 4058075765887 | Shipping box<br>6            | 275 mm x 190 mm x 205 mm             | 1711.00 g    | 10.71 dm <sup>3</sup> |

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

**DISCLAIMER**

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.