

# PRODUCT DATASHEET

## LED TUBE T8 EM ULTRA OUTPUT HIGH TEMPERATURE 1500 mm 22.1W 840

LED TUBE T8 EM ULTRA OUTPUT HIGH TEMPERATURE | High performance LED tubes for electromagnetic control gear (CCG) and AC mains, for applications with high ambient temperature



SUPERIOR  
CLASS

### Areas of application

- General illumination within ambient temperatures from -20...+80 °C
- Illumination of production areas
- Industry

### Product benefits

- Suitable for high ambient temperatures of more than +80 °C
- Very high resistance to switching loads
- High luminous flux for sophisticated lighting tasks
- Quick, simple and safe replacement without rewiring
- Energy savings of up to 62 % (compared to T8 fluorescent lamp)
- Instant-on light, therefore ideally suitable in combination with sensor technology
- Also suitable for operation at low temperatures

### Product features

- LED replacement for classic T8 fluorescent lamps with G13 socket for use in CCG luminaires or on AC mains
- Very broad ambient temperature range: -20...+80 °C
- Low flicker according to EU 2019-2020 ( $SVM \leq 0.4$  /  $PstLM \leq 1$ )



- Lifetime at 25 °C ambient temperature up to 75,000 h
- Lifetime at 80 °C ambient temperature up to 17,500h
- Type of protection: IP20
- ENEC 10 VDE mark
- Mercury-free and RoHS compliant

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## TECHNICAL DATA

### Electrical data

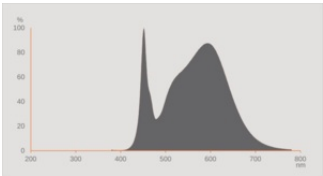
|                                                          |                        |
|----------------------------------------------------------|------------------------|
| Nominal wattage                                          | 22.1 W                 |
| Construction wattage                                     | 22.10 W                |
| Nominal voltage                                          | 220...240 V            |
| Operating mode                                           | CCG, AC Mains          |
| Nominal current                                          | 105 mA                 |
| Type of current                                          | AC                     |
| Inrush current                                           | 10 A                   |
| Suitable for DC input                                    | Yes                    |
| Input voltage DC                                         | 186...260 V            |
| Operating frequency                                      | 50/60 Hz               |
| Mains frequency                                          | 50/60 Hz <sup>1)</sup> |
| Max. lamp number on MCB B10 A                            | 4                      |
| Max. lamp number on MCB B10 A - CCG without compensation | 32                     |
| Max. lamp number on MCB B10 A - CCG with compensation    | 3                      |
| Max. lamp number on MCB B16 A                            | 6                      |
| Max. lamp number on MCB B16 A - CCG without compensation | 52                     |
| Max. lamp number on MCB B16 A - CCG with compensation    | 5                      |
| Total harmonic distortion                                | 12 %                   |
| Power factor $\lambda$                                   | 0.90                   |

<sup>1)</sup> DC 0Hz

### Photometrical data

|                                         |                     |
|-----------------------------------------|---------------------|
| Luminous flux                           | 4100 lm             |
| Luminous efficacy                       | 185 lm/W            |
| Lumen main.fact.at end of nom.life time | 0.96                |
| Light color (designation)               | Cool White          |
| Color temperature                       | 4000 K              |
| Color rendering index Ra                | 80                  |
| Light color                             | 840                 |
| Standard deviation of color matching    | ≤5 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          | 120 °    |
| Warm-up time (60 %) | < 0.50 s |
| Starting time       | < 0.5 s  |

Dimensions & Weight



|                                             |            |
|---------------------------------------------|------------|
| Overall length                              | 1514.00 mm |
| Length with base excl. base pins/connection | 1500.00 mm |
| Diameter                                    | 28.00 mm   |
| Product weight                              | 420.00 g   |

Temperatures & operating conditions

|                                      |                            |
|--------------------------------------|----------------------------|
| Ambient temperature range            | -20...+80 °C <sup>1)</sup> |
| Maximum temperature at tc test point | 95 °C                      |

1) Temperature surrounding the lamp - for enclosed luminaires: temperature inside of the luminaire

Lifespan

|                                              |         |
|----------------------------------------------|---------|
| Lifespan L70/B50 at 25 °C                    | 75000 h |
| Number of switching cycles                   | 200000  |
| Lumen maintenance at end of service lifetime | 0.96    |

|                                       |        |
|---------------------------------------|--------|
| Rated lamp survival factor at 6,000 h | ≥ 0.90 |
|---------------------------------------|--------|

### Additional product data

|                             |        |
|-----------------------------|--------|
| Base (standard designation) | G13    |
| Mercury content             | 0.0 mg |
| Mercury-free                | Yes    |

### Capabilities

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

### Certificates & Standards

|                                              |                              |
|----------------------------------------------|------------------------------|
| Energy efficiency class                      | B <sup>1)</sup>              |
| Energy consumption                           | 23.00 kWh/1000h              |
| Type of protection                           | IP20                         |
| Standards                                    | CE / UKCA / VDE / ENEC / EAC |
| 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 | LEDTUBE T8 EM U |
|-----------------|-----------------|

### LOGISTICAL DATA

|                              |              |
|------------------------------|--------------|
| Temperature range at storage | -20...+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) | G13          |
| 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 |
| Standby power                                       | 0 W          |
| Claim of equivalent power                           | No           |

|                                                      |                 |
|------------------------------------------------------|-----------------|
| Length                                               | 1514.00 mm      |
| Height                                               | 28.00 mm        |
| Width                                                | 28.00 mm        |
| Chromaticity coordinate x                            | 0.3818          |
| Chromaticity coordinate y                            | 0.3797          |
| R9 Colour rendering index                            | 1               |
| Beam angle correspondence                            | SPHERE_360      |
| Survival factor                                      | 0.9             |
| Displacement factor                                  | 0.9             |
| LED light source replaces a fluorescent light source | No              |
| EPREL ID                                             | 1879594         |
| Model number                                         | AC59259,AC59259 |

## EQUIPMENT / ACCESSORIES

- Replacement starter for LED tubes

## Safety advice

- Before installation it is recommended to be checked, if the luminaire and especially the holders are in good condition and capable of carrying the weight of the lamp.
- Only suitable for temperatures of up to 80 °C inside of the luminaire.
- Not suitable for operation with electronic control gear.
- Operation in outdoor applications in suitable damp-proof luminaires possible according to data sheet and installation instruction.
- Not suitable for emergency lighting.
- Disconnect mains before installation.

## DOWNLOAD DATA

|                                                                                    | Documents and certificates             | Document name                                                          |
|------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------|
|  | User instruction / safety instructions | LEDTUBE T8 EM UO HT s                                                  |
|  | Extended installation guide            | Notes on the operation of LEDVANCE LED tubes in compensated luminaires |
|  | Extended installation guide            | LEDVANCE Luminaire conversion checklist                                |
|  | Legal information                      | Informationstext 18 Abs 4 ElektroG                                     |

| Documents and certificates                                                          |                                     | Document name                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------|
|    | Declarations of conformity          | LED tube                                                            |
|    | Declarations of conformity UKCA     | LED tubes                                                           |
| Photometric and lighting design files                                               |                                     | Document name                                                       |
|    | IES file (IES)                      | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|    | IES file (IES)                      | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|    | LDT file (Eulumdat)                 | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|    | LDT file (Eulumdat)                 | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|    | UGR file (UGR table)                | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|    | Light distribution curve type cone  | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|  | Light distribution curve type polar | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|  | Light distribution curve type polar | LEDTUBE T8 EM UHT S 1500 22.1W 840                                  |
|  | Spectral power distribution         | EPREL data spectral diagram PROF LEDr 4000K                         |
| Tender texts                                                                        |                                     | Document name                                                       |
|  | Tender documents                    | LED TUBE T8 EM ULTRA OUTPUT HIGH TEMPERATURE S 1500 mm 22.1W 840-EN |

LOGISTICAL DATA

| Product code  | Packaging unit (Pieces/Unit) | Dimensions (length x width x height) | Gross weight | Volume    |
|---------------|------------------------------|--------------------------------------|--------------|-----------|
| 4099854258596 | Sleeve<br>1                  | 1,555 mm x 29 mm x 29 mm             | 454.00 g     | 1.31 dm³  |
| 4099854258602 | Shipping box<br>10           | 1,590 mm x 170 mm x 95 mm            | 5291.00 g    | 25.68 dm³ |

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.

References / Links

– For current information see [www.ledvance.com/ledtube](http://www.ledvance.com/ledtube)

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### Legal advice

– When used to replace a T8 fluorescent lamp the total energy efficiency and light distribution depends on the design of the lighting system.

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### DISCLAIMER

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