

# PRODUCT DATASHEET

## HQL LED FILAMENT PERFORMANCE

### 4000LM 21.6W 840 E27

HQL LED FILAMENT PERFORMANCE | LED replacement for HQL lamps in demanding outdoor applications



PERFOR-  
MANCE  
CLASS

#### Areas of application

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

#### Product benefits

- Same design as traditional HQL lamps with frosted, ellipsoid full glass bulb
- Saves up to 82 % energy when used as replacement for mercury vapor lamps (HQL)
- Full use of reflector of existing luminaire thanks to 360 degree beam angle
- Very light weight product
- 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
- Very high efficiency of 185 lm/W
- Power factor: 0.9
- Type of protection: IP65



- High surge protection: up to 4 kV (L-N)
- Very wide ambient temperature range of -20...+60 °C

## TECHNICAL DATA

## Electrical data

Nominal wattage	21.6 W
Construction wattage	21.60 W
Nominal voltage	220...240 V
Operating mode	CCG, AC Mains
Claimed equiv. conventional lamp power	80 W
Nominal current	96 mA
Type of current	AC
Inrush current	7.32 A
Operating frequency	50/60 Hz
Mains frequency	50/60 Hz
Max. lamp number on MCB B10 A	14
Max. lamp number on MCB B10 A - CCG without compensation	21
Max. lamp number on MCB B10 A - CCG with compensation	6
Max. lamp number on MCB B16 A	22
Max. lamp number on MCB B16 A - CCG without compensation	34
Max. lamp number on MCB B16 A - CCG with compensation	7
Total harmonic distortion	< 20 %
Power factor $\lambda$	> 0.90
Surge capability (L-N)	4 kV

## Photometrical data

Luminous flux	4000 lm
Nominal useful luminous flux 90°	4000 lm
Luminous efficacy	185 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 sdcn
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	226.00 mm
Diameter	90.00 mm
Maximum diameter	90 mm
Product weight	157.00 g

Temperatures & operating conditions

Ambient temperature range	-20...+60 °C <sup>1)</sup>
Maximum temperature at tc test point	87 °C

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

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
Mercury-free	Yes

## Capabilities

Dimmable	No
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## Certificates &amp; Standards

Energy efficiency class	B <sup>1)</sup>
Energy consumption	22.00 kWh/1000h
Type of protection	IP65
Standards	CE / UKCA / EAC / ENEC
Photobiological safety group acc. to EN62778	RG1

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

## Country-specific categorizations

Order reference	HQL LED FIL P 4
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## LOGISTICAL DATA

Temperature range at storage	-20...+80 °C
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## 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	226.00 mm
Height	90.00 mm
Width	90.00 mm



Chromaticity coordinate x	0.382
Chromaticity coordinate y	0,38
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	2295940
Model number	AC69406

### Safety advice

- 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.
- Only suitable for temperatures of up to 60 °C inside of the luminaire. Use in tight luminaires and luminaires with tight reflectors not recommended.
- All electrical connections must be made by a qualified person.

### DOWNLOAD DATA

Documents and certificates		Document name
	User instruction / safety instructions	
	Legal information	Informationstext 18 Abs 4 ElektroG
	Declarations of conformity	FIL P lamp
	Declarations of conformity UKCA	FIL P lamp
Photometric and lighting design files		Document name
	IES file (IES)	HQL LED FIL P 4000LM 21.6W 840 E27
	LDT file (Eulumdat)	HQL LED FIL P 4000LM 21.6W 840 E27
	UGR file (UGR table)	HQL LED FIL P 4000LM 21.6W 840 E27
	Light distribution curve type polar	HQL LED FIL P 4000LM 21.6W 840 E27

Photometric and lighting design files		Document name
	Spectral power distribution	EPREL data spectral diagram PROF LEDr 4000K
Tender texts		Document name
	Tender documents	HQL LED FILAMENT PERFORMANCE 4000LM 21.6W 840 E27-en

## LOGISTICAL DATA

Product code	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Gross weight	Volume
4099854470004	Folding box 1	102 mm x 102 mm x 249 mm	248.00 g	2.59 dm <sup>3</sup>
4099854470011	Shipping box 6	322 mm x 221 mm x 275 mm	1830.00 g	19.57 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.

## References / Links

– For Guarantee see [www.ledvance.com/guarantee](http://www.ledvance.com/guarantee)

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