



**PHILIPS**

LED tube



# The right LED tube every time

## A new generation of LED tubes

Simplicity and ultra-efficiency make Philips LED tubes the quickest and easiest way to upgrade to LED for immediate energy savings over a long and reliable lifetime.

NEW  
**Universal  
and Ultra  
Efficiency**  
options

# Bright easy-to-fit LED tubes **that last and last**

LED tubes only use around half the energy of fluorescent alternatives, so the instant energy savings from a lamp replacement can pay for the new tubes within a couple months. From 24/7 usage downwards, it's the installation costs and tube lifetimes that overwhelmingly set actual repayment times.

Our portfolio of Philips LED tubes covers the widest range of applications. It now includes the MASTER LEDtube T8 Ultra Efficiency range for the world's best-in-class lumen performance of up to 172 lm/W. It also includes new options in the MASTER LEDtube T5 range to cover even more applications. The new generation of CorePro LED tubes T8 feature a shorter aluminium end cap and improved performance.

#### **Fast installation, long reliable life**


Philips LED tubes offer 100% safe and hassle-free installation with a simple lamp-for-lamp replacement. Our EM/mains and InstantFit HF tubes fit straight into existing luminaires. Our LED range has the widest ballast compatibility\* in the market (600, 1200 and 1500mm version lists are regularly updated).

The guaranteed lifetime outshines fluorescents with more than double the lifetime to halve maintenance costs. When you include the price of the tube, installation and maintenance they pay for themselves within a few months for permanently lit sockets.

#### **High quality professional lamps**

Our LED tubes won't flicker or cause glare. They switch on instantly with excellent color consistency and uniform visual appearance. We can also offer dimming functionality for defined tube/ballast combinations. And with rotating end caps it's easy to direct the light where it is needed. All in all, a new generation of attractive energy-saving alternatives to fluorescent tubes.

\* To find out more about ballast compatibility go to [www.philips.com/ledtube](http://www.philips.com/ledtube)



Read more about  
the APCOA case study:



“

**The switch to LED technology has been a resounding success.** By 2020, we will be saving more than 21 million kWh of electricity and 12,000 metric tons of CO<sub>2</sub> in Germany.”

**Dr. Marko Huber,**  
Head of Technical Asset Management, APCOA

### MASTER LEDtube

#### Ultra Efficiency range

The MASTER LEDtube Ultra Efficiency range has been designed for the world's best-in-class lumen performance of up to 172 l/W. With an ultra-long lifetime of 60,000 hours, these lamps offer a high lumen output along with the best Total Cost of Ownership over lifetime. Ideal for ultra-demanding applications with very long burning hour periods, such as industrial and healthcare applications, they're compatible with EM ballasts or mains power.

#### Universal T8 range

The new Philips MASTER LEDtube Universal T8 range brings a new degree of simplicity to retrofits. There's no longer any need to consider the driver technology – or carry a double stock of products. Thanks to their unique design, these tubes are a quick and easy fit with luminaires that operate on EM ballasts, HF Electronic ballasts or mains power connections.

#### New T5 LEDtubes

With InstantFit technology on board, the MASTER LEDtube T5 range offers quick and easy retrofit solutions that need no replacement wires. The new range includes a unique product in the market, the T5 HO 1200mm LED tube that's designed to replace 54W fluorescent alternatives. For very demanding applications, the T5 UO

1500mm offers the highest lumen package of 5600 lm with high performance up to 155 lm/W, making it the ideal retrofit for 80W fluorescent tubes. T5 MASTER LEDtubes have the highest compatibility performance\* on electronic HF ballasts and thanks to electrically safe pins and the isolated driver, present no risk of shock during installation.

#### A T8 for every application

MASTER LEDtubes are available in 600mm, 1200mm and 1500mm lengths with a choice of up to three color temperatures – 3,000K, 4000K and 6500K. Each replaces a different fluorescent type, ensuring a light for every application including covered car parks, offices, schools, industry, healthcare, warehouses, cold rooms and corridors. And they work from -20 to +45°C to suit extreme environments thanks to the unique product design and excellent construction quality.

#### CorePro LED tube T8

The new generation of CorePro LED tubes T8 feature a shorter aluminium end cap and provide a wide beam of 240 degrees for a uniform light effect. With low energy consumption and an increased performance of up to 110 l/W, they're our most affordable LED tubes for budget applications like garages and storerooms, enabling immediate energy savings and a faster payback time.

# Philips LED tube range



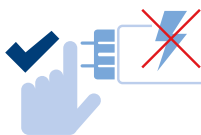
## The installer's choice

If you're an installer there are even more reasons for you to choose Philips LED tubes. As you'd expect from the world's leading name in lighting, our quality and attention to detail mean that we can also make your life safer and easier.



### HF compatibility

No wires to replace, no hassle changing drivers; our InstantFit solution works with High Frequency electronic ballasts, making it easy and safe for all installation methods. All you have to do is slot the tube into your existing fitting.



### Pin safety

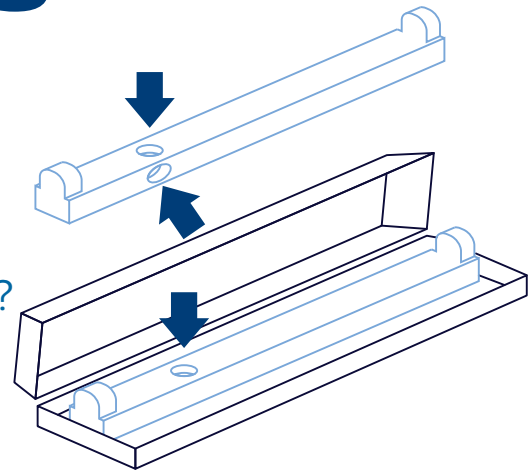
With Philips products you can safely touch the other end-cap when installing the tube. The integrated driver is also safely isolated from touchable parts. Philips LED tubes adhere to all UL and IEC pin safety requirements.



### Rotating end-caps

In many applications the pin fitting needs to be rotated. This can be a problem as LED tubes only provide directional light. Our T8 MASTER LEDtubes have rotating end-caps to allow you to rotate the tube by up to 90 degrees. So you can always direct the light to best effect.

# Finding the right fit for T8 tubes

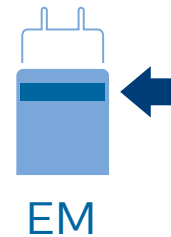
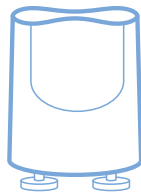
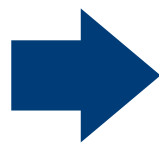
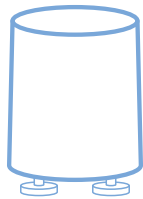


## 1 Does your luminaire have a starter?

This illustration shows its typical location in an open or closed luminaire with 1200 and 1500 mm tubes.

## 2 Yes.

The luminaire works with ElectroMagnetic ballasts. Simply replace the old starter with the new (EM) LED starter included in the packaging. Choose the LED tube with one ring on the cap.

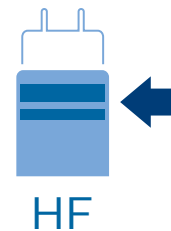


EM

## No.

The luminaire works on High Frequency (HF) electronic ballasts. Choose MASTER LEDtube InstantFit with the end-cap with two rings. No need to change drivers or rewire. It's a plug and play solution that works straight out of the box. Quick and easy installation.

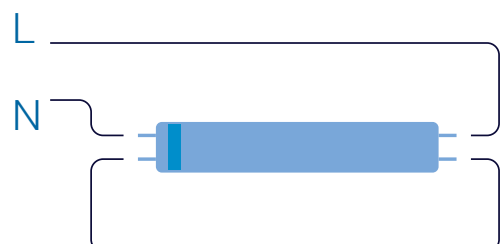
Check the ballast compatibility list on [www.philips.com/ledtube](http://www.philips.com/ledtube)



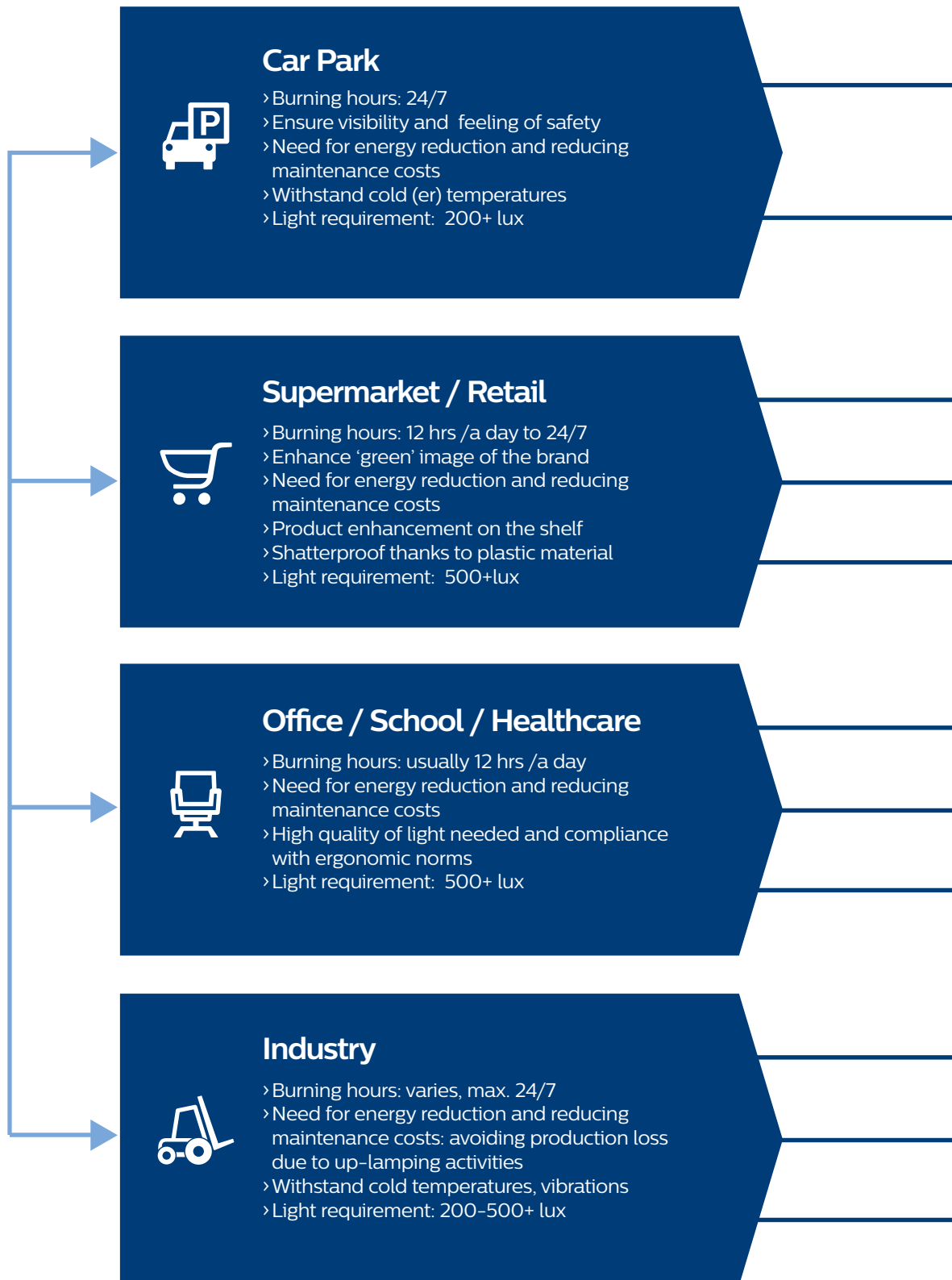
HF

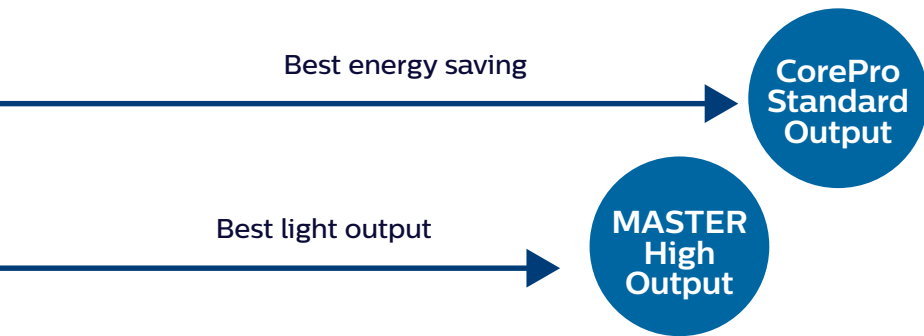
## 3 No.

Your luminaire works on High Frequency (HF) electronic ballasts but you can't use MASTER LEDtube InstantFit or your ballast is not compatible. Cut wires, remove ballast and connect direct to mains. Use the MASTER LEDtube EM with one ring on the cap.

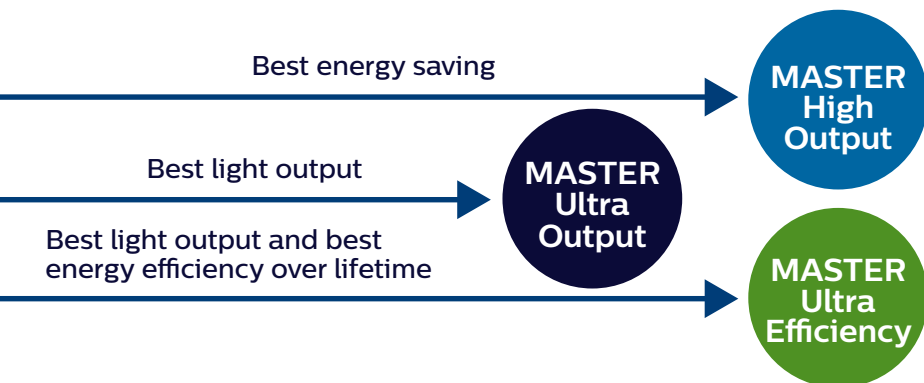


# Finding the right T8 tube

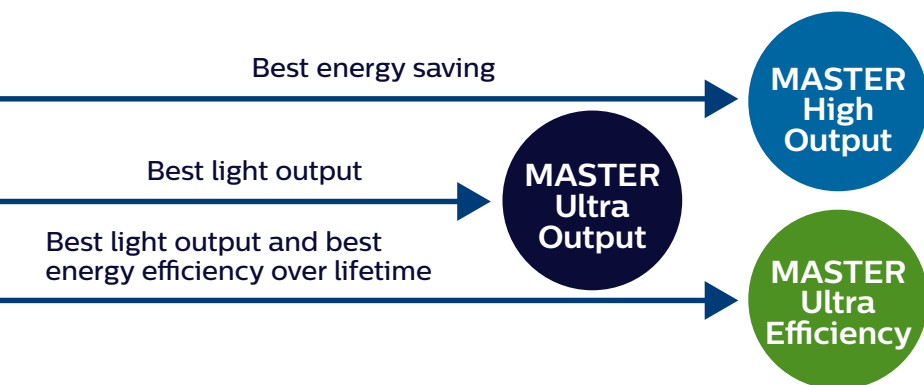




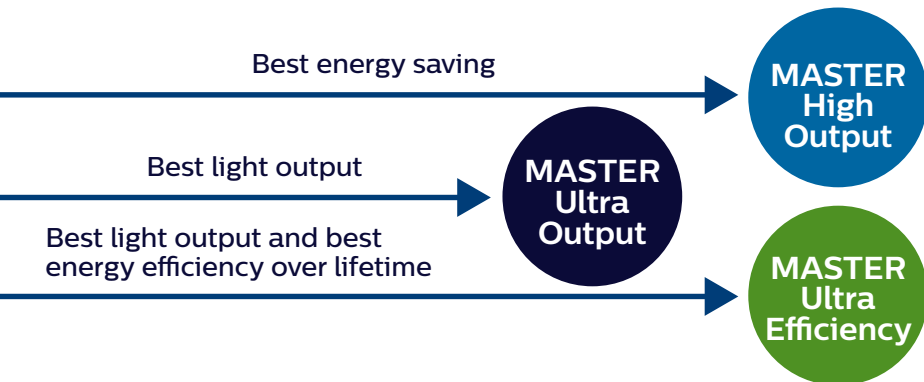
**CorePro Standard Output**  
Up to 2200 lumen



**MASTER High Output**  
Up to 3100 lumen



**MASTER Ultra Output and Ultra Efficiency**  
Up to 3700 lumen



Use the **right** selector tool 


[www.lighting.philips.com/main/support/support/tools/ledtube-selectortool](http://www.lighting.philips.com/main/support/support/tools/ledtube-selectortool)

# Finding the right output

For ultra-output applications, our solutions meet lighting industry standards (EN12464-1) by providing high light levels without causing discomfort or glare\*.

## Lux

Working, typing reading and data processing require sufficient light with a minimum lux level

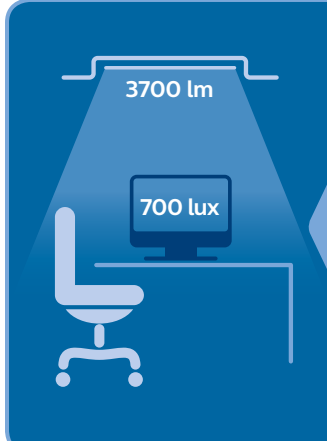


**Sufficient light**

- › Key parameter for minimum required light is indicated in EN12464-1 in lux (lumens per square meter).
- › EN12464-1 prescribes minimum lux values, uniformity of illumination, and color rendering index, depending on the task.

## Unified Glare Rating (UGR)

The amount of glare, annoyance or reflection created by high or non-uniform brightness must be kept to a minimum



**Discomfort glare**

- › Sensation of annoyance or reflection caused by high or non-uniform brightness (eg. on computer screen).
- › Amount of glare is indicated in EN 12464-1 standard by Unified Glare Rating (UGR).

## Lighting requirements

EN12464-1 prescribes minimum lux values, uniformity of illumination and color rendering index, depending on the task



### Supermarkets / Retail

- › For Supermarket and Retail applications 500 lux counts as minimum value.
- › UGR standard for Supermarket applications is also set at max 19 UGR.



### Industrial

- › For Industry applications, there are many sub segments, each having their own specific standards. In the storage industry segment 300 lux counts as minimum value.
- › UGR standard for Industry applications is set at max 25 UGR.



### Office / School / Healthcare

- › For Office applications 500 lux counts as minimum value for writing, typing, reading, data processing, conference and meeting rooms.
- › UGR standard for Office applications is set at max 19 UGR.
- › For most Healthcare applications 200 lux counts as minimum value.
- › UGR standard for applications is set at max 22 UGR.

\* Final light quality, besides the LED tube, also depends on application circumstances like e.g. type of luminaire used and amount of daylight.



## CorePro LED tube T8



# The most affordable switch

The new generation of CorePro LED tubes T8 feature a shorter aluminium end cap and provide a wide beam of 240 degrees for a uniform light effect. With low energy consumption and an increased performance of up to 110 l/W, they're our most affordable LED tubes for budget applications like garages and storerooms, enabling immediate energy savings and a faster payback time.

**Now available with shorter end caps**

**240° beam angle**

- ✓ Glass housing
- ✓ Uniform light spread for car parks, storage rooms, warehouses
- ✗ Not for high lux applications like offices or industry



# Finding the **right solution** for your application



## High output on the high street

Retail stores and hospitality venues know light has the power to attract. It creates irresistible displays, brings brands to life and encourages customers to spend longer in store. With our LED tubes you can light up sales at the same time as reducing energy and maintenance costs.

	Fluorescent TL-D 1500 mm	MASTER LEDtube HO 1500 mm
<b>High Output</b> 2100 - 3100 lumen Lux	687 lx	567 lx
<b>Longer lifetime</b>	15,000 Hrs	50,000 Hrs
<b>64% Energy savings</b>	72W	20W
Average buying price installer ex VAT	2 €	27 €
Total costs / year	40 €	14 €

Based on the European average of 12 cent/kWh hour (including maintenance and lamp replacement cost)

**2,258**  
€

Savings / year per lamp

**12.2**  
months

Payback period

Number of lamps	85
Burning hours per year	4,380 Hrs
Energy costs	0.12 Euro/kWh

› Choose High Output LED tubes for **high light output** with the **best lm/w**

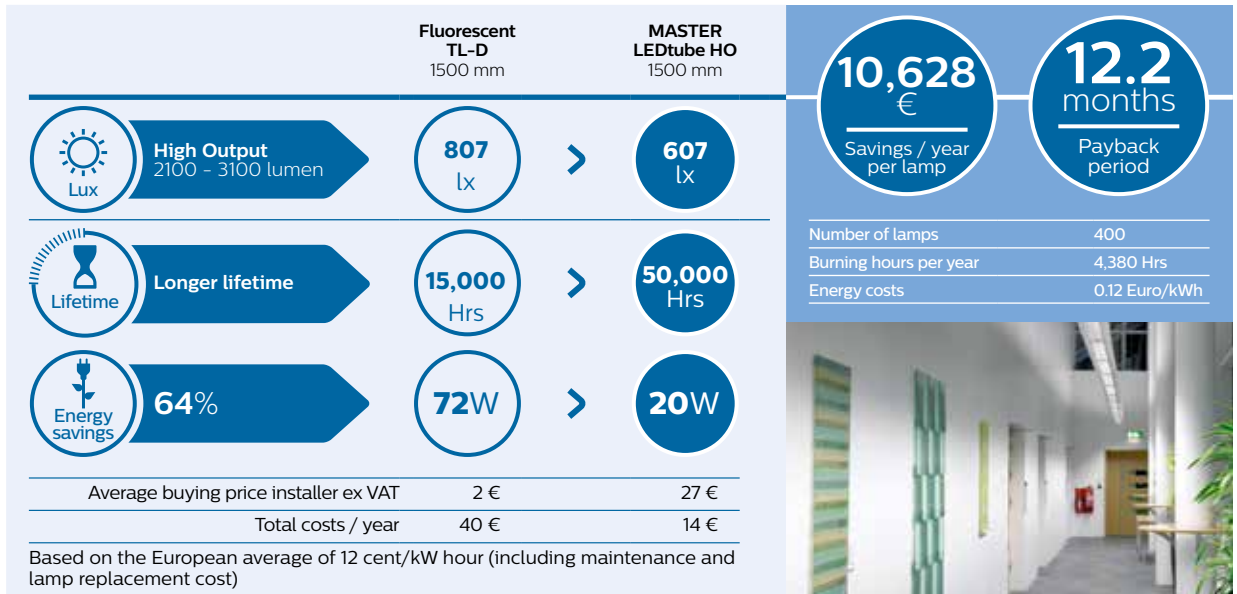
Calculate your own **savings** on  
[lighting.philips.com/main/support/support/tools/tco-tool-tube-replacement](http://lighting.philips.com/main/support/support/tools/tco-tool-tube-replacement)





## High output for offices

With a light output of up to 3100 lumen, our High Output LED tubes provide brilliant light quality with the best lumen per watt. A simple switch for offices and healthcare settings that saves on energy but feels bright and welcoming.

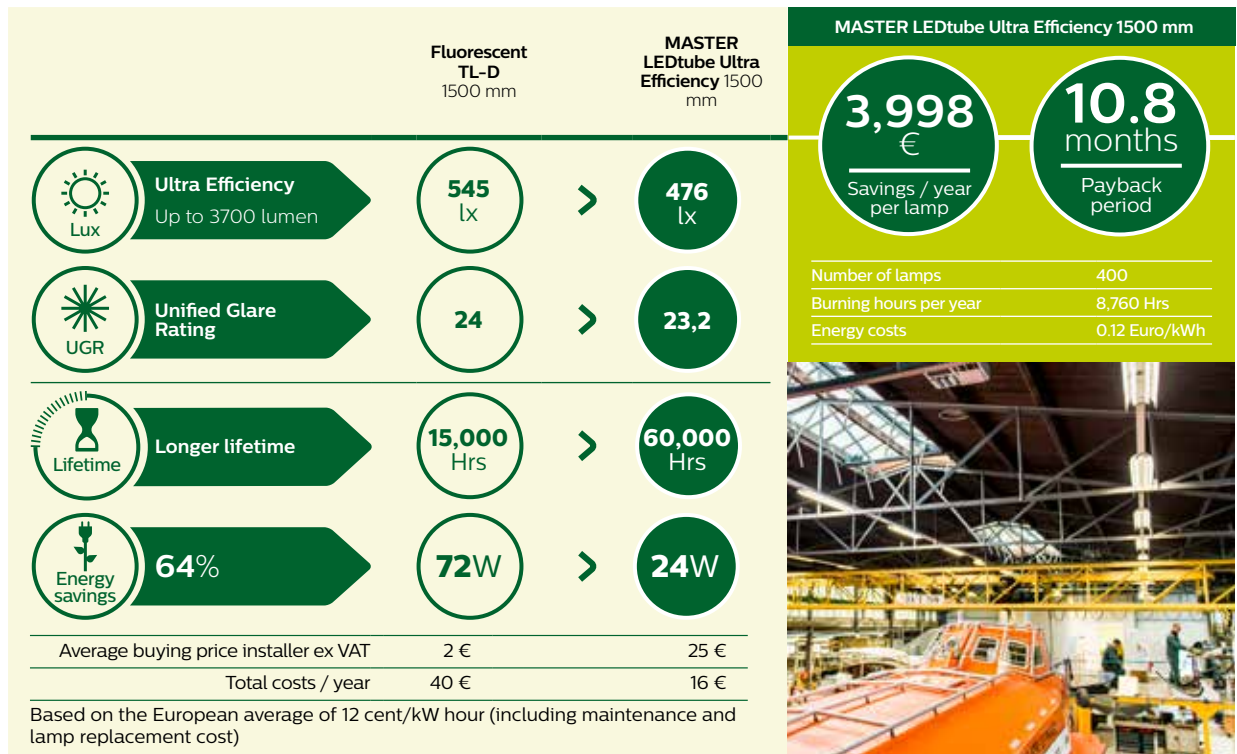


› Choose High Output LED tubes for **high light output** with the **best lm/w**



## Ultra Efficient industry

In ultra-demanding applications, our MASTER LEDtube Ultra Efficiency range takes safety and performance to the next level. But 24/7 operations can run up expensive energy bills. With a super bright light output of up to 3700 lumen they offer the best light output for maximum visibility and minimal maintenance. With an ultra-long lifetime of 60,000 hours, these lamps offer a high lumen output along with the best Total Cost of Ownership over lifetime.

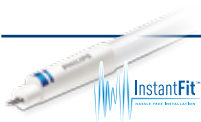


› Choose Ultra Efficiency LED tubes for the **best light output** along with the **best Total Cost of Ownership over lifetime**

# Technical specifications



## MASTER LEDtube T5 High Output



HF



3000 / 4000 / 6500



G5



NON-DIMMABLE



50,000 H



BEAM ANGLE 160°

Product type	LED	Rotatable end cap	Lumen output	Operation	Beam angle	CRI	Color temperature	Energy label	EOC 1 pcs (C)
<b>HF</b> MASTER LEDtube (HF)	W		lm		°		K		8718696
<b>NEW</b> 1200mm HO 26W 830 T5 InstantFit	26	No	3700	HF	160	83	3000	A++	70527800
<b>NEW</b> 1200mm HO 26W 840 T5 InstantFit	26	No	3900	HF	160	83	4000	A++	70529200
<b>NEW</b> 1200mm HO 26W 865 T5 InstantFit	26	No	3900	HF	160	83	6500	A++	70531500
1500mm HO 26W 830 T5 InstantFit	26	No	3700	HF	160	83	3000	A+	68552500
1500mm HO 26W 840 T5 InstantFit	26	No	3900	HF	160	83	4000	A++	68554900
1500mm HO 26W 865 T5 InstantFit	26	No	3900	HF	160	83	6500	A++	68556300



## MASTER LEDtube T5 Ultra Output



HF



3000 / 4000 / 6500



G5



NON-DIMMABLE



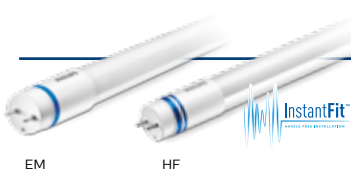
50,000 H



BEAM ANGLE

Product type	LED	Rotatable end cap	Lumen output	Operation	Beam angle	CRI	Color temperature	Energy label	EOC 1 pcs (C)
<b>HF</b> MASTER LEDtube (HF)	W		lm		°		K		8718696
<b>NEW</b> 1500mm UO 36W 830 T5 InstantFit	36	No	5200	HF	160	83	3000	A+	70599500
<b>NEW</b> 1500mm UO 36W 840 T5 InstantFit	36	No	5600	HF	160	83	4000	A++	70603900
<b>NEW</b> 1500mm UO 36W 865 T5 InstantFit	36	No	5600	HF	160	83	6500	A++	70605300

# MASTER LEDtube T8 High Output



Product type	LED	Lumen output	Operation	Beam angle	CRI	Color temperature	Dimmable*	Energy label	EOC 1 pcs (C)
<b>EM</b> MASTER LEDtube (EM)	W	lm		°		K			8718696
600mm HO 8W 830 T8	8	1000	EM & Mains	160	83	3000	No	A++	69747400
600mm HO 8W 840 T8	8	1050	EM & Mains	160	83	4000	No	A++	69749800
600mm HO 8W 865 T8	8	1050	EM & Mains	160	83	6500	No	A++	69751100
900mm HO 12W 840 T8	12	1575	EM & Mains	160	83	4000	No	A++	68708600
900mm HO 12W 865 T8	12	1575	EM & Mains	160	83	6500	No	A++	68710900
1200mm HO 14W 830 T8	14	2000	EM & Mains	160	83	3000	No	A++	68718500
1200mm HO 14W 840 T8	14	2100	EM & Mains	160	83	4000	No	A++	68720800
1200mm HO 14W 865 T8	14	2100	EM & Mains	160	83	6500	No	A++	68722200
1500mm HO 20W 830 T8	20	2900	EM & Mains	160	83	3000	No	A++	68712300
1500mm HO 20W 840 T8	20	3100	EM & Mains	160	83	4000	No	A++	68714700
1500mm HO 20W 865 T8	20	3100	EM & Mains	160	83	6500	No	A++	68716100
<b>HF</b> MASTER LEDtube (HF)	W	lm		°		K			8718696
600mm 10.5W 830 T8 InstantFit	10.5	1000	HF	160	83	3000	Yes	A+	5965900
600mm 10.5W 840 T8 InstantFit	10.5	1050	HF	160	83	4000	Yes	A+	5967300
600mm 10.5W 865 T8 InstantFit	10.5	1050	HF	160	83	6500	Yes	A+	5969700
1200mm HO 14W 830 T8 InstantFit	14	2000	HF	160	83	3000	Yes	A+	68752900
1200mm HO 14W 840 T8 InstantFit	14	2100	HF	160	83	4000	Yes	A++	68748200
1200mm HO 14W 865 T8 InstantFit	14	2100	HF	160	83	6500	Yes	A++	68750500
1500mm HO 20W 830 T8 InstantFit	20	2900	HF	160	83	3000	Yes	A+	68758100
1500mm HO 20W 840 T8 InstantFit	20	3100	HF	160	83	4000	Yes	A++	68754300
1500mm HO 20W 865 T8 InstantFit	20	3100	HF	160	83	6500	Yes	A++	68756700

# MASTER LEDtube T8 Ultra Output



Product type	LED	Lumen output	Operation	Beam angle	CRI	Color temperature	Dimmable*	Energy label	EOC 1 pcs (C)
<b>EM</b> MASTER LEDtube (EM)	W	lm		°		K			8718696
1200mm UO 16W 830 T8	16	2300	EM & Mains	160	83	3000	No	A++	68736900
1200mm UO 16W 840 T8	16	2500	EM & Mains	160	83	4000	No	A++	68738300
1200mm UO 16W 865 T8	16	2500	EM & Mains	160	83	6500	No	A++	68740600
1500mm UO 24W 830 T8	24	3400	EM & Mains	160	83	3000	No	A++	68742000
1500mm UO 24W 840 T8	24	3700	EM & Mains	160	83	4000	No	A++	68744400
1500mm UO 24W 865 T8	24	3700	EM & Mains	160	83	6500	No	A++	68746800
1800mm 25W 840 T8**	25	3700	EM & Mains	160	83	4000	No	A+	48037300
<b>HF</b> MASTER LEDtube (HF)	W	lm		°		K			8718696
1200mm UO 16W 830 T8 InstantFit	16	2300	HF	160	83	3000	Yes	A++	68800700
1200mm UO 16W 840 T8 InstantFit	16	2500	HF	160	83	4000	Yes	A++	68796300
1200mm UO 16W 865 T8 InstantFit	16	2500	HF	160	83	6500	Yes	A++	68798700
1500mm UO 24W 830 T8 InstantFit	24	3500	HF	160	83	3000	Yes	A++	68806900
1500mm UO 24W 840 T8 InstantFit	24	3700	HF	160	83	4000	Yes	A++	68802100
1500mm UO 24W 865 T8 InstantFit	24	3700	HF	160	83	6500	Yes	A++	68804500
<b>UN</b> MASTER LEDtube (UN)	W	lm		°		K			8718696
<b>NEW</b> 1200mm UO 16W 830 T8 Universal**	16	2300	EM & Mains & HF	160	83	3000	Yes	A++	72853600
<b>NEW</b> 1200mm UO 16W 840 T8 Universal**	16	2500	EM & Mains & HF	160	83	4000	Yes	A++	70537700
<b>NEW</b> 1200mm UO 16W 865 T8 Universal**	16	2500	EM & Mains & HF	160	83	6500	Yes	A++	70539100
<b>NEW</b> 1500mm UO 24W 830 T8 Universal**	24	3400	EM & Mains & HF	160	83	3000	Yes	A++	72851200
<b>NEW</b> 1500mm UO 24W 840 T8 Universal**	24	3700	EM & Mains & HF	160	83	4000	Yes	A++	70533900
<b>NEW</b> 1500mm UO 24W 865 T8 Universal**	24	3700	EM & Mains & HF	160	83	6500	Yes	A++	70535300

\* Dimming a LED tube: please refer to the site [www.philips.com/ledtube](http://www.philips.com/ledtube) for the latest update on our InstantFit LED tube/dimming ballast compatibility information.

# MASTER LEDtube T8 Ultra Efficiency



EM



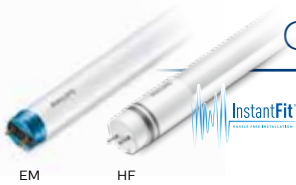
	Product type	LED	Rotatable end cap	Lumen output	Operation	Beam angle	CRI	Color temperature	Energy label	EOC 1 pcs (C)*
	<b>MASTER LEDtube (EM)</b>	<b>W</b>		<b>lm</b>		<b>°</b>		<b>K</b>		<b>8718696</b>
<b>NEW</b>	1200mm UE 14.5W 840 T8	14,5	Yes	2500	EM & Mains	160	83	4000	A++	73150500
<b>NEW</b>	1200mm UE 14.5W 865 T8	14,5	Yes	2500	EM & Mains	160	83	6500	A++	73152900
<b>NEW</b>	1500mm UE 21.5W 840 T8	21,5	Yes	3700	EM & Mains	160	83	4000	A++	73154300
<b>NEW</b>	1500mm UE 21.5W 865 T8	21,5	Yes	3700	EM & Mains	160	83	6500	A++	73156700



## Protection starter

<b>Product type</b>	<b>EOC 10 pcs (I)</b>
<b>Accessory</b>	<b>8718291</b>
Starter EMP	72928000

# CorePro LED tube T8



EM

HF

InstantFit



	Product type	LED	Rotatable end cap	Lumen output	Operation	Beam angle	CRI	Color temperature	Energy label	EOC 1 pcs (C)
	<b>CorePro LED tube (EM)</b>	<b>W</b>		<b>lm</b>		<b>°</b>		<b>K</b>		<b>8718696</b>
<b>NEW</b>	1500mm 20W 840 T8	20	No	2200	EM & Mains	240	80	4000	A+	71091300
<b>NEW</b>	1500mm 20W 865 T8	20	No	2200	EM & Mains	240	80	6500	A+	71095100
<b>NEW</b>	1200mm 14,5W 840 T8	14,5	No	1400	EM & Mains	240	80	4000	A+	71107100
<b>NEW</b>	1200mm 14,5W 865 T8	14,5	No	1400	EM & Mains	240	80	6500	A+	71109500
<b>NEW</b>	600mm 8W 840 T8	8	No	800	EM & Mains	240	80	4000	A+	71103300
<b>NEW</b>	600mm 8W 865 T8	8	No	800	EM & Mains	240	80	6500	A+	71105700
	<b>CorePro LED tube (HF)</b>	<b>W</b>		<b>lm</b>		<b>°</b>		<b>K</b>		<b>8718696</b>
	600mm 9W 840 T8 InstantFit	9	No	800	HF	240	80	4000	A	65217600
	600mm 9W 865 T8 InstantFit	9	No	800	HF	240	80	6500	A	65219000
	1200mm 15W 840 T8 InstantFit	15	No	1600	HF	240	80	4000	A+	58127800
	1200mm 15W 865 T8 InstantFit	15	No	1600	HF	240	80	6500	A+	58129200
	1500mm 20W 840 T8 InstantFit	20	No	2000	HF	240	80	4000	A+	59203800
	1500mm 20W 865 T8 InstantFit	20	No	2000	HF	240	80	6500	A+	59205200



## Protection starter

<b>Product type</b>	<b>EOC 10 pcs (I)</b>
<b>Accessory</b>	<b>8718291</b>
Starter EMP	72928000

\* Please refer to the site [www.philips.com/ledtube](http://www.philips.com/ledtube) for the latest information about ballast compatibility. Dimming a LED tube: please refer to the site [www.philips.com/ledtube](http://www.philips.com/ledtube) for the latest update on our InstantFit LED tube/dimming ballast compatibility information.

