



PHILIPS

TrueForce

Real pros have powerful substitutes for HID

Discover the high-performance
portfolio of Philips LED lamps
for HID replacement.

philips.com/trueforce-led-lamps

**REAL
PROs
REAL
QUALITY**

Switch out of date HID for out of this world LED

Philips TrueForce LED lamps provide an easy LED solution to replace HPL, HPI, SOX as well as SON-T lamps.

Enjoy the benefits of LED like improved energy efficiency and long lifetime, while keeping your initial investment low. With the right lamp size and light distribution, you can easily fit TrueForce LED lamps into your customers existing system, thereby enhancing the light quality without having to change the light fixtures or sacrifice the light effect. Our highest standard LED technology guarantees low maintenance and has a five-year warranty.

Great light should go anywhere, which is why the Philips TrueForce LED range feels at home in a number of applications, from industry and retail to urban, street, and road.

And because budgets can be as varied as applications, the TrueForce family comes in TrueForce LED and the even more cost-effective TrueForce Core LED. Both offer outstanding performance that lasts and performs longer.

For more information visit:
philips.com/trueforce-led-lamps



Easy adoption

No need to change the fixture!



Right light distribution

Enhances comfort and safety in multiple application areas.



Fast payback

It usually takes less than two years for LED lamps to pay for themselves.



Low investment, long lifetime

The long lifetime of up to 70,000 hours makes LED a clever investment.



Sustainability

Low energy consumption and a longer lifetime make LED lighting the sustainable choice.



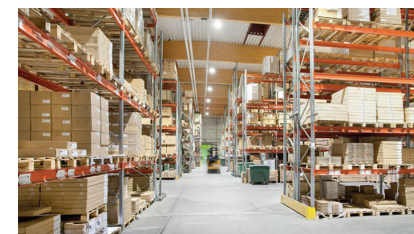
Highest standard LED technology

Low maintenance and up to 5 years warranty pay off!

Finding the right lamps for different plans, needs and budgets is easy with the extensive Philips portfolio. It ensures that you always have a quality solution at the price you want.

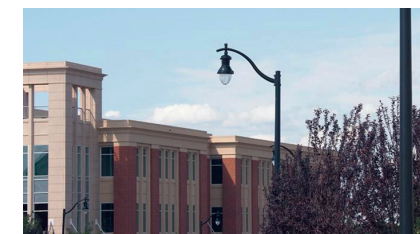


Everywhere amazing



Industry and Retail

Replace conventional HPL lamps to improve light quality, safety and productivity.



Urban

Easily replace existing HPI and SON-T lamps with TrueForce LED lamps for more sustainable, safer and brighter urban locations.



Road, Street and Landscape

Big in performance and low in maintenance: use TrueForce LED lamps to replace conventional SOX, SON-T and CDO lamps.

Product overview




Find the right Philips TrueForce lamp for every application and demand using our handy product finder: philips.com/productfinder

TrueForce Core / CorePro

Value and features:

TrueForce / MASTER


Value and features:




CorePro LED HID HPL

Philips CorePro LED HID HPL lamps offer you an easy, short-payback LED solution to replace HID lamps in road, street and other public areas, as well as urban locations.

- Similar look & feel as conventional HID SON/HPL lamps
- IP65 design suitable for indoor and outdoor applications*
- Perfect fit in HID luminaires with Mains only connection




Scan the code for all details




CorePro LED HID SON-T

Replace conventional SON-T lamps with highly efficient, cost-saving LED in road applications. As a quick payback solution these lamps combine instant savings with a low initial investment.

- First full glass LED lamp for road lighting
- Enables up to 60% energy saving compared to conventional road lighting and lower initial investment
- High efficiency GaN driver design
- Perfect fit in HID luminaires with Mains only connection




Scan the code for all details




TrueForce CorePro highbay HPL

Philips CorePro LED industrial and retail lamps give you an affordable and easy payback solution to replace HID lamps in highbay applications.

- Quick and easy payback solutions to replace HID lamps in low/medium and highbay applications
- Low initial investment and quick payback through energy costs savings
- Additional energy savings by replacing EM gear for mains only connection




Scan the code for all details




TrueForce Core LED highbay HPL

Easily replace HID lamps in warehouses, factories, shops and transport hubs and provide instant savings with low initial investment.

- Enhance lighting quality with easy adoption
- Low initial investment and quick payback through energy cost savings
- Light on the wider working space
- Wide beam angle (WB 240°)




Scan the code for all details




MASTER LED HID HPL

The new Philips MASTER LED HID HPL lamps offer an easy and short payback LED solution to replace HID lamps in urban applications.

- Similar look and feel as conventional HID
- Long lifetime of 50,000 hrs
- IP65 design suitable for indoor and outdoor applications*
- Perfect fit in HID luminaires with Mains only connection




Scan the code for all details




TrueForce MASTER LED HID SON-T

Your easy and short-payback LED solution to replace HID lamps in urban and road applications.

- Easy retrofit solution, no changing of luminaire's ballast or reflector necessary
- Cost saving with short payback time
- Low initial investment
- Two versions: InstantFit; EM/Mains Voltage




Scan the code for all details




TrueForce LED HID HPL

Easily retrofit TrueForce LED lamps into existing systems in public urban applications like parks, squares, streets and parking areas.

- Direct retrofit – no need to change the fixture
- Low initial investment and quick payback through energy cost savings
- Up to 6KV surge protection
- Light in weight




Scan the code for all details




TrueForce LED highbay universal HPI

Bring all the benefits of replacing HID with LED to industrial and retail facilities like warehouses, factories, shops and transport hubs.

- Quick payback solution to replace HID lamps in highbay applications
- Direct retrofit, no need to change the fixture
- Two beam angles: narrow beam (NB 60°); wide beam (WB 120°)
- Compatible with 250W and 400W gears




Scan the code for all details



TrueForce LED SOX

The perfect fit LED solution for SOX system retrofit in road, street and tunnel applications.

- Direct retrofit for traditional SOX system with TrueForce LED SOX lamp and integrated LED driver
- Low initial investment and quick payback through energy cost savings
- Perfect fit in HID SOX luminaires with Mains only connection



Scan the code for all details

*Use relevant IP rated sockets for outdoor installations



Real pros replace HID with "WOW"

Discover the new Philips MASTER LED HPL that offers a perfect LED solution to replace HID lamps for every budget and requirement.

Benefits and features

- Enables up to 60% energy saving compared to conventional road lighting
- Lifetime of 50,000 hours
- Up to 6000 lm output thanks to patented high-power LED filament technology
- IP65 for long-lasting outdoor use
- High color rendering (CRI80) and color temperatures of 3000 and 4000 K



Instant savings ahead



Number of lamps	10	Installation cost/light source	≈35 €
Burning hours per year	4380 hrs ¹	Average buying price/lamp	35 €
Energy costs	0.335 €/kWh ³	Total costs/year/lamp ⁴	53.10 €

Make the sustainable choice: Over its lifetime, the new Philips MASTER LED HPL lamp saves the equivalent of the CO₂ emissions absorbed by more than 158 trees!⁵

¹ Based on 12h burning per day, 365 days per year. ² Including ballast loss. Lamp consumption is 70W.
³ Energy price. Based on the European average of 33 cent/kWh. ⁴ Including maintenance and lamp replacement cost.
⁵ Based on multiple scientific literature, an average fully grown tree can absorb 22 kg CO₂ per year.



Exceeding expectations with TrueForce LED SON-T

Background

Stratford-upon-Avon, a medieval market town in England’s West Midlands, is the 16th-century birthplace of William Shakespeare. As you might expect from a town steeped in history, Stratford-upon-Avon has a large number of Heritage lanterns. Whilst much of Warwickshire County Council’s residential and traffic routes have already been upgraded to LED, the Heritage lanterns had not been.

The main concern in upgrading was maintaining the structural integrity of the lanterns. Whilst replacing the lanterns was considered, the cost was deemed prohibitive.

A small trial of Philips TrueForce LED SON-T lamps was installed.

The solution

Philips TrueForce LED SON-T lamps were selected, as the product offered a like for like replacement into the existing lantern using the existing optic to photometrically replace the SON-T & CDO-TT lamps.

Philips TrueForce LED SON-T lamps offer an easy and short payback LED solution to replace High Intensity Discharge (HID) lamps. The products bring the energy-efficiency and long lifetime benefits of LED to HID replacement, while providing instant savings with a low initial investment. With the right lamp size and light distribution, you can easily retrofit TrueForce LED SON-T lamps into the existing systems without changing the luminaire’s ballast or reflector while enhancing the lighting quality.

Following trials, Warwickshire County Council took the decision to replace all Heritage and Beta 5 lanterns with Philips TrueForce. The upgrade means that energy usage will be more than halved.









With the improved energy efficiency, the payback period on the installation will be less than two years.

"We were confident using a Philips lamp that we were getting a top product but TrueForce has exceeded our expectations."

Mike Cunningham, Street lighting Manager, Warwickshire County Council





Choose the right TrueForce LED lamp

														
Urban				Retail			Industry							
Post top, Heritage		Teardrop, Pendant		Highbay / Midbay			Highbay							
														
														
Conventional oval shape														
Wattage:				TrueForce			TrueForce							
HPL E27 50W	Core LED HPL 13W		M	×	Core LED HPL 13W			M	×	Core HB 20W		M	×	
	TForce LED HPL 21W		EM	×										
HPL E27 80W	Core LED HPL 13W		M	○	Core LED HPL 13W			M	○	Core HB 35W			M	×
	Core LED HPL 18W		M	×	Core LED HPL 18W			M	×	Core HB 30W			M	×
	MAS LED HPL 19W		M	×	MAS LED HPL 19W			M	×	Core HB 20W			M	○
	TForce LED HPL 21W		EM	×										
HPL E27 125W	Core LED HPL 18W		M	○	Core LED HPL 18W			M	○					
	Core LED HPL 26W		M	×	Core LED HPL 26W			M	×					
	MAS LED HPL 19W		M	○	MAS LED HPL 19W			M	○	Core HB 35W		M	○	
	MAS LED HPL 24W		M	×	MAS LED HPL 24W			M	×	Core HB 30W		M	○	
	TForce LED HPL 21W		EM	○										
	TForce LED HPL 28W		EM	×										
HPL E40 200W	Core LED HPL 36W		M	×	Core LED HPL 36W			M	×					
	MAS LED HPL 33W		M	×	MAS LED HPL 33W			M	×					
	TForce LED HPL 42W		EM	×										
HPL E27 200W	Core LED HPL 36W		M	×	Core LED HPL 36W			M	×					
	MAS LED HPL 33W		M	×	MAS LED HPL 33W			M	×					
	TForce LED HPL 42W		EM	×										
SON/CDO-ET E27 50W	Core LED HPL 13W		M	○	Core LED HPL 13W			M	○					
	Core LED HPL 18W		M	×	Core LED HPL 18W			M	×					
	MAS LED HPL 19W		M	×	MAS LED HPL 19W			M	×					
	TForce LED HPL 21W		EM	×										
SON/CDO-ET E27 70W SON-H E27 68W	Core LED HPL 18W		M	○	Core LED HPL 18W			M	○					
	Core LED HPL 26W		M	×	Core LED HPL 26W			M	×					
	MAS LED HPL 19W		M	○	MAS LED HPL 19W			M	○					
	MAS LED HPL 24W		M	×	MAS LED HPL 24W			M	×					
	TForce LED HPL 21W		EM	○										
	TForce LED HPL 28W		EM	×										
SON/CDO-ET E40 100W	Core LED HPL 36W		M	×	Core LED HPL 36W			M	×					
	MAS LED HPL 33.5W		M	×	MAS LED HPL 33.5W			M	×					
	TForce LED HPL 42W		EM	×										
HPI E40 150W							CorePro HPI 65W			M	×			
HPI E40 250W							CorePro HPI 105W			M	×			
HPI E40 400W							LED HPI UN 95W			UN	×			
							LED HPI UN 140W			UN	×			
MH E40 250W							LED HPI Mains 140W			M	×			
							CorePro HPI 105W			M	×			
MH E40 400W							LED HPI UN 95W			UN	×			
							LED HPI UN 140W			UN	×			
							LED HPI Mains 140W			M	×			

						
Road						
Road, Street		Flood lighting, Landscape		Road, Street		
						
Conventional tubular shape						
Wattage:		TrueForce				
SON-T PIA E27 50W	Core LED Road 17W	M	○			
	MAS LED SON-T 23W	IF/EM	×			
SON-T PIA E27 70W	Core LED Road 26W	M	×			
	MAS LED SON-T 34W	IF/EM	×			
	MAS LED SON-T 23W	IF/EM	○			
SON-T PIA E40 100W	Core LED Road 40W	M	×			
	MAS LED SON-T 50W	IF/EM	×			
	MAS LED SON-T 34W	IF/EM	○			
SON-T PIA E40 150W	MAS LED SON-T 65W	IF/EM	×			
SON-T E27 50W	Core LED Road 17W	M	×			
	MAS LED SON-T 23W	IF/EM	×			
SON-T E27 70W	Core LED Road 26W	M	×			
	MAS LED SON-T 34W	IF/EM	×			
	MAS LED SON-T 23W	IF/EM	○			
SON-T E40 100W	Core LED Road 40W	M	×			
	MAS LED SON-T 50W	IF/EM	×			
	MAS LED SON-T 34W	IF/EM	○			
SON-T E40 150W	MAS LED SON-T 65W	IF/EM	×			
CDO E27 50W	Core LED Road 26W	M	×			
	MAS LED SON-T 23W	IF/EM	×			
CDO E27 70W	Core LED Road 26W	M	×			
	MAS LED SON-T 34W	IF/EM	×			
	MAS LED SON-T 23W	IF/EM	○			
CDO E40 100W	MAS LED SON-T 50W	IF/EM	○			
	Core LED Road 40W	M	○			
	MAS LED SON-T 65W	IF/EM	×			
CDO E40 150W	MAS LED SON-T 65W	IF/EM	○			
SOX B22 35W / 26W				LED SOX 18W	EM	×
SOX B22 55W / 36W				LED SOX 28W	EM	×
SOX B22 55W				LED SOX 36W	EM	×

Symbols and abbreviations

 **TrueForce Core LED lamps:**
Convenient and cost-effective

 **TrueForce LED lamps:**
Top-quality and robust

✗ **True replacement:**
Initial perceived light effect / lux levels of LED lamp is the same or better than conventional HID

○ **Average equivalence:**
Average perceived light effect / lux levels of LED lamp during the life comparable to conventional HID

UN Universal:
Plug & play solution with existing gear, no need to re-wire or remove any components. Can also work with direct mains voltage input to save additional energy.

EM EM/Mains:
The solution works both with EM ballast or connected directly to Mains. When being connected directly to mains you achieve even more energy savings. When connected to the existing EM ballast, the ignitor as well as a parallel compensation capacitor should be removed to decrease the power factor.

IF InstantFit:
Plug & play solution with existing gear, no need to re-wire or remove any components. Not recommended to remove ignitor and capacitor. Cannot work on Direct Mains.

M Mains only:
Mandatory to bypass EM ballast, capacitor and ignitor. Can only be used with direct mains voltage input.

Get ready to save energy and costs



Scan the code and use our online total cost of ownership calculator for all of your projects!



Road

	70W SON-T		TrueForce MASTER LED HID SON-T IF	TrueForce MASTER LED HID SON-T MV	TrueForce Core LED HID SON-T Glass
Lifetime	15,000 hrs	>	70,000 hrs	70,000 hrs	25,000 hrs
Lamp wattage	70W	>	34W	34W	26W
Average buying price/ lamp	16 €	>	115.40 €	106.76 €	50 €
Total costs/year/lamp ¹	132.31 €	>	57.73 €	57.19 €	48.66 €
Number of lamps	100				
Burning hours/year	4,380 hrs				
Total savings/year			7,458 €	7,512 €	8,365 €
Payback period			1.5 years	1.4 years	0.6 years
Reduced CO ₂ emissions over lifetime ²			149,900 kg	149,900 kg	62,000 kg
Trees needed for equal CO ₂ uptake ³			6,810	6,810	2,810
			Choose TrueForce LED HID SON-T lamps for extra durable lighting with top performance and great energy savings.		Choose TrueForce Core LED HID SON-T lamps for reliable road lighting with an attractive payback time.



Industry

	400W HPI		TrueForce LED highbay HPI Universal (UN)	TrueForce LED highbay HPI Mains
Lifetime	15,000 hrs	>	50,000 hrs	50,000 hrs
Lamp wattage	400W	>	140W	140W
Average buying price/ lamp installer	23 €	>	213.04 €	191.80 €
Total costs/year/lamp ¹	634.70 €	>	262.08 €	223.54 €
Number of lamps	100			
Burning hours/year	4,380 hrs			
Total savings/year			37,262 €	41,116 €
Payback period			0.6 years	0.5 years
Reduced CO ₂ emissions over lifetime ²			546,000 kg	598,500 kg
Trees needed for equal CO ₂ uptake ³			24,810	27,200
			Choose TrueForce LED highbays for extra durable lighting with top performance and great energy savings.	



Retail

	125W HPL		CorePro LED HID HPL
Lifetime	15,000 hrs	>	25,000 hrs
Lamp wattage	125W	>	26W
Average buying price/ lamp	15 €	>	46 €
Total costs/year/lamp ¹	227.40 €	>	47.96 €
Number of lamps	100		
Burning hours/year	4,380 hrs		
Total savings/year			17,943 €
Payback period			0.3 years
Reduced CO ₂ emissions over lifetime ²			130,200 kg
Trees needed for equal CO ₂ uptake ³			5,910
			Choose TrueForce Core LED HID HPL lamps for low-maintenance retail lighting with a low initial investment and an attractive payback time.

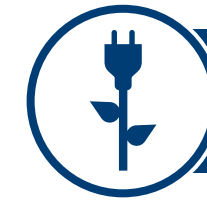


Urban

	125W HPL		MASTER LED HID HPL	CorePro LED HID HPL
Lifetime	15,000 hrs	>	50,000 hrs	25,000 hrs
Lamp wattage	125W	>	24W	26W
Average buying price/ lamp	15 €	>	76 €	46 €
Total costs/year/lamp ¹	227.40 €	>	42.75 €	47.96 €
Number of lamps	100			
Burning hours/year	4,380 hrs			
Total savings/year			18,465 €	17,943 €
Payback period			0.4 years	0.3 years
Reduced CO ₂ emissions over lifetime ²			264,600 kg	130,200 kg
Trees needed for equal CO ₂ uptake ³			120,200	5,910
			Choose MASTER LED HID HPL lamps for extra durable lighting with top performance and great energy savings.	Choose CorePro LED HID HPL lamps for reliable lighting with an attractive payback time.

All calculations are based on the European average of 0.335 €/kWh. ¹ Including maintenance and lamp replacement cost.
² Calculation based on CO₂ gas emissions of 0.42 kg/kWh. ³ Based on multiple scientific literature, an average fully grown tree can absorb 22 kg CO₂ per year.

Philips LED vs. HID



Up to 60% energy savings

Replace outdated HID with outstanding LED

Ever wonder what's better when it comes to urban and road applications: HID or LED?

We took a closer look at the main factors you might consider when choosing lighting products. You'll see that with all the advantages of LED lamps, it's hard to find anything that's not to like.

And it gets even better: Switching from HID to LED is easy with the Philips TrueForce LED range that offers a direct retrofit alternative for many conventional lamp types – without losing the familiar look and feel.

Choose TrueForce LED for projects that demand especially high-quality and robust LED lamps – and TrueForce Core LED for more cost-effective and convenient solutions.

Real pros switch to LED now!



Switching to LED has never been easier!

Light quality

LED

- Very high light quality
- Wide range of color temperatures
- Broad spectrum of CRI – for a safer, more pleasant atmosphere in outdoor environments
- Instant 100% brightness without start-up delay or flickering
- Optically efficient – emits light only towards usage direction

HID

- Very limited light spectrum (around 2200K)
- Low CRI values, usually emitting a yellow light
- Optically inefficient – at least half the light needs to be reflected and redirected

✓ LED wins

Efficiency and robustness

LED

- Highest system efficacy
- Shock resistant, robust technology
- with low failure rate
- Up to 5 years warranty
- Long lifetime of up to 50,000 hours
- IP ratings for outdoor usage

HID

- Lower system efficiency due to losses associated with omnidirectional light output
- Fragile, can fail in a number of ways
- Broken bulbs release a small amount of toxic mercury as a gas
- Approximately half the lifetime of LED

✓ LED wins

Cost of ownership

LED

- Relatively high initial costs – but low lifetime costs
- Virtually no maintenance needed – low frequency with which bulbs have to be changed out
- Major payback comes from energy efficiency improvements

HID

- Cheap to purchase, but much shorter service life
- Will require several replacements plus monitoring and replacing aging or expired components within the lifetime of a single LED lamps

✓ LED wins

Real pros choose Philips LED lighting for:

The best products

- We're setting new standards for high-quality products that result in less maintenance, fewer technical hiccups and strengthens your reputation as a reliable lighting expert.
- Our products are designed with easy installation in mind, saving you time and money.
- From connected lighting solutions to 3D printed luminaires – with Philips you get LED lighting that's setting the reference in the industry and that keeps you ahead of the competition.

The widest portfolio

Whatever the need, whatever the budget: with our complete portfolio of LED lighting products you'll always have the right solution at hand.



A partner that understands the challenges you face, saves you time. Which is why we don't only offer a comprehensive portfolio of LED luminaires and lamps, but also a couple of handy online tools that make your life easier.



Signify, previously known as Philips Lighting, is the world leader in connected LED lighting systems, software and services. We proudly market the best lighting brands in the world, including Philips and Interact.

PHILIPS

The Philips brand stands for quality and energy-efficiency in light. For over 125 years, Philips products have been at the forefront of innovation. Today Philips is recognized as the leading brand in lighting.

interact

Interact is the brand of our IoT software and platform that manages smart lighting systems and the data that those systems collect. Smart, simple and scalable, Interact software can be used in a wide range of application areas, from small offices to entire cities.

You and Signify – a reliable partnership

Close cooperation before, during and after projects is important to us. Our local service teams make sure you always get the competent support and information you need.

We are closely working with local wholesalers to offer you flexible and on-time delivery – and product availability you can rely on.

To help you stay on top of your game the Signify Lighting Academy offers a comprehensive range of educational resources for you to grow your expertise and get certified.

Brighter lives, better world

Signify is 100% carbon neutral since September 2020.

We recycle up to 90% of our manufacturing waste.

We use 100% renewable electricity.

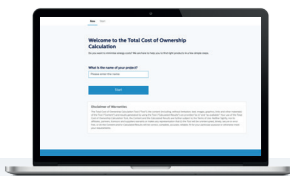
Our paper packaging for LED lamps and luminaires is saving over 500,000 kilos of plastic waste per year.

Thank you for choosing Philips products offered by Signify and joining us on our mission!



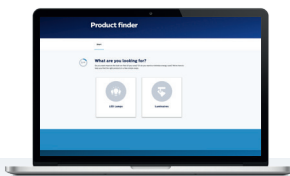
Installer hub
philips.com/installer

- All latest product information
- Installation videos and training
- Links to all tools
- And more!



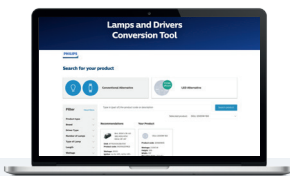
TCO calculator
philips.com/tco

- Calculate the total cost of ownership (TCO) of your product in a few simple steps



Product finder
philips.com/productfinder

- Easily find the perfect LED lamp or luminaire for every budget and application demand



LED conversion tool
philips.com/ledconversion

- Use our tool to help clients switch to Philips' LEDs and enjoy energy savings of up to 75%¹ within 5 months²

¹ According to Signify modeling and market intelligence data.
² Based on Philips MASTER LEDtube Ultra Efficient T8.



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www.philips.com/trueforce-led-lamps