



MASTER

TL-D  tra &
TL-D  treme

Reliable and cost-efficient lighting



Perfect light, perfect sense

PHILIPS



MASTER TL-D Xtra and MASTER TL-D Xtreme: a new approach to professional lighting

Lighting is an essential element in any professional environment, although different environments call for different lighting solutions. Philips - number one in the global lighting market - is continuously innovating to provide solutions that meet the special requirements of all types of businesses.

Shaking the world

Philips is combining its leadership in innovation with a systematic approach to understand new customer requirements. Philips has successfully introduced many products that shook the world of lighting: MASTER TL-D Super 80 contains the least mercury of all comparable lamps on the market while maintaining its superior performance. The T5 office lighting system provides aesthetic, high-quality lighting and minimizes energy demands.

Requirements on the rise

Lighting requirements are continuously on the rise. This goes especially for the professional market. Even though the requirements may vary from application to application, they do have one thing in common: the need for reduced cost-of-ownership. Until now, Philips MASTER TL-D Super 80 lamps – the lamps 'with the green cap' - were the most advanced TL-lamps on the market. Superior coating technology and the use of special colour tri-phosphors have improved colour rendering. MASTER TL-D Super 80 lamps guarantee true lifetime reliability, substantial cost savings and best-in-class quality.

Introducing MASTER TL-D Xtra and MASTER TL-D Xtreme

With the introduction of MASTER TL-D Xtra and MASTER TL-D Xtreme, Philips is extending its MASTER TL-D Super 80 product range. Philips now offers three best-in-class fluorescent lamps, each for a specific application. The new MASTER TL-D Xtra and MASTER TL-D Xtreme will enhance your business through optimum lighting performance, as you benefit from less early failures and a longer lifetime thanks to Philips' innovative X-technology.

X-technology

The MASTER TL-D Xtra and MASTER TL-D Xtreme are fluorescent lamps based upon a new technology (patent pending), called X-technology. The X-technology led to a breakthrough in lamp life reliability. The basis for the X-technology is the use of two different electrodes in the lamp. In contrast to lamps that do not have the X-technology implemented, with X-technology only one electrode determines the lifetime of the lamp. In this way the causes for the spread in lifetime are effectively halved, and an inherently better control of the lifetime spread is realized. To enhance the X-technology concept, our manufacturing process has been adapted, leading to a unique world class manufacturing process for electrode processing and emitter dosing. As a result, the lifetime reliability for MASTER TL-D Xtra and MASTER TL-D Xtreme outperform any other TL-D lamp in their category.

You benefit from unique features

- > Long-life lamps without failures in an early stage prevent productivity drops, costly disruptions and unforeseen maintenance costs.
- > MASTER TL-D Xtra and MASTER TL-D Xtreme lamps feature the lowest mercury content (only 5 mg per lamp) for long-life lamps on the market.
- > Philips is the only supplier offering a complete range of MASTER TL-D Super 80, MASTER TL-D Xtra and MASTER TL-D Xtreme.

Both MASTER TL-D Xtra and MASTER TL-D Xtreme can be used on existing TL-D gear and luminaires, so you don't need to change your installation to enjoy the benefits.

Green X-cap

The amount of mercury in MASTER TL-D Xtra and MASTER TL-D Xtreme lamps is significantly lower compared to all other long-life lamps on the market. The green cap indicates the environmental friendliness of the lamp and stands out because of its X-shape. This helps you to easily recognize the new lamps.





The value of MASTER TL-D Xtra and MASTER TL-D Xtreme

To understand the real value of MASTER TL-D Xtra and MASTER TL-D Xtreme lamps, it is important to understand the role of lighting. Good lighting provides many benefits, such as the prevention of accidents and production stops, contribution to a feeling of well-being and increase of productivity. Lighting however is also a cost factor, for instance with regard to the costs related to lighting maintenance. In average 10 – 30% of total building management costs is related to lighting. A significant part of this amount can be attributed to lamp replacement costs.

Maintenance costs of a lighting system

There are many different factors that influence the maintenance costs of a lighting system. Depending on the type of application, the actual lamp price can be only a minor part of these costs. Other influencing factors of the total costs are the electricity costs, costs of waste disposal, switching cycles, ballast types, etc. For applications such as industries and tunnels, direct costs with regard to re-lamping will be the most important part: cost of maintenance work per hour, number of labor hours and travelling time of the maintenance company. However, also the indirect related costs for production stops or disturbances to the workflow need to be taken into account. Although these are often difficult to estimate, they should not be neglected.

Save hassle, time and money through group re-lamping

With top quality lamps such as MASTER TL-D Xtra and MASTER TL-D Xtreme, group re-lamping is the ideal way to save money, time and resources. During group re-lamping, all lamps in an installation are replaced at the same time. This is done at a pre-calculated moment based upon the expected lamp life. The excellent reliability of the MASTER TL-D Xtra and MASTER TL-D Xtreme facilitates this calculation. As you know when the 10% failure rate is due, you know the exact moment when all lamps should be replaced. Group re-lamping thus becomes a far less expensive way to replace lamps than spot re-lamping (one-by-one replacement as each lamp fails) is.



The choice is simple

Thanks to the outstanding lifetime reliability of the MASTER TL-D Xtra and MASTER TL-D Xtreme lamps, significantly less early failures will occur. This, combined with their longer lifetime, makes that Philips MASTER TL-D Xtra and MASTER TL-D Xtreme offer maximum benefits to owners and/or maintenance companies who carry the cost of maintenance.

And not only your business, but also the environment benefits from MASTER TL-D Xtra and MASTER TL-D Xtreme: Philips has incorporated the best technology with regard to lamp mercury dosing and lamp mercury consumption.

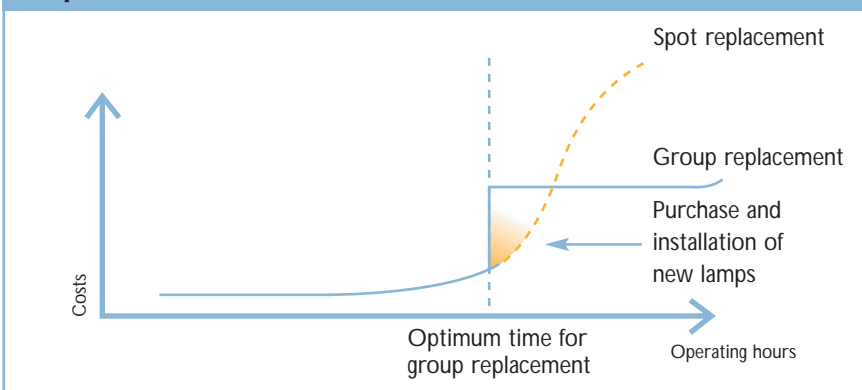
As MASTER TL-D Xtra and Xtreme are fully retrofit with existing TL-D luminaires and gear, the changeover will be easy. The new, X-shape lamp cap makes that you can easily recognize the new lamps.



Why group re-lamping?

- > Fewer work disruptions than for spot replacement
- > Reduced labor costs
- > Lighting levels are always optimum
- > Lamp-to-lamp color uniformity
- > Less inventory
- > Lighting maintenance costs can be budgeted and controlled

Replacement costs





The right lamp for the right application

MASTER TL-D Super 80

Lower maintenance costs with MASTER TL-D Super 80

In professional applications, economy and light quality are two important characteristics of fluorescent lamps.

In the past these two characteristics did not seem to be compatible. Philips has solved the problem with MASTER TL-D Super 80 lamps: their excellent colour rendering ensures a truly natural quality of light. Moreover, they have a constant lumen output during their entire life, therefore they need to be replaced much later compared to standard colour TL-D lamps and in this way significantly reduce maintenance costs. Finally, their higher luminous efficacy can save energy costs.

Applications

MASTER TL-D Super 80 lamps are the best solution for applications such as offices, shops and industries with low ceiling costs and low maintenance costs.

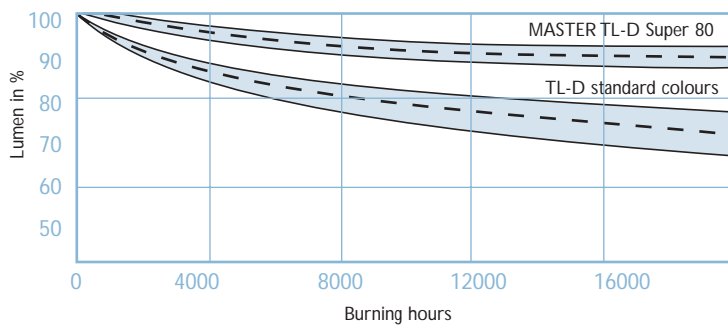
A lamp for every application

Different applications ask for different lighting solutions. Philips Lighting offers the right lamp for each application.

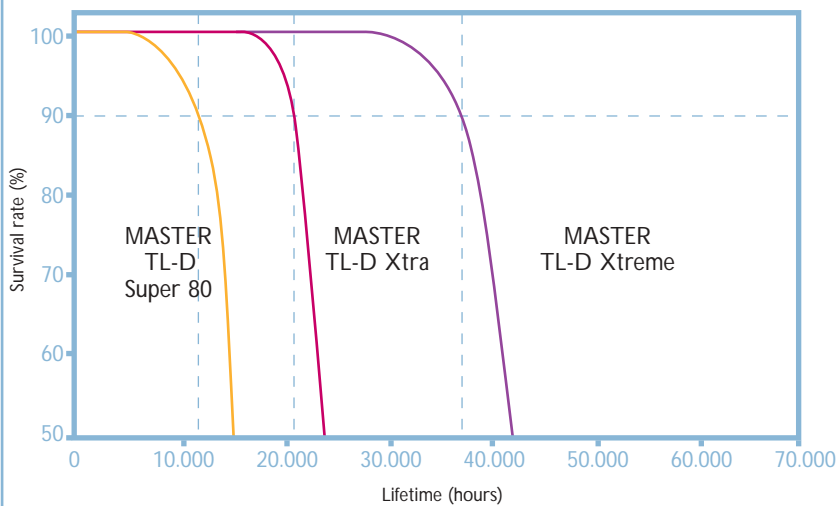
Cost of lamp replacement	MASTER TL-D Xtreme				tunnels
	offshore		underground stations		
	car parks	petro-chemical	warehouse	street lighting	
	MASTER TL-D Xtra				car industry
			food and drink		
			airports	process	mining industry
	large offices	non profit	department stores		
	small industry	shops	super markets		
	MASTER TL-D Super 80				
	small offices			hospitals	

Cost of disruption

Lumen maintenance MASTER TL-D Super 80 vs TL-D standard colours



Lifetime comparison



"A reliable and economical lamp"

"The offices in my building need to be equipped with reliable and high quality lamps. Every time we have to go in to replace lamps there is a significant disruption of the work. Apart from the disruption for the office workers, it takes a lot of time to replace lamps each time they fail and the costs are quite significant. Fortunately, we have found a perfect solution in the MASTER TL-D Super 80. With their very reliable and long lifetime, I have fewer interruptions in my work to change lamps. With group replacement, I can plan for maintenance cycles outside office hours. Moreover, the MASTER TL-D Super 80 lamps offer a very good light quality that enhances the ambience."



A lamp for every application

Different applications ask for different lighting solutions.

Philips Lighting offers the right lamp for each application.

Lamp	Service Life	Application type
MASTER TL-D Xtreme	36.000 hours*	<ul style="list-style-type: none"> • High ceilings • Difficult to reach • High disruption costs • Fluorescent lighting is single or main light source
MASTER TL-D Xtra	21.000 hours*	<ul style="list-style-type: none"> • Medium high ceilings • Dusty environments • Multiple light sources on site
MASTER TL-D Super 80	12.000 hours*	<ul style="list-style-type: none"> • Low ceilings and low maintenance costs
TL-D standard colours	7.500 hours*	No option anymore

*80% Service life on conventional gear and 3hr switching cycle; The 80% service life is in case of Philips MASTER TL-D lamps equal to the 10% failure point, since the lumen depreciation of Philips MASTER TL-D lamps never exceeds 10% throughout the entire life of the lamp.



A hassle-free lighting solution:

MASTER TL-D Xtra

In industries, it is important that production lines keep running. Every disruption can cost thousands of Euros. In a store the right shopping ambience is important and you don't want your customers to be disturbed by maintenance to replace failed lamps.

When developing the MASTER TL-D Xtra, the total cost of lighting was taken into account; the purchase cost, the cost of electricity, the cost of replacing failed lamps, and the cost of maintenance.

With the reliable and lasting MASTER TL-D Xtra, you can count on a predetermined lifetime. This allows you to schedule and budget for maintenance ahead of time and cause the least possible disturbance in your work environment. This will help you save money in the long run.



Applications

MASTER TL-D Xtra lamps are the best solution for applications such as industries, offices and department stores with:

- > Medium high ceilings (3-4m)
- > Dusty environments where frequent cleaning is necessary
- > Different kinds of lamps installed

MASTER TL-D Xtra offers optimal performance for group replacement contracts.

Service life MASTER TL-D Xtra

80% service life (hrs)	50Hz Coventional Operation		HF-Operation	
Cycle	Inductive Operation	Duo Operation	HF- Preheat start	HF- Instant start
2,75 hrs on / 0,25 hr off	21.000	16.000	37.000	11.000
11,5 hrs on / 0,5 hr off	35.000	32.000	42.000	26.000

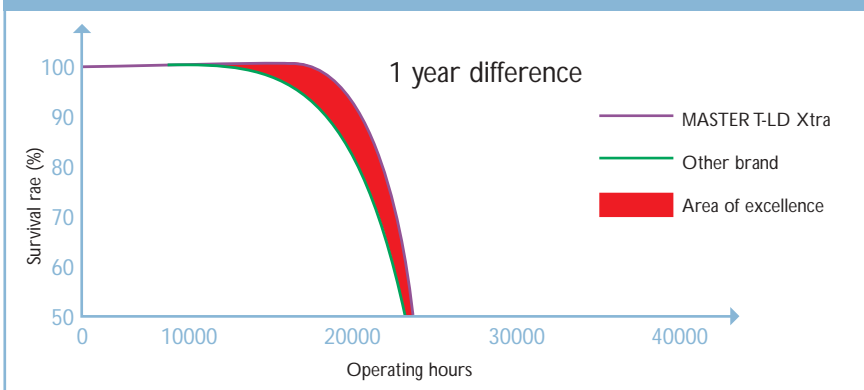
Service life MASTER TL-D Super 80

80% service life (hrs)	50Hz Coventional Operation		HF-Operation	
Cycle	Inductive Operation	Duo Operation	HF- Preheat start	HF- Instant start
2,75 hrs on / 0,25 hr off	12.000	9.000	17.000	7.000
11,5 hrs on / 0,5 hr off	15.000	12.000	19.000	15.000

"Re-lamping costs can be much higher than most people think"

"For a hypermarket, re-lamping costs can be much higher than most people think. And it has become even more expensive now, because we can't simply get out a ladder and climb up to change a bulb. The law considers that too dangerous, so we have to bring in special equipment. To keep costs as low as possible, I need reliable lamps that last and I need lamps with a pre-determined lifetime so I can schedule and budget for maintenance far ahead of time and cause the least possible disturbances in the store. In fact, I can't compromise on the actual quality of lighting either. The merchandise has to be displayed under optimum lighting conditions because that definitely has an impact on sales..."

Area of excellence



MASTER TL-D Xtra

Product	EOC	Packaging configuration	Color designation	Lumen output (lm)
18W/830	544988 40	25/sleeve	warm white	1330
18W/840	558626 40	25/sleeve	cool white	1330
36W/830	558718 40	25/sleeve	warm white	3250
36W/840	558763 40	25/sleeve	cool white	3250
58W/830	558886 40	25/sleeve	warm white	5150
58W/840	558909 40	25/sleeve	cool white	5120





Replace and forget:

MASTER TL-D Xtreme

Drilling platforms are sometimes as big as small cities and they operate 24/7. One mistake can lead to a disaster. Also maintenance work in a tunnel is serious business, just think of the safety of workers as well as the safety and convenience of motorists. In these kinds of circumstances, extreme reliable and long-lasting lamps are required.

When developing the MASTER TL-D Xtreme, the total cost of lighting was taken into account; the purchase cost, the cost of electricity, the cost of replacing failed lamps, and the cost of maintenance. With Philips MASTER TL-D Xtreme, you save money in the long run.

Replace and forget. That is what will happen when you replace your existing TL-D lighting installation with MASTER TL-D Xtreme lamps. They offer excellent early failure performance and extreme long life. Moreover, with MASTER TL-D Xtreme, visibility is excellent. On the one hand this enhances safety; on the other hand this will stimulate productivity.



Applications

MASTER TL-D Xtreme lamps offer the very best solution for:

- > High ceilings
- > Hard to reach places
- > Areas where maintenance is expensive due to work disruption (for instance assembly lines, drilling platforms or the petrochemical industry, tunnels, airports and car parks)
- > Where fluorescent lighting is the single or main lighting source

MASTER TL-D Xtreme lamps fit very well in group replacement projects.

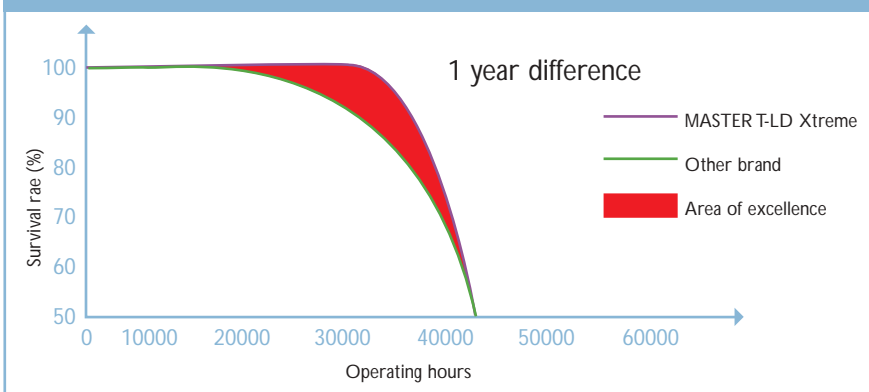
Service life MASTER TL-D Xtreme

80% service life (hrs)	50Hz Coventional Operation		HF-Operation	
	Inductive Operation	Duo Operation	HF- Preheat start	HF- Instant start
2,75 hrs on / 0,25 hr off	36.000	29.000	55.000	17.000
11,5 hrs on / 0,5 hr off	55.000	50.000	63.000	39.000

Service life MASTER TL-D Xtra

80% service life (hrs)	50Hz Coventional Operation		HF-Operation	
	Inductive Operation	Duo Operation	HF- Preheat start	HF- Instant start
2,75 hrs on / 0,25 hr off	21.000	16.000	37.000	11.000
11,5 hrs on / 0,5 hr off	35.000	32.000	42.000	26.000

Area of excellence



MASTER TL-D Xtreme

Product	EOC	Packaging configuration	Color designation	Lumen output (lm)
18W/830	544926 40	25/sleeve	warm white	1350
18W/840	544964 40	25/sleeve	cool white	1350
36W/830	558664 40	25/sleeve	warm white	3250
36W/840	558688 40	25/sleeve	cool white	3250
58W/830	558824 40	25/sleeve	warm white	5150
58W/840	558862 40	25/sleeve	cool white	5150

"We can't close down just because of a lighting problem"

"Stopping our assembly lines for unplanned lighting maintenance work costs us a great deal of money, so we have to know that the lamps we choose are going to be reliable and long-lasting. We need lamps with a predetermined lifetime that "keep their promise" and allow us to plan and budget for group replacement. With MASTER TL-D Xtreme we know that we have lamps that we can count on. Another benefit is that with these lamps, we comply with the norms outlined in ISO 14001. With their low mercury content, we feel that we help reduce the environmental impact. And in doing so, we also meet the requirements of customers with regard to environmental matters."



For more information on MASTER TL-D
Xtra and MASTER TL-D Xtreme,
please contact your local dealer.



More information on Philips
Lighting can be found at:

www.eur.lighting.philips.com

