

# Sustainable workplaces

A simple switch in office lighting





"Energy costs offer plenty of scope for us to make savings. This is why we switched from T8 fluorescent lamps to Philips MASTER TL-D Eco lamps in our building. By doing this we immediately saved 10% on our energy costs and also reduced environmental pollution by cutting 25 tonnes of CO<sub>2</sub> emissions. One simple change makes this possible!"

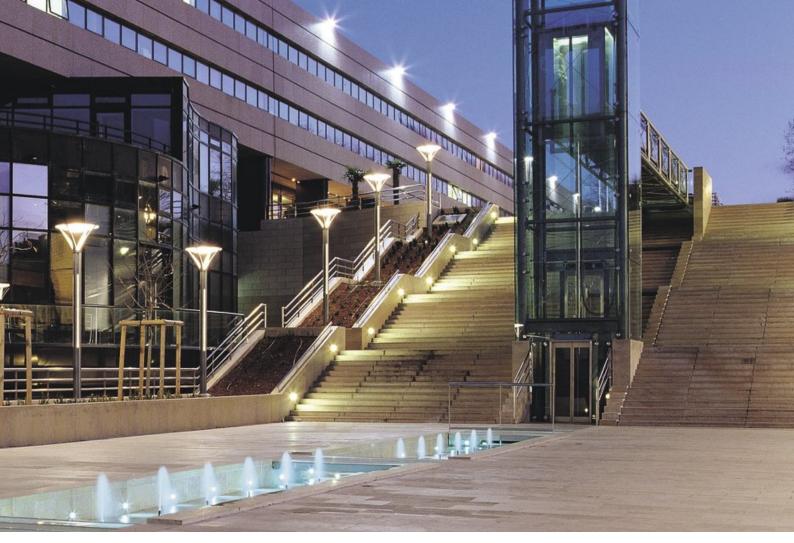
Robert Strixner, Building Services Management Director, Hypovereinsbank, Standort Arabellapark, Munich, Germany





# Lighting a sustainable office

Good lighting not only enables people to see, it also affects how people feel. But getting what you need to enrich office life doesn't have to mean taking from others. Philips Office Lighting provides sustainable lighting solutions that reduce energy costs, improve well-being and care for our planet. We're passionate about lighting that doesn't deplete our planet's precious resources unnecessarily.



Corum, Montpellier, France

#### Switch on energy savings

Approximately 40% of all the electricity used in buildings comes from lighting, making it one of the most attractive ways to save energy. So we've developed a complete range of solutions that is socially responsible, technologically advanced and pleasing to the eye. Smart and efficient lighting that helps you to sustain your company and the environment.

#### Lighting for a healthier workplace

Good lighting clearly contributes to the way people feel. When people feel better, they work better. And comfortable lighting that supports our natural rhythms and is suited to the task at hand increases our overall sense of well-being.

Philips Dynamic Lighting solutions bring the benefits of natural daylight indoors with subtle, changing patterns of light that keep us in tune with the world outside the office walls. Solutions that energise bodies, rejuvenate minds and ensure everyone gives their best.

#### Show your company in a new light

Lighting doesn't just illuminate. It can fundamentally change what we see and first impressions count. Bright or soft. Sophisticated or playful. Always responsible. Lighting can help to define your company's image and identity. Our lighting solutions are designed to inspire, uplift and make a statement. Creating maximum impact with minimum costs to you and the environment.



# It's time to switch

With concerns about climate change and the effect that CO<sub>2</sub> emissions are having on our planet, it's natural to want to save energy. But with more and more legislation being implemented concerning the use of office lighting, you need to make the green switch fast. Philips can help you get a head start, updating you on European environmental legislation.

#### Energy using Products Directive

The EU has set a target to reduce total energy consumption by 20% before 2020. In order to reach this target a number of legislative directives have been developed. One of them is the Energy using Product Directive to reduce the environmental impact of energy-using products. Measures have been put in place to determine the minimal energy efficiency requirements of lighting, which automatically means that some products will be phased out according to the timetable below.

#### Future-proof lighting

Philips is prepared for the change over. Our office lighting solutions provide a complete range of alternatives, all of which comply with the latest legislation. What's more, we're making sure you stay well ahead by equiping all of our luminaires with the highly efficient HF electronic gear .

A move that goes well beyond the legislation, which doesn't require that until 2017. You can see the benefits now by saving up to 25% on energy costs with normal HF gear, up to 75% on energy costs with HF gear and controls.

#### Timetable for discontinuation of inefficient lamps

Every year per September	2009	2010	2011	2012	2013	2014	2015	2016	2017
Frosted Incandescent lamps	*			•	Not permitted	d	•	•	•
Clear Incandescent lamps 100W	Not permitted								
Clear Incandescent lamps 75W	Permitted Not permitted								
Clear Incandescent lamps 60W	Permitted		Not permitted						
Clear Incandescent lamps 15W, 25W, 40W		Permitted			Not permitted				
Every year per April	2009	2010	2011	2012	2013	2014	2015	2016	2017
TL-D standard lamps (/33, /54)	Permitted			•	Not pe	rmitted	•		•
T12 lamps	Permitted			Not permitted					
Mercury vapour lamps		Permitted			Not permitted				
Fluorescent conventional gear (EM)	Permitted			Not permitte					

For more information, visit www.philips.co.uk/lighting



# Be energy efficient

The Energy Performance of Building Directive (EPBD) is part of the EU framework to combat climate change by reducing energy consumption and increasing energy efficiency. Buildings have been targeted because they account for about 60% of all energy consumed in the EU. Each member state is responsible for setting its own energy efficiency targets and implementing the legislation to achieve its goals.

To comply with the directive, office buildings of more that 1,000 m² must calculate their energy consumption and performance in order to rate their building's energy efficiency. The appropriate label will be rated from low to high, as with the Energy Efficiency Label.

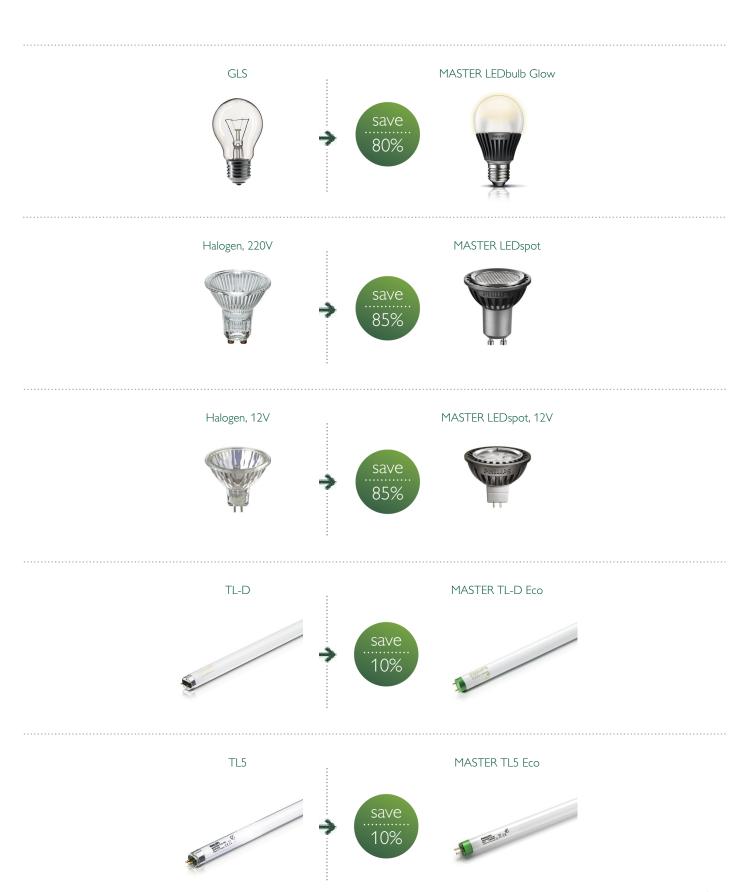
As the directive is still evolving, regulations will be even stricter in the future. And with the likelihood that your building's rating will also have to be on display for everyone visiting the office, improving your classification now is more important than ever.

One of the most attractive ways to conserve energy is by changing your office lighting. Not only does it account for around 40% of your electricity bills, it also requires less investment and hassle than other energy saving choices you could make. Improving your lighting is a cost effective way to help you realise energy savings of up to 80%. And research\* shows that energy efficient buildings are a more attractive proposition for tenants and investors, receiving 6-9% higher rents and 16% higher selling prices. All of which results in a more valuable office building that's easier to rent or sell.

<sup>\*</sup> Doing well by doing good? Green office buildings", University of Berkeley and University of Maastricht, April 2008

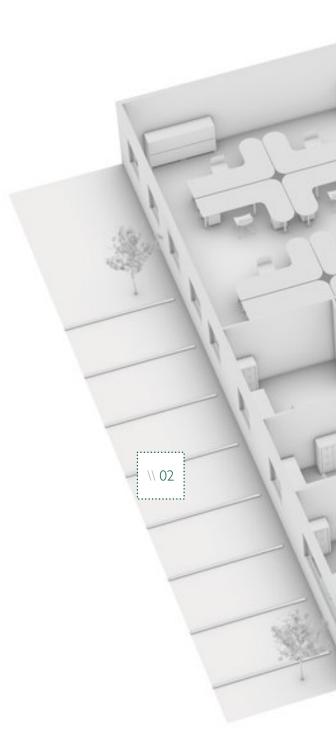
## Lamp replacement is a simple switch solution

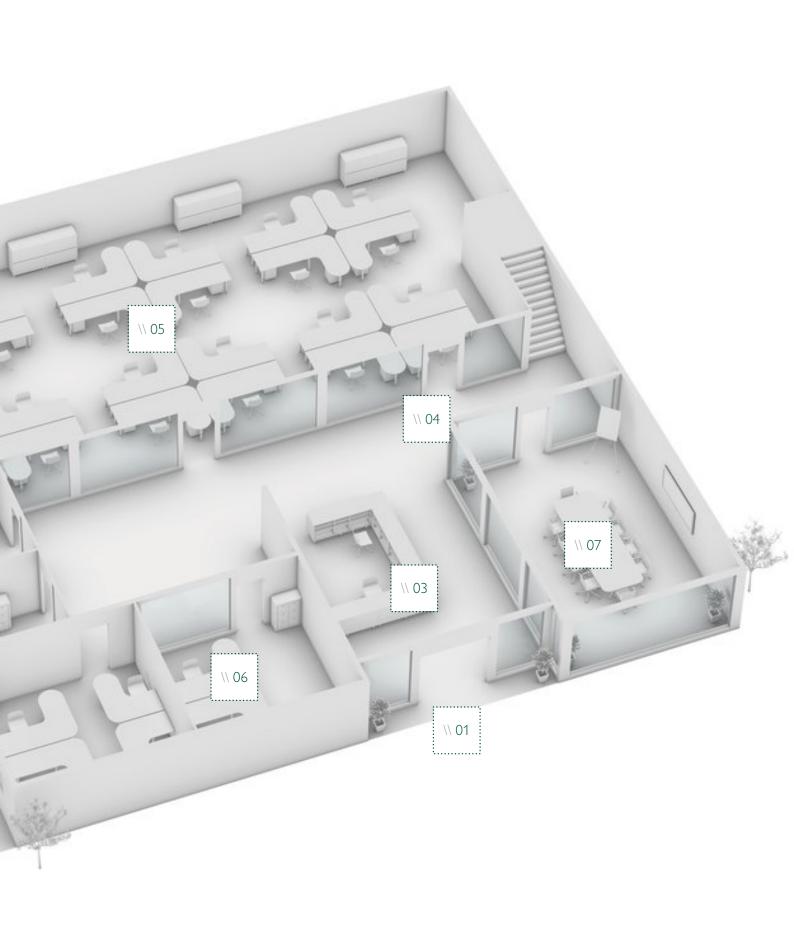
In the rest of this brochure we'll show you how you can achieve even more significant savings through more substantial renovations.



# Office overview

\\ 01 . Facade \\ 02 . Parking \\ 03 . Reception \\ 04 . Corridors and circulation areas \\ 06. Cell office \\ 07 . Meeting room





# \\01. Facade

First impressions count. That's why the facade of your office is so important. Premises that are distinctive, memorable and eye-catching can create the foundation for a strong identity that will help to differentiate you in a competitive market. Lighting is an excellent way to support your corporate image. For example, you can use an illuminated sign, logo or a particular colour to draw attention to your office. You can also highlight attractive architectural features for added impact. New lighting technologies allow you to create dynamic effects with colours and movement with minimal light spillage. So your office stands out for all the right reasons. www.philips.com/officelighting

Taihsin Bank Tower, Taipei, Taiwan



#### \\ 01 . ColorReach Powercore/ eW Reach Powercore

- Illuminate facades up to 240m high with tuneable white or colour-changing light
- Precise beam with no light spillage
- Easy installation, zero maintenance

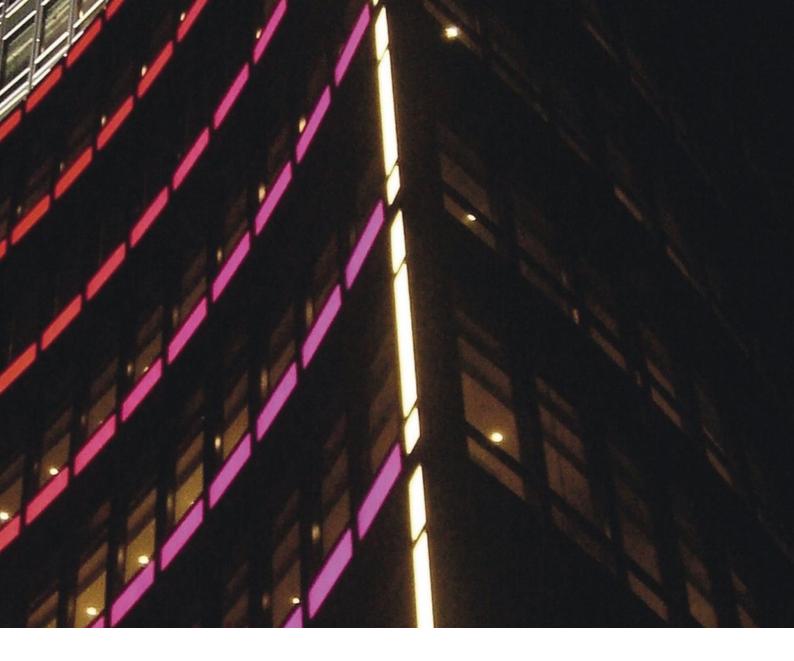


#### \\ 02 . eWBlast Powercore / ColorBlast Powercore

- Energy-efficient and cost-effective versus traditional light sources
- High intensity white and colourchanging light
- Easy installation, easy maintenance



- Enhance architecture with grazing light effects
- Wide range of colours, beams and
- Easy installation, zero maintenance





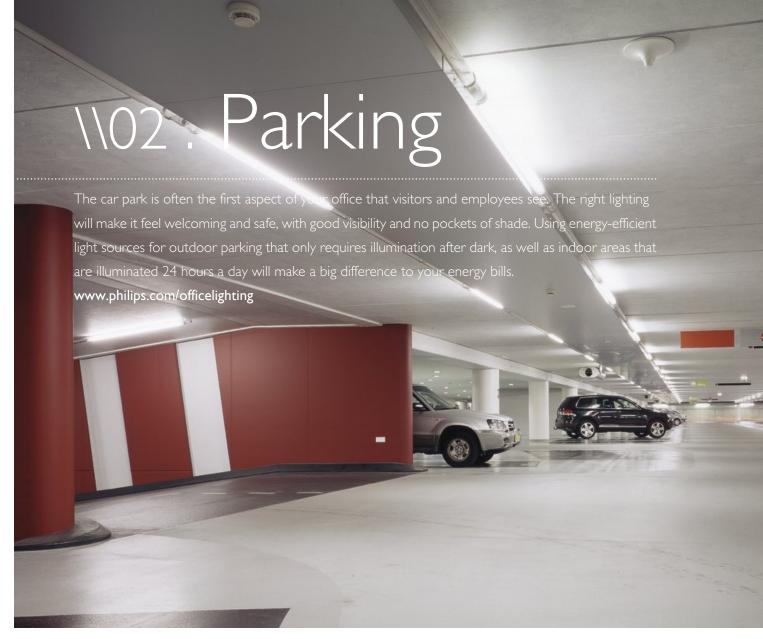
#### \\ 04 . ColorGraze Powercore/ eW Graze Powercore

- Enhance architecture with grazing effects in high-quality white or colourchanging light.
- Precise beam with no light spillage
- Easy installation, zero maintenance



#### 

- Long-lasting and uniform signage light creates a good impression
- Up to 50% energy saving compared to neon
- Flexible for complex forms and structures



Bern Parkhaus, Maastricht, the Netherlands



\\ 01 . Mini Iridium LED

- LED technology for highly energyefficient lighting
- Lower maintenance costs
- · Long lifetime



\\ 02 . Mini Iridium / Mini Koffer<sup>2</sup> / Mini Modena

- Built for the highly energy-efficient Cosmopolis system
- Beauty and efficiency with a wide variety of designs



\\ 03 . CitySpirit LED

- LED technology for highly energy-efficient lighting
- Integrates perfectly into urban architecture
- Provides excellent lighting performance



	Reference situation Marbella HPL	New solution, example Iridium Cosmo 140
Surface (m²)	1,000	1,000
Burning hours (p/y)	4,000	4,000
Used W/m²	1	0,43
kWh/year	4,000	1720
Energy saving		57%
CO <sub>2</sub> reduction (kg) over lifetime	14,364.00	
Energy cost saving over life	£3,420.00	

A typical example based on the most common scenario (energy price £0,10 Kw/h)



#### Xtreme

- Extra long and reliable lifetime
- Fit and forget: less hassle and lower maintenance costs



Michael Graves, UK



#### \\ 01 . DayWave

- Unique, ultra-slim design with soft
- Enhances well-being by following the rhythm of daylight
- Uniform light distribution due to breakthrough optic design



#### \\ 02 . LuxSpace Micro\*

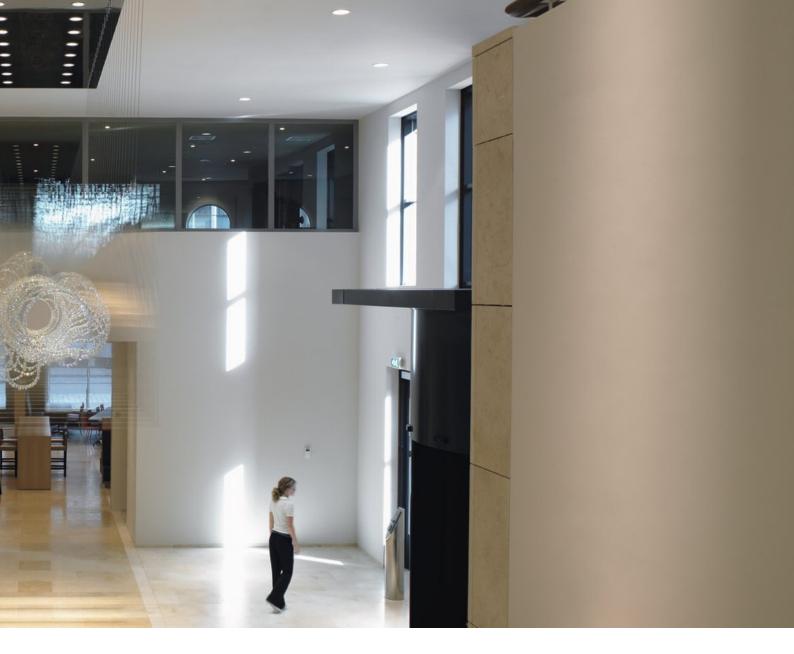
- Highly energy-efficient, sustainable solution
- LED technology for consistent light output
- Fit and forget, easy installation, long lifetime
- 125mm cut out



#### \\ 03 . LuxSpace Mini

- Highly energy-efficient, sustainable solution
- LED technology for consistent light output
- Fit and forget, easy installation, long lifetime
- 150mm cut out

<sup>\*</sup> Please note LuxSpace Micro will only be available from May 2010. Luxspace Compact is also available from January 2010, please see page 18 for further information





#### \\ 04 . UnicOne

- A stylish choice with decorative appeal
- Complete design range for visual harmony
- Energy-saving luminaire is fully electronic



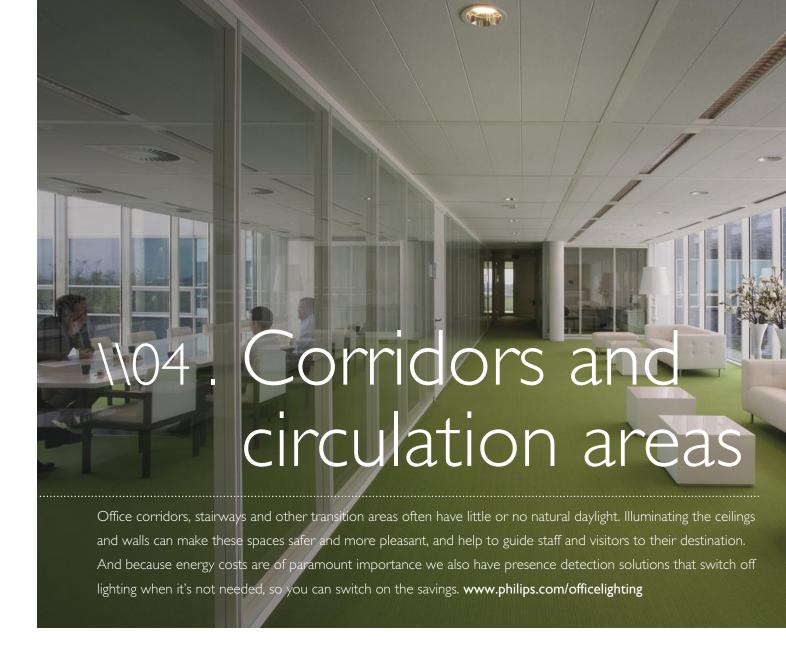
## \\ 05 . Cove Lighting

- Light alcoves, accent areas and confined spaces
- Colour-changing, tunable white or fixed white light
- Low profile, flexible mounting and positioning



## \\ 06 . MASTER LEDspot

- 100% retrofit design
- Attractive warm or cool white light
- Plug & play installation
- Low energy and maintenance costs









#### \\ 01 . LuxSpace Micro\*

- Highly energy-efficient, sustainable solution
- LED technology for consistent light output
- Fit and forget, easy installation, long lifetime
- 125mm cut out

#### \\ 02 . LuxSpace Mini

- Highly energy-efficient, sustainable solution
- LED technology for consistent light output
- Fit and forget, easy installation, long lifetime
- 150mm cut out

#### \\ 03 . LuxSpace Compact\*

- Highly energy-efficient, sustainable solution
- LED technology for consistent light output
- Fit and forget, easy installation, long lifetime
- 198mm cut out



	Reference situation Fugato Compact FBS261 1xPL-C/4P/26W/840 HF C	New solution, example LuxSpace, OccuSwitch
Surface (m²)	200	200
Burning hours (p/y)	4,000	4,000
Used W/m²	6,0	3,0
kWh/year	4,800	2,408
Energy saving		50%
CO <sub>2</sub> reduction (kg) over l	15,069.60	
Energy cost saving ov	£3,588.00	

A typical example based on the most common scenario (energy price £0,10 Kw/h)



#### 

- 80% energy savings compared to halogen spots
- A wide range of designs
- Dimmable



#### \\ 05 . UnicOne

- Enhances interior architecture
- Highly efficient beam reduces the number of fixtures
- Complete design range for visual harmony



#### \\ 06 . OccuSwitch

- Save 30% energy with automatic switch off when no one is around
- Versatile and reliable, works with any luminaire or lamp
- Easy and quick installation

# \\05. Open plan office

Great leaps in mobility and connectivity have transformed the way we work. Open plan offices are now far more dynamic and ergonomic environments. However, many have not been adapted to take full advantage, with entire spaces being illuminated instead of just those areas where light is required. Philips can help you respond to the changing dynamics of the open plan office with highly efficient solutions that create a comfortable, ambient light. thing lights on and off for you, you can sw With presence detection and daylight regulation switching sw even more savings. www.philips.com/officelighting



#### \\ 01 . OccuPlus

- Save up to 55% energy with occupancy control and daylight regulation
- Versatile and reliable, works with any luminaire or lamp
- Easy and quick installation



#### \\ 02. OccuSwitch

- Save 30% energy with automatic switch off when no one is around
- Versatile and reliable, works with any luminaire or lamp
- Screen off areas where activation is not required



\\ 03 . MASTER TL5 Eco

- Most energy efficient, one year payback time
- Simple lamp switch solution, no disruption
- No compromise on light quality



kWh/year	18,480	5,783.4
Used W/m <sup>2</sup>	15,4	4,8
Surface (m <sup>2</sup> ) Burning hours (p/y	400	400
	Reference situation IndolightTBS330, MASTER Super 80 TL-D 58W/840, conventional ballast, L1 optic	New solution, example SmartformTBS460 MASTER TL5 Eco, HF ballast C8-VH optic, Actilume

A typical example based on the most common scenario (energy price £0,10 Kw/h)



- 100% retrofit design
- Attractive warm or cool white light
- Plug & play installation
- Low energy and maintenance costs





## Audi, Neckarsulm, Germany

Audi has been writing automotive history for over 100 years. Many of their hallmark innovations have been developed and now roll off the assembly line at their location in Neckarsulm. As a global player, Audi is continuously optimising environmental factors such as energy, waste balances, soil conservation, water pollution and noise emissions. In 2008 they decided to renovate and re-organise a three-storey office building with the latest technology and modern features to give staff the very best working conditions.

#### How did they do it?

1,650 recessed luminaires in the offices, conference rooms and corridors were replaced with Philips Flatlight luminaires and Fugato downlights, including accent illumination for "green plant islands". The system is managed by a LightMaster Modular (LMM) lighting control system that turns lights on and off according to time of day, daylight conditions and people presence. The modern and efficient lighting concept now provides high-quality lighting at a lower cost with a better eco-balance.

> Reference situation Recessed luminaires with TL-D lamps on EM gear

New solution, example

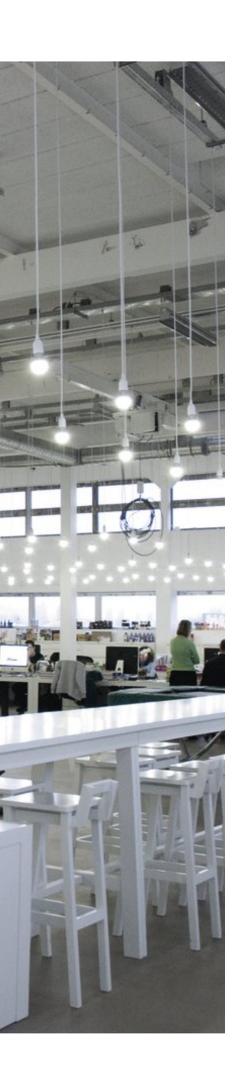
Flatlight luminaires with MASTER TL5 on HF gear, Fugato downlight PL-C and MASTERColour CDM-T lamps, LightMaster modular

kW/year 177,905 74,560 **Energy saving** 58% CO<sub>2</sub> reduction (kg) over lifetime (15 yr.) 930,000

Energy cost saving over lifetime (15 yr.)

£155,017





## reggs, Amsterdam, The Netherlands

reggs is a design agency in Amsterdam that has a passion for people, business, innovation and the planet. The company had already integrated many energy-efficient solutions into their open plan, multi-functional office space such as energy-saving floor heating, water filtering and extra insulation for roof and glass. It goes without saying they wanted the lighting in their office to be energy-efficient too.

#### How did they do it?

The studio lighting was replaced with Philips MASTER LEDbulb. It has the well-known shape of an incandescent bulb, but due to the LED technology it is extremely energy-efficient. The clean white light reflects the creative personality of the company and demonstrates that sustainability, aesthetics and functionality can go hand in hand.

CO<sub>2</sub> reduction (kg) over lifetime (15 yr.)

1,155,000

Energy cost saving over lifetime (15 yr.)

£27,500







#### \\ 01 . DayWave

- Unique, ultra-slim design with soft lines
- Enhances well-being by following the rhythm of daylight
- Uniform light distribution due to breakthrough optic design



#### \\ 02. OccuPlus

- Save up to 55% energy with occupancy control and daylight regulation
- Versatile and reliable, works with any luminaire or lamp
- Easy and quick installation



#### \\ 03. OccuSwitch

- Save 30% energy with automatic switch off when no one is around
- Versatile and reliable, works with any luminaire or lamp
- Screen off areas where activation is not required



#### Dynamic Lighting

Dynamic Lighting is an advanced solution that brings the dynamics of daylight into the working environment. It creates a stimulating, 'natural' lighting ambience and allows individuals to control the lighting according to their personal preference. A subtle palette of light that enhances people's sense of well-being, improving concentration, motivation and performance.

#### Feel good, work better

Dynamic Lighting allows individuals to control the lighting according to their personal preference and the task in hand, creates the right conditions to bring out the best in everyone.

Make the switch in your office and you can benefit from all the advantages of Dynamic Lighting without increasing energy costs.

	Reference situation TBS330, TL-D 58W/840, conventional ballast, L1 optic	New solution, example SmartformTBS471 3 TL5 49W 865/827/865, HFD, AC-MLO optic, OccuSwitch
Surface (m²)	40	40
Burning hours (p/y)	3,000	3,000
Used W/m²	13,7	13,0
kWh/year	1,644	1,560

A typical example based on the most common scenario (energy price £0,12 Kw/h)



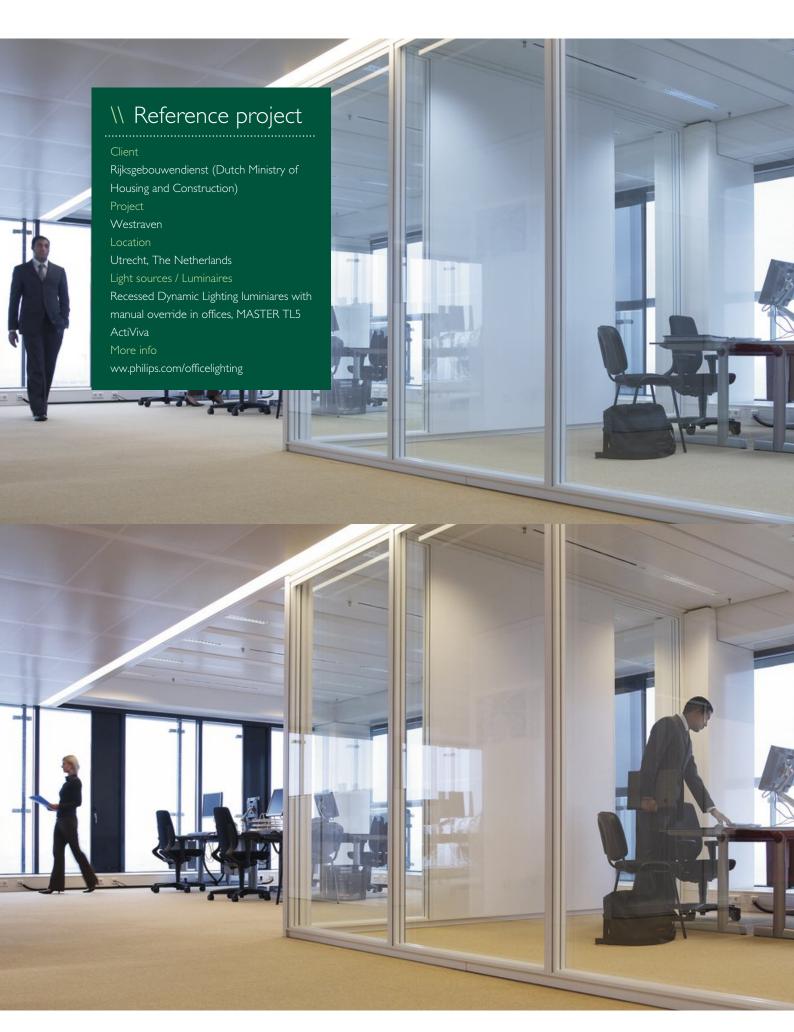
#### \\ 04 . MASTER TL5 ActiViva

- Energises employees, improves concentration and alertness
- Optimises working conditions and performance
- Proven by scientific research



#### 

- Easy to use and programme light settings
- Stylish design with a glow ring that lights up on approach
- Easy installation





## Westraven, Utrecht, The Netherlands

The Westraven Tower is a 23-storey office block occupied by Rijkwaterstaat, part of the Dutch Ministry of Transport, Public Works and Water Management. Although innovative when constructed in 1974, the Tower no longer met the latest standards in worker care and energy efficiency. Climate control was particularly poor and there was also a lack of natural daylight. A comprehensive programme of renovation was undertaken to address these issues.

#### How did they do it?

The inefficient static lighting was replaced with 5,000 Philips Dynamic Lighting luminaires fitted with MASTER TL5 ActiViva lamps. Dynamic Lighting brings the every-changing character of natural daylight into the office with seamless changes in brightness and warmth.

#### What was the result?

The new solution creates a stimulating ambience that has energised workers, improving their sense of well-being and enhancing performance.

"We carried out a trial with Philips in which the colour temperature and intensity of artificial lighting in my office was altered during the day to approximate natural light rhythms. It was definitely an improvement on the previous 'static' lighting I had."

Rob Bootsman, Project director, Rijkswaterstaat, Utrecht, The Netherlands



Arup, Amsterdam, the Netherlands



#### \\ 01 . DayWave

- Unique, ultra-slim design with soft lines
- Enhances well-being by following the rhythm of daylight
- Uniform light distribution due to breakthrough optic design



#### \\ 02. Cove lighting

- Light alcoves, accent areas and confined spaces
- Colour-changing, tunable white or fixed white light
- Low profile, flexible mounting and positioning



#### \\ 03 . LuxSpace Micro\*

- Highly energy-efficient, sustainable solution
- LED technology for consistent light output
- Fit and forget, easy installation, long lifetime
- 125mm cut out

<sup>\*</sup> Please note LuxSpace Micro will only be available from May 2010, LuxSpace Compact is also available from January 2010 please see page 18 for further information.



	Reference situation 24 Zadora downlights QBS570 1xMASTERLine ES 45W 60D lamps	New solution, example LuxSpace and OccuPlus
Surface (m²)	50	50
Burning hours (p/y)	1,500	1,500
Used W/m²	27.8	12.1
kWh/year	2,085	904.5
Energy saving		57%
CO <sub>2</sub> reduction (kg) ove	7,437.15	
Energy cost saving o	£1,771	

A typical example based on the most common scenario (energy price £0,10 Kw/h)



#### \\ 04 . LuxSpace Mini

- Highly energy-efficient, sustainable solution
- LED technology for consistent light output
- Fit and forget, easy installation, long lifetime
- 150mm cut out



#### $\backslash \backslash 05$ . OccuPlus

- Save up to 55% energy with occupancy control and daylight regulation
- Versatile and reliable, works with any luminaire or lamp
- Easy and quick installation



#### 

- Easy to use and programme light settings
- Stylish design with a glow ring that lights up on approach
- Easy installation





## Arup, Amsterdam, The Netherlands

Arup is a global firm of designers, planners and business consultants providing a diverse range of professional services to clients around the world. The creative force behind many of the world's most innovative and sustainable designs, the company needed a lighting solution for their meeting room that would reflect their contemporary thinking on office lighting design.

#### How did they do it?

Philips DayWave was chosen for its inspirational design, sensual curves and dynamic ambience. The suspended design creates undulating waves of floating light with visual dynamics that are in tune with the body's natural rhythm.

#### What was the result?

A solution that enhances well-being as it relaxes, energises and inspires throughout the day and one that is also in harmony with Arup's ethos on lighting.



Now's the time to make the switch to lighting that saves energy and has a positive effect on the environment. Philips can help you meet your energy-efficient ambitions and create flexible, comfortable office lighting solutions designed to make people's working day more enjoyable and productive while saving energy. See how your office and employees can benefit from this new generation of lighting solutions, make the switch today.

Find out more at: www.philips.com/officelighting or call on 0845 601 1283 or by email at lighting.uk@philips.com







All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.