## Role of light in office environments



**Notes:**

The 21st century workspaces lead to different roles of light in office environments.

- Light helps us in our work and daily life. Poor lighting leads to decreased performance, fatigue, eye strain, stress, and could even cause long-term health problems.
- In the office, the biological effect of high-quality light helps in focusing on work, and can help people concentrate better.
- Screen work is an important part of a day in the office. Light influences screen work and should be supportive to that.
- Soft and pleasant light helps people collaborate and socialize, while creating a comfortable environment to work in.
- Lighting highly influences and supports comfortable and inspiring office spaces that truly work.

Let us do a recap of the role of light in office environment.

## Office market trends



**Notes:**

In the current scenario, four major office market trends are likely to impact the demand for lighting solutions.

Click each Market Trend to learn about the related implications for lighting.

## Energy saving and green buildings



**Notes:**

Energy saving and green buildings is one of the trends of office lighting which focuses on the following things:

- Greener buildings

- Green building certification

- Legislation

- Usage of daylight

- Smart energy management and control (and)

- Concrete core activation

The various implications of energy saving and green buildings lead to:

- Opportunities for energy efficient lighting solutions.

- Changes in building and ceiling design which lead to acoustics and light opportunities. (and)

- Increase in daylight harvesting.

## Uncertain economic outlook



**Notes:**

An uncertain economic outlook is another trend of office lighting which affects the office lighting solutions in ways such as:

- New build slow down
- (deep) renovation postponements
- Office space overcapacity
- Sell-lease back (and)
- Recovery new construction - 2012/13

The various implications of uncertain economic outlook are:

- Opportunity for compelling payback/TCO propositions. (and)
- Increase focus on EMEA high growth regions.

**PHILIPS**

## Rethinking the workplace



**Notes:**

Rethinking the workplace is one of the trends of office lighting which affects how lighting in the workplace can best be altered to create the best suited needs for the employees. The following things need to be kept in mind:

- New working principles
- Open plan offices
- Diverse work patterns: focus, collaborate, socialize, and learn
- Fuzzy borders between work and private
- Work everywhere (and)
- Aging workforce and later retirement

The implication of rethinking the workplace can lead to opportunities for light for new working concepts, for more inspiring, productive, and comfortable (light + acoustics) workspaces.

**PHILIPS**

## Technology: LEDs and controls



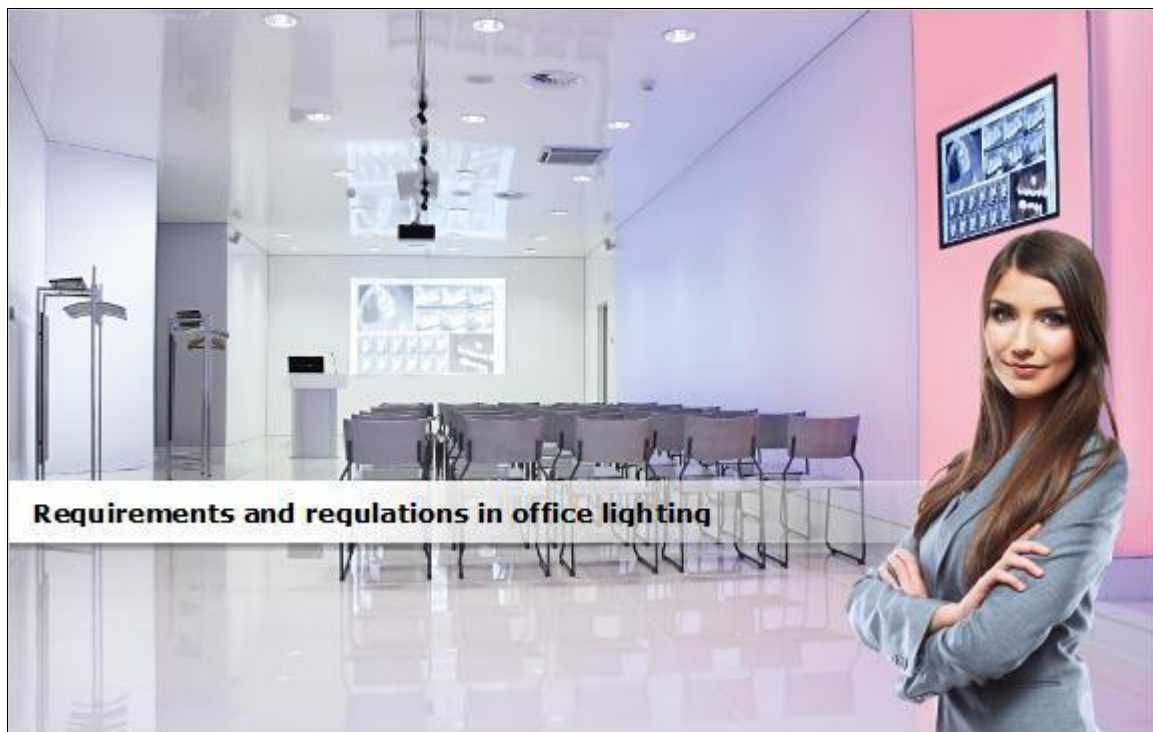**Notes:**

Technology is an important trend to be followed in office lighting. It consists of:

- Acceleration of LED adoption
- Smart (energy) building management
- Linking of lighting to adjacent systems (and)
- Remote (wireless) commissioning and control towards smart grids and DC networks

The implication of technology leads to opportunities to 'ledify' the office space, intelligent luminaire systems, and network controls solutions.

## Requirements and regulations in office lighting



Requirements and regulations in office lighting

**Notes:**

A number of requirements and regulations affect office lighting. Let's take a quick look at the most important ones.

## Focus on indoor work places EN12464-1



**Lighting for the Office Segment**

### Focus on indoor work places EN12464-1

**European standard**

Specifies requirements of lighting systems for indoor work places in terms of:

- Quality
- Quantity of illumination

**Other relevant standards**

- The maintenance of lighting installations
- Electrical equipment standards
- The luminaire standard
- The measuring standard

EUROPEAN STANDARD    EN 12464-1
NORME EUROPÉENNE
EUROPÄISCHE NORM    November 2002

English version

Light and lighting - Lighting of work places - Part 1: Indoor work places

Active since early 2003 and implemented in all the European countries

The recommendations in the European standard are minimum recommendations. For various reasons, an installation can be made better than the minimum recommendations. However, the minimum recommendations must always be complied with.

**Notes:**

One of the most important standards that applies to lighting in offices is the European norm EN12464-1 'Light and lighting - Lighting of work places - Part 1: Indoor work places'. This norm is active since early 2003 and implemented in all the European countries.

It specifies requirements for lighting systems for almost all indoor workplaces and the surrounding areas in terms of both the quality and the quantity of illumination. It also gives recommendations for good lighting practice.
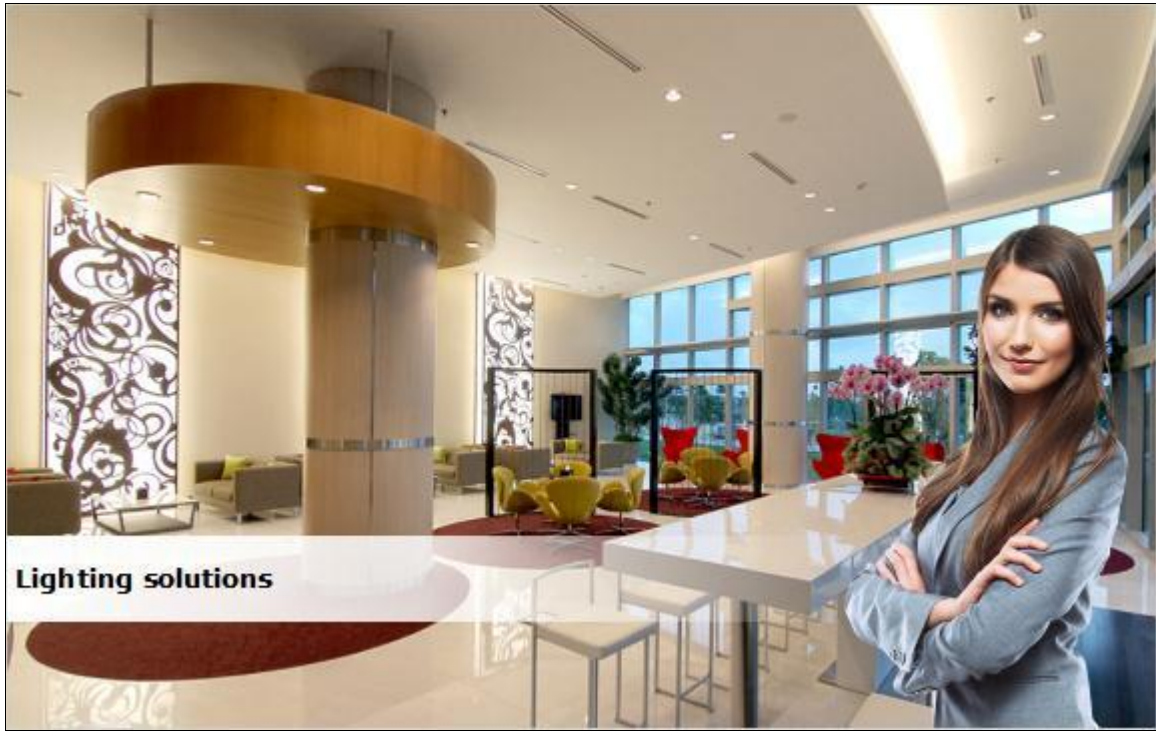
As well as this specific application standard, a number of other standards are also relevant: for example, the maintenance of lighting installations, electrical equipment standards, the luminaire standard, and the measuring standard.

However, all these standards are not specifically relevant to the design and selection of lighting systems for use in offices, so we will not deal with them here.

Note that the recommendations in the European standard are minimum recommendations. For various reasons, an installation can be made better than the minimum recommendations. However, the minimum recommendations must always be complied with.

**Lighting solutions**



**Notes:**

Let us now discuss the various application areas and the lighting solutions used in the office segment.

## Application areas



**Notes:**

Throughout a building, from reception areas to meeting rooms and corridors, Philips Lighting products can add value in many different ways. In the following section, you will understand how our innovative solutions can make a difference in eight typical areas. The products shown are only a small selection of what is available in that particular application.

Click each thumbnail to learn more.

**PHILIPS**

## Reception



**Notes:**

If you want an office to look impressive, the reception is the place to start. Visitors will make decisions about the company based on their initial reaction. It goes without saying that the atmosphere should be welcoming, but it should also reflect the way the company does business.

LED Lighting can help you set the mood perfectly, from fun and funky to cool and corporate, enhancing the expectations of clients and customers. It also sets out the right welcome mood for the staff.

Dramatic, vibrant schemes that reflect corporate colors, to soft ambiences designed to soothe the senses, we have the right solution for every style of office. With a combination of dynamic lighting solutions and intuitive controls, you can create a fluid ambience that reacts to natural light levels.

Colorful accents can guide visitors to the reception desk or make seating areas more inviting. Add some lighting controls to that and you can enjoy plenty of savings too!

Click the Product overview button to learn more.

**PHILIPS**

**Solutions (Slide Layer)**

## Corridors and Circulation Areas



**Notes:**

Areas in the office that are occupied the least often result in a wastage of energy. With intelligent lighting solutions, you can make corridors and circulation areas feel bright and safe. With dimming possibilities and presence detection that switches off lighting when it is not needed, intelligent lighting solutions save our planet's precious resources as well. Our sustainable lighting solutions are a highly-efficient way to keep corridors safe and well-lit whenever they are needed.

Intelligent sensors like OccuSwitch turn the light off when it is not needed.

Sparkling accent lights add the finishing touches, highlight architectural features, and put artwork under the spotlight.

Click the Product overview button to learn more.
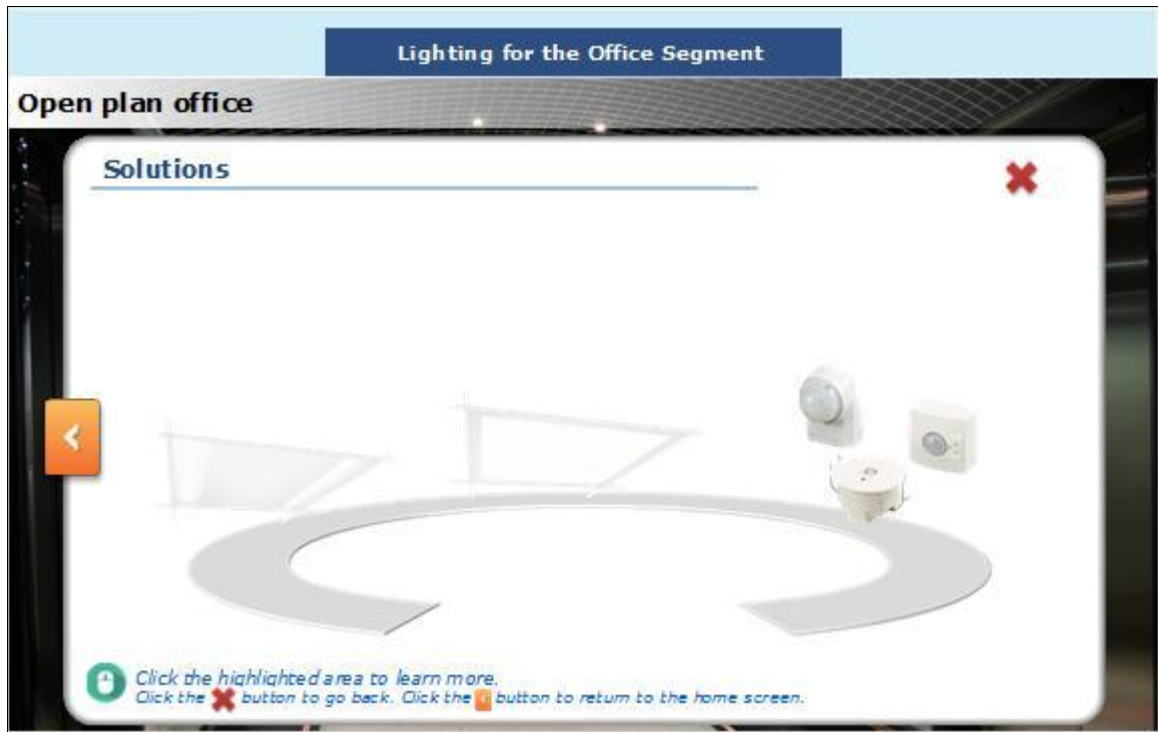
**Solution (Slide Layer)**

**Open Plan Office**



**Notes:**

Open plan offices are dynamic spaces where people need to carry out a wide variety of different tasks. Lighting can create a comfortable ambience by combining functional lighting with inspiring light effects.

Add individual controls and the light can be personalized at each desk. So whatever the office staff is working on, business is a pleasure!

Click the Product overview button to learn more.
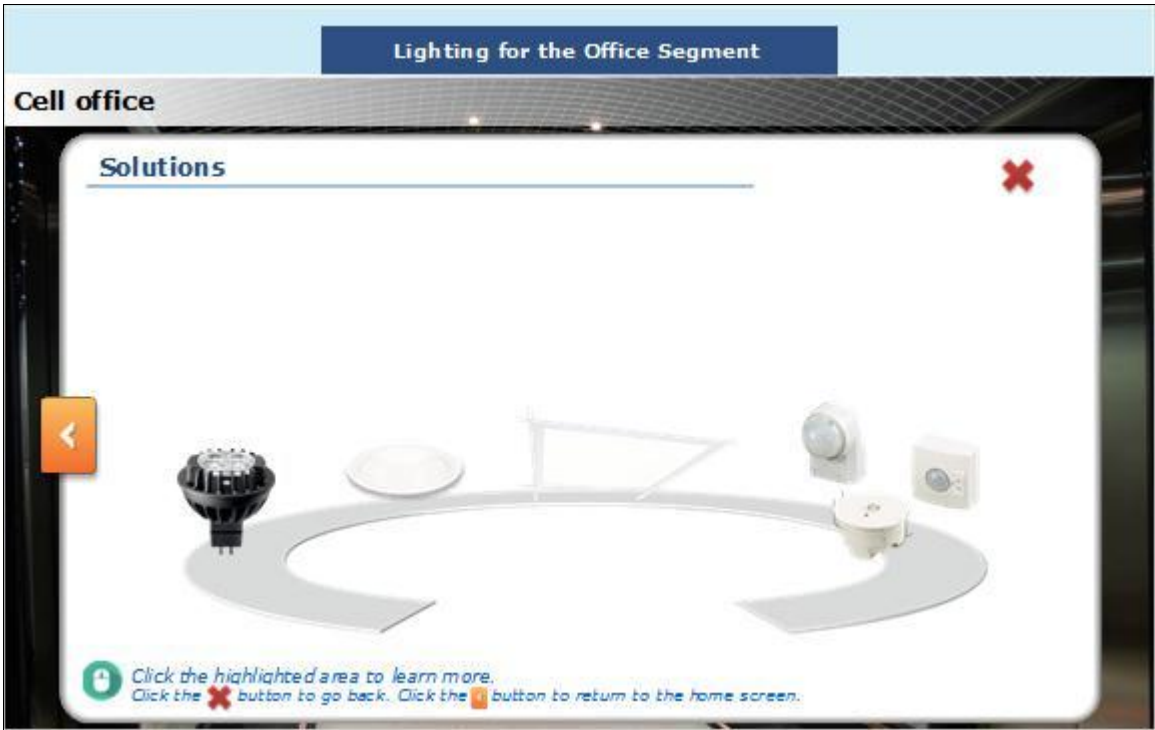
**Solution_2 (Slide Layer)**

## Cell office



**Notes:**

Cell offices and internal rooms provide a welcoming peace and silence from the busy office life. But sometimes, they have only limited natural light and leave people feeling out of touch with the world outside the office walls. The right lighting dynamics can help produce a comfortable working ambience and at the same time, create a sense of well-being.

Some of the most inspirational luminaire designs provide light with the highest levels of visual comfort. They also offer the possibility of dimming for even more calming ambiences. With clever controls to switch lights off when no one's around, you can still save on energy bills without cutting corners on office ambience.

Click the Product overview button to learn more.

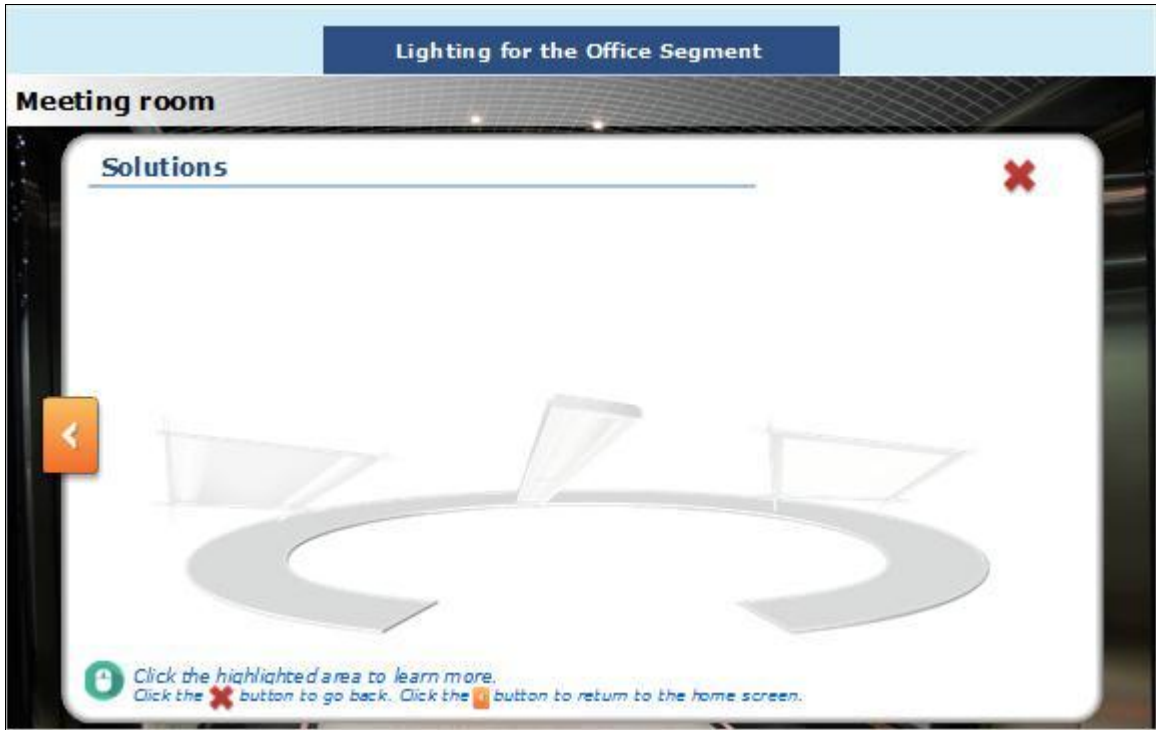**Cell office (Slide Layer)**

**Meeting room**



**Notes:**

Lighting has a profound effect on the way people feel. Tailor it to the agenda, and meeting rooms become far more effective spaces!

No two meetings are ever the same, so it is vital that the lighting in a meeting room is designed for maximum flexibility and visual comfort. A high output with no glare works best for collaborative sessions that need to stay productive. Informal presentations are best delivered in a softer ambience that is calm and relaxing.

LED lighting can create a crisp, sparkling, and warm white light that can energize the whole room. We also have brilliant ways to use color-changing effects for accents and alcoves, so you can tune the lighting to suit the mood.

Click the Product overview button to learn more.

**Solutions (Slide Layer)**
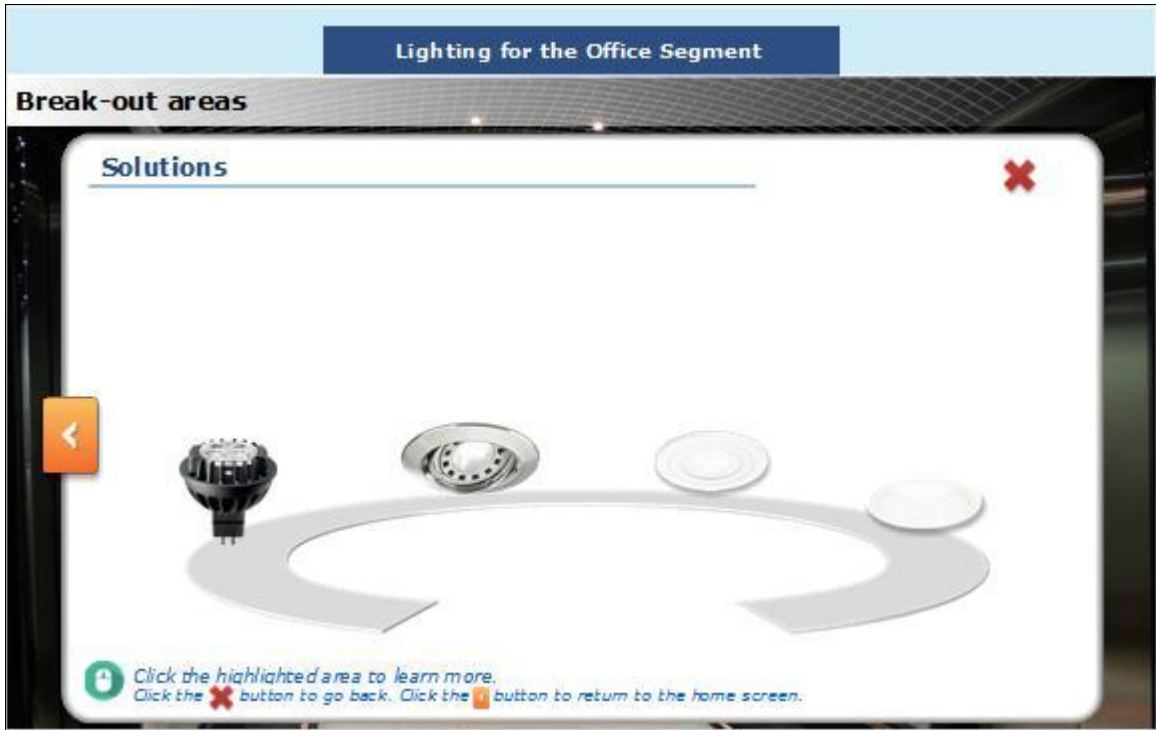
## Break-out areas



**Notes:**

Informal areas with comfortable furnishings and relaxing ambiences are now an integral part of the modern office. Well-designed break-out spaces have a positive effect on how people feel.

With our innovative solutions, you can:

- Provide good quality lighting with dimming and glare control to soothe tired eyes and relax minds
- Create pools of light over seating areas and tables
- Choose dynamic color-changing effects for more intimate spaces

Click the Product overview button to learn more.

**PHILIPS**

**Solution (Slide Layer)**
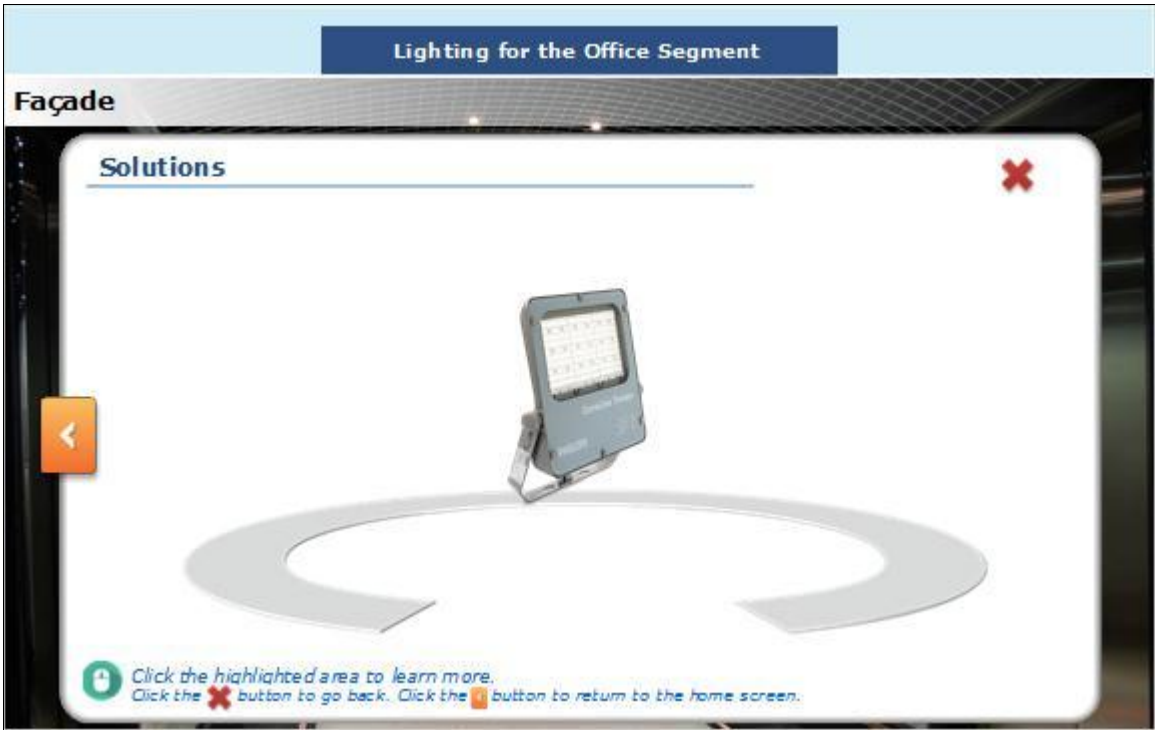
## Façade



**Notes:**

Illuminating an office façade creates a distinctive and noticeable first impression.

Attractive lighting and signage is a powerful way to convey a company's corporate image. Lighting can be used to express a company's unique identity, dynamic ambiences, or subtle color.

Effects along with white lights can enhance a company's corporate image after dark.

Click the Product overview button to learn more.

**Solution (Slide Layer)**

**Parking**



**Notes:**

Lighting is essential for parking facilities in order to make them feel safe and welcoming. But parking zones that need lighting 24 hours a day can waste precious energy. Making sustainable, energy-efficient choices will have a big impact on energy bills and cause less harm to the planet.

With sustainable choices, offices can welcome visitors and employees to their parking facilities by creating bright spaces with good visibility and no pockets of shade.
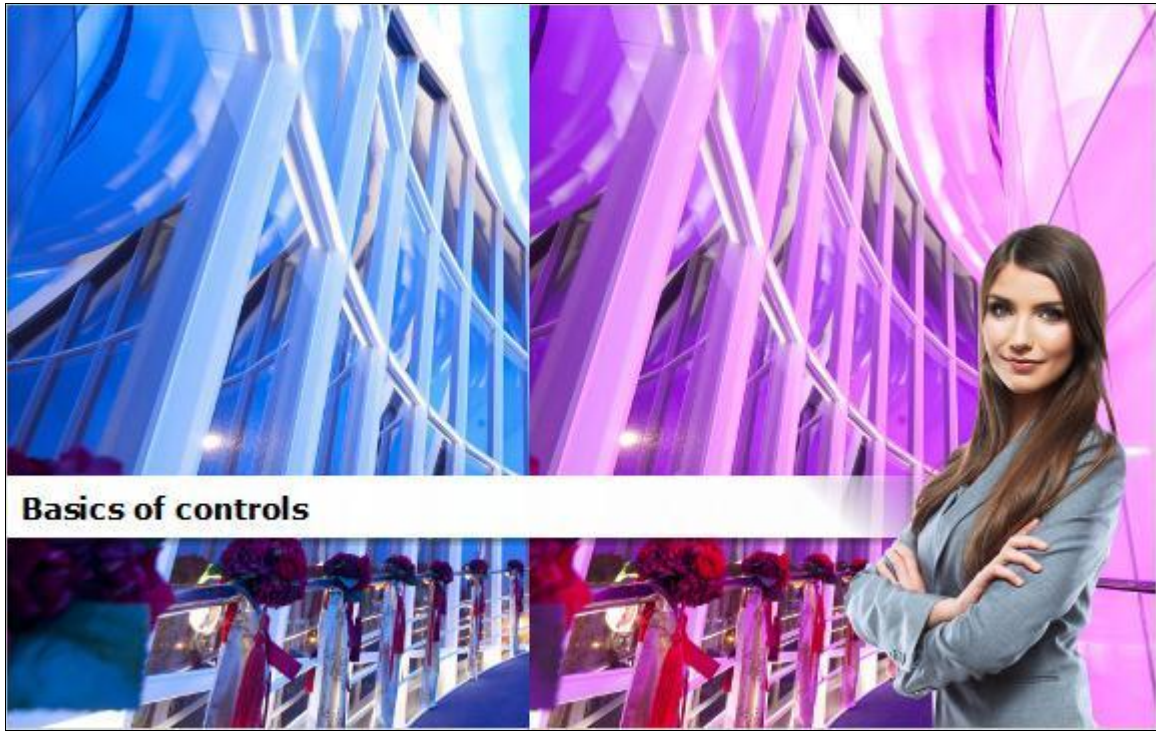
With serviceable light engines, offices can upgrade to future LEDs without having to replace entire luminaires.

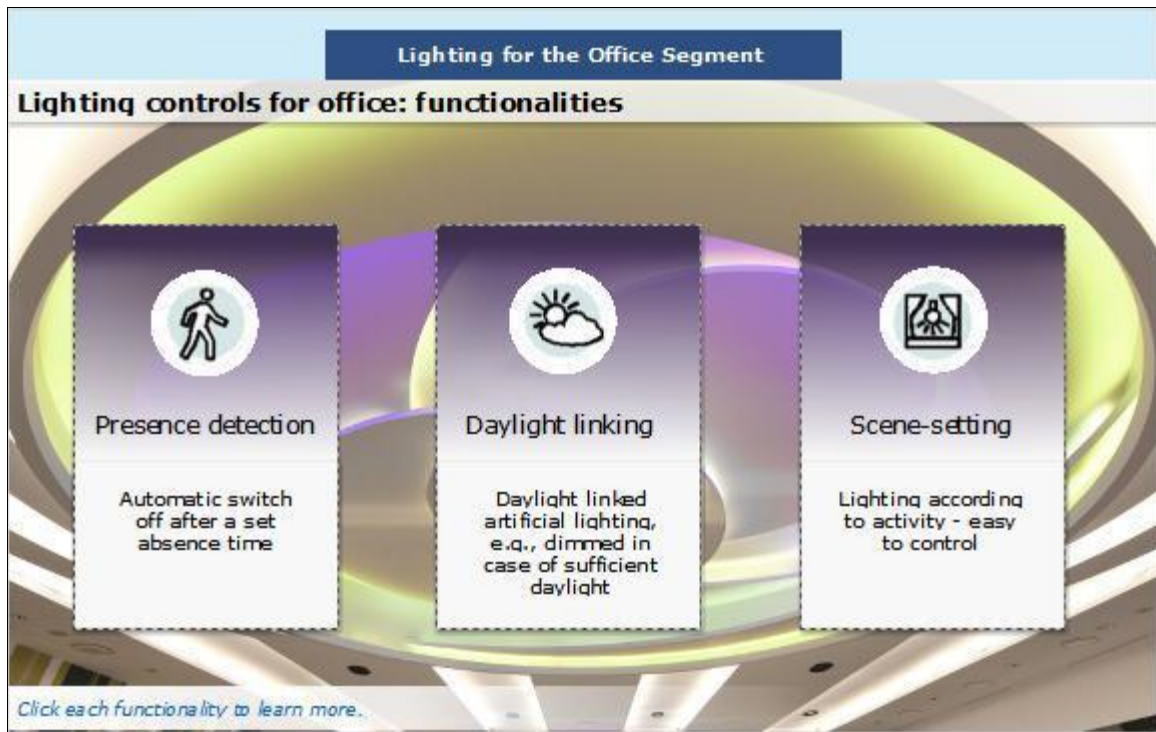Click the Product overview button to learn more.

**Solution (Slide Layer)**

**Basics of controls**



**Notes:**

Moving on, let us discuss some important lighting controls and their functionalities for the office segment.

## Lighting controls for office: functionalities



**Notes:**

Lighting controls offer three main functionalities: presence detection, daylight linking, and scene-setting.

- In presence detection, the light is switched on when someone enters the room or area, and then switched off again after a certain period of time when the person leaves the room, thereby saving energy in lighting areas when no-one is there.

- Daylight linking saves energy by dimming the lighting or in some cases even switching it off completely when sufficient daylight is detected to be entering the area.

- Scene-setting controls make it easy to change lighting scenes to meet the needs of different activities and situations. The different scenes can be pre-programmed, so that they can be instantly selected when needed without the need to make manual settings.

Now we'll see how we can implement these three functionalities of lighting controls with actual products.

Click each functionality to learn more.

**Presence detection (Slide Layer)**



**Notes:**

For presence detection, the Occuswitch is an excellent investment. It can help in energy savings of up to 80% and has an extended maintenance period before it needs to be replaced. This movement detector switches the lights off when a room has been unoccupied for a certain time. It can work stand-alone or can be combined with Luxsense for daylight-linked lighting.

The various application areas include:

·   Washing room

·   Corridors

·   Elevator

·   Small conference areas (and)

·   Other secondary areas

## Daylight linking (Slide Layer)



**Notes:**

Daylight linked artificial lighting can be dimmed lower in case of sufficient daylight.

For daylight linking, we can choose between ActiLume and Luxsense.

ActiLume combines both daylight-linking and presence detection, integrated in the luminaire. This combination allows energy savings of up to 50%. A DALI driver is required for connecting the luminaire to the lighting control system.

Alternatively, we can choose Luxsense, which is a simple way to implement daylight-linking integrated in the luminaire. Energy savings of 25-50% can be achieved through this product. Luxsense compensates for the decreasing lamp performance over time by automatically increasing the luminaire power to reach the desired light level. A 1-10V regulating driver is required for connecting the luminaire to the lighting control system.

## Scene setting (Slide Layer)



**Notes:**

DynaLite is a scene-setting lighting control system, and is available with a variety of push-button interfaces such as wall-mounted controllers and handheld remote control units, as well as with different sensors. Programming a DynaLite system is easy using the DALI protocol.

**Key lighting strategies**



**Notes:**

Let us look at the key lighting strategies for office lighting.

## Comparative analysis: lighting solutions



**Notes:**

In the context of a lighting installation in the office segment, the selection of lighting solutions is based on two sets of parameters: the age of the installation and the investment involved.

Up-lamping is generally done for installations that are less than 5 years old and doesn't require major change. No investment on new luminaires or infrastructure is required. The existing lamps are being replaced by LED lamps.

Renovations are for installations that are more than 5 years old. Some investment on new luminaires is required.

New installations are required for new buildings or infrastructure. This would require investment on the implementation and execution of the entire lighting installation.

Once it has been determined whether the lighting installation is to be up-lamped, renovated, or installed anew, the eventual selection of lighting products would depend on the available funds and the long-term investment strategy.

The table represents a comparative analysis of lighting solutions based on these two

sets of parameters.

Good lighting solutions would offer energy-efficiency and light quality at a lower investment.

Better lighting solutions would offer enhanced energy-efficiency and light quality at a moderately higher investment.

The best lighting solutions would offer energy-efficiency and light quality at the lowest total cost of ownership.

**PHILIPS**

**Summary**

**Lighting for the Office Segment**

**Summary**

**Parameters for lighting solutions:**
- Age of installation
  - Uplamping: installations < 5 years old
  - Renovations: Installations > 5 years old
  - New installations:new buildings and infrastructure

- Investment
  - Low initial investment
  - Moderate initial investment
  - Low total cost of ownership

**Application areas:**
- Reception
- Corridors and circulation
- Open plan office
- Cell office
- Meeting room
- Break-out areas
- Facade
- Parking

**Lighting controls offer three main functionalities:**
- Presence detection
- Daylight linking
- Scene-setting

**Notes:**

This concludes the module on the specific office lighting applications and solutions.

The selection of lighting solutions for this segment is based on two sets of parameters: the age of the installation and the investment involved.

Up-lamping is generally done for installations that are less than 5 years old and doesn't require major change. Renovations are for installations that are more than 5 years old. And, new installations are required for new buildings or infrastructure.

The eight most important application areas in an office environment are reception, corridors and circulation, open plan office, cell office, meeting room, break-out areas, façade, and parking.

Lighting controls offer three main functionalities, which are presence detection, daylight linking, and scene-setting

Thus, lighting solutions can add value in many different ways throughout an office.

**Thank You**



**Notes:**