

# Smarter lighting. Better buildings.

The EU's Energy Performance of Buildings Directive (EPBD) marks a major shift in energy-efficient renovation. Lighting is one of the most effective places to start—and with Signify's connected lighting system Interact, you meet new requirements and turn buildings from passive to performing.

# A new directive. A new role for lighting.

Buildings account for 40% of the European Union’s total energy use and 36% of CO<sub>2</sub> emissions.<sup>1</sup> The revised Energy Performance of Buildings Directive (EPBD) is a key instrument for driving the European Union’s Renovation Wave strategy to improve the energy efficiency of its building stock and accelerate renovation.

## Main goals

- Accelerate energy-efficient renovation of 35 million buildings by 2030
- Double the annual renovation rate
- Focus on worst-performing buildings across public and private sectors
- Modernize infrastructure with digital and energy-saving technologies

## Key dates<sup>1</sup>

### 2025

- All non-residential buildings with over 290kW HVAC must be equipped with a lighting controls system (=BACS for lighting)
- 31 Dec: National Building Renovation Plans due from each member state

### 2028

- 1 Jan: All new public buildings must be zero-emission
- All non-residential buildings with over 290 kW HVAC must be equipped with a lighting controls system with automatic occupancy detection

### 2030

- 1 Jan: All new buildings must be zero-emission
- All non-residential buildings with over 70 kW HVAC must be equipped with a lighting controls system with automatic occupancy detection
- Renovation target for the 16% worst performing non-residential buildings

### 2033

- Renovation target for the 26% worst performing non-residential buildings



## How to specify lighting under the EPBD

With the EPBD, lighting becomes part of the backbone of intelligent building control. Lighting should be designed not just for visual performance, but as an integrated energy and data asset.

### EPBD-relevant lighting requirements include:

- Automatic lighting controls in non-residential buildings
  - Occupancy detection and daylight harvesting
- Building automation and control systems (BACS)
- Support for digital logbooks

## Is your project affected by the EPBD?

Use this guidance to see if your lighting project is likely to fall under EPBD requirements.

	Buildings >290 kW	Warehouses >290 kW	Buildings >70 kW
Typical size (m <sup>2</sup> )	3,000–8,000	15,000	700–1,800
Approx. number of light points	750–1,500	150	175–350

<sup>1</sup> According to [Energy Performance of Buildings Directive](#)

# Our solution: Signify Interact

The connected lighting system designed to support building renovations in alignment with EPBD.

Interact is a state-of-the-art connected lighting system designed for those who need scalable, standards-ready solutions that deliver energy savings, automation, and future upgrade potential. It's easy to design, hassle-free to commission, and enables compliance with key EPBD requirements for non-residential buildings.

EPBD focus area	What Interact delivers
Energy-efficient lighting	<ul style="list-style-type: none"><li>• Reduced energy waste thanks to smart controls</li></ul>
Automatic lighting controls	<ul style="list-style-type: none"><li>• Presence and daylight sensing</li><li>• Zone-based control and dimming</li></ul>
Building automation and control systems (BACS) integration	<ul style="list-style-type: none"><li>• BACnet/IP via Signify Interact gateway</li><li>• Cloud APIs for HVAC and BMS integration</li></ul>
Energy reporting and optimization	<ul style="list-style-type: none"><li>• Dashboard and exportable data to support energy management and reporting</li></ul>
Future-proofing of building	<ul style="list-style-type: none"><li>• Cloud commissioning tools and infrastructure together with on-prem interfaces are geared to support future evolving use cases</li></ul>

## Additional system benefits



### Retrofit-optimized deployment

- Wireless architecture enables fast, low-disruption installation—ideal for occupied buildings and phased upgrades
- Sensor-integrated luminaires reduce complexity and cost



### Design flexibility and simplicity

- Compatible with a wide range of luminaires, sensors, and control setups
- Supports DALI, SR and D4i
- Wireless architecture simplifies the design



### Scalable architecture

- Suitable for buildings under 70 kW and scalable beyond 290 kW
- Adapts to multi-zone layouts, large sites, and future project expansions



### Commissioning made easy

- Interact Pro app guides setup with intuitive workflows
- Bulbi AI assistant provides real-time support for configuration and troubleshooting



### Audit-ready and transparent

- Built-in zone-level energy monitoring and exportable reports to support regulatory audits

Turn the page for a real-world lighting plan example that illustrates the potential of an EPBD-aligned renovation with Signify Interact.



# Light plan | Prerequisites and set-up

As part of EPBD-aligned renovation, lighting systems should meet key European performance standards and can support broader building certification goals. The following exemplary design meets the requirements of:

## European lighting standard EN 12464-1

The design fulfills all key criteria of EN 12464-1, including illuminance (Em), uniformity (Uo), glare control (UGR, L65), and color rendering (CRI).

The table highlights Em and Uo as examples.

Room	Em (lux)	Uo
Office	624	0.67
Office tables	630	0.77
Meeting room	546	0.49
Meeting room table	778	0.76
Corridor	111	0.63
Hall	170	0.54

## WELL Building Standard

The lighting design meets the WELL preconditions for visual comfort and supports additional optimizations that enhance occupant well-being and performance.

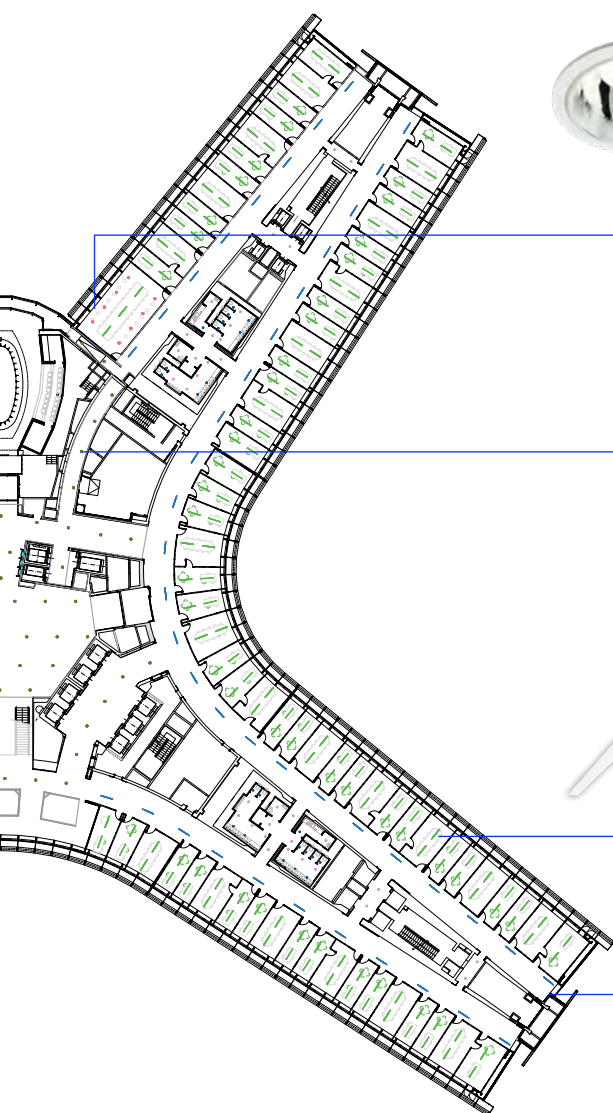
+ 10 WELL points

## Well-being and Green building certificate

**BREEAM:** The lighting design meets the defined prerequisites for visual comfort and occupant well-being, and also contributes to credits in the Energy, Materials, and Pollution categories.

+ 3 BREEAM credits

## Light plan



**PHILIPS**

## Philips LuxSpace downlight

### For meeting rooms

- Office-compliant with UGR19 and L65 <3000cd/m<sup>2</sup>
- High level of color rendering (CRI90)
- DALI dimming

Product code: DN570C 24S/940H

### For corridors and general areas

- Ultra-efficient product version with efficacy of up to 185 lm/W<sup>1</sup>
- Excellent light uniformity
- DALI dimming

Product code: DN610B 24S UE 830 DIA-E FLR

[Product configurator](#)

## Philips TrueLine recessed

### For offices

- Highly uniform lighting with excellent glare control (UGR<19, L65<3000cd/m<sup>2</sup>)
- BioUp technology enables lighting for well-being
- Integrated sensor (Interact Ready)

Product code: RC530 43S BU840 SIA

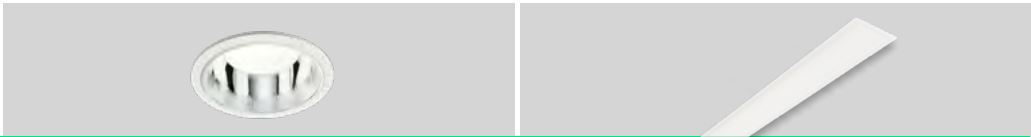
### For corridors

- Highly uniform lighting with CRI90
- Integrated sensor (Interact Ready)

Product code: RC531B 31S/930 SIA

[Product configurator](#)

# Light plan | Impact and savings



Product	Philips LuxSpace downlight		Philips TrueLine recessed	
	DN610B 24S UE 830 DIA-E FLR	DN570C 24S/940H	RC530 43S BU840 SIA	RC531B 31S/930 SIA
Quantity	33	8	149	43
Power (W)	14.8	17.6	30.3	28.5

### EPD calculation/global warming potential (GWP) in kg CO2e (for 25 years of installation)

Environmental Product Declarations are standardized documents that provide detailed information on a product's environmental impact throughout its entire lifecycle, offering essential data on energy consumption, carbon emissions, and resource usage. You can use this data to make informed decisions aligning with sustainability objectives.

GWP	57,680 kg CO <sub>2</sub> e
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That's 70% less CO<sub>2</sub> than a conventional lighting installation over the same period—roughly the same as avoiding the carbon footprint of driving a car around the earth 13 times.<sup>1</sup>

### Primary energy demand

Energy use (kWh/year)	1,221	352	11,286.75	3,063.75
-40% with sensors <sup>2</sup>	732.6	211.2	6772.05	1,838.25
Primary energy use (kWh/year), based on Belgium's conversion factor 2.1	1,538.46	443.52	14,221.3	3,860.32
Total primary energy use (kWh/year)/installation	20,063.61			
Total installation area (m <sup>2</sup> )	1,916			
Primary energy demand (kWh/m <sup>2</sup> /year)	10.5 kWh/m <sup>2</sup> /year			

Values below 12.5 kWh/m<sup>2</sup>/year indicate exceptional lighting energy efficiency under EPBD benchmarks.<sup>3</sup>

A 40% lighting energy reduction — that's like turning off the lights for five months of every year!<sup>4</sup>

## Understanding EPBD terminology

<b>GWP (Global Warming Potential)</b> Total CO <sub>2</sub> -equivalent emissions of a product or system over its life cycle.	<b>Primary energy demand</b> The total energy used, including generation and delivery losses, expressed in kWh/m <sup>2</sup> /year.	<b>Conversion factor</b> Used to convert final energy into primary energy. The exact factor varies by country depending on the electricity mix.
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<sup>1</sup> Compared to typical fluorescent systems without controls and with similar light output. CO<sub>2</sub> equivalence based on average passenger car emissions in the EU (EEA, 2024). Actual CO<sub>2</sub> usage will vary based on numerous factors.

<sup>2</sup> Source: European Commission: JCR Publications Repository, "Update on the Status of LED-Lighting world market since 2018", 2021

<sup>3</sup> According to energy performance expectations for non-residential lighting systems under the European EPBD framework and supporting BPIE guidance.

<sup>4</sup> Five months represent 40% of a year, assuming energy use is evenly distributed over time. Actual energy reduction will vary based on numerous factors.

Learn more about your  
opportunities with Signify Interact:  
**[www.interact-lighting.com](http://www.interact-lighting.com)**



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