



## New ERCO guide focuses on the ideal lighting for green walls

The increasing use of green walls in the urban environment is a significant 21st-century design trend. Also known as living walls, bio-walls or vertical gardens, and a feature of both interior and exterior spaces, essentially they are vertical surfaces which support living vegetation. ERCO has now produced a whitepaper which provides guidance and advice on lighting green walls, a form of illumination which has very specialised requirements. Based on the latest findings and research, 'The perfect lighting for green walls' outlines all the key considerations involved and responds to the most frequently asked questions.

Widely featured in the interiors of workspaces, foyers, shops and restaurants, green walls are visually pleasing and appeal to our innate love of nature. However, their role is wider and more profound. The notion of biophilia is increasingly recognised as an important design tool. Introducing natural elements to essentially artificial environments has been shown to lift people's mood, increase productivity and reduce stress. In addition to the visual and biophilic benefits, with supporting technology they are also green in an environmental sense, contributing to natural air purification, cooling and humidification. In addition, they act as noise absorbers.

### Crucial for plant health

As well as water and nutrition, the right kind of lighting is essential if plants are to survive and thrive. Both the lighting approach – illuminance, light distribution, light exposure, colour temperature and rendering – and the choice of luminaires will be

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crucial to plant health. What is important in this context is the balance between science and art, considering both the needs of plants and their visual appearance in an architectural space.

For example, plants especially need the orange and red range of the light spectrum, plus blue light, to carry out photosynthesis (the process by which green plants use sunlight to synthesise nutrients from carbon dioxide and water). However, only a source that also includes the green range of the spectrum and has good colour rendering is essential for a natural and attractive impression of green walls in architectural surroundings.

It is also crucial to provide uniform light levels across the vertical surface to create the best conditions for the even, steady growth of plants. While downlights and spotlights might conventionally be used in these spaces, they will not provide the correct distribution. Wallwash fittings, however, are ideal for this application.

The whitepaper provides a comprehensive, detailed guide to all these aspects of lighting green walls, including visual examples and practical tips. It also examines areas such as calculating the location of luminaires, the optimum length of exposure to light, and more technical considerations such as the measurement of photosynthetic photon flux (PPF), the quantity of photons emitted by a light source that are relevant for photosynthesis and chlorophyll production.

Suitable luminaire types are examined, and a glossary of relevant technical terms is provided, as well as a references list and a useful checklist for specifiers.

[Download the whitepaper here.](#)

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## Images



Planted walls, also called green walls, create a pleasant atmosphere and improve the indoor climate. Indoors, the factor of light plays a decisive role in ensuring that plants remain healthy and can thrive.

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Photography: Jackie Chan



High-lumen output wallwashers impressively display the green wall in the foyer of the Bank of China in Sydney and ensure healthy plants.

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Photography: Murray Harris



Adequate lighting of green walls is not only required indoors: lighting is also needed if outdoor plants are not exposed to sufficient light due to obstructions such as bridges.

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The arrangement of the luminaires and the distance to the wall also play an important role with the illumination of green walls. The ERCO whitepaper provides practical tips for the lighting design.

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## Images



In atriums, as here in the Det Kgl. Bibliotek (Danish Royal Library) in Aarhus, artificial lighting supports the healthy growth of the plants.

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Photography: Johan Elm



Nvidia Campus, Santa Clara

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## About ERCO

ERCO is an international specialist for high-quality and digital architectural lighting. The family-owned company, founded in 1934, operates globally in 55 countries with independent sales organisations and partners.

ERCO understands light as the fourth dimension of architecture – and thus as an integral part of sustainable building. Light is the contribution to making society and architecture better and, at the same time, preserving our environment. ERCO Greenology® – the corporate strategy for sustainable lighting – combines ecological responsibility with technological expertise.

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At the light factory in Lüdenscheid, Germany, ERCO develops, designs and manufactures luminaires with a focus on photometric optics, electronics and sustainable design. The lighting tools are developed in close collaboration with architects, lighting designers and electrical designers. They are used primarily in the following applications: Work and Culture, Community and Public/Outdoor, Contemplation, Living, Shop and Hospitality. ERCO lighting experts support designers worldwide in transforming their projects into reality with highly precise, efficient and sustainable lighting solutions.

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