



LIGHTING 2025+:

An Architect's Guide to the New Standards

**Impacts of the ISO/CIE 8995-1 Update,
WELL/BREEAM/LEED Certifications, and
Practical Design Tips**

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More information, references, studies, health
effects, and products:
<http://www.spectrasol.cz/pro-profesionaly>

Context: Why Are the Rules of the Game Changing?

It is not a matter of opinion, but of international technical consensus. Lighting design is undergoing its most significant change since the introduction of LED technology. Here are the facts that every professional in development and building design should know:



Global Definition (CIE) — The Foundation of the ISO/CIE 8995-1 Standard

The turning point occurred back in 2018, when the International Commission on Illumination issued the CIE S 026:2018 standard. This first defined precise metrics for measuring the impact of light on circadian rhythms (so-called melanopic EDI – hereinafter m-EDI). In August 2024, the CIE then issued an official position statement on which the ISO/CIE 8995-1 standard is based, explicitly recommending "considering the biological properties of artificial light for the proper functioning of the human organism in interior spaces."

More info: [CIE Statement on Non-Visual Effects of Light \(August 2024\)](#)



The German Technological Vanguard (DIN) and American National Standard (ANSI) – The Future of ČSN

What is standard today in Germany and the USA will become the norm in the Czech Republic tomorrow. In both countries, the DIN/TS 5031-100 and ANSI/IES RP-46-23 standards have been in effect since 2025, defining the biological effects of light.

- They establish how to calculate the melanopic effect of lighting.
- It clearly states that light without energy in the cyan region (480–490 nm) is "invisible," to the human biological clock.
- Practical Implications: If your project is currently designed according to DIN or ANSI, you have the certainty that it will reliably meet future harmonized Czech standards.

More info: [DIN 5031-100: New German Standard for the Non-Visual Effects of Lighting](#)

[ANSI/IES RP-46-23 – American National Standard for the Application of Electric Lighting](#)



Pressure from Professional Organizations (IALD & GLA)

The International Association of Lighting Designers (IALD) joined forces with the Global Lighting Association (GLA), representing the global industry and thousands of organizations. Since 2021, they have jointly promoted the "Quality of Light" framework. This strategic shift moves the focus from mere pursuit of energy efficiency (lm/W) to the quality of the perceived space and biological efficacy. For investors and building designers, this means a fundamental change: The building's energy label is no longer the only measure of quality; the key is the demonstrable impact on the human organism and health.

More info: [IALD: Recommendations for Integrating Biological Effects into Lighting Design](#)



Czech Legislation and State Administration

The topic resonates at the highest level in the Czech Republic. The issue of the blue component of light and circadian rhythms was addressed by the Committee on Health of the Chamber of Deputies of the Parliament of the Czech Republic.

In January 2025, the Committee Chair officially called on the Ministry of Health and health inspectors to urgently anchor the spectral light quality parameters into legal standards and regulations.

At the same time, the National Institute of Public Health (SZÚ) is beginning to account for not only intensity but also color temperature and the timing of light in its methodologies for schools.

More info: [Press Release of the Chamber of Deputies of the Czech Republic: Expert Consensus on the Impact of Light on Health](#)

ISO/CIE 8995-1: The End of the „Lux on the Desk“ Era

For years, a simple rule applied: meeting the standard meant delivering enough lux onto the desk. This approach is ending. The prepared revision of the key ISO/CIE 8995-1 standard (Lighting of indoor workplaces) fundamentally changes the rules of the game – it introduces chronobiology into lighting assessment. The standard may take effect as early as 2027.

What Exactly Does the ISO/CIE 8995-1 Revision Bring?

The standard officially adopts metrics for non-visual effects of light. It stops addressing only whether the light allows us to see and starts addressing what signal it gives our organism.

Key Difference in Metrics:

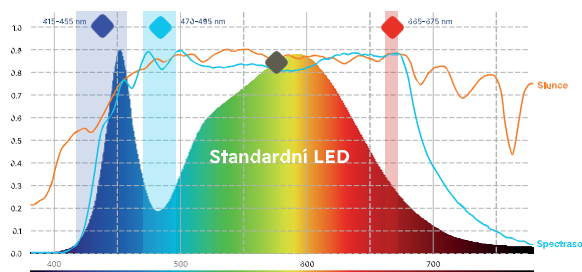
Photopic Lux (lx): Measures visual intensity. It tells us how much light falls on the desk. Conventional LED panels deliver it easily, but from a biological standpoint, they may be empty.

Melanopic Lux (m-EDI): Measures the biological efficacy of light. It tells us how much radiation (with an absence of the dip in the cyan melanopic region) falls directly on the retina of the eye and controls our circadian rhythm.

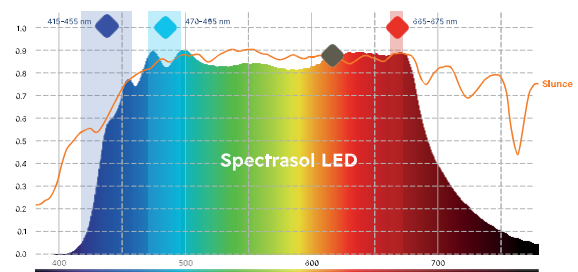
How to Comply with the Standards?

Spectral Quality

The foundation is a full-spectrum source without a dip in the cyan region and without the toxic blue peak. Spectrasol procognitive light has such high biological efficacy that you achieve the required m-EDI values at a lower overall illuminance (lx). The result is energy savings and minimization of the glare rating (UGR).



Standard LED – dip in both the cyan and red regions, excess in the harmful blue light area. A lux meter may show enough light, but for the human biological clock, the light is insufficient.



Full-spectrum source with enough energy in biologically active regions. Light activates the circadian rhythm and supports health, vitality, vision, and well-being during the day.

Ensuring Vertical Illuminance

Standards now monitor the vertical plane (light into the eyes), not just the horizontal one (light on the desk). How to elegantly support m-EDI values in the design?

- **Surface Reflectance:** Light walls, ceilings, and materials with a high reflectance factor function as a natural diffuser. They softly reflect the valuable spectrum into the user's field of vision.
- **Indirect Component:** Lighting ceilings or walls naturally increases the vertical illuminance level and visually opens up the space.
- **Light Distribution:** Luminaires with a wider beam angle get light into the space more efficiently and more comfortably for the eyes than narrowly focused sources.

How Light Increases Building Value (ESG & Wellbeing)

ISO standards are slowly catching up to what premium certifications require today. Procognitive lighting will help you gain points in these systems:

WELL Building Standard (v2) – The Absolute Leader in Health

Credit: Feature L03 (Circadian Lighting Design)

Requirement: Document enough biologically effective light (EML / m-EDI) during a key part of the day.

The Advantage of Spectrasol: This is our discipline. Thanks to a spectrum with a high melanopic effect, Spectrasol helps achieve the required values without having to "over-light" the space. The result is light that supports alertness and day rhythm – and can be designed comfortably (without unpleasant glare) and with reasonable consumption.

BREEAM (New Construction V7)

Credits: Hea 02 (Artificial lighting) a Hea 03 (Non-visual effects of light).

Requirement: Visual comfort: glare control, uniformity of lighting, faithful color rendering; absence of flickering and, newly, documenting the effect of light on human circadian rhythms.

The Advantage of Spectrasol: The brand new version BREEAM V7 (mandatory from 2026) responds to scientific knowledge and strictly separates light requirements. While our technology meets the strict parameters for visual comfort and the absence of flicker (Hea 02) as a matter of course, Spectrasol now directly opens the door to new points for circadian support in Hea 03 thanks to its full-spectrum procognitive profile. With us, you are ready for the new BREEAM methodology today.

LEED v4.1 (Building Design + Construction)

Credits: EQ (Interior Lighting) + IN (Innovation)

Requirement: High indoor lighting quality (including faithful color rendering and quality control) + the possibility of innovation points for an above-standard approach.

The Advantage of Spectrasol: With Spectrasol, you stand on solid numbers: typically CRI 97+ is a strong argument for the "Color rendering" part in EQ, and thanks to thought-out lighting design and control, you can stack credits cleanly and without compromise. And if you want to go beyond, a spectral strategy focused on user well-being can be an excellent foundation for Innovation – as a measurable "health-first" element in next-generation offices.

What to Look for in Lighting Suppliers?

Parameter	Old standard (Conventional LED)	New standard (Procognitive/Future-proof)
Spectrum	"Blue peak" (harmful blue light) and dip in the cyan region. Weak in red.	Balanced spectrum similar to the sun. Reduced blue, balanced cyan, and strong red.
Melanopic Effect	Often unknown or insufficient.	Defined m-EDI (high biological efficacy)
Color Rendering (CRI)	CRI > 80 (sufficient for current standards, not for high-quality vision).	CRI > 95, R9 > 90 (faithful, sharp color rendering of surfaces and objects).
Light Distribution	Direct light down (worst are spotlights or narrow linear luminaires).	Indirect, or combination of direct and indirect (lights also by reflection off the ceiling/walls) or large emitting surfaces.
Glare (UGR)	Often on the edge (unpleasant, causes eye issues, headaches, etc.).	Indirect lighting, or large-area diffusers, soft light.

How can we help you?

Do you have a project on your desk where you want to ensure future value and meet the new standards from this guide?

- Do you need to design lighting or prepare calculations for WELL/BREEAM/LEED?
- Do you want eulum data or 3D models (BIM) for your project?

Contact us

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