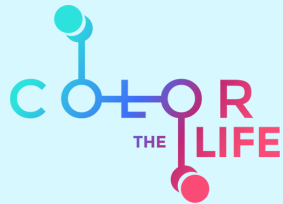


LED Light Booth Study

A NEW ERA IN CMF & PERCEIVED QUALITY

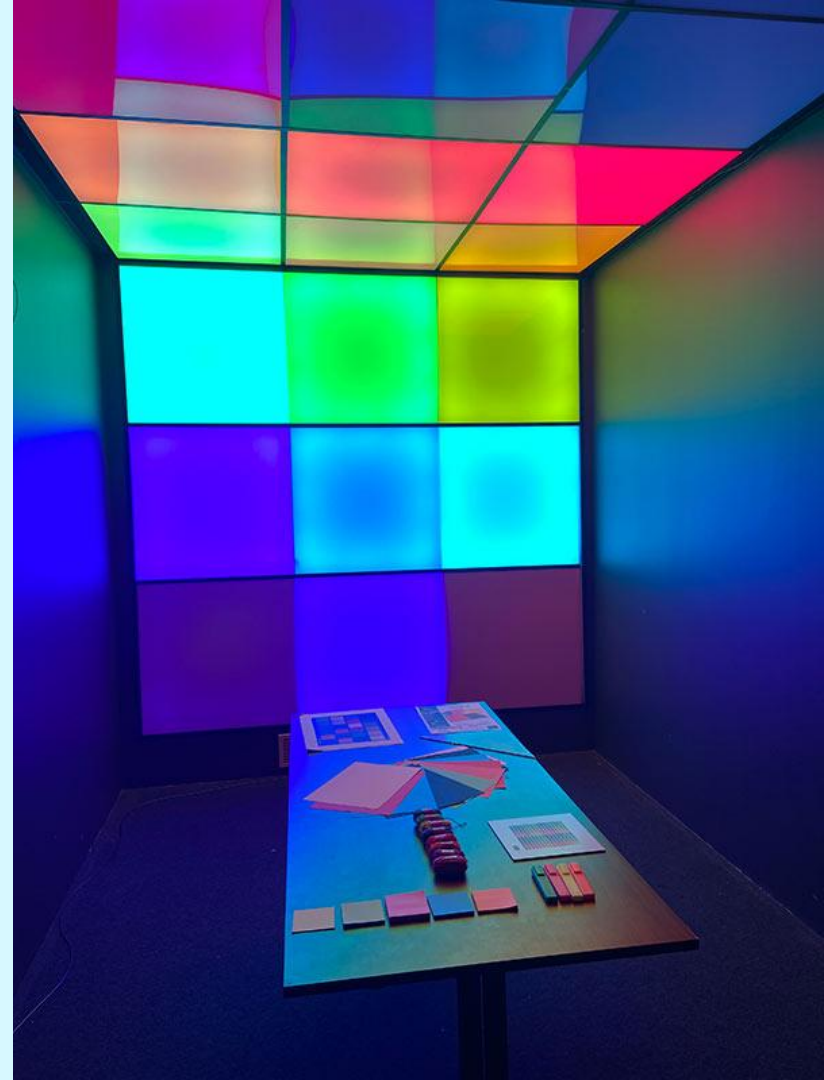


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Context

Fluorescent tubes have been banned in the EU and the UK since early this year. Some are still in use in light booths and store lighting, and will need to be replaced by LEDs.

What spectral power distribution should you request to ensure color and finish quality?

Benefits for Stakeholders

→ BRANDS & MANUFACTURERS

Ensure consistent perceived quality from design to retail thanks to new specifications for LED Daylight and Storelight illuminants.

→ LIGHT MANUFACTURERS

Gain insights to adapt to new standards.

→ CUSTOMERS

Experience improved CMF and product quality under LED lighting conditions.

→ RESEARCHERS

Contribute to industry-leading studies on color and finishings perception and standards.



Afterwork COLOR THE LIFE, Cluster Lumière, Lyon, 10.2024



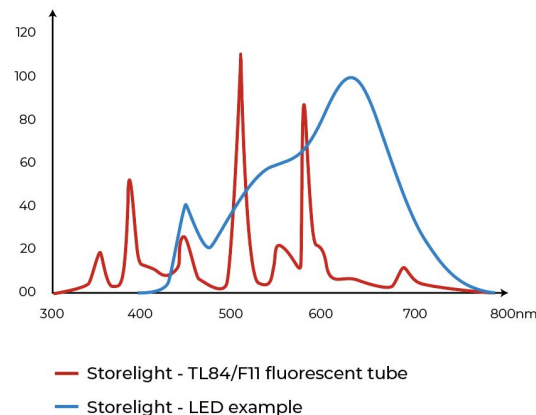
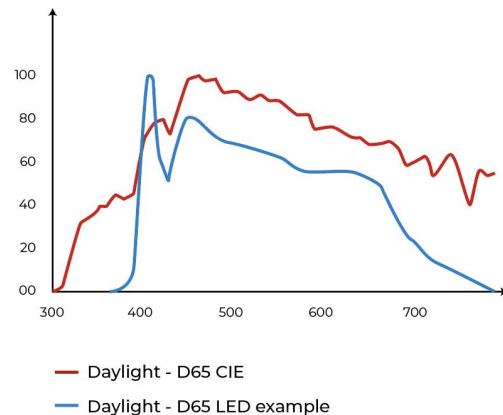
The Challenge

The transition from fluorescent to LED lighting has brought new challenges for industries relying on consistent visual standards.

- LED heterogeneity disrupts color and material perception in Design, Lab & stores
- Current CIE standards need adaptation for LEDs.
- Metamerism, durability, and micro-defects become harder to assess under LED illuminants.

Fashion, Sport, Packaging, Cosmetics, Transport, Domestic appliances, IT, Architecture, Decoration, Luxury, Oral health...

All industries are concerned!



The Project

In partnership with the ENTPE Laboratory of Sophie Jost (French representative of the CIE International Commission on Illumination) and the Cluster Lumière Lyon, COLOR THE LIFE is conducting **a multi-sector study to identify new standards illuminants and define appropriate visual assessment protocols.**

Our aim is to create a universal reference for designers, engineers and technicians of Colour and Perceived Quality and we will publish a **White Paper aligned with the CIE**, which will provide guidelines for the choice and use of LED illuminant in light booths, color management tools and store lighting.

Are you ready to define the common new standards for daylight D65 & D50 and the best store lighting standards for your company?

Pre-study
carried out in
France in 2024

September 2025

Validation of participants, sample &
light booth scope to be tested

End of early-bird discount

Autumn 2025

Evaluation of samples under
10 light booths (4 illuminants)

Winter 2025-26

Results presented to
participants and CIE

Release of
White Paper
beginning of
2026

Are you uncompromising about the perceived quality of your materials or finished goods?

Are your products manufactured in different locations or composed of multiple materials?

Are LED lighting or Light booths used in your design cells and perceived quality laboratories, or at your supplier/customer' sites?

This subscription study is a unique opportunity to:

—→ test the visual control of your brand's colors, materials and finishes under the majority of Led light booths on the market,

—→ define the common new standards for daylight D65 & D50 and the best store lighting standards for your company: specifications to be used for the renewal of your light booth fleet and store lights,

—→ take part in an innovative, collaborative project that unites the industry around common challenges and share your team experience with experts in color and perceived quality in today's industry.

White Paper Content

Common Standard Daylight illuminants that meet the needs of industry (design, development, production) : **D50 and D65 with and without UV**

Analysis of **LED illuminants for store lighting** to define the appropriate standard for each commercial context
3000 > 5000 K

Clear guidelines and proven protocols for the choice of LED illuminants and related tools in various industrial and commercial contexts

Pricing

	White Paper (WP)	Advertisement in the WP	Evaluation of 40 CMF samples Mixed workshop 1 person per company	Evaluation of 40 CMF samples Dedicated day up to 5 people per company	Analysis of your brand specific results
Early-Bird WP Purchase 1.500 € VAT exc.	X				
WP Purchase 2.200 € VAT exc.	X				
Sponsoring 3.000 € VAT exc.	X	X			
Participation 3.700 € VAT exc.	X	X	X		
Premium participation 9.200 € VAT exc.	X	X		X	X

Rates € (Exc. French VAT of 20%)

Scientific Protocol

Definition of the measurement protocol:

- Determination of the position and number of measurement points
- Spectral measurements using the SPECBOS 1211-UV spectroradiometer: determination of stabilisation time, verification of repeatability.
- Measurement of uniformity using a luxmeter on the horizontal surface or at a certain height depending on the size of the samples presented,
- Luminance mapping (with Photolux);

Measurement of 10 boxes, each with 4 lighting / D65 (with or without UV) and 2 shop lighting simulations: Calculation of colour rendering metrics, metamerism if necessary, evaluation of spectral difference.

Report writing: Measurement report, iso-luminance map, illuminance stabilisation curve, iso-luminance map.

Measurement of the spectral reflectance of the samples under diffuse conditions (45° to be as representative of the evaluation conditions):

- MacBeth chart and grayscale chart
- 40 specific samples representative of the materials used by the participating brands (to be provided in two copies for visual evaluation). Each brand will assess its own samples as well as those of the other brands (except exclusives ones if requested by a Brand).

Visual assessment of the light booths

- Determination and implementation of the experimental protocol (pair, triad, ranking), randomisation, anonymisation, semantic analysis.
- Evaluation by the participants of the standard samples and their specific samples
- Analysis of results and correlation with measurements

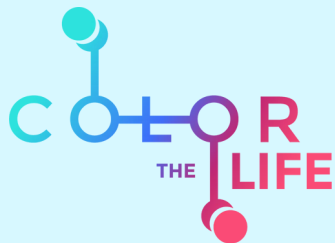
Dissemination of results:

- Drawing up specifications to define the most suitable standard illuminants for the samples tested (MacBeth Charter, Greyscale Charter and brand samples: plastic, paint, textile, etc.).
- Provision of the results of the study to the project stakeholders (White Paper)
- Writing a scientific article and presenting the results at a CIE conference
- Making available to the public the White Paper 'Design & Visual Control of CMF Perceived Quality under LED Illuminants'.

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