

A modern office interior with a high ceiling featuring exposed ductwork, pipes, and lighting fixtures. The space is divided into a lounge area in the foreground and a workspace in the background. The lounge area includes a white sofa with colorful pillows, a coffee table, and several chairs. The workspace consists of multiple desks with computers and office chairs. A red banner is overlaid on the top half of the image, containing the text "Marketing Claim Verification for color rendition (high-fidelity) lighting".

Marketing Claim Verification for color rendition (high-fidelity) lighting



ANSI/IES TM-30-20

What is the ANSI/IES TM-30-20 method for evaluating light source color rendition?

Consumers are increasingly interested in how they can benefit from lighting integrated into connected systems that facilitate functional and ambient illumination. ANSI/IES TM-30-20 is a voluntary standard that follows the Illuminating Engineering Society's (IES) recommended method for characterizing light source color rendition. This standardized set of color samples defines a consistent range for predicting how a light source might influence color appearance in an environment.

The core framework consists of a color appearance model with a representative set of 99 color evaluation samples (CES) and references. To evaluate indoor lighting applications, ANSI/IES TM-30-20 refers to the fidelity index (R_f), gamut index (R_g), red local chroma shift (R_{cs}, h1) and red local color fidelity (R_f, h1) measurements to compare results between a test product and the same conditions under natural light.

How does ANSI/IES TM-30-20 apply?

A new generation of high-fidelity LED lights resembling natural sunlight is headed to the marketplace, and ANSI/IES TM-30-20 provides a valuable resource to lighting manufacturers, specifiers, researchers and end users. This standard helps assess the environment and optimize lighting conditions when selecting lighting products. While quality characteristics may often subjectively depend on the intended application or environment, ANSI/TM-30-20 provides a benchmark for light color rendition.

Manufacturers looking to differentiate themselves in U.S. retail markets with color fidelity claims can use this standard as a reference point. It also works in conjunction with many well-known industry programs and standards, including:

- **DesignLights Consortium® Qualified Products List (QPL)**
- **WELL Building Standard V2**
- **ANSI/ASHRAE/USGBC/IES 189.1-2017, Standard for the Design of High-Performance Green Buildings**

The industry continues to research the relationship between spectral power distribution (SPD) metrics and subjective visual outcomes to help ensure that the specification criteria for design intents — preference, vividness and fidelity — include analysis and consensus-based decision making. Each of these design intents alone cannot define lighting quality, but together, they can help create the quantitative ratings of ANSI/IES TM-30-20 for light sources used to establish suitable performance for a given installation.

Marketing Claim Verification (MCV)

What is Marketing Claim Verification for color rendition (high-fidelity) and low blue light?

UL Solutions offers a Marketing Claim Verification (MCV) program for fidelity intent that measures SPD with an integrating sphere according to the ANSI/IES LM-79, Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products (LED and OLED). We calculate color rendition based on ANSI/IES TM-30-20, IES Method for Evaluating Light Source Color Rendition. Achieving UL Verification results in the issuance of a UL Verified Mark for color rendition and different ratings based on the Rf levels.

In addition to general claims that use TM-30-20 criteria for evaluation, Marketing Claim Verification offers a flexible and more specific answer to individual customer needs — for example, testing for additional color characteristics like low blue light levels to create a customized Verified Claim.

Low blue light: Measures levels according to IEC 62471:2006, Photobiological Safety of Lamps and Lamp Systems; can be used to create a custom claim

Spectral difference (SD): Measures according to ANSI/IES LM-79; can be used to create a custom claim



What does this mean for consumers?

According to the IES, accurate color rendition can aid the design process for an indoor space to create an aesthetically pleasing visual experience and/or natural-looking environment. However, consumers often lack the technical expertise to understand light source evaluations. Simply equating higher color fidelity to “better” quality is an oversimplification, but identifying products that meet certain thresholds or criteria could prove helpful as a guideline for consumers.

Manufacturers who achieve Marketing Claim Verification ratings may add a label on their product packaging that differentiates those products in the marketplace.

To end users, the benefits of seeing the UL Verification rating label include:

- Confidence that UL Solutions, a trusted, unbiased, third-party testing, inspection and certification provider, has verified the manufacturer’s performance claims
- Guidance to aid product choices to create their desired visual experience
- Potentially avoiding installing lighting with poor color rendition that could make colors look unpleasant or distorted

Why choose UL Solutions for Marketing Claim Verification?

Consumers worldwide demand transparency from the brands they choose. As a global safety science leader, UL Solutions applies deep technical expertise, creates customized offerings and delivers objective product performance assessments. We help elevate your brand above competitors, build credibility, quickly bring innovative products to market and leverage a Mark recognized worldwide with tools that build trust and confidence.

- We work with customers at every step of the process and everywhere in the world, thanks to a global network of testing laboratories, partners and experts.
- We deliver a consumer-friendly UL Verify database of UL Verified marketing claims to help differentiate and promote your brand's achievements.
- An independent, objective, science-based assessment confirms marketing claims' accuracy.
- The presence of a UL Verified Mark makes consumers' decisions easier and relays reliability, performance or feature benefits to customers and end consumers.
- UL Marks appear on tens of billions of products, and 66% of U.S. retailers prefer the UL Mark over other testing, inspection and certification (TIC) marks, according to a recent U.S. Value Chain study.
- The UL Verified Mark helps customers create a premium offer and avoid market commoditization.

For more information on Marketing Claim Verification, visit us [online](#) or contact our team:

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