







Executive Summary

Second Draft SSL Technical Requirements V5.0

This Version 5.0 revision to the SSL Technical Requirements is the first of a series of specifications designed to improve the quality of light and connectivity of high performance, energy efficient commercial lighting by establishing requirements and reporting standards for DLC listed products. Version 5.0 lays the groundwork to capture and promote continuing advances and innovation in human-centric lighting characteristics such as color performance, flicker, glare, and light distribution, as well as increase the controls functionality of installed energy efficient technology so that maximum energy savings and user benefits are realized.

The goals of this version of the SSL Technical Requirements include:

-  The efficacy of listed products increases by an average of 10.8%, and up to 23%.
-  All listed indoor luminaires, with some exceptions, are dimmable, providing increased energy savings and user satisfaction.
-  The color quality requirements help provide people the lighting they want with better consistency over time.
-  Lighting decision makers can use DLC Premium to have better confidence in the glare performance of listed products.

While the initial draft of the Version 5.0 Technical Requirements laid out the DLC’s broad vision for improving the quality of light and controllability of products on the SSL QPL, Draft 2 focuses on implementing these requirements on a timeline that aligns with industry development cycles and current research. Metrics and capabilities that do not appear in this version may still appear in future DLC specifications as deemed appropriate.

Technical Requirements Overview

The DLC’s proposed requirements support additional energy savings while promoting better quality of light for people living and working in the built environment. The V5 program consists of a phased approach to incorporating quality of light metrics to ensure only high-quality products are listed, superior performing products can be differentiated, and additional energy savings are realized.

Topic	Draft 2 Highlights
Efficacy	<ul style="list-style-type: none">• DLC Standard product-weighted average efficacy increases 10.8%, and up to 23% over V4.4 for some product types.• Allowances to efficacy are offered to products that demonstrate enhanced color and glare performance.

Topic	Draft 2 Highlights
Spectral Quality	<ul style="list-style-type: none"> • New IES TM-30 metrics and qualification pathways are introduced to better characterize and ensure the color rendering performance of listed products. • New Color Maintenance requirements are introduced to ensure the color quality of products remains stable over the life of the product. • DLC Premium establishes a higher color performance requirement to ensure Premium products deliver both higher efficacy and improved quality of light.
Glare and Distribution	<ul style="list-style-type: none"> • Backlight, Uplight, Glare (BUG) ratings are introduced to characterize the performance of outdoor lighting products and their compliance with state and local lighting ordinances. • The Unified Glare Rating (UGR) metric is introduced and required for DLC Premium products to help ensure good glare performance along with high efficacy .
Flicker	<ul style="list-style-type: none"> • Flicker metrics are introduced, requiring flicker performance to be reported at 100% and 20% of light output for one member of each product family.
Controllability	<ul style="list-style-type: none"> • Dimming is required for indoor luminaires and will not apply to outdoor products. • All products will include reporting of integral control capability. Products with integral controls will include additional detail regarding the type of controls. • All products will include reporting of the control signal communication type and dimming protocol the product accepts.
DLC Premium	<ul style="list-style-type: none"> • +15 lumens per watt over V5.0 Standard efficacy requirements. • All products must be capable of continuous dimming. • Tighter CCT range over DLC Standard. • Enhanced color maintenance requirements for indoor and outdoor + high-bay. • Troffers, linear ambient, low-bay, and high-bay must meet UGR thresholds.
Other topics	<ul style="list-style-type: none"> • Removed THD and PF requirements. • Updates to Reference Housings policy.

For more detailed information on the changes and requirements, please review the [detailed Version 5.0 policy](#).

Manufacturer and Industry Implementation Guidance

Draft 2 includes manufacturer and industry guidance that includes information on how V5.0 will impact the qualification process and requirements for manufacturers and testing laboratories. Manufacturers who may wish to update their product listings or others interested in how V5.0 will be implemented should consult this section for information on:

- Submitting product and private label applications under V5.0
- Required product testing under the V5.0 requirements
- Transition timelines and grace periods for V4.4 products
- Updating V4.4 products to qualify under V5.0
- Updating family groupings to meet V5.0

Important Dates

