



Dear DLC Members and Stakeholders:

The DLC is pleased to release the second draft of Horticultural Technical Requirements Version 3.0, with a proposed effective date in Q1 2023 and invites comments on these draft requirements from all stakeholders. Please submit all comments using the V3.0 comment form linked below to comments@designlights.org by Wednesday, September 7, 2022.

[View Draft 2 Horticultural Technical Requirements V3.0](#)

[View Draft 2 Surveillance Testing Policy, Hort V3.0](#)

[Download Hort V3.0 Draft 2 Comment Form](#)

DRAFT 2 Horticultural Technical Requirements V3.0

Version 3.0 is a major revision that proposes key updates to the Hort Technical Requirements, which will take effect in Q1 2023. These updates support the acceleration of energy efficient lighting in controlled environment agriculture (CEA). Additionally, Version 3.0 introduces a draft surveillance testing policy to the horticultural requirements, with a proposed effective date of October 2023. Below is a summary of the proposed changes in Hort V3.0:

1. Increased efficacy threshold

The V3.0 efficacy threshold has been increased to $\geq 2.30 \mu\text{mol} \times \text{J}^{-1}$. The new threshold is based on an analysis of all products listed on the Horticultural QPL on March 28, 2022, and is set at the value that allows the top 85% of products, in terms of photosynthetic photon efficacy (PPE), to remain listed. The DLC's -5% tolerance on efficacy has not changed with this revision.

2. Introduction of requirements for reporting application information

To support the development of prescriptive/midstream incentive programs, Version 3.0 proposes to collect and report application (intended use of product) information of listed products to give efficiency programs and QPL users insights into the intended controlled environment and lighting scheme for all listed products.

3. Introduction of product-level controllability requirements

To enable additional energy savings, promote interoperability, and lay the groundwork for future demand response systems and programs, Version 3.0 proposes to require dimming for all products and require reporting of additional controllability details.

4. Introduction of LM-79 and TM-33 reporting requirements

Whereas previous versions allowed test reports to include partial data sets, Version 3.0 proposes specific reporting requirements for more complete information in all LM-79 test reports to improve the qualification process. Additionally, reporting requirements related to

TM-33-18 that are in place today have been relocated from their previous location in the Horticultural Technical Requirements to this new section for better clarity.

5. Introduction of Surveillance Testing Policy

To protect the integrity and value of the QPL for all stakeholders, Version 3.0 proposes the implementation of a surveillance testing policy to actively monitor the validity of data and other information submitted to the DLC Horticultural Lighting QPL. This draft policy outlines a proposed process for selection of products from the Hort QPL to be included in surveillance testing.

Draft 2 includes changes resulting from comments received on Draft 1, summarized below:

1. General comments

- The DLC received a total of 104 comments on Draft 1. General comments included requests to extend the major revision cycle, allowing natural efficacy increases through market competition, and recommendations for active cooling systems and lamps utilizing three phase power.
- To address the general comments, the DLC is considering major revision cycle changes and is doing additional outreach and research prior to a final version of Hort V3.0 being released later in 2022. Active cooling systems and lamps utilizing three phase power are out of scope for Version 3.0 but will be considered for a future revision to the Horticultural Technical Requirements.

2. Application Information

- The DLC received 20 comments related to Application Information on Draft 1, which included considering “residential” as a reported Controlled Environment, information related to controlled environment details and other controlled environments or lighting schemes not covered by Draft 1, and additional information that should be required and/or reported.
- To address these comments, nomenclature for Controlled Environment options has been revised to better align with industry norms and a “residential” controlled environment category is no longer being considered for Version 3.0.

3. Controllability

- The DLC received 37 comments related to Controllability, which included comments on dimmability as a requirement, including default PPF as a reported value, dimming and control methods, control capabilities, connector/transmission hardware, and special considerations for DC-powered products.
- To address these comments, the proposed dimming capability requirement for all products has been changed to apply only to products above a threshold PPF and nomenclature has been added and/or revised to better capture dimming range, dimming and control methods, connector/transmission hardware, and special considerations for DC-powered products and lamps.

4. Surveillance Testing

- The DLC received 19 comments related to Surveillance Testing, which included comments on modifying criteria to ensure appropriateness of proposed requirements, improving the procedure for evaluating PPID, clarifications on testing failure scenarios, and suggestions on what types of labs should be conducting surveillance testing.
- The address these comments, Draft 2 reorganizes metrics in Table 1 and Table 2 to better support the intentions of the program to confirm accuracy of originally submitted data as well as consistent product performance across separate samples of the same model and reframed the PPID surveillance requirement to be a zonal PPF check rather than a check at specific measurement angles.

Comment Form

Please submit all comments using the Hort V3.0 Draft 2 Comment Form to comments@designlights.org by **Wednesday, September 7, 2022**.

[Download Comment Form](#)

Informational Webinar

The DLC will host an informational webinar to review the proposed requirements on **Thursday, August 11 at 1:00 pm ET**.

[Register for Webinar](#)

If you have questions about Draft 2 Horticultural Technical Requirements V3.0, please contact horticulture@designlights.org. We look forward to engaging with you as we continue to develop the Hort program.

Best regards,

The DLC Team