

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF
AIR AND RADIATION

March 23, 2023

Dear ENERGY STAR® Lighting Stakeholders:

This letter announces the Environmental Protection Agency's (EPA) release of the first draft of the [ENERGY STAR Recessed Downlights Version 1.0 Specification](#) (V1.0), intended to replace the Luminaires Version 2.2 specification (V2.2; the "existing specification") for recessed downlights and recessed downlight retrofit kits.

In response to EPA's Lighting Sunset Proposal, two trade associations and the DesignLights Consortium™ made a case for continuing ENERGY STAR certification for recessed downlights and recessed downlight retrofit kits because of the potential for significant additional energy savings. In response, EPA performed research and confirmed a wide range of performance levels in this category and the opportunity for significant energy savings. Considering DOE's stated intent not to cover recessed downlights and recessed downlight retrofit kits in federal standards, EPA determined it would be valuable to continue ENERGY STAR certification for these products via a new specification with higher efficacy criteria than currently set in the Luminaires specification, while preserving existing relevant performance requirements.

EPA aims to complete this process promptly and release a final Recessed Downlight V1.0 specification in 2023. After its release date, until the end of 2023, partners will be able to certify new models to either Luminaires V2.2 or Recessed Downlights V1.0. Consistent with the Luminaires V2.2 sunset timeline, after December 31, 2023, new recessed downlight and recessed downlight retrofit kit models must be certified to Recessed Downlights V1.0. Additionally, upon finalization of Recessed Downlights V1.0, EPA's intent is that currently certified models that meet the new requirements may be certified to the new specification without additional testing.

Recessed downlights and recessed downlight retrofit kits certified to Luminaires V2.2 specification will be considered ENERGY STAR certified until December 31, 2024. For recessed downlight products that will not be recertified to the new specification, brand owners are encouraged to remove ENERGY STAR references on websites and materials as they are updated or reprinted to ensure compliance by December 31, 2024.

Proposed Changes from the Existing Specification

The primary changes proposed in Draft 1 are raising the existing minimum efficacy requirement, focusing the scope to cover only recessed downlights and recessed downlight retrofit kits, and harmonizing with the latest versions of the existing methods of measurement and reference documents. The following summarizes proposed changes in Draft 1.

Specification Scope

EPA is proposing the scope of this specification cover recessed downlights and retrofit kits with apertures less than or equal to ten inches. All other luminaire types are excluded.

Efficacy

EPA is proposing a single minimum efficacy requirement of 90 lumens per watt for recessed downlights and recessed downlight retrofit kits. As of January 10, 2023, there were nearly 2,500 recessed downlight and recessed downlight retrofit kit model families certified by more than 100 partners on the Luminaires V2.2 QPL that meet the proposed efficacy requirement.

Power Factor

EPA is proposing the power factor requirement be greater than or equal to 0.7 because there are currently no certified recessed downlights or recessed downlight retrofit kits with efficacy ≥ 90 lumens per watt that have power factor less than 0.7.

Test Methods

EPA is proposing updated methods of measurement to the latest versions, use of the ANSI/IES TM-21 Calculator for new certifications, and to retire the ENERGY STAR TM-21 Calculator on December 31, 2023, when no new models may be certified to the Luminaires V2.2.

Based on market developments and insights gained with color tunable and multi-output products, EPA is proposing to include 2200K and 2500K nominal CCTs and for all tests and evaluations to be performed at the most consumptive white light setting (i.e., the white light setting that results in the highest measured input power) rather than the least efficient white light setting per Luminaires V2.2. EPA has clarified definitionally that dim-to-warm, full-color-tunable, and white-tunable products are considered color tunable for the purposes of ENERGY STAR certification. Since performance at the most consumptive setting was always required to be reported for these products, EPA does not anticipate additional testing for recertification.

Summary

EPA seeks comments on the first draft via email to lighting@energystar.gov by Friday April 21, 2023. Please indicate “ENERGY STAR Recessed Downlights V1.0 First Draft Comments” in the subject line. Please note that comments received will be posted to the ENERGY STAR website unless otherwise requested.

EPA appreciates your contribution to the development of this specification and welcomes inquiries; please contact me with questions, comments or concerns at jantz-sell.taylor@epa.gov or lighting@energystar.gov. Thank you for your support of ENERGY STAR.

Sincerely,



Taylor Jantz-Sell
ENERGY STAR Lighting Program Manager
U.S. Environmental Protection Agency

Enclosures:

[ENERGY STAR Recessed Downlights V1.0 Draft 1 Specification](#)

[ENERGY STAR Recessed Downlights V1.0 Draft 1 Specification Data & Analysis Package](#)