

Topic	Section	Subtopic	Comment	Response
Scope	1.1	Included Products	Two industry associations and two EPA-recognized Certification Bodies requested additional clarification about the eligibility of products that function as downlights but that are designed for applications other than fully recessed in the ceiling.	In Draft 2 EPA has expanded the scope of covered products to clarify that alternate mounting configurations that are otherwise identical to the recessed downlight are eligible for ENERGY STAR certification.
Test Criteria	5.1	Testing Color Tunable and Multi-Output Downlights	A brand owner partner asked for clarification about how color tunable and multi-output products are to be evaluated.	In Draft 2 EPA has clarified that color tunable and multi-output products are to be evaluated based on the results of testing performed at the most consumptive white light setting covered by the specification (i.e., 2200K, 2500K, 2700K, 3000K, 3500K, 4000K, or 5000K).
General	7	Methods of Measurement	An EPA-recognized Certification Body commented that ANSI/IES LM-80-21 is relatively new and may not yet be widely adopted by manufacturers and laboratories and recommended that EPA continue to allow product performance to be evaluated based on testing performed consistent with earlier version of LM-80.	To ensure that currently certified products are able to recertify without additional testing, in Draft 2 EPA has clarified that ANSI/IES LM-80-21, IES LM-80-15, or LM-80-08 and its Addendum A are acceptable methods of measurement related to ENERGY STAR lumen and color maintenance requirements. Additionally, ANSI/IES LM-79-19 or IES LM-79-08 are acceptable methods of measurement where applicable.
Photometric Performance Requirements	8.1	Luminous Efficacy	An EPA-recognized Certification Body commented that product variations with narrow beam angles, wallwash distributions, and dark reflectors will have trouble meeting the 90 lumens-per-watt luminous efficacy requirement. Additionally, two industry associations jointly recommended reducing the efficacy requirement to 75 lumens per watt.	In Draft 2, the 90 lumens per watt efficacy requirement remains in place. However, in response to these comments, EPA has significantly revised Section 6.1--Product Families. For this specification, EPA's intent is that the representative tested model be the variation reported to have the highest input power and product families may include a variety of configurations of distribution, reflector, mounting, etc. so long as each variation meets the applicable minimum light output requirement prescribed in Section 8.1. The result of this approach would be to provide the same energy savings across the family and hopefully allow for a broader range of variations to share certification while reducing testing burden.
Color Angular Uniformity	8.4	Beam Angle	An EPA-recognized Certification Body recommended that EPA include ANSI C78.379 as a reference document for this requirement.	EPA prefers to reference industry standards where applicable, however because referring to this document might have unintended consequences for existing test data, EPA is not making this change but notes that the definition of Beam Angle (Section 4) is taken directly from ANSI C78.379, so that this definition must apply when measuring beam angles.
Lumen Maintenance and Rated Life Requirements	9.1 and 9.2	Lumen maintenance projection method	Two industry associations jointly commented that the official ANSI/IES TM-21 Calculator had not been released when EPA released Draft 1 of this specification. Additionally, they expressed concern that in some instances this calculator has been shown to produce more conservative luminous flux maintenance projections compared with the ENERGY STAR TM-21 Calculator currently referenced by the Luminaires V2.2 specification.	EPA has confirmed that the Illuminating Engineering Society has officially released the ANSI/IES TM-21 Calculator as of June 1, 2023. Additionally, in response to the concerns about more conservative projections highlighted in the 2022 NEMA white paper (https://www.nema.org/standards/view/nema-comments-on-updated-ies-tm-21-22-calculator), in its Draft 2 EPA is proposing a single lumen maintenance lifetime requirement for all products whether the light source is separable or inseparable of 25,000 hours instead of maintaining the two thresholds of 25,000 and 50,000 hours respectively.
Electrical Performance Requirements	10.2	Power Factor	Two industry associations jointly recommended that ANSI C82.77-10-2021 be the normative reference for power factor.	In Draft 2, ANSI C82.77-10-2021 is listed as a method of measurement for power factor.

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Thermal Performance Requirements	12.1	Maximum Driver Case Temperature	An EPA-recognized Certification Body commented that, because driver components and temperature measurements are evaluated during the safety certification process, there is no additional value to the same measurements remaining part of the ENERGY STAR program.	Throughout ENERGY STAR's history of verifying these products, maximum driver case temperature has consistently been a source of luminaire (including downlight) failures and remains a significant failure category. Because temperatures have a direct impact on luminaire performance in addition to safety considerations, consumers will continue to benefit from verification of this requirement.
Product Labeling & Packaging Requirements	15.1	Packaging Requirements	Two industry associations jointly recommended that EPA consider adjusting packaging requirements for products within the scope of this specification that are intended for online sale only (i.e., not intended for placement on retail shelf space).	In response to this request, EPA has updated the packaging requirements or models destined only for online sales and subsequent shipping directly to customers. In Draft 2 EPA proposes that packaging requirements may be fulfilled by providing a supplemental performance summary document for certification and to all online resellers to help ensure that online marketing claims are consistent with the model's certification. Additionally, EPA proposes removing packaging requirements related to insulation contact (Type IC) and airtight certification because safety standards related to this type of installation already exist.
General		Recertification of Eligible Products	Two industry associations jointly requested that EPA reconsider the recertification framework for this specification.	<p>The ENERGY STAR program relies on third party certification. EPA has been mindful over the past eight years of placing recertification burdens on lighting partners. In order to proceed with a change in performance requirements of this nature, partners must recertify eligible products through the third party certification process, EPA cannot simply roll over products independent of a third party ISO 17065 accredited review.</p> <p>EPA has made an effort to reduce testing burden as much as possible for this transition, so that the recertification of eligible products currently certified under the Luminaires V2.x specification will require only the certification that the measured and reported initial light output and luminous efficacy requirements are met and that the lumen maintenance life requirement is met using the ANSI/IES TM-21 Calculator.</p>
General		Requirements for certified "model name or number"	An EPA-recognized Certification Body commented that there can be a huge number of options in beam angles, reflectors, optics, and trims in most downlight families to allow for customer preferences, asked how will the various certified options be handled on the Qualified Products List (QPL; e.g., whether all variations on a marketing sheet need to be certified, or does the partner have an option to certify a subset of available variations), and recommended that any certified options or variations that effect luminous efficacy be bracketed and separated by a pipe symbol (e.g., "[30 60 80]").	<p>EPA appreciates the importance of quality and clarity of the data presented on the QPL. The use of wildcards in model information is allowed, but should be minimized to facilitate matching of models on the EPA website with models sold in retail channels. If wildcards are used, only the asterisk symbol (*) should be used to represent a letter and only the number symbol (#) be used to represent a digit. Additional information about the how Certification Bodies are expected to establish separate and unique models for the purposes of populating the QPL are detailed beginning on page 11 of 31 in the document "EPA's ENERGY STAR Qualified Products Exchange (QPX)" at:</p> <p>https://www.energystar.gov/sites/default/files/asset/document/XML_Submission_System_Technical_Documentation.pdf</p>
General		Glare	An EPA-recognized Certification Body recommended that EPA consider introducing a glare requirement.	Glare is a complex and individual response that is application-specific based on the orientation of the observer to the installed downlight and the surrounding visual environment. EPA is not aware of a simple glare metric that is widely accepted for which we could establish an acceptable threshold. Therefore, no new glare requirements are considered for this specification.

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Outstanding Questions		Verification Testing	Two industry organizations recommended that if verification testing of products certified to this specification resumes, that EPA continues the program as it existed under Luminaires V2.2 or provide advanced notice and an open stakeholder process if changes are to be proposed.	Verification testing (VT) will resume beginning in 2024, with Certification Bodies testing 5% of their certified downlight models. EPA will release an updated VT directive once the specification is finalized.
Outstanding Questions		International Implementation	Two industry organizations asked whether Natural Resources Canada (NRCAN) are required to implement the same changes to the ENERGY STAR program that EPA is implementing (i.e., sunsetting existing lighting activities and shifting to this specification for downlight products).	It is EPA's understanding that NRCAN will apply the ENERGY STAR lighting sunset in Canada and will adopt the new specification for recessed downlights. Partners may contact NRCAN for additional information.
Outstanding Questions		Test Data Held by Certification Bodies	Two industry organizations commented that their members would not support allowing the CBs to use these data in any way following sunsetting of the lighting programs without the express written consent of the manufacturers themselves and asked whether EPA's existing directives to and signed agreements with the CBs ensure that the data will remain privately held, and not redistributed, shared, bought, sold after sunsetting.	The handling of test data held by certification bodies remain a part of the commercial transaction between brand owners and certification bodies. EPA's Conditions and Criteria for Recognition of Certification Bodies (available for review at https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/cbs) do not include the handling of test data. In the unusual instances in which EPA holds test data, claims of Confidential Business Information may be asserted, as applicable.