

**DEPARTMENT OF ENERGY****10 CFR Parts 429 and 430****[Docket No. EERE-2016-BT-TP-0005]****RIN 1904-AD64****Energy Conservation Program: Test Procedures for Certain Categories of General Service Lamps****AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** The U.S. Department of Energy (DOE) proposes to establish test procedures for certain categories of general service lamps (GSLs) to support the ongoing energy conservation standards rulemaking. Specifically, this rulemaking proposes new test procedures for determining the initial lumen output, input power, lamp efficacy, power factor, and standby mode power of GSLs that are not integrated light emitting diode (LED) lamps, compact fluorescent lamps (CFLs), or general service incandescent lamps (GSILs). DOE is also proposing clarifying references to the existing lamp test procedures and sampling plans for determining the represented values of integrated LED lamps, CFLs, and GSILs.

**DATES:** DOE will accept comments, data, and information regarding this notice of proposed rulemaking (NOPR) no later than April 18, 2016. See section V, “Public Participation,” for details.

**ADDRESSES:** Any comments submitted must identify the NOPR for Test Procedures for Certain Categories of General Service Lamps, and provide docket number and/or regulatory information number (RIN) 1904-AD64. Comments may be submitted using any of the following methods:

1. *Federal eRulemaking Portal:* [www.regulations.gov](http://www.regulations.gov). Follow the instructions for submitting comments.

2. *Email:* [GSL2016TP0005@ee.doe.gov](mailto:GSL2016TP0005@ee.doe.gov). Include the docket number EERE-2016-BT-TP-0005 and/or RIN 1904-AD64 in the subject line of the message.

3. *Mail:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Office, Mailstop EE-2J, 1000 Independence Avenue SW., Washington, DC 20585-0121. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

4. *Hand Delivery/Courier:* Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza SW., Suite 600,

Washington, DC 20024. Telephone: (202) 586-2945. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

For detailed instructions on submitting comments and additional information on the rulemaking process, see section V of this NOPR, “Public Participation.”

*Docket:* The docket, which includes **Federal Register** notices, comments, and other supporting documents/materials, is available for review at [regulations.gov](http://regulations.gov). All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

A link to the docket Web page can be found at [https://www1.eere.energy.gov/buildings/appliance\\_standards/product.aspx?productid=82](https://www1.eere.energy.gov/buildings/appliance_standards/product.aspx?productid=82). This Web page will link to the docket for this notice on the [www.regulations.gov](http://www.regulations.gov) site. The [www.regulations.gov](http://www.regulations.gov) site will contain simple instructions on how to access all documents, including public comments, in the docket. See section V, “Public Participation,” for information on how to submit comments through [www.regulations.gov](http://www.regulations.gov).

**FOR FURTHER INFORMATION CONTACT:** Ms. Lucy deButts, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-2J, 1000 Independence Avenue SW., Washington, DC 20585-0121. Telephone: (202) 287-1604. Email: [Lucy.deButts@ee.doe.gov](mailto:Lucy.deButts@ee.doe.gov).

Ms. Celia Sher, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue SW., Washington, DC 20585-0121. Telephone: (202) 287-6122. Email: [celia.sher@hq.doe.gov](mailto:celia.sher@hq.doe.gov).

For further information on how to submit a comment, review other public comments and the docket, contact Ms. Brenda Edwards at (202) 586-2945 or by email: [Brenda.Edwards@ee.doe.gov](mailto:Brenda.Edwards@ee.doe.gov).

**SUPPLEMENTARY INFORMATION:** DOE intends to incorporate by reference the following industry standards into 10 CFR part 430:

(1) CIE S 025/E:2015 (“CIE S025”), “International Standard: Test Method for LED Lamps, LED Luminaires and LED Modules.”

Copies of CIE S025 can be obtained from Commission Internationale de l’Eclairage, Central Bureau, Kegelgasse 27, A-1030, Vienna, Austria, 011, or by going to [www.techstreet.com/cie](http://www.techstreet.com/cie).

(2) IES LM-20-13, “IES Approved Method for Photometry of Reflector Type Lamps.”

(3) IES LM-45-15, “IES Approved Method for the Electrical and Photometric Measurement of General Service Incandescent Filament Lamps.”

Copies of IES LM-20-13 and IES LM-45-15 can be obtained from Illuminating Engineering Society of North America, 120 Wall Street, Floor 17, New York, NY 10005-4001, or by going to [www.ies.org/store](http://www.ies.org/store).

See section IV.M for a further discussion of these standards.

**Table of Contents**

- I. Authority and Background
- II. Synopsis of the Notice of Proposed Rulemaking
- III. Discussion
  - A. Scope of Applicability
  - B. Proposed Method for Determining Initial Lumen Output, Input Power, Lamp Efficacy, and Power Factor
  - C. Proposed Method for Determining Standby Mode Power
  - D. Laboratory Accreditation
  - E. Represented Values, Certification, and Rounding Requirements
  - F. Effective Date and Compliance Dates
- IV. Procedural Issues and Regulatory Review
  - A. Review Under Executive Order 12866
  - B. Review Under the Regulatory Flexibility Act
    - 1. Estimated Small Business Burden
    - 2. Duplication, Overlap, and Conflict With Other Rules and Regulations
  - C. Review Under the Paperwork Reduction Act of 1995
  - D. Review Under the National Environmental Policy Act of 1969
  - E. Review Under Executive Order 13132
  - F. Review Under Executive Order 12988
  - G. Review Under the Unfunded Mandates Reform Act of 1995
  - H. Review Under the Treasury and General Government Appropriations Act, 1999
  - I. Review Under Executive Order 12630
  - J. Review Under the Treasury and General Government Appropriations Act, 2001
  - K. Review Under Executive Order 13211
  - L. Review Under Section 32 of the Federal Energy Administration Act of 1974
  - M. Description of Materials Proposed to be Incorporated by Reference
- V. Public Participation
  - A. Submission of Comments
  - B. Issues on Which DOE Seeks Comment
- VI. Approval of the Office of the Secretary

**I. Authority and Background**

Title III of the Energy Policy and Conservation Act of 1975 (42 U.S.C. 6291, *et seq.*; “EPCA” or “the Act”) sets forth a variety of provisions designed to improve energy efficiency. All references to EPCA refer to the statute as amended through the Energy Efficiency Improvement Act of 2015 (EEIA 2015), Public Law 114-11 (April 30, 2015). Part B of title III, which for editorial reasons was redesignated as

Part A upon incorporation into the U.S. Code (42 U.S.C. 6291–6309, as codified), establishes the “Energy Conservation Program for Consumer Products Other Than Automobiles.” This program includes general service lamps, the subject of this NOPR.

Under EPCA, the energy conservation program consists essentially of four parts: (1) Testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. The testing requirements consist of test procedures that manufacturers of covered products must use as the basis for (1) certifying to DOE that their products comply with the applicable energy conservation standards adopted under EPCA (42 U.S.C. 6295(s)) and (2) making representations about the energy use or efficiency of the products (42 U.S.C. 6293(c)). Similarly, DOE must use these test procedures to determine whether the products comply with any relevant standards promulgated under EPCA. (42 U.S.C. 6295(s))

DOE is developing energy conservation standards for general service lamps (GSLs) and has issued a notice of proposed rulemaking published elsewhere in this issue of the **Federal Register**. In support of that rulemaking, this NOPR proposes test procedures for certain categories of GSLs that manufacturers of those lamps would be required to use to assess performance relative to any potential energy conservation standards the lamps must comply with in the future.

Under 42 U.S.C. 6293, EPCA sets forth the criteria and procedures DOE must follow when prescribing or amending test procedures for covered products. (42 U.S.C. 6293(b)) EPCA provides, in relevant part, that any test procedures prescribed or amended under this section shall be reasonably designed to produce test results that measure energy efficiency, energy use, or estimated annual operating cost of a covered product during a representative average use cycle or period of use and shall not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) Pursuant to this authority, DOE proposes to prescribe test procedures for certain categories of GSLs in support of the ongoing GSL standards rulemaking.

Finally, EPCA directs DOE to amend its test procedures for all covered products to integrate measures of standby mode and off mode energy consumption, if technically feasible. (42 U.S.C. 6295(gg)(2)(A)) Standby mode and off mode energy must be incorporated into the overall energy efficiency, energy consumption, or other energy descriptor for each covered

product unless the current test procedures already account for and incorporate standby and off mode energy consumption or such integration is technically infeasible. If an integrated test procedure is technically infeasible, DOE must prescribe a separate standby mode and off mode energy use test procedure for the covered product. Id. Any such amendment must consider the most current versions of the IEC Standard 62301 and IEC Standard 62087, as applicable. DOE has tentatively determined that general service lamps can operate in standby mode but not in off mode. Consistent with EPCA’s requirement, DOE proposes to address measurement of standby mode power in Appendix CC, as detailed in section III.C of this NOPR.

## II. Synopsis of the Notice of Proposed Rulemaking

In this NOPR, DOE proposes test procedures for determining initial lumen output, input power, lamp efficacy, power factor, and standby mode power for certain categories of GSLs for which DOE does not have an existing regulatory test procedure. DOE also notes that representations of energy efficiency must be based on testing in accordance with this rulemaking, if adopted, beginning 180 days after the publication of the final rule.

## III. Discussion

### A. Scope of Applicability

The term GSL includes general service incandescent lamps, compact fluorescent lamps (CFLs), general service light-emitting diode (LED) lamps, organic light-emitting diode (OLED) lamps, and any other lamps that the Secretary determines are used to satisfy lighting applications traditionally served by general service incandescent lamps (GSILs). 10 CFR 430.2. In its ongoing energy conservation standards rulemaking, DOE is proposing to include in the definition for general service lamp a lamp that has an ANSI base, operates at any voltage, has an initial lumen output of 310 lumens or greater (or 232 lumens or greater for modified spectrum general service incandescent lamps), is not a light fixture, is not an LED downlight retrofit kit, and is used in general lighting applications.<sup>1</sup> In this NOPR,

<sup>1</sup> The definition also specified several exemptions, including: General service fluorescent lamps; incandescent reflector lamps; mercury vapor lamps; appliance lamps; black light lamps; bug lamps; colored lamps; infrared lamps; marine signal lamps; mine service lamps; plant light lamps; sign service lamps; traffic signal lamps; and medium screw base incandescent lamps that are left-hand thread lamps, marine lamps, reflector lamps, rough

DOE proposes test procedures for certain categories of general service lamps that do not have existing DOE regulatory procedures and clarifies references to the existing DOE regulatory procedures for integrated LED lamps, CFLs, and GSILs.

### B. Proposed Method for Determining Initial Lumen Output, Input Power, Lamp Efficacy, and Power Factor

As described in the previous section, the term general service lamp includes many types of lamps using varying lighting technologies. Several of the lamp types included in the definition currently must comply with energy conservation standards and therefore test procedures already exist for these lamps. GSILs are required to comply with the energy conservation standards in 10 CFR 430.32(x) and test procedures for these lamps are in Appendix R to subpart B of part 430. Medium base compact fluorescent lamps (MBCFLs) must comply with standards in 10 CFR 430.32(u) and test procedures for these lamps are in Appendix W. In a separate test procedure rulemaking, DOE has proposed revised test procedures for MBCFLs as well as new test procedures for all other compact fluorescent lamps. 80 FR 45724 (July 31, 2015). The updated and new test procedures will appear at Appendix W. In addition, DOE has proposed new test procedures for integrated LED lamps. 80 FR 39644 (July 9, 2015). Although integrated LED lamps are not currently required to comply with energy conservation standards, DOE is proposing standards for them in the ongoing energy conservation standards rulemaking for GSLs. The test procedures for integrated LED lamps are proposed to be located in new Appendix BB.

If DOE test procedures already exist or have been proposed in an ongoing rulemaking (such as for general service incandescent lamps, compact fluorescent lamps, and integrated LED lamps), DOE proposes to reference, in this rulemaking, those specific provisions. For all other general service lamps, DOE proposes new test procedures in this rulemaking. For the new test procedures, DOE proposes to reference the most recent versions of

service lamps, shatter-resistant lamps (including a shatter-proof lamp and a shatter-protected lamp), silver bowl lamps, showcase lamps, 3-way incandescent lamps, vibration service lamps, G shape lamps as defined in ANSI C78.20 and ANSI C79.1–2002 with a diameter of 5 inches or more, T shape lamps as defined in ANSI C78.20 and ANSI C79.1–2002 and that use not more than 40 watts or have a length of more than 10 inches, and B, BA, CA, F, G16–1/2, G–25, G30, S, or M–14 lamps as defined in ANSI C79.1–2002 and ANSI C78.20 of 40 watts or less.

relevant industry standards. Table III.1 summarizes the test procedures that DOE is proposing for general service lamps, largely based on the lighting technology that they use.

TABLE III.1—TEST PROCEDURES FOR GENERAL SERVICE LAMPS BASED ON LIGHTING TECHNOLOGY

Lamp type	Referenced test procedure
General service incandescent lamps	Appendix R to Subpart B of 10 CFR 430
Compact fluorescent lamps	Appendix W to Subpart B of 10 CFR 430
Integrated LED lamps	Appendix BB to Subpart B of 10 CFR 430
Other incandescent lamps that are not reflector lamps	IES LM-45-15, sections 4-7*
Other incandescent lamps that are reflector lamps	IES LM-20-13, sections 4-8*
Other fluorescent lamps	IES LM-9-09, sections 4-6*
OLED lamps	IES LM-79-08, sections 2-9.2*
Non-integrated LED lamps	CIE S025, sections 4-6*

The test procedures for general service lamps that do not have existing DOE test procedures would be contained in a new Appendix CC. Appendix CC would contain methods for determining initial lumen output, input power, lamp efficacy, and power factor. Energy conservation standards for general service lamps, described in the ongoing energy conservation standards rulemaking, are in terms of lamp efficacy, expressed in lumens per watt (lm/W). Initial lumen output and input power are measured quantities used to calculate lamp efficacy. As described in section IV.F.2.b of the NOPR in the ongoing energy conservation standards rulemaking for GSLs, DOE has determined that power factor impacts energy use. Therefore, DOE also proposes test procedures for power factor in Appendix CC.

*C. Proposed Method for Determining Standby Mode Power*

As described in section I, EPCA directs DOE to amend its test procedures for all covered products to integrate measures of standby mode and off mode energy consumption, if technically feasible. (42 U.S.C. 6295(gg)(2)(A)) This notice proposes both active mode and standby mode test procedures for general service lamps. DOE does not propose a test procedure for off mode energy consumption because DOE determined that it is not possible for GSLs included in the scope of the proposed energy conservation standards rulemaking to meet the off-mode criteria. There is no condition in which a GSL connected to main power is not already in a mode accounted for in either active or standby mode.

EPCA section 325(gg)(2)(A) directs DOE to establish test procedures for standby mode operation “taking into consideration the most current versions of Standards 62301 and 62087 of the International Electrotechnical Commission . . .” (42 U.S.C.

6295(gg)(2)(A)) IEC Standard 62087 applies only to audio, video, and related equipment, but not to lighting equipment. As IEC Standard 62087 does not apply to this rulemaking, DOE is proposing to use the standby mode test procedures outlined in IEC Standard 62301, which applies generally to household electrical appliances. Referencing IEC 62301 is consistent with the proposed standby mode test procedures for compact fluorescent lamps and integrated LED lamps. 80 FR 45724, 45738 (July 31, 2015) and 80 FR 39644, 39654 (July 9, 2015).

*D. Laboratory Accreditation*

DOE proposes in this document to require that testing of initial lumen output, input power, lamp efficacy, power factor, and standby mode power (if applicable) for general service lamps be conducted by test laboratories accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) or an accrediting organization recognized by the International Laboratory Accreditation Cooperation (ILAC). NVLAP is a member of ILAC, so test data collected by any laboratory accredited by an accrediting body recognized by ILAC would be acceptable. Testing for other regulated lighting products (such as general service fluorescent lamps, incandescent reflector lamps, and fluorescent lamp ballasts), in addition to general service lamps that must already comply with energy conservation standards (such as general service incandescent lamps and medium base compact fluorescent lamps), must also be conducted in a similarly accredited facility. 10 CFR 430.25.

*E. Represented Values, Certification, and Rounding Requirements*

DOE is proposing to create a new section for general service lamps, 10 CFR 429.57, to provide sampling, represented value, certification, and rounding requirements. Existing

sampling procedures in 10 CFR part 429 are referenced, where applicable. If a test procedure does not currently exist, sampling and represented value calculations reference the existing DOE test procedure with the most similar lamp technology. For example, sampling and represented value calculations for OLED lamps are to be as described in section 10 CFR 429.56, the section that addresses integrated LED lamps.

DOE also proposes certification and rounding requirements to include the relevant metrics for general service lamps. Rounding requirements are consistent with those for general service incandescent lamps and those proposed for compact fluorescent lamps and integrated LED lamps. 80 FR 45724, 45752 (July 31, 2015) and 80 FR 39644, 39665 (July 9, 2015).

*F. Effective Date and Compliance Dates*

If adopted, the effective date for the new test procedures proposed in this NOPR would be 30 days after publication of the GSL test procedure final rule in the **Federal Register**. More specifically, for GSLs that are not integrated LED lamps, CFLs, or GSILs, the effective date of the new test procedure upon adoption would be 30 days after a final rule would be published in the **Federal Register**. Pursuant to EPCA, manufacturers of covered products would be required to use the applicable test procedure as the basis for determining that their products comply with the applicable energy conservation standards and for making representations about the efficiency of those products. (42 U.S.C. 6293(c); 42 U.S.C. 6295(s)) For those energy efficiency or consumption metrics covered by the DOE test procedure (i.e., the test method and sampling plan), manufacturers must make representations, including certification of compliance with an applicable standard, in accordance with the DOE

test procedure no later than 180 days after publication of a final rule in the **Federal Register** (referred to as the “compliance date”).

DOE proposes that after the effective date and prior to the compliance date of a GSL test procedure final rule, manufacturers may voluntarily begin to make representations with respect to the energy use or efficiency of GSLs that are not integrated LED lamps, CFLs, and GSILs using the results of testing pursuant to that final rule. On or after 180 days after publication of a final rule, any representations, including certifications of compliance (if required), made with respect to the energy use or efficiency of GSLs that are not integrated LED lamps, CFLs, and GSILs would be required to be made in accordance with the results of testing pursuant to the new test procedures.

#### IV. Procedural Issues and Regulatory Review

##### A. Review Under Executive Order 12866

The Office of Management and Budget (OMB) has determined that test procedure rulemakings do not constitute “significant regulatory actions” under section 3(f) of Executive Order 12866, “Regulatory Planning and Review.” 58 FR 51735 (Oct. 4, 1993). Accordingly, this action was not subject to review under the Executive Order by the Office of Information and Regulatory Affairs (OIRA) in the OMB.

##### B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis (IRFA) for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, “Proper Consideration of Small Entities in Agency Rulemaking,” 67 FR 53461 (Aug. 16, 2002), DOE published procedures and policies on February 19, 2003, to ensure that the potential impacts of its rules on small entities are properly considered during the DOE rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel’s Web site: <http://energy.gov/gc/office-general-counsel>.

DOE reviewed the test procedures for GSLs proposed in this NOPR under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. DOE certifies that the proposed rule, if

adopted, would not have a significant economic impact on a substantial number of small entities. The factual basis for this certification is set forth in the following paragraphs.

##### 1. Estimated Small Business Burden

The Small Business Administration (SBA) considers a business entity to be a small business, if, together with its affiliates, it employs less than a threshold number of workers specified in 13 CFR part 121. These size standards and codes are established by the North American Industry Classification System (NAICS). Manufacturing of GSLs is classified under NAICS 335110, “Electric Lamp Bulb and Part Manufacturing.” The SBA sets a threshold of 1,000 employees or less for an entity to be considered as a small business for this category.

To estimate the number of companies that could be small businesses that sell GSLs, DOE conducted a market survey using publicly available information. DOE’s research involved information provided by trade associations (*e.g.*, the National Electrical Manufacturers’ Association) and information from DOE’s Compliance Certification Management System (CCMS) Database, the Environmental Protection Agency’s ENERGY STAR Certified Light Bulbs Database, LED Lighting Facts Database, previous rulemakings, individual company Web sites, SBA’s database, and market research tools (*e.g.*, Hoover’s reports). DOE screened out companies that do not meet the definition of a “small business” or are completely foreign owned and operated. DOE identified approximately 118 small businesses that sell GSLs in the United States.

In this NOPR, DOE proposes test procedures for determining initial lumen output, input power, lamp efficacy, power factor, and standby power of GSLs. Several of the lamp types included in the definition of general service lamp must already comply with energy conservation standards and therefore test procedures already exist for these lamps. If DOE test procedures already exist or have been proposed in an ongoing rulemaking (such as for general service incandescent lamps, compact fluorescent lamps, and integrated LED lamps), DOE proposes to reference them directly. For all other general service lamps, DOE proposes new test procedures in this rulemaking. For the new test procedures, DOE proposes to reference the most recent versions of relevant industry standards.

In this section, DOE estimates the testing costs and burden associated with

conducting testing according to the new test procedures proposed in this NOPR for general service lamps. DOE did not consider the costs and burdens associated with DOE test procedures that already exist or that have been proposed in other ongoing rulemakings because these have been or are being addressed separately. In this section, DOE assesses elements (testing methodology, testing times, and sample size) in the newly proposed test procedures that could affect costs associated with complying with this rule. The following is an analysis of both in-house and third party testing costs associated with this proposed rulemaking.

DOE estimates that the labor costs associated with conducting in-house testing of initial lumen output, input power, and standby mode power is \$41.68 per hour. DOE determined that calculating efficacy and power factor of a GSL would not result in any incremental testing burden beyond the cost of conducting the initial lumen output and input power testing. The cost of labor was then calculated by multiplying the estimated hours of labor by the hourly labor rate. For lamps not capable of operating in standby mode, DOE estimated that testing in-house in accordance with Appendix CC would require, at most, four hours per lamp by an electrical engineering technician. For lamps capable of operating in standby mode, DOE estimated that testing time would increase to five hours per lamp due to the additional standby mode power consumption test. DOE believes that these estimates are representative of the time it would take to test the most labor intensive technology, LED lamps. In total, DOE estimates that using the test method prescribed in this NOPR to determine initial light output and input power would result in an estimated labor burden of \$1,670 per basic model of certain GSLs and \$2,080 per basic model of certain GSLs that can operate in standby mode.

Because NVLAP<sup>1</sup> imposes a variety of fees during the accreditation process, including fixed administrative fees, variable assessment fees, and proficiency testing fees, DOE included the costs associated with maintaining a NVLAP-accredited facility or a facility accredited by an organization recognized by NVLAP. In the first year, for manufacturers without NVLAP accreditation who choose to test in-house, DOE estimated manufacturers on

<sup>1</sup> As discussed in section III.D, laboratories can be accredited by any accreditation body that is a signatory member to the ILAC MRA. DOE based its estimate of the costs associated with accreditation on the NVLAP accreditation body.

average would experience a maximum total cost burden of about \$2,210 per basic model tested or \$2,630 per basic model with standby mode power consumption testing.<sup>2</sup>

Additionally, DOE requested pricing from independent testing laboratories for testing GSLs. DOE estimated the cost for testing at an independent laboratory to be up to \$1,070 per basic model. This estimate includes the cost of accreditation as quotes were obtained from accredited laboratories.

DOE notes that its proposed test procedures directly reference existing industry standards that have been approved for widespread use by lamp manufacturers and test laboratories. The quantities that are directly measured, namely initial lumen output and input power, are commonly reported by the manufacturer on product packaging and on product specification sheets. Thus, testing for these quantities is already being conducted. Additionally, these quantities are required to be reported to ENERGY STAR if manufacturers certify the lamps as meeting the program requirements. Standby mode power consumption is also a reported quantity for the ENERGY STAR program, though it may not be a commonly reported value for lamps that are not certified with ENERGY STAR. In reviewing the lamps for which DOE is proposing new test procedures in this rulemaking, DOE notes that very few products can operate in standby mode and therefore very few products would be required to make representations of standby mode energy consumption according to the test procedures proposed in this rulemaking. Although DOE has proposed to require that all testing be conducted in accredited laboratories, DOE believes that many manufacturers of these products have already accredited their own in-house laboratories because they also make products such as general service incandescent lamps and medium base compact fluorescent lamps that are required to be tested in similarly accredited laboratories.

The final cost per manufacturer primarily depends on the number of basic models the manufacturer sells. These are not annual costs because DOE does not require manufacturers to retest a basic model annually. The initial test results used to generate a certified rating for a basic model remain valid as long as the basic model has not been modified from the tested design in a way that makes it less efficient or more consumptive, which would require a

change to the certified rating. If a manufacturer has modified a basic model in a way that makes it more efficient or less consumptive, new testing is required only if the manufacturer wishes to make representations of the new, more efficient rating.

For the reasons described in this section, DOE tentatively concludes and certifies that the new proposed test procedures would not have a “significant economic impact on a substantial number of small entities,” and the preparation of an IRFA is not warranted. DOE will transmit the certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the SBA for review under 5 U.S.C. 605(b).

#### *C. Review Under the Paperwork Reduction Act of 1995*

DOE established regulations for the certification and recordkeeping requirements for certain covered consumer products and commercial equipment. 10 CFR part 429, subpart B. This collection-of-information requirement was approved by OMB under OMB control number 1910–1400.

DOE requested OMB approval of an extension of this information collection for three years, specifically including the collection of information proposed in the present rulemaking, and estimated that the annual number of burden hours under this extension is 30 hours per company. In response to DOE’s request, OMB approved DOE’s information collection requirements covered under OMB control number 1910–1400 through November 30, 2017. 80 FR 5099 (January 30, 2015).

Notwithstanding any other provision of the law, no person is required to respond to, nor must any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB control number.

#### *D. Review Under the National Environmental Policy Act of 1969*

In this proposed rule, DOE proposes test procedures for certain categories of GSLs that will be used to support the ongoing GSL standards rulemaking. DOE has determined that this rule falls into a class of actions that are categorically excluded from review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) and DOE’s implementing regulations at 10 CFR part 1021. Specifically, this proposed rule adopts existing industry test procedures for certain categories of general service

lamps, so it will not affect the amount, quality or distribution of energy usage, and, therefore, will not result in any environmental impacts. Thus, this rulemaking is covered by Categorical Exclusion A5 under 10 CFR part 1021, subpart D. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

#### *E. Review Under Executive Order 13132*

Executive Order 13132, “Federalism,” 64 FR 43255 (Aug. 4, 1999), imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have Federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE has examined this proposed rule and has determined that it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the products that are the subject of this proposed rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297(d)) No further action is required by Executive Order 13132.

#### *F. Review Under Executive Order 12988*

Regarding the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, “Civil Justice Reform,” 61 FR 4729 (Feb. 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; (3) provide a clear legal standard for affected conduct rather than a general standard; and (4) promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically

<sup>2</sup>NVLAP costs are fixed and were distributed based on an estimate of 28 basic models per manufacturer.

requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) Clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in sections 3(a) and 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, the proposed rule meets the relevant standards of Executive Order 12988.

#### *G. Review Under the Unfunded Mandates Reform Act of 1995*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. Public Law 104–4, sec. 201 (codified at 2 U.S.C. 1531). For a proposed regulatory action likely to result in a rule that may cause the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector of \$100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a), (b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed “significant intergovernmental mandate,” and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect small governments. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820; also available at <http://energy.gov/gc/office-general-counsel>. DOE examined this proposed rule according to UMRA and its statement of policy, and DOE determined that the rule contains neither an intergovernmental mandate nor a mandate that may result in the

expenditure of \$100 million or more in any year, so these requirements do not apply.

#### *H. Review Under the Treasury and General Government Appropriations Act, 1999*

Section 654 of the Treasury and General Government Appropriations Act, 1999, (Pub. L. 105–277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. This rule would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

#### *I. Review Under Executive Order 12630*

DOE has determined, under Executive Order 12630, “Governmental Actions and Interference with Constitutionally Protected Property Rights,” 53 FR 8859 (March 18, 1988) that this regulation would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

#### *J. Review Under the Treasury and General Government Appropriations Act, 2001*

Section 515 of the Treasury and General Government Appropriations Act, 2001, (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB’s guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE’s guidelines were published at 67 FR 62446 (Oct. 7, 2002). DOE has reviewed this proposed rule under the OMB and DOE guidelines, and has concluded that it is consistent with applicable policies in those guidelines.

#### *K. Review Under Executive Order 13211*

Executive Order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,” 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OMB a Statement of Energy Effects for any proposed significant energy action. A “significant energy action” is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the

Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

This regulatory action to propose test procedures for certain categories of GSLs is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as a significant energy action by the Administrator of OIRA. Therefore, it is not a significant energy action, and, accordingly, DOE has not prepared a Statement of Energy Effects.

#### *L. Review Under Section 32 of the Federal Energy Administration Act of 1974*

Under section 301 of the Department of Energy Organization Act (Pub. L. 95–91; 42 U.S.C. 7101), DOE must comply with section 32 of the Federal Energy Administration Act of 1974, as amended by the Federal Energy Administration Authorization Act of 1977. (15 U.S.C. 788; FEAA) Section 32 essentially provides in relevant part that, where a proposed rule authorizes or requires use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the FTC concerning the impact of the commercial or industry standards on competition.

The proposed test procedures incorporate testing methods contained in the following commercial standards:

- (1) CIE S025, “International Standard: Test Method for LED Lamps, LED Luminaires and LED Modules,” 2015;
- (2) IES LM–45–15, “IES Approved Method for the Electrical and Photometric Measurement of General Service Incandescent Filament Lamps,” 2015;
- (3) IES LM–20–13, “IES Approved Method for Photometry of Reflector Type Lamps,” 2013;
- (4) IES LM–79–08, “Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products,” 2008;
- (5) IES LM–9–09, “IES Approved Method for the Electrical and Photometric Measurement of Fluorescent Lamps,” 2009; and

(6) IEC Standard 62301 (Edition 2.0), "Household electrical appliances—Measurement of standby power," 2011.

DOE has evaluated these standards and is unable to conclude whether they fully comply with the requirements of section 32(b) of the FEAA (*i.e.*, that they were developed in a manner that fully provides for public participation, comment, and review). DOE will consult with the Attorney General and the Chairman of the FTC concerning the impact of these test procedures on competition, prior to prescribing a final rule.

#### *M. Description of Materials Proposed To Be Incorporated by Reference*

In this NOPR, DOE proposes to incorporate by reference the test standard published by CIE, titled "International Standard: Test Method for LED Lamps, LED Luminaires and LED Modules," CIE S025. CIE S025 is an internationally accepted test standard that specifies test procedures for measuring electrical and photometric characteristics of LED lamps, LED luminaires, and LED modules. The test procedures proposed in this NOPR reference sections of CIE S025 for performing electrical and photometric measurements of non-integrated LED lamps. CIE S025 is readily available on CIE's Web site at [www.techstreet.com/cie](http://www.techstreet.com/cie).

DOE also proposes to incorporate by reference the test standard published by IES, titled "IES Approved Method for the Electrical and Photometric Measurement of General Service Incandescent Filament Lamps," IES LM-45-15. IES LM-45-15 is an industry accepted test standard that specifies procedures to be observed in performing measurements of electrical and photometric characteristics of general service incandescent filament lamps under standard conditions. The test procedures proposed in this NOPR reference sections of IES LM-45-15 for performing electrical and photometric measurements of general service incandescent filament lamps. IES LM-45-15 is readily available on IES's Web site at [www.ies.org/store/](http://www.ies.org/store/).

DOE also proposes to incorporate by reference the test standard published by IES, titled "IES Approved Method for Photometry of Reflector Type Lamps," IES LM-20-13. IES LM-20-13 is an industry accepted test standard that specifies photometric test methods for reflector lamps. The test procedures proposed in this NOPR reference sections of IES LM-20-13 for performing electrical and photometric measurements of reflector lamps. IES

LM-20-13 is readily available on IES's Web site at [www.ies.org/store](http://www.ies.org/store).

### **V. Public Participation**

#### *A. Submission of Comments*

DOE will accept comments, data, and information regarding this proposed rule no later than the date provided in the **DATES** section at the beginning of this NOPR. Interested parties may submit comments, data, and other information using any of the methods described in the **ADDRESSES** section at the beginning of this NOPR.

*Submitting comments via regulations.gov.* The regulations.gov Web page will require you to provide your name and contact information. Your contact information will be viewable to DOE Building Technologies staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). If your comment is not processed properly because of technical difficulties, DOE will use this information to contact you. If DOE cannot read your comment due to technical difficulties and cannot contact you for clarification, DOE may not be able to consider your comment.

However, your contact information will be publicly viewable if you include it in the comment or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit to regulations.gov information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through regulations.gov cannot be claimed as CBI. Comments received through the Web site will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through regulations.gov before posting. Normally, comments will be posted within a few days of being submitted. However, if large volumes of comments are being processed simultaneously, your comment may not be viewable for up to several weeks. Please keep the comment tracking number that

regulations.gov provides after you have successfully uploaded your comment.

*Submitting comments via email, hand delivery, or mail.* Comments and documents submitted via email, hand delivery, or mail also will be posted to regulations.gov. If you do not want your personal contact information to be publicly viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information on a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via mail or hand delivery, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No facsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English and free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

*Campaign form letters.* Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters' names compiled into one or more PDFs. This reduces comment processing and posting time.

*Confidential Business Information.* According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery two well-marked copies: One copy of the document marked confidential including all the information believed to be confidential, and one copy of the document marked non-confidential with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) A description of the items; (2) whether and why such items are customarily

treated as confidential within the industry; (3) whether the information is generally known by or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) when such information might lose its confidential character due to the passage of time; and (7) why disclosure of the information would be contrary to the public interest.

It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

#### B. Issues on Which DOE Seeks Comment

Although comments are welcome on all aspects of this proposed rulemaking, DOE is particularly interested in comments on the following issues.

(1) DOE requests comment on the appropriateness of the industry standards referenced in its proposed test methods for certain categories of general service lamps for which DOE test procedures do not currently exist.

(2) DOE requests comment in its proposed test method for standby mode power consumption.

(3) DOE requests comment on requiring that testing for general service lamps be conducted in laboratories accredited by NVLAP or an accrediting organization recognized by the International Laboratory Accreditation Cooperation (ILAC).

(4) DOE requests comment on its tentative conclusion that the proposed test procedures will not have a significant economic impact on a substantial number of small entities.

#### VI. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this proposed rule.

#### List of Subjects

##### 10 CFR Part 429

Confidential business information, Energy conservation, Household appliances, Imports, Reporting and recordkeeping requirements.

##### 10 CFR Part 430

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Incorporation by reference,

Intergovernmental relations, Small businesses.

Issued in Washington, DC, on February 26 2016.

**Kathleen B. Hogan,**

*Deputy Assistant Secretary for Energy Efficiency Energy Efficiency and Renewable Energy.*

For the reasons stated in the preamble, DOE proposes to amend parts 429 and 430 of chapter II of title 10, of the Code of Federal Regulations, as set forth below:

#### PART 429—CERTIFICATION, COMPLIANCE, AND ENFORCEMENT FOR CONSUMER PRODUCTS AND COMMERCIAL AND INDUSTRIAL EQUIPMENT

■ 1. The authority citation for part 429 continues to read as follows:

**Authority:** 42 U.S.C. 6291–6317.

■ 2. Section 429.57 is added to read as follows:

##### § 429.57 General service lamps.

(a) *Determination of represented value.* Manufacturers must determine represented values, which includes certified ratings, for each basic model of general service lamp in accordance with following sampling provisions.

(1) The requirements of § 429.11 are applicable to general service lamps, and

(2) For general service incandescent lamps, use § 429.27(a);

(3) For compact fluorescent lamps, use § 429.35(a);

(4) For integrated LED lamps, use § 429.56(a) (proposed in the LED Test Procedure SNOPI, 80 FR 39644, 39664–65 (July 9, 2015));

(5) For other incandescent lamps, use § 429.27(a);

(6) For other fluorescent lamps, use § 429.35(a); and

(7) For OLED lamps and non-integrated LED lamps, use § 429.56(a) (proposed in the LED Test Procedure SNOPI at 80 FR 39664–39665).

(b) *Certification reports.*

(1) The requirements of § 429.12 are applicable to general service lamps;

(2) Values reported in certification reports are represented values;

(3) For general service incandescent lamps, use § 429.27(b);

(4) For compact fluorescent lamps, use § 429.35(b);

(5) For integrated LED lamps, use § 429.56(b) (proposed in the LED Test Procedure SNOPI at 80 FR 39664–39665); and

(6) For other incandescent lamps, for other fluorescent lamps, for OLED lamps and non-integrated LED lamps, pursuant to § 429.12(b)(13), a

certification report must include the following public product-specific information: The testing laboratory's NVLAP identification number or other NVLAP-approved accreditation identification, initial lumen output, input power, and lamp efficacy.

(c) *Rounding requirements.*

(1) Round input power to the nearest tenth of a watt.

(2) Round initial lumen output to three significant digits.

(3) Round lamp efficacy to the nearest tenth of a lumen per watt.

(4) Round power factor to the nearest hundredths place.

(5) Round standby mode power to the nearest tenth of a watt.

#### PART 430—ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS

■ 3. The authority citation for part 430 continues to read as follows:

**Authority:** 42 U.S.C.6291–6309; 28 U.S.C. 2461 note.

■ 4. Section 430.3 is amended by:

■ a. Adding paragraph (l)(3);

■ b. Redesignating paragraphs (o)(5), (o)(6), (o)(7), (o)(8), and (o)(9) as (o)(6), (o)(8), (o)(9), (o)(10), and (o)(11) respectively;

■ c. Adding new paragraphs (o)(5) and (o)(7);

■ d. Removing the words “appendices R, V, and V1” in paragraph (o)(2) and adding in its place the words, “appendices R, V, V1, and CC”;

■ e. Removing the words “appendix V1” in newly redesignated paragraph (o)(11) and adding in its place the words “appendices V1 and CC”; and

■ f. Removing the words “X1 and Z” in paragraph (p)(4) and adding in its place the words, “X1, Z, and CC”.

The additions read as follows:

##### § 430.3 Materials incorporated by reference.

\* \* \* \* \*

(1) \* \* \*

(3) CIE S 025/E:2015 (“CIE S025”), International Standard: Test Method for LED Lamps, LED Luminaires and LED Modules, 2015; IER approved for appendix CC to subpart B.

\* \* \* \* \*

(o) \* \* \*

(5) IES LM–20–13, IES Approved Method: Photometry of Reflector Type Lamps, approved February 4, 2013; IER approved for appendix CC to subpart B.

\* \* \* \* \*

(7) IES LM–45–15, (“IES LM–45–15”), IES Approved Method: Electrical and Photometric Measurement of General Service Incandescent Filament Lamps,

approved August 8, 2015; IBR approved for appendix CC to subpart B.

\* \* \* \* \*

■ 5. Section 430.23 as proposed to be amended on July 9, 2015 80 FR 39644, is further amended by adding paragraph (ee) to read as follows:

**§ 430.23 Test procedures for the measurement of energy and water consumption.**

\* \* \* \* \*

(ee) *General Service Lamps.*

(1) For general service incandescent lamps, measure lamp efficacy in accordance with paragraph (r) of this section.

(2) For compact fluorescent lamps, measure lamp efficacy, lumen maintenance at 1,000 hours, lumen maintenance at 40 percent of lifetime, rapid cycle stress, time to failure, power factor, CRI, start time, and standby mode power in accordance with paragraph (y) of this section.

(3) For integrated LED lamps, measure lamp efficacy, power factor, and standby mode power in accordance with paragraph (dd) (proposed in the LED Test Procedure SNOPR, 80 FR at 39665) of this section.

(4) For other incandescent lamps, measure initial light output, input power, lamp efficacy, power factor, and standby mode power in accordance with appendix CC of this subpart.

(5) For other fluorescent lamps, measure initial light output, input power, lamp efficacy, power factor, and standby mode power in accordance with appendix CC of this subpart.

(6) For OLED and non-integrated LED lamps, measure initial light output, input power, lamp efficacy, power factor, and standby mode power in

accordance with appendix CC of this subpart.

■ 6. Section 430.25 is revised to read as follows:

**§ 430.25 Laboratory Accreditation Program.**

The testing for general service fluorescent lamps, general service lamps (with the exception of applicable lifetime testing), incandescent reflector lamps, and fluorescent lamp ballasts must be conducted by test laboratories accredited by an Accreditation Body that is a signatory member to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA). A manufacturer's or importer's own laboratory, if accredited, may conduct the applicable testing.

■ 7. Appendix CC to subpart B of part 430 [(Appendix BB was proposed at 80 FR 39644, 39666, July 9, 2015)] is added to read as follows:

**Appendix CC to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption and Energy Efficiency of General Service Lamps That Are Not General Service Incandescent Lamps, Compact Fluorescent Lamps, or Integrated LED Lamps.**

**Note:** On or after [DATE 180 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], any representations, including certifications of compliance (if required), made with respect to the energy use or efficiency of general service lamps that are not general service incandescent lamps, compact fluorescent lamps, or integrated LED lamps must be made in accordance with the results of testing pursuant to this appendix.

1. *Scope:* This appendix specifies the test methods required to measure the initial lumen output, input power, lamp efficacy, power factor, and standby mode energy consumption of general service lamps that are not general service incandescent lamps, compact fluorescent lamps, or integrated LED lamps.

2. Definitions

*Measured initial input power* means the input power to the lamp, measured after the lamp is stabilized and seasoned (if applicable), and expressed in watts (W).

*Measured initial lumen output* means the lumen output of the lamp measured after the lamp is stabilized and seasoned (if applicable), and expressed in lumens (lm).

*Power factor* means the measured initial input power (watts) divided by the product of the input voltage (volts) and the input current (amps) measured at the same time as the initial input power.

3. Active Mode Test Procedures

3.1. Take measurements at full light output.

3.2. Do not use a goniophotometer.

3.3. Operate the lamp at the rated voltage throughout testing. For lamps with multiple rated voltages including 120 volts, operate the lamp at 120 volts. If a lamp is not rated for 120 volts, operate the lamp at the highest rated input voltage.

3.4. Operate the lamp at the maximum input power. If multiple modes occur at the same maximum input power (such as variable CCT or CRI), the manufacturer may select any of these modes for testing; however, all measurements must be taken at the same selected mode. The manufacturer must indicate in the test report which mode was selected for testing and include detail such that another laboratory could operate the lamp in the same mode.

3.5. To measure initial lumen output, input power, input voltage, and input current use the test procedures in the table in this section.

TABLE 3.1—REFERENCES TO INDUSTRY STANDARD TEST PROCEDURES

Lamp type	Referenced test procedure
Other incandescent lamps that are not reflector lamps .....	IES LM-45-15, sections 4-7 *
Other incandescent lamps that are reflector lamps .....	IES LM-20-13, sections 4-8 *
Other fluorescent lamps .....	IES LM-9-09, sections 4-6 *
OLED lamps .....	IES LM-79-08, sections 2-9.2 *
Non-integrated LED lamps .....	CIE S025, sections 4-6 *

\*(incorporated by reference, see § 430.3)

3.6. Determine initial lamp efficacy by dividing the measured initial lumen output (lumens) by the measured initial input power (watts).

3.7. Determine power factor by dividing the measured initial input power (watts) by the product of the measured input voltage (volts) and measured input current (amps).

4. Standby Mode Test Procedure

4.1. Measure standby mode power only for lamps that are capable of standby mode operation.

4.2. Connect the lamp to the manufacturer-specified wireless control network (if applicable) and configure the lamp in standby mode by sending a signal to the lamp instructing it to have zero light output. Lamp must remain connected to the network throughout testing.

4.3. Operate the lamp at the rated voltage throughout testing. For lamps with multiple rated voltages including 120 volts, operate the lamp at 120 volts. If a lamp is not rated for 120 volts, operate the lamp at the highest rated input voltage.

4.4. Stabilize the lamp prior to measurement as specified in section 5.0 of IEC 62301 (incorporated by reference; see § 430.3).

4.5. Measure the standby mode power in watts as specified in section 5 of IEC 62301 (incorporated by reference; see § 430.3). [FR Doc. 2016-04551 Filed 3-16-16; 8:45 am]

BILLING CODE 6450-01-P