[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Parts 429 and 430

[EERE-2017-BT-TP-0011]

Energy Conservation Program: Test Procedures for General Service Fluorescent Lamps, General Service Incandescent Lamps, Incandescent Reflector Lamps

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Request for information ("RFI").

SUMMARY: The U.S. Department of Energy ("DOE") is initiating a data collection process through this RFI to consider whether to amend DOE's test procedures for general service fluorescent lamps, general service incandescent lamps, and incandescent reflector lamps. To inform interested parties and to facilitate this process, DOE has gathered data, identifying several issues associated with the currently applicable test procedures on which DOE is interested in receiving comment. The issues outlined in this document mainly concern updating industry references in and making clarifications to DOE's test procedures for general service fluorescent lamps, general service incandescent lamps, and incandescent reflector lamps; and any additional topics that may inform DOE's decisions in a future test procedure rulemaking, including methods to reduce regulatory burden while ensuring the procedures' accuracy. DOE welcomes

written comments from the public on any subject within the scope of this document (including topics not raised in this RFI).

DATES: Written comments and information are requested and will be accepted on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at *http://www.regulations.gov*. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE-2017-BT-TP-0011, by any of the following methods:

1. *Federal eRulemaking Portal*: *http://www.regulations.gov*. Follow the instructions for submitting comments.
2. *E-mail*: to *Lamps2017TP0011@ee.doe.gov*. Include EERE-2017-BT-TP-0011 in the subject line of the message.
3. *Postal Mail*: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc ("CD"), in which case it is not necessary to include printed copies.
4. *Hand Delivery/Courier*: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L'Enfant Plaza, SW,

Suite 600, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section III of this document.

*Docket***:** The docket, which includes *Federal Register* notices, public meeting attendee lists and transcripts, comments, and other supporting documents/materials, is available for review at *http://www.regulations.gov*. All documents in the docket are listed in the *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.

The docket web page can be found at *https://www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=22*. The docket web page contains simple instructions on how to access all documents, including public comments, in the docket. See section III for information on how to submit comments through *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-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1604. E-mail: ApplianceStandardsQuestions@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. E-mail: Celia.Sher@hq.doe.gov.

For further information on how to submit a comment or review other public comments and the docket, contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail: ApplianceStandardsQuestions@ee.doe.gov.

SUPPLEMENTARY INFORMATION:

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I. Introduction

General service fluorescent lamps ("GSFLs"), general service incandescent lamps ("GSILs"), and incandescent reflector lamps ("IRLs") are included in the list of "covered products" for which DOE is authorized to establish and amend energy conservation standards and test procedures. (42 U.S.C. 6292(a)(14)) DOE's test procedures for GSFLs, GSILs, and IRLs are prescribed at Appendix R to Subpart B of Part 430 of Title 10 of the Code of Federal Regulations ("CFR"). The following sections discuss DOE's authority to establish and amend test procedures for GSFLs, GSILs, and IRLs, as well as relevant background information regarding DOE's consideration of test procedures for these products.

A. Authority and Background

The Energy Policy and Conservation Act of 1975 ("EPCA" or "the Act"),[1] Public Law 94-163 (42 U.S.C. 6291–6317, as codified), among other things, authorizes DOE to regulate the energy efficiency of a number of consumer products and industrial equipment. Title III, Part B[2] of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which sets forth a variety of provisions designed to improve energy efficiency. These products include GSFLs, GSILs, and IRLs – the products that are the focus of this RFI. (42 U.S.C. 6292(a)(14))

Under EPCA, DOE's energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and

[1] All references to EPCA in this document refer to the statute as amended through the Energy Efficiency Improvement Act of 2015 (EEIA 2015), Public Law 114–11 (April 30, 2015).
[2] For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.

enforcement procedures. Relevant provisions of the Act specifically include definitions (42 U.S.C. 6291), energy conservation standards (42 U.S.C. 6295), test procedures (42 U.S.C. 6293), labeling provisions (42 U.S.C. 6294), and the authority to require information and reports from manufacturers (42 U.S.C. 6296).

Federal energy efficiency requirements for covered products established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (See 42 U.S.C. 6297) DOE may, however, grant waivers of Federal preemption for particular State laws or regulations, in accordance with the procedures and other provisions of EPCA. (42 U.S.C. 6297(d)))

The Federal 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 pursuant to EPCA (42 U.S.C. 6295(s)), and (2) making representations about the efficiency of those consumer products (42 U.S.C. 6293(c)). Similarly, DOE must use these test procedures to determine whether the products comply with relevant standards promulgated under EPCA. (42 U.S.C. 6295(s))

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. EPCA requires that any test procedures prescribed or amended under this section be reasonably designed to produce test results which 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 not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3))

In addition, if DOE determines that a test procedure amendment is warranted, it must publish a proposed test procedure and offer the public an opportunity to present oral and written comments. (42 U.S.C. 6293(b)(2)) EPCA also requires that, at least once every 7 years, DOE review test procedures for each type of covered equipment, including GSFLs, GSILs, and IRLs, to determine whether amended test procedures would more accurately or fully comply with the requirements for the test procedures to not be unduly burdensome to conduct and be reasonably designed to produce test results that reflect energy efficiency, energy use, and estimated operating costs during a representative average use cycle. (42 U.S.C. 6293(b)(1)(A)) If amended test procedures are appropriate, DOE must publish a final rule to incorporate the amendments. If DOE determines that test procedure revisions are not appropriate, DOE must publish its determination not to amend the test procedures. DOE is publishing this RFI to collect data and information to inform a potential test procedure rulemaking to satisfy the 7-year review requirement specified in EPCA, which requires that DOE publish, by January 27, 2019, either a final rule amending the test procedures or a determination that amended test procedures are not required. (42 U.S.C. 6293(b)(1)(A))

B. Rulemaking History

EPCA directs DOE to take into consideration applicable Illuminating Engineering Society of North America (IESNA) and American National Standards Institute (ANSI) standards when prescribing test procedures for GSFLs and IRLs. (42 U.S.C. 6293(b)(6)) On September

28, 1994, DOE issued an interim final rule to add a new section in the CFR to establish test procedures for certain fluorescent and incandescent lamps. 59 FR 49468 ("September 1994 interim final rule"). The test procedures incorporated by reference a number of IESNA and ANSI standards. Id.

On May 29, 1997, DOE published a final rule adopting, with amendments, the test procedures established in the September 1994 interim final rule. 62 FR 29222 ("May 1997 final rule"). The May 1997 final rule affirmed DOE's determination that the referenced test procedures effectively measure lamp efficacy and color rendering index, and they are not unduly burdensome to conduct; and incorporated updates to the referenced IESNA and ANSI standards. Id.

On July 6, 2009, DOE published a final rule amending the test procedures for GSFLs, IRLs, and GSILs. 74 FR 31829 ("July 2009 final rule"). These amendments consisted largely of: (1) referencing the most current versions of several lighting industry standards incorporated by reference; (2) adopting certain technical changes and clarifications; and (3) expanding the test procedures to accommodate new classes of lamps to which coverage was extended by the Energy Independence and Security Act of 2007 (Public Law 110-140). Id. The July 2009 final rule also addressed the then recently established statutory requirement to expand test procedures to incorporate a measure of standby mode and off mode energy consumption and determined that an expansion of the test procedures was not necessary. Id. Shortly thereafter, DOE again amended the test procedures to adopt reference ballast settings necessary for the additional GSFLs for which DOE was establishing standards. 74 FR 34080, 34096 (July 14, 2009).

DOE most recently amended the test procedures for GSFLs and GSILs in a final rule published on January 27, 2012. 77 FR 4203 ("January 2012 final rule"). DOE updated several references to the industry standards referenced in DOE's test procedures and established a lamp lifetime test procedure for GSILs. Id. DOE did not amend in the January 2012 final rule the existing test procedure for IRLs established under EPCA. Id.

The current test procedures for GSFLs, GSILs, and IRLs are in Appendix R to Subpart B of Part 430 of Title 10 of the CFR.

II. Request for Information

In the following sections, DOE has identified a variety of issues on which it seeks input to aid in the development of the technical and economic analyses regarding whether amended test procedures for GSFLs, GSILs, and IRLs may be warranted. Specifically, DOE is requesting comment on any opportunities to streamline and simplify testing requirements for GSFLs, GSILs, and IRLs.

Additionally, DOE welcomes comments on other issues relevant to the conduct of this process that may not specifically be identified in this document. In particular, DOE notes that under Executive Order 13771, "Reducing Regulation and Controlling Regulatory Costs," Executive Branch agencies such as DOE are directed to manage the costs associated with the imposition of expenditures required to comply with Federal regulations. See 82 FR 9339 (Feb. 3, 2017). Pursuant to that Executive Order, DOE encourages the public to provide input on

measures DOE could take to lower the cost of its regulations applicable to GSFLs, GSILs, and IRLs consistent with the requirements of EPCA.

A. Scope & Definitions

This RFI covers GSFLs, GSILs, and IRLs, which are established as covered consumer products under EPCA. (42 U.S.C. 6292(a)(14)) A GSFL is defined as any fluorescent lamp which can be used to satisfy the majority of fluorescent lighting applications. 10 CFR 430.2. The GSFL definition does not include any lamp designed and marketed for any of the following nongeneral applications: fluorescent lamps designed to promote plant growth; fluorescent lamps specifically designed for cold temperature applications; colored fluorescent lamps; impact-resistant fluorescent lamps; reflectorized or aperture lamps; fluorescent lamps designed for use in reprographic equipment; lamps primarily designed to produce radiation in the ultra-violet region of the spectrum; and lamps with a Color Rendering Index of 87 or greater. Id.

The currently effective definition of a GSIL is a standard incandescent or halogen type lamp that is intended for general service applications; has a medium screw base; has a lumen range of not less than 310 lumens and not more than 2,600 lumens or, in the case of a modified spectrum lamp, not less than 232 lumens and not more than 1,950 lumens; and is capable of being operated at a voltage range at least partially within 110 and 130 volts. 10 CFR 430.2. However, the GSIL definition does not include the following incandescent lamps: appliance lamps; black light lamps; bug lamps; colored lamps; infrared lamps; left-hand thread lamps; marine lamps; marine signal service lamps; mine service lamps; plant light lamps; reflector lamps; rough service lamps; shatter-resistant lamps (including a shatter-proof lamps and a

shatter-protected lamps); sign service lamps; silver bowl lamps; showcase lamps; 3-way incandescent lamps; traffic signal 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 uses not more than 40 watts or has 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. Id.

An IRL (commonly referred to as a reflector lamp) is defined as any lamp in which light is produced by a filament heated to incandescence by an electric current, which: contains an inner reflective coating on the outer bulb to direct the light; is not colored; is not designed for rough or vibration service applications; is not an R20 short lamp; has an R, PAR, ER, BR, BPAR, or similar bulb shapes with an E26 medium screw base; has a rated voltage or voltage range that lies at least partially in the range of 115 and 130 volts; has a diameter that exceeds 2.25 inches; and has a rated wattage that is 40 watts or higher. 10 CFR 430.2.

B. Test Procedure

1. Updates to Industry Standards

As noted, EPCA directs DOE to prescribe test procedures for GSFLs and IRLs, taking into consideration the applicable standards of IESNA or ANSI. (42 U.S.C. 6293(b)(6)) Consideration of IESNA and ANSI standards aligns DOE test procedures with latest industry practices for testing electric lamps and therefore DOE considers these industry standards when prescribing test procedures for GSILs as well as for GSFLs and IRLs. Appendix R references several ANSI and IES standards in its test conditions, methods, and measurements for GSFLs,

GSILs, and IRLs. DOE has determined that several of the referenced industry standards have been updated since DOE last amended its test procedure. Specifically, appendix R references industry standards shown in Table II.1.

Table II.1 Industry Standards Referenced in Appendix R to 10 CFR 430 subpart B

Industry Standard Referenced in Appendix R	Updated Version if Available
ANSI C78.375 version 1997[3] (section 4.1.1 of appendix R)	ANSI C78.375A[4] version 2014
ANSI C78.81 version 2010[5] (section 4.1.1 of appendix R)	ANSI C78.81 version 2016[6]
ANSI C78.901 version 2005[7] (section 4.1.1 of appendix R)	ANSI C78.901 version 2014[8]
ANSI C82.3 version 2002[9] (section 4.1.1 of appendix R)	ANSI C82.3 version 2016[10]
IES LM-9 version 2009[11] (sections 2.1, 2.9, 3.1, 4.1.1, 4.4.1 of appendix R)	No updated version available
IESNA LM-58 version 1994[12] (sections 2.1, 4.4.1 of appendix R)	IES LM-58 (retitled) version 2013[13]
IES LM-45 version 2009[14] (sections 2.1, 2.9, 3.2, 4.2.1, 4.2.2 of appendix R)	IES LM-45 version 2015[15]
IESNA LM-49 version 2001[16] (section 4.2.3 of appendix R)	IES LM-49 (retitled) version 2012[17]
IESNA LM-20 version 1994[18] (sections 2.1, 2.9, 3.3, 4.3 of appendix R)	IES LM-20 (retitled) version 2013[19]
CIE 13.3 version 1995[20] (section 2.1, 4.4.1 of appendix R)	No updated version available
CIE 15 version 2004[21] (section 4.4.1 of appendix R)	No updated version available

[3] American National Standard For Fluorescent Lamps—Guide for Electrical Measurements (approved September, 25, 1997).
[4] American National Standard For Fluorescent Lamps—Guide for Electrical Measurements (approved August, 28, 2014).
[5] American National Standard For Electric Lamps—Double-Capped Fluorescent Lamps— Dimensional and Electrical Characteristics (approved January, 14, 2010).
[6] American National Standard For Electric Lamps—Double-Capped Fluorescent Lamps— Dimensional and Electrical Characteristics (approved June 29, 2016).
[7] American National Standards for Electric Lamps – Single-Based Fluorescent Lamps – Dimensional and Electrical Characteristics (approved March 23, 2005).
[8] American National Standards for Electric Lamps – Single-Based Fluorescent Lamps – Dimensional and Electrical Characteristics (approved July 2, 2014).
[9] American National Standard For Lamp Ballasts—Reference Ballasts for Fluorescent Lamps (approved January, 1, 2002).
[10] American National Standard For Lamp Ballasts—Reference Ballasts for Fluorescent Lamps (approved April, 8, 2016).
[11] Illuminating Engineering Society of North America—Approved Method: Electrical and Photometric Measurements of Fluorescent Lamps (approved January 31, 2009).

The following sections discuss a variety of issues on which DOE specifically requests comment concerning referencing the updated versions of each of these industry standards. Additionally, DOE also requests comment on the benefits and burdens of adopting any industry/voluntary consensus-based or other appropriate test procedure, without modification.

a. ANSI C78.375, ANSI C78.81, ANSI C78.901, and ANSI C82.3

Section 4.1.1 of Appendix R references industry standards ANSI C78.375, ANSI C78.81, ANSI C78.901, and ANSI C82.3 for taking measurements of GSFLs. ANSI C78.375 provides general instructions for taking measurements of electrical characteristics of fluorescent lamps. Lamp data sheets with physical and electrical characteristics of fluorescent lamps are provided in ANSI C78.81 (double-ended lamps) and ANSI C78.901 (single-ended lamps). Per section 4.1.1 of Appendix R, GSFLs must be operated by a reference ballast during testing. ANSI C82.3 provides general design and operating characteristics for reference ballasts used to test GSFLs.

[12] Illuminating Engineering Society of North America— Guide to Spectroradiometric Measurements (approved December, 3, 1994).
[13] Illuminating Engineering Society— Approved Method: Spectroradiometric Measurements Methods for Lighting Sources (approved September, 3, 2013).
[14] Illuminating Engineering Society— Approved Method for The Electrical and Photometric Measurement of General Service Incandescent Filament Lamps (approved).
[15] Illuminating Engineering Society— Approved Method: Electrical and Photometric Measurement of General Service Incandescent Filament Lamps (approved August, 8, 2015).
[16] Illuminating Engineering Society— Approved Method for Life Testing of Incandescent Filament Lamps (approved December, 1, 2001).
[17] Illuminating Engineering Society— Approved Method: Life Testing of Incandescent Filament Lamps (approved July, 18, 2012).
[18] Illuminating Engineering Society of North America—Approved Method for Photometric Testing of Reflector-Type Lamps (approved December, 3, 1994).
[19] Illuminating Engineering Society of North America—Approved Method: Photometry of Reflector Type Lamps (approved February, 4, 2013).
[20] International Commission on Illumination—Method of Measuring and Specifying Colour Rendering Properties of Light Sources (approved 1995).
[21] International Commission on Illumination—Colorimetry (approved 2004).

DOE's initial review indicates updates mainly provide more detail on how the wattage, voltage and current should be measured in reference circuits in ANSI C78.375A-2014 compared to its 1997 version. ANSI C82.3-2016, compared to its 2002 version, contains updates regarding impedance tolerances, voltage regulation, and instrumentation for taking high frequency measurements. DOE requests comments on referencing the updated versions of ANSI C78.375 and ANSI C82.3.

In the latest versions of ANSI C78.81 and ANSI C78.901, DOE has identified new lamp datasheets and updates to existing lamp datasheets for certain GSFLs. A lamp data sheet provides the physical and electrical characteristics needed to appropriately operate a lamp including starting method and the input voltage, current, and impedance of the reference ballast on which the lamp should be tested. For some lamps, the updated standard now specifies only high frequency reference ballast settings, whereas previously low frequency settings were provided. Because cathode heat is not utilized at high frequency, the lamp efficacy would likely increase during high frequency operation compared to low frequency operation. DOE's test procedures require testing at low frequency unless only high frequency settings are provided. Hence the potential adoption of ANSI C78.81-2016 and ANSI C78.901-2014 would result in certain lamps that were previously tested at low frequency being tested at high frequency, negating the consideration of cathode heat. ANSI C78.81-2016 and/or ANSI C78.901-2014 remove low frequency reference ballast settings and provide only high frequency reference ballast settings for the following lamps: 32 Watt (W), 48-Inch T8 lamp; 32 W U-shaped lamp, 6-Inch Center T8 lamp; 31 W, U-shaped, 1-5/8 inch Center T8 lamp; 59 W, 96-Inch T8, Single Pin Instant Start lamp; and 25 W, 28 W, and 30 W 48-Inch T8 lamps. Additionally, two new lamp

datasheets were added providing only high frequency reference ballast settings for the following lamps: 30 W, U-shaped, 6 inch center T8 lamp and 54 W 96-inch T8, Single Pin Instant Start lamp. DOE requests comments on modifying the test procedure to test at high frequency settings unless only low frequency settings are provided. DOE is seeking information to determine the extent of change in efficacy, if any, if lamps are tested at high frequency instead of low frequency settings. In particular, DOE would welcome test data for all or any relevant lamps showing lumen and wattage measurements for the same lamp at both low and high frequency settings.

Additionally, DOE has determined that for certain lamps other reference ballast characteristics (e.g., input voltage, current, impedance) have been updated in the latest versions of ANSI C78.81 and ANSI C78.901. DOE has determined that that ANSI C78.81-2016 and/or ANSI C78.901-2014 have updated the reference ballast characteristics (e.g., input voltage, current, impedance) for the 59 W 96-inch T8, Single Pin Instant Start lamp and 86 W, 96-inch T8, 0.4 A HF Programmed Start lamp. DOE requests comments on referencing the updated ballast characteristics for these lamps and whether these changes impact measured lamp efficacy.

b. IES LM-58

Section 4.4.1 of appendix R describes test methods for measuring coloring rendering index (CRI) and correlated color temperature (CCT). It states that the required spectroradiometric measurement and characterization shall be conducted in accordance with IES LM-58[22]. DOE's initial review indicates that changes in IES LM-58-2013 compared to its 1994

[22] Note that the 1994 version of this standard was titled IESNA LM-58 but the 2013 version is titled IES LM-58.

version include a definition for colorimetry and the removal of definitions for spectral irradiance, spectral radiance, and spectral radiant intensity; clarification updates regarding the characteristics of spectroradiometers and applicable detectors; and additions of a new method called array spectrometry and a section on correction methods. DOE requests comments on referencing the updated version of IES LM-58, whether DOE should consider permitting use of the new array spectrometry method, and how measured values derived from that method compare with currently authorized test methods.

c. IES LM-45

IES LM-45 provides methods for taking electrical and photometric measurements of GSILs. Sections 3.2, 4.2.1, and 4.2.2 of appendix R specify that, for GSILs, test conditions, methods, and measurements be in accordance with IES LM-45. DOE's initial review indicates that changes in IES LM-45-2015, compared to its 2009 version, include various clarification updates regarding the impact of lamp polarity on light output and changes to certain tolerances (e.g., impedance limits for instruments). DOE requests comments on referencing the updated version of IES LM-45.

d. IES LM-49

IES LM-49[23] provides test methods for measuring the lifetime of incandescent filament lamps. Section 4.2.3 of appendix R specifies that lifetime testing of GSILs must be conducted in accordance with IES LM-49. DOE's initial review indicates that changes in IES LM-49-2012 compared to its 2001 version include clarifications regarding input voltage, voltage regulation,

[23] Note that the 2001 version of this standard was titled IESNA LM-49 but the 2012 version is titled IES LM-49.

lamp handling, wiring, and recording failures; the addition of instrumentation voltage tolerances; and direction regarding the interval at which operation of lamps should be checked. DOE requests comments on referencing the updated version of IES LM-49 and whether these changes would impact measured lamp life.

e. IES LM-20

IES LM-20[24] provides methods for taking photometric measurements of reflector-type lamps. Sections 3.3, 4.3.1, and 4.3.2 of appendix R specify that, for IRLs, test conditions, methods, and measurements be in accordance with IES LM-20. DOE's initial review indicates IES LM-20-2013, compared to its 1994 version, includes the addition of new definitions (e.g., extraneous light, undirected light) and changes to existing definitions (e.g., beam axis, central cone, stray light). IES LM-20-2013 also includes updates regarding characteristics of photometers, lamp stabilization, intensity distribution determination, among other topics; and changes to certain tolerances (e.g., allowable reflectivity in the integrated sphere). DOE requests comments on referencing the updated version of IES LM-20.

2. Updates to Appendix R

a. Rated Voltage of Incandescent Lamps

Appendix R specifies lamps shall be operated at the rated voltage as defined in 10 CFR 430.2 for measurements of GSILs (see section 4.2.1) and IRLs (see section 4.3.1). Previously, DOE had required the test voltage for incandescent lamps to be 120 V. However, DOE received comments that lamps designed to be operated at higher voltages (e.g., 125 V or 130 V) when

[24] Note that the 1994 version of this standard was titled IESNA LM-20 but in the 2013 version titled IES LM-20.

tested at 120 V would be unfairly evaluated. In response to these comments, in a final test procedure rule for fluorescent and incandescent lamps published on May 29, 1997, DOE defined terms for rated voltage and design voltage for incandescent lamps and required testing at voltages according to these definitions. 62 FR 29221, 29231-2. The terms "rated voltage with respect to incandescent lamps" and the associated "design voltage with respect to incandescent lamps" are defined as follows in 10 CFR 430.2:

> *Rated voltage* with respect to incandescent lamps means:
> (1) The design voltage if the design voltage is 115 V, 130 V or between 115V and 130 V:
> (2) 115 V if the design voltage is less than 115 V and greater than or equal to 100 V and the lamp can operate at 115 V; and
> (3) 130 V if the design voltage is greater than 130 V and less than or equal to 150 V and the lamp can operate at 130 V.
>
> *Design voltage* with respect to an incandescent lamp means:
> (1) The voltage marked as the intended operating voltage;
> (2) The mid-point of the voltage range if the lamp is marked with a voltage range; or
> (3) 120 V if the lamp is not marked with a voltage or voltage range.
> 10 CFR 430.2

DOE noted in its final rule that this approach provided for testing incandescent lamps at a known voltage for certification while accommodating the FTC requirements for labeling, which allow testing and labeling at the design voltage. 62 FR 29232.

DOE would like feedback on simplifying the test voltage requirements for incandescent lamps and aligning them, to the extent possible, with DOE test procedure requirements for other lamp types such as compact fluorescent lamps (CFLs) and integrated light-emitting-diodes (LED) lamps. Those test procedures require that CFLs and LED lamps be tested at the voltage marked on the lamp as the intended operating voltage and if no voltage is marked to test at 120 V; if multiple voltages are marked including 120 V to test at 120 V, and if multiple voltages are marked not including 120 V to test at the highest voltage. DOE requests comments on modifying the required test voltage for incandescent lamps.

b. Photometric Measurements

To the extent possible DOE would like to harmonize its test procedures for taking photometric measurements for lamps. For example, DOE test procedures for CFLs and integrated LED lamps prescribe the use of an integrating sphere method and disallow the use of goniophotometer. DOE requests comments on allowing only the integrating sphere method and not the goniophotometer method for testing of GSFLs, GSILs, and IRLs, particularly comments regarding accuracy and test burden.

For IRLs, section 4.3.2 of appendix R states that lumen output may be measured in an integrating sphere or from an average intensity distribution curve as specified in IES LM-20. DOE requests comments on how frequently industry uses the average intensity distribution curve method to take total lumen output measurements for IRLs.

For taking lumen output measurements of GSFLs, DOE's test procedure currently references IES LM-9-2009. Section 6.3 of IES LM-9 describes the use of a "peak lumen" method which allows measurements at peak light output which are adjusted by a correction factor, a ratio of the stabilized lumens to the peak lumens developed specifically for that lamp type. DOE requests feedback on how frequently industry uses the peak lumen method to take measurements for GSFLs.

C. Other Test Procedure Topics

In addition to the issues identified earlier in this document, DOE welcomes comment on any other aspect of the existing test procedures for GSFLs, GSILs, and IRLs not already addressed by the specific areas identified in this document. DOE particularly seeks information that would improve the repeatability, reproducibility, and consumer representativeness of the test procedures. DOE also requests information that would help DOE create procedures that would limit manufacturer test burden through streamlining or simplifying testing requirements. Comments regarding the repeatability and reproducibility are also welcome.

DOE also requests feedback on any potential amendments to the existing test procedures that could be considered to address impacts on manufacturers, including small businesses. Regarding the Federal test method, DOE seeks comment on the degree to which the DOE test procedures should consider and be harmonized with the most recent relevant industry standards for GSFLs, GSILs, and IRLs, and whether there are any changes to the Federal test methods that would provide additional benefits to the public.

DOE requests comment on whether the existing test procedures limit a manufacturer's ability to provide additional features to consumers on GSFLs, GSILs, and IRLs. DOE particularly seeks information on how the test procedures could be amended to reduce the cost of new or additional features and make it more likely that such features are included on GSFLs, GSILs, and IRLs.

III. Submission of Comments

DOE invites all interested parties to submit in writing by [**INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER***], comments and information on matters addressed in this notice and on other matters relevant to DOE's consideration of amended test procedures for GSFLs, GSILs, and IRLs.

Submitting comments via regulations.gov. The *http://www.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 *http://www.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 www.regulations.gov cannot be claimed as CBI. Comments received through the website 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 *http://www.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 *http://www.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 *http://www.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).

DOE considers public participation to be a very important part of the process for developing test procedures. DOE actively encourages the participation and interaction of the public during the comment period in each stage of this process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in this process. Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this RFI may do so at https://public.govdelivery.com/accounts/USEERE/subscriber/new?topic_id=USEERE_398.

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Energy Efficiency and Renewable Energy