



# CERTIFICATE OF ACCREDITATION

*This is to attest that*

## **BAY AREA COMPLIANCE LABORATORIES CORP. (KUNSHAN)**

NO. 248 CHENGHU ROAD  
KUNSHAN, JIANGSU 215301  
PEOPLE'S REPUBLIC OF CHINA

**Testing Laboratory TL-749**

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date April 24, 2019



A handwritten signature in black ink that reads "Raj Nathan".

**President**

Visit [www.iasonline.org](http://www.iasonline.org) for current accreditation information.

# SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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## BAY AREA COMPLIANCE LABORATORIES CORP. (KUNSHAN)

[www.baclcorp.com.cn](http://www.baclcorp.com.cn)

**Contact Name** John Chan

**Contact Phone** + +86 7 698 6858 x888

*Accredited to ISO/IEC 17025:2017*

*Effective Date April 24, 2019*

<b>ENERGY STAR</b>
ENERGY STAR® lamp center beam intensity benchmark tool
ENERGY STAR® luminous intensity distribution calculator
ENERGY STAR® Online CBCP-V1.1: tool for calculating minimum center beam intensity
ENERGY STAR® TM-21 calculator
ENERGY STAR® Product Specification for Imaging Equipment Eligibility Criteria Version 3.0
ENERGY STAR® program requirements for audio/video dated July 2012
ENERGY STAR® program requirements for audio/video, rev. Dec. 2014
ENERGY STAR® program requirements for computer servers (rev. Apr-2013)
ENERGY STAR® program requirements for computers V6.1
ENERGY STAR® program requirements for computers V7.0
ENERGY STAR® program requirements for displays dated Sep. 2015
ENERGY STAR® program requirements for displays V 7.0
ENERGY STAR Program Requirements Product Specification V 7.1 for Displays Eligibility Criteria
ENERGY STAR® program requirements for imaging equipment (October-2014)
ENERGY STAR® program requirements for lamps and luminaires start time test method
ENERGY STAR® program requirements for lamps and luminaires start time test method (October-2017)
ENERGY STAR® program requirements for lamps and luminaires test method – noise (September-2015)
ENERGY STAR® program requirements for small network equipment - 2013
ENERGY STAR® program requirements for small network equipment V1.0
ENERGY STAR® program requirements for televisions
ENERGY STAR® program requirements product specification for computers (rev May-2014)
ENERGY STAR® program requirements product specification for computers (rev August-2014)
ENERGY STAR® Program Requirements Product Specification for Computers Eligibility Criteria Version 7.1
ENERGY STAR Program Requirements Product Specification for Connected Thermostat Products Eligibility Criteria Version 1.0 Rev. Jan 2017

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ENERGY STAR® Program Requirements Product Specification for Data Center Storage Eligibility Criteria Version 1.1	
ENERGY STAR® Program Requirements Product Specification for Data Center Storage Final Test Method Rev. May 2018	
ENERGY STAR® Program Requirements Product Specification for Imaging Equipment Test Method for Determining Imaging Equipment Energy Use Rev. Dec-2018	
ENERGY STAR® program requirements product specification for imaging equipment uniform test method for measuring the energy consumption of external power supplies, appendix Z to 10 CFR Part 430	
ENERGY STAR® program requirements product specification for lamps: ambient temperature life testing (September-2015)	
ENERGY STAR® program requirements product specification for lamps: elevated temperature life testing (September-2015)	
ENERGY STAR® program requirements product specification for lamps: elevated temperature light output ratio (September-2015)	
ENERGY STAR® program requirements product specification for lamps: run-up time (September-2015)	
ENERGY STAR Program Requirements V 5.1 for Set-top Boxes	
ENERGY STAR® program requirements product specification for televisions V 7.0	
ENERGY STAR Program Requirements Product Specification for Televisions V8.0	
ENERGY STAR® test procedure V2.0 for determining the power use of computer servers at idle and full load (appendix A of specification)	
ENERGY STAR® Test Method for Computer (Rev. August-2014)	
ENERGY STAR Test Method for Computers, Rev. Nov.2018	
ENERGY STAR Test Method for Computer Servers (Rev. April-2016)	
ENERGY STAR Test Method for Determining Displays Energy Use Version 6.0 – Rev. September-2015	
ENERGY STAR Test Method for Set-top Boxes (Rev. May- 2016)	
ENERGY STAR Test Method for Telephony Rev. November-2013	
ENERGY STAR water coolers Test Method, May-2013	
<b>Electrical</b>	
ANSI/UL 935-2009	Standard for safety of fluorescent-lamp ballasts
ANSI/UL 1310-2010	Standard for safety of class 2 power units
ANSI/UL 2089-2011	Standard for Vehicle Battery Adapters
AS/NZS 3112:2017	Approval and test specification - Plugs and socket-outlets
AS/NZS 60065:2012	Audio, video and similar electronic apparatus - safety requirements
AS/NZS 60065:2018	Audio, video and similar electronic apparatus - Safety requirements (IEC 60065:2014 (ED. 8.0) MOD)

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AS/NZS 60335.1:2011/Amdt 3:2015	Household and similar electrical appliances - safety - general requirements
AS/NZS 60335.1:2011+A1:2012+A2:2014+A3:2015+A4:2017	Household and similar electrical appliances - Safety - Part 1: General requirements
AS/NZS 60335.2.9:2014+A1:2015+A2:2016+A3:2017	Household and similar electrical appliances - Safety - Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances
AS/NZS 60335.2.13:2017	Household and similar electrical appliances - Safety - Part 2-13: Particular requirements for deep fat fryers, frying pans and similar appliances
AS/NZS 60335.2.14:2017	Household and similar electrical appliances - Safety - Part 2-14: Particular requirements for kitchen machines
AS/NZS 60335.2.15:2013+A1:2016+A2:2017+A3:2018	Household and similar electrical appliances - Safety - Part 2-15: Particular requirements for appliances for heating liquids
AS/NZS 60335.2.23:2017	Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care
AS/NZS 60335.2.29:2017	Household and similar electrical appliances - Safety - Part 2-29: Particular requirements for battery chargers
AS/NZS 60335.2.30:2015+A1:2015+A2:2017	Household and similar electrical appliances - Safety - Part 2-30: Particular requirements for room heaters
AS/NZS 60335.2.32: 2014	Household and similar electrical appliances - Safety - Part 2-32: Particular requirements for massage appliances
AS/NZS 60335.2.65:2015	Household and similar electrical appliances – Safety – Part 2-65: Particular requirements for air-cleaning appliances
AS/NZS 60335.2.80:2016	Household and similar electrical appliances - Safety - Particular requirements for fans
AS/NZS 60950.1:2015	Information technology equipment – safety –part 1: general requirements
AS/NZS 61010.1:2003	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
AS/NZS 61347.1:2016	Lamp controlgear - part 1: general and safety requirements
AS/NZS 61347.2.8 (2003)	Lamp controlgear - particular requirements for ballasts for fluorescent lamps
AS/NZS 61347.2.11:2003	Lamp controlgear -- Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires

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AS/NZS IEC 61347-2-13:2013	Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied
AS/NZS 61558-1:2018	Safety of transformers, reactors, power supply units and combinations thereof - Part 1: General requirements and tests
AS/NZS 61558.2.16:2010+A1+A2+A3	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units
AS/NZS 62368.1:2018	Audio/video, information and communication technology equipment - Part 1: Safety requirements
BS 1363-1:2016+A1:2018	13 A plugs, socket-outlets, adaptors and connection units. Specification for rewirable and non-rewirable 13 A fused plugs
CAN/CSA-C22.2 No. 223 -15	Power supplies with extra-low-voltage Class 2 outputs
CAN/CSA-C22.2 NO. 60950-1-07 (R2016)	Information Technology Equipment - Safety - Part 1: General Requirements
CAN/CSA-C22.2 NO. 62368-1-14	Audio/video, information and communication technology equipment - Part 1: Safety requirements
CISPR 15:2018PRV	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 50075 : 1990	Flat non-wirable two-pole plugs, 2.5A 250V, with cord, for the connection of class II-equipment for household and similar purposes
EN 60065:2014	Audio, video and similar electronic apparatus - safety requirements
EN 60065:2014+A11:2017	Audio, video and similar electronic apparatus - Safety requirements
EN 60335-1:2012+A11:2014	Household and similar electrical appliances - Safety - Part 1: General requirements
EN 60335-2-9:2003+A13:2010	Household and similar electrical appliances - Safety - Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances
EN 60335-2-13:2010+A1:2012	Household and similar electrical appliances - Safety - Part 2-13: Particular requirements for deep fat fryers, frying pans and similar appliances
EN 60335-2-15:2002+A11:2012	Household and similar electrical appliances - Safety - Part 2-15: Particular requirements for appliances for heating liquids

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EN 60335-2-23:2003+A2:2015	Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care
EN 60335-2-29:2004+A2:2010	Household and similar electrical appliances - Safety - Part 2-29: Particular requirements for battery chargers
EN 60335-2-30:2009+A11:2012	Household and similar electrical appliances - Safety - Part 2-30: Particular requirements for room heaters
EN 60335-2-32:2003+A1:2008+A2:2015	Household and similar electrical appliances - Safety - Part 2-32: Particular requirements for massage appliances
EN 60335-2-65:2003+A11:2012	Household and similar electrical appliances – Safety – Part 2-65: Particular requirements for air-cleaning appliances
EN 60335-2-80:2003+A2:2009	Household and similar electrical appliances - Safety - Particular requirements for fans
EN 60529:1991+A2: 2013	Degrees of protection provided by enclosures (IP Code)
EN 60730-1:2010	Automatic electrical controls - Part 1: General requirements
EN 60730-2-7:2010	Automatic electrical controls - Part 2-7: Particular requirements for timers and time switches
EN 60730-2-9:2010	Automatic electrical controls - Part 2-9: Particular requirements for temperature sensing control
EN 60825-1:2014	Safety of laser products - Part 1: Equipment classification and requirements
EN 60950-1:2006+A11 : 2009+A1:2010+A12 : 2012+A2:2013	Information technology equipment – safety –part 1: general requirements
EN 61010-031:2015	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test
EN 61010-1:2010	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
EN 61010-2-032:2012	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-032: Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement
EN 61347-1:2015	Lamp controlgear - part 1: general and safety requirements

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EN 61347-2-7 : 2012	Lamp controlgear - Part 2-7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained)
EN 61347-2-8:2001+A1:2006	Lamp controlgear - particular requirements for ballasts for fluorescent lamps
EN 61347-2-11:2001	Lamp controlgear -- Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires
EN 61347-2-12:2005+A1:2010	Lamp controlgear - particular requirements for D.C. or A.C. supplied electronic ballasts for discharge lamps (excluding fluorescent lamps)
EN 61347-2-13:2014+A1 : 2017	Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied
EN 61558-1:2005+A1:2009	Safety of transformers, reactors, power supply units and combinations thereof - Part 1: General requirements and tests
EN 61558-2-6:2009	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers
EN 61558-2-16:2009+A1:2013	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units
EN 62115:2005+A2:2011+A11:2012+A12:2015	Electric toys - safety specifications
EN 62368-1:2014	Audio/video, information and communication technology equipment - Part 1: Safety requirements
IEC 60065:2014	Audio, video and similar electronic apparatus - safety requirements
IEC 60335-1:2010+A1:2013+A2:2016	Household and similar electrical appliances - Safety - Part 1: General requirements
IEC 60335-2-9:2008+A1:2012+A2:2016	Household and similar electrical appliances - Safety - Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances
IEC 60335-2-13:2009+A1:2016	Household and similar electrical appliances - Safety - Part 2-13: Particular requirements for deep fat fryers, frying pans and similar appliances
IEC 60335-2-14:2016	Household and similar electrical appliances - Safety - Part 2-14: Particular requirements for kitchen machines

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IEC 60335-2-15:2012+A1:2016+A2:2018	Household and similar electrical appliances - Safety - Part 2-15: Particular requirements for appliances for heating liquids
IEC 60335-2-23:2016	Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care
IEC 60335-2-29:2016	Household and similar electrical appliances - Safety - Part 2-29: Particular requirements for battery chargers
IEC 60335-2-30:2009+A1:2016	Household and similar electrical appliances - Safety - Part 2-30: Particular requirements for room heaters
IEC 60335-2-32:2002+A1:2008+A2:2013	Household and similar electrical appliances - Safety - Part 2-32: Particular requirements for massage appliances
IEC 60335-2-65:2002+A1:2008+A2:2015	Household and similar electrical appliances – Safety – Part 2-65: Particular requirements for air-cleaning appliances
IEC 60335-2-80 Ed. 3.0 b:2015	Household and similar electrical appliances - Safety - Particular requirements for fans
IEC 60529: 1989+A2: 2013	Degrees of protection provided by enclosures (IP Code)
IEC 60730-1:2010	Automatic electrical controls - Part 1: General requirements
IEC 60730-2-7:2008	Automatic electrical controls - Part 2-7: Particular requirements for timers and time switches
IEC 60730-2-9:2008+A1:2011	Automatic electrical controls - Part 2-9: Particular requirements for temperature sensing control
IEC 60825-1:2014	Safety of laser products - Part 1: Equipment classification and requirements
IEC 60950-1:2005+ A1:2009 +A2:2013	Information technology equipment – safety –part 1: general requirements
IEC 61010-031:2015	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test
IEC 61010-031:2015+A1:2018	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held and hand-manipulated probe assemblies for electrical test and measurement.
IEC 61010-1:2010	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements



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IEC 61010-1:2010+A1:2016	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
IEC 61010-2-032:2012	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-032: Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement
IEC 61347-1:2015	Lamp controlgear - part 1: general and safety requirements
IEC 61347-1:2015+A1:2017	Lamp controlgear - Part 1: General and safety requirements
IEC 61347-2-4 Ed. 1.0 (2000)	Lamp controlgear - part 2-4: particular requirements for d.c. supplied electronic ballasts for general lighting
IEC 61347-2-7 : 2011	Lamp controlgear - Part 2-7: Particular requirements for battery supplied electronic controlgear for emergency lighting (self-contained)
IEC 61347-2-8 Ed. 1.1 (2006)	Lamp controlgear - part 2-8: particular requirements for ballasts for fluorescent lamps
IEC 61347-2-11 ed1.0 (2001-04)	Lamp controlgear -- Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires
IEC 61347-2-12 Ed. 1.1 (2010)	Lamp controlgear - part 2-12: particular requirements for D.C. or A.C. supplied electronic ballasts
IEC 61347-2-13:2014	Lamp controlgear - part 2-13: particular requirements for D.C. or A.C. supplied electronic controlgear for LED modules
IEC 61347-2-13:2014+A1:2016	Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules
IEC 61558-1:2017	Safety of transformers, reactors, power supply units and combinations thereof - Part 1: General requirements and tests
IEC 61558-2-16:2009+A1:2013	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V - Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units
IEC 62087-1:2015	Audio, video, and related equipment - determination of power consumption - part 1: general
IEC 62087-2:2015	Audio, video, and related equipment - determination of power consumption - part 2: signals and media
IEC 62087-3:2015	Audio, video, and related equipment - determination of power consumption - part 3: television sets

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IEC 62087-4:2015	Audio, video, and related equipment - determination of power consumption - part 4: video recording equipment
IEC 62087-5:2015	Audio, video, and related equipment - determination of power consumption - part 5: set-top-boxes
IEC 62087-6:2015	Audio, video, and related equipment - determination of power consumption - part 6: audio equipment
IEC 62262: 2002	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
IEC 62301 Edition 2.0 2011-01	Household electrical appliances - measurement of standby power
IEC 62368-1 ED 2.0:2014	Audio/video, information and communication technology equipment - Part 1: Safety requirements
IEC 62368-1:2018	Audio/video, information and communication technology equipment - Part 1: Safety requirements
IEC 62368-3 Ed. 1.0 b:2017	Audio/video, information and communication technology equipment - Part 3: Safety aspects for DC power transfer through communication cables and ports
IEC 62386-216:2018 PRV	Digital addressable lighting interface-Part 216: Particular requirements for control gear-Load referencing (device type15)
K60065:2005:	Audio, video and similar electronic apparatus - safety requirements lighting – safety specifications
UL 197-2010	Commercial Electric Cooking Appliances
UL 283-2015	Air Fresheners and Deodorizers
UL 499-2014	Electric Heating Appliances
UL 507-2017	Electric Fans
UL 763-2018	Motor-Operated Commercial Food Preparing Machines
UL 778-2016	Motor-Operated Water Pumps
UL 859-2012	Household Electric Personal Grooming Appliances
UL 982-2015	Motor-Operated Household Food Preparing Machines
UL 998-2011	Humidifiers
UL 1017-2017	Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines
UL 1018-2011	Electric Aquarium Equipment
UL 1026-2012	Electric Household Cooking and Food Serving Appliances

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UL 1082-2009	Household Electric Coffee Makers and Brewing-Type Appliances
UL 1278-2014	Movable and Wall- or Ceiling-Hung Electric Room Heaters
UL 1647-2015	Motor-Operated Massage and Exercise Machines
UL 2272-2016	Electrical Systems for Personal E-Mobility Devices
UL 9990-2017	Outline of Investigation for information and communication technology (ICT) power cables
UL 60065 Ed. 8 (2015)	Audio, video and similar electronic apparatus - safety requirements
<b>Electronics</b>	
10 CFR 429.25, Subpart B	Television sets
10 CFR 430, Subpart B	Appendix H, Uniform test method for measuring the power consumption of television sets
77FR 2864 NOPR	Test procedure for television sets
Appendix H to Subpart B of Part 430	Uniform Test Method for Measuring the Power Consumption of Television Sets
Appendix Y to Subpart B of Part 430	Uniform Test Method for Measuring the Energy Consumption of Battery Chargers
CEA Procedure for DAM Testing for TVs, rev. 0.3, Sept. 2010	
CEA-2037-A	Determination of television set power consumption for TVs with standby-active, low mode
CSA C381.1-17	CSA Group Standards - Energy performance of external ac-dc and ac-ac power supplies
CSA C381.2-17	CSA Group Standards - Energy performance of battery-charging systems and uninterruptible power supplies
EN 50563:2011+ A1:2013	External a.c. - d.c. and a.c. - a.c. power supplies – Determination of no-load power and average efficiency of active modes
EN 50564:2011	Electrical and electronic household and office equipment— Measurement of low power consumption
EN 62301:2005	Household electrical appliances - measurement of standby power
EPRI generalized test protocol for calculating the energy efficiency of internal Ac-Dc and Dc-Dc power supplies V6.6 (for products that have internal, multi-output, or single output with integral cooling power supplies)	
EPRI generalized test protocol for calculating the energy efficiency of internal Ac-Dc and Dc-Dc power supplies	

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EPRI generalized test protocol for calculating the energy efficiency of internal Ac-Dc and Dc-Dc power supplies	
Evaluation corporation (SPEC) most current server efficiency rating tool (SERT)	
<b>Environmental</b>	
AS 60068.2.1:2003	Environmental testing - part 2.1: tests A: cold
AS 60068.2.2:2003	Environmental testing - test B: dry heat
EN 60068-1:2014	Environmental testing - general and guidance
EN 60068-2-1:2007	Environmental testing - part 2-1: tests - test A: cold
EN 60068-2-2:2007	Environmental testing - part 2-2: tests - test B: dry heat
IEC 60068-1:2013	Environmental testing- general and guidance
IEC 60068-2-1:2007	Environmental testing - part 2-1: tests - test A: cold
IEC 60068-2-2:2007	Environmental testing - part 2-2: tests - test B: dry heat
JEDEC JESD22-A101C-2009	Steady-state temperature humidity bias life test
JEDEC JESD22-A101D-2015	Steady-state temperature humidity bias life test
JEDEC JESD22-A104D-2014	Temperature cycling
JEDEC JESD22-A104E-2014	Temperature cycling
JEDEC JESD22-A105C-2004	Power and temperature cycling
JEDEC JESD22-A108D-2010	Temperature, bias, and operating life
<b>Lighting</b>	
10 CFR Part 430	Uniform test method for measuring the input power, lumen output, lamp efficacy, correlated color temperature (CCT), color rendering index (CRI), power factor, time to failure, and standby mode power of integrated light-emitting diode (LED) lamps
10 CFR Part 430, Appendix BB to Subpart B	Uniform Test Method for Measuring the Input Power, Lumen Output, Lamp Efficacy, Correlated Color Temperature (CCT), Color Rendering Index (CRI), Power Factor, Time to Failure, and Standby Mode Power of Integrated Light-Emitting Diode (LED) Lamps
10 CFR Part 430, Appendix DD to Subpart B	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
10 CFR Part 430, Appendix Q to Subpart B	Uniform test method for measuring the energy consumption of fluorescent lamp ballasts

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10 CFR Part 430, Appendix R to Subpart B	Uniform test method for measuring average lamp efficacy (LE), color rendering index (CRI), and correlated color temperature (CCT) of electric lamps
10 CFR Part 430, Appendix W to Subpart B	Uniform test method for measuring the energy consumption of compact fluorescent lamps
ANSI C62.41.2-2002	IEEE recommended Practice on characterization of surges in low voltage (1000V and Less) AC power circuits
ANSI C78.20:2003	Electric Lamps – A, G, PS and similar shapes with E26 medium screw bases
ANSI C78.20:2003(R2015)	Electric Lamps – A, G, PS and similar shapes with E26 medium screw bases
ANSI C78.21-2011	Electric lamps – PAR and R shapes
ANSI C78.21-2011(R2016) Electric lamps	PAR and R shapes
ANSI C78.23-1995 (R2003)	Incandescent lamps – miscellaneous types
ANSI C78.23-1995 (S2018)	Incandescent lamps – miscellaneous types
ANSI C78.375-1997	American national standard for fluorescent lamps—guide for electrical measurements
ANSI C78.375A-2014	Electric Lamps –Fluorescent Lamps—Guide for Electrical Measurements
ANSI C78.376-2001	Specification for the chromaticity of fluorescent lamps
ANSI C78.376-2014	Electric Lamps - specification for the chromaticity of fluorescent lamps
ANSI C78.377-2008	Chromaticity of solid state lighting products
ANSI C78.377-2011	Specifications for the chromaticity of solid state lighting products
ANSI C78.377-2015	Specifications for the chromaticity of solid state lighting products
ANSI C78.377-2017	Electric Lamps - Specifications for the Chromaticity of Solid- State Lighting Products
ANSI C78.379-2006	Electric Lamps – classification of the beam patterns of reflector lamps
ANSI C78.379-2006 (R2015)	Electric Lamps – classification of the beam patterns of reflector lamps
ANSI C78.387-1987	Metal-halide lamps – method of measuring characteristics
ANSI C78.387-2007	Metal-halide lamps – method of measuring characteristics

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ANSI C78.389-2004	American national standard for electric lamps – high-intensity discharge (HID) – methods of measuring characteristics
ANSI C78.389-2004 (S2018)	American national standard for electric lamps – high-intensity discharge (HID) – methods of measuring characteristics
ANSI C78.50-2014	Electric lamps – assigned LED lamp codes
ANSI C78.50-2016	Electric lamps – assigned LED lamp codes
ANSI C78.5-2003	Specifications for performance of self-ballasted compact fluorescent lamps
ANSI C78.5-2003(R2015)	Specifications for performance of self-ballasted compact fluorescent lamps
ANSI C78.5-2017	Specifications for performance of self-ballasted compact fluorescent lamps
ANSI C78.79-2014	Electric lamps – nomenclature for envelope shapes intended for use with electric lamps
ANSI C78.901-2014	Single-based fluorescent lamps—dimensional and electrical characteristics
ANSI C78.901-2016	Single-based fluorescent lamps—dimensional and electrical characteristics
ANSI C79.1-2002	Nomenclature for glass bulbs intended for use with electric lamps
ANSI C82.11-2002	High-frequency fluorescent lamp ballasts
ANSI C82.11-2011	High-frequency fluorescent lamp ballasts
ANSI C82.11-2017	Lamp Ballasts - High Frequency Fluorescent Lamp Ballasts
ANSI C82.2-2002	Fluorescent lamp ballasts--methods of measurement
ANSI C82.2-2002(R2016)	Fluorescent lamp ballasts--methods of measurement
ANSI C82.6-2005	Ballast for high intensity discharge lamps – methods of measurement
ANSI C82.6-2015	Ballast for high intensity discharge lamps – methods of measurement
ANSI C82.77-10-2014	Harmonic emission limits – related power quality requirements for Lighting
ANSI C82.77-2002	Harmonic emission limits – related power quality requirements for lighting
ANSI/ANSLG C78.357-2010	For incandescent lamps: tungsten halogen lamps (non-vehicle)
ANSI/ANSLG C78.81-2010	Double-capped fluorescent lamps—dimensional and electrical characteristics

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ANSI/ANSLG C78.81-2016	Electric Lamps-Double-capped fluorescent lamps—dimensional and electrical characteristics
ANSI/ANSLG C81.61-2009	Specifications for bases (caps) for electric lamps
ANSI/ANSLG C81.61-2009 (R2014)	Specifications for bases (caps) for electric lamps
ANSI/ANSLG C81.61-2009 (R2017)	Electric Lamps Bases-Specifications for bases (caps) for electric lamps
ANSI/ANSLG C81.62-2009	Lamp holders for electric lamps
ANSI/ANSLG C81.62-2017	Lamp holders for electric lamps
ANSI/ASABE S640 JUL2017	Quantities and Units Of Electromagnetic Radiation For Plants (Photosynthetic Organisms)
ANSI/ASABE S642 SEP2018	Recommended Methods For Measurement And Testing Of LED Products For Plant Growth And Development
ANSI/IEEE C62.41-1991	Recommended practice for surge voltages in low-voltage AC power circuits, category A, 7 strikes
ANSI/IEEE C62.41.1-2002	Guide on the surge environment in low-voltage (1000 V and Less) AC power circuits
ANSI/UL 153:2002	Standard for safety of portable electric luminaires
ANSI/UL 153-2014	Portable electric luminaires
ANSI/UL 1574:2004	Standard for safety of track lighting systems
ANSI/UL 1598:2008	Standard for safety of luminaires
ANSI/UL 1598-2018	Standard for Safety of Luminaires
ANSI/UL 1598C:2014	Light-emitting diode (LED) retrofit luminaire conversion kits
ANSI UL 1993-2009	Self-ballasted lamps and lamp adapters
ANSI/UL 1993-2012	Self-ballasted lamps and lamp adapters
ANSI UL 1993-2017	Self-ballasted lamps and lamp adapters
ANSI/UL 2108-2004	Standard for low-voltage lighting systems
ANSI/UL 8750-2009	Light emitting diode (LED) equipment for use in lighting products
ANSI/UL 8750-2015	Light Emitting Diode (LED) Equipment for Use in Lighting Products
AS 2293.3:2005	Emergency escape lighting and exit signs for buildings Part 3: Emergency escape luminaires and exit signs
AS/NZS 1680.2.5:2018	Interior and workplace lighting Part 2.5: Hospital and medical tasks
AS/NZS 4234:2008	Means Australian/New Zealand Standard 4234:2008 Heated water systems – Calculation of energy consumption

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AS/NZS 4665.1 (2005) + A1 (2009)	Performance of external power supplies - Test method and energy performance mark
AS/NZS 4665.2 (2005) + A1 (2009)	Performance of external power supplies - Minimum energy performance standard (MEPS) requirements
AS/NZS 4783.1:2001	Performance of electrical lighting equipment—ballasts for fluorescent lamps - part 1: method of measurement to determine energy consumption and performance of ballasts-lamp circuits
AS/NZS 4783.2:2002	Performance of electrical lighting equipment—ballasts for fluorescent lamps - part 2: energy labeling and minimum energy performance standards requirements
AS/NZS 4847.1:2010	Self ballasted lamps for general lighting services – part 1: test methods – energy performance
AS/NZS 4847.2:2010/Amdt 1:2011	Self-ballasted lamps for general lighting services – part 2: minimum energy performance standards (MEPS) requirements
AS/NZS 4879.1:2008	Performance of transformers and electronic step-down convertors for elv lamps - part 1: test method - energy performance
AS/NZS 4879.2:2010	Performance of transformers and electronic step-down convertors for elv lamps - part 2: minimum energy performance standards (MEPS) requirements
AS/NZS 4934.1:2014	Incandescent lamps for general lighting service part 1: test methods—energy performance
AS/NZS 4934.2:2011	Incandescent lamps for general lighting services part 2: minimum energy performance standards (MEPS) requirements
AS/NZS 5813.1:2012	Information technology equipment - Energy performance of computers Part 2: Minimum energy performance standards (MEPS) for computers
AS/NZS 5813.2:2012+A1:2013	Information technology equipment - Energy performance of computers Part 2: Minimum energy performance standards (MEPS) for computers
AS/NZS 5814.1:2012	Information technology equipment – Energy performance of internal power supplies Part 1: Methods of measurement of energy performance
AS/NZS 5815.1:2012	Information technology equipment - Energy performance of computer monitors Part 1: Methods of measurement of energy performance
/NZS 5815.2:2013	Information technology equipment - Energy performance of computer monitors Part 2: Minimum energy performance standards (MEPS) for computers
AS/NZS 60598.1 (2013)	Luminaires - part 1: general requirements and tests



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AS/NZS 60598.1:2017	Luminaires General requirements and tests (IEC 60598-1, Ed. 8.0 (2014) MOD)
AS/NZS 60598.2.1:2014+Amdt 1:2016	Luminaires - particular requirements - fixed general purpose luminaire
AS/NZS 60598.2.2:2016	Luminaires - particular requirements - recessed luminaires
AS/NZS 60598.2.4:2005+A1:2007	Luminaires - Part 2-4: Particular requirements for Portable general purpose luminaires
AS/NZS 60598.2.5:2018	Luminaires - Part 2-5: Particular requirements - Floodlights
AS/NZS 62087.1:2010	Power consumption of audio, video and related equipment – Methods of measurement, as it existed on the date this Determination came into force
AS/NZS 62087.2.1:2008	Means Australian/New Zealand Standard 62087.2.1:2008 Power consumption of audio, video and related equipment. Part 2.1: Minimum energy performance standards (MEPS) requirements for digital television set-top boxes
AS/NZS 62087.2.2:2011	Power consumption of audio, video and related equipment - Minimum energy performance standards (MEPS) and energy rating label requirements for television sets
AS/NZS 62560:2017	Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications
BS EN 13032-1:2004+A1:2012	Light and lighting. Measurement and presentation of photometric data of lamps and luminaires. Measurement and file format
BS EN 13032-2:2017	Light and lighting. Measurement and presentation of photometric data of lamps and luminaires. Presentation of data for indoor and outdoor work places
BS EN 13032-4:2015	Light and lighting. Measurement and presentation of photometric data of lamps and luminaires. LED lamps, modules and luminaires
BS EN 13032-5:2018	Light and lighting. Measurement and presentation of photometric data of lamps and luminaires. Presentation of data for luminaires used for road lighting
Brazil INMETRO Regulation 389 (2014)	Conformity evaluation requirements for led lamps with integrated control device
CAN/CSA-C22.2 250.0-08(R2013)	Luminaires
CAN/CSA-C22.2 NO. 250.1-16	Retrofit kits for luminaire conversion

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CAN/CSA-C22.2 NO. 250.13-17	Light emitting diode (LED) equipment for lighting applications
CAN/CSA-C22.2 NO. 250.4-14	Portable luminaires
CAN/CSA-C22.2 No.1993-12	Self-ballasted lamps and lamp adapters
CEC-400-2015-038-CMF, Appendix JA8	Qualification requirements for high efficacy light sources
CEC-400-2015-038-CMF, Appendix JA10	Test method for measuring flicker of lighting systems
CEC-400-2018-021-CMF, Appendix JA8	Qualification requirements for high efficacy light sources
CEC-400-2018-021-CMF, Appendix JA10	Test method for measuring flicker of lighting systems
CIE 121-1996 (SP1, 2009)	Photometry and goniophotometry of luminaires - Supplement 1: Luminaires for emergency lighting
CIE 127-1997	Measurement of LEDs
CIE 13.3-1995	Method of measuring and specifying color rendering of light sources
CIE 15-2004	Colorimetry standard
CIE 15-2018	Colorimetry, 4th Edition
CIE 190-2010	Calculation and Presentation of Unified Glare Rating Tables for Indoor Lighting Luminaires
CIE 84-1989	Measurement of luminous flux
CIE Pub 13.2-1974	Method of measuring and specifying color rendering of light sources
CIE S 025/E:2015	<a href="#">Test Method for LED Lamps, LED Luminaires and LED Modules</a>
CIE S 026/E:2018	CIE System for Metrology of Optical Radiation for ipRGC-Influenced Responses to Light
EN 50285:1999	Energy efficiency of electric lamps for household use - measurement methods and tests
EN 60598-1:2015	Luminaires - part 1: general requirements and tests
EN 60598-2-4:1997	Luminaires - Part 2-4: Particular requirements for Portable general purpose luminaires
EN 60598-2-5:2015	Luminaires - particular requirements - floodlights
EN 60598-2-8:2013	Luminaires - particular requirements – handlamps
EN 60598-2-9:1989/A1:1994	Luminaires - part 2: particular requirements; section 9: photo and film luminaires (non-professional)
EN 60598-2-24 : 2013	Luminaires - Part 2-24: Particular requirements – Luminaires with limited surface temperatures
EN/IEC 60969-2001	Self-Ballasted lamps for general lighting services - performance requirements

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EN 62035:2014	Discharge lamps (excluding fluorescent lamps) - safety specifications
EN 62384 (2006) + Amd 1 (2009)	DC or AC supplied electronic control gear for LED modules - performance requirements
EN 62560:2012	Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications
EN 62560:2012+A1:2015	Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications
EN 62838:2016	LEDsi lamps for general lighting services with supply voltages not exceeding 50 V a.c. r.m.s. or 120 V ripple free d.c. - Safety specifications
IEC 60064 Edition 6.3:2005+A4+A5	Tungsten filament lamps for domestic and similar general lighting purposes –Performance requirements (Expansion)
IEC 60081:A5 2013, Annex B	Method of test for electrical, photometric and cathode characteristics
IEC 60598-1:2014	Luminaires - part 1: general requirements and tests
IEC 60598-2-1:1987	Luminaires –Part 2 Particular requirements-section 1: Fixed general purpose luminaires
IEC 60598-2-2:2011	Luminaires –Part 2 Particular requirements-section 2: Recessed luminaires
IEC 60598-2-4 : 2017	Luminaires - Part 2-4: Particular requirements for Portable general purpose luminaries
IEC 60598-2-5:2015	Luminaires - particular requirements – floodlights
IEC 60598-2-13:2012	Luminaires –Part 2 Particular requirements-section 13: Ground recessed luminaires
IEC 60598-2-22:2014	Luminaires –Part 2 Particular requirements-section 22: Luminaires for emergency lighting
IEC 60598-2-24 : 2013	Luminaires - Part 2-24: Particular requirements - Luminaires with limited surface temperatures
IEC 60901 (2011)	Single-capped fluorescent lamps - performance specifications
IEC/TR 61341-2010	Method of measurement of center beam intensity and beam angle(s) of reflector lamps
IEC 62031:2008+A1:2012+A2:2014	LED modules for general lighting – safety specifications
IEC 62321:2008 (ed. 1)	Electrotechnical products - determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)

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IEC 62384:2011	DC or AC supplied electronic control gear for LED modules – Performance requirements (Expansion)
IEC 62560 : 2011+A1 : 2015	Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications
IEC 62612-2013+Amd1-2015	Self-ballasted LED lamps for general lighting services with supply voltage >50v – performance requirements
IEC 62612:2013+AMD1:2015+AMD2:2018	Self-ballasted LED lamps for general lighting services with supply voltage >50v – performance requirements
IEC 62717 : 2014+AMD:2015	LED modules for general lighting – Performance requirements
IEC 62717:2014+AMD1:2015+AMD2:2019	LED modules for general lighting – Performance requirements
IEC 62722-1:2014	Luminaire performance –Part 1: General requirements
IEC 62722-2-1 : 2014	Luminaire performance –Part 2-1: Particular requirements for LED luminaires
IEC 62776 : 2014	Double-capped LED lamps designed to retrofit linear fluorescent lamps - safety specifications
IEC 62838:2015	LED lamps for general lighting services with supply voltages not exceeding 50 V a.c. r.m.s. or 120 V ripple free d.c. - Safety specifications
IES LM-10-2013	Photometric testing of outdoor fluorescent luminaires
IES LM-20-2013	Photometric testing of reflector-type lamps
IES LM-31-1995	Photometric testing of roadway luminaires using incandescent filament and HID lamps
IES LM-35-2002	Photometric testing of floodlights using high intensity discharge or incandescent filament lamps
IES LM-40-2010	Approved method for life performance testing of fluorescent lamps
IES LM-41-2014	Approved method for photometric testing of indoor fluorescent luminaries
IES LM-45-2009	Approved method for electrical and photometric measurements of general service incandescent filament lamps
IES LM-45-2015	Electrical and photometric measurement of general service incandescent filament lamps
IES LM-46-2004	Photometric testing of indoor luminaires using high intensity discharge or incandescent filament lamps
IES LM-47-2012	Life testing of high intensity discharge (HID) lamps
IES LM-49-2012	Life testing of general lighting incandescent

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IES LM-51-2013	Electrical and photometric measurements of HID lamps fluorescent lamps
IES LM-54-2012	IESNA guide to lamp seasoning
IES LM-58-1994	Guide to spectroradiometric measurements
IES LM-58-2013	Guide to spectroradiometric measurements
IES LM-63-02/R08	Standard File Format for Electronic Transfer of Photometric Data
IES LM-65-2014	Approved method for life testing of single-ended compact fluorescent lamps
IES LM-66-2014	Electrical and photometric measurements of single-ended compact fluorescent lamps
IES LM-78-07	IESNA approved method for total luminous flux measurement of lamps using an integrating sphere photometer
IES LM-78-17	IESNA approved method for total luminous flux measurement of lamps using an integrating sphere photometer
IES LM-79-2008	Approved method for electrical and photometric measurements of solid-state lighting products, sections 9, 10 and 12
IES LM-80-2008	Approved method for measuring lumen maintenance of LED light sources (LED packages/modules/arrays)
IES LM-80-2015	Measuring luminous flux and color maintenance of LED packages, arrays and modules
IES LM-82-2012	Characterization of LED light engines and LED lamps for electrical and photometric properties as a function of temperature
IES LM-84-2014	Approved method for measuring luminous flux and color maintenance of LED lamps, light engines, and luminaires
IES LM-85-14	Electrical and photometric measurements of high-power
IES LM-86-2015	Measuring luminous flux and color maintenance of remote phosphor components
IES LM-9-2009	Approved method for the electrical and photometric measurements of fluorescent lamps
IES TM-15-11	Luminaire Classification System for Outdoor Luminaires
IES TM-21-11	Projecting long term lumen maintenance of LED light sources + addendum B

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IES TM-26-15	Methods for projecting catastrophic failure rate of LED packages
IES TM-27-14	Standard format for the electronic transfer of spectral data
IES TM-28-2014	Projecting long-term luminous flux maintenance of LED lamps and luminaires
IES TM-30-15	Evaluating light source color rendition
IES TM-30-18	Evaluating light source color rendition
IES TM-33-18	Standard Format for the Electronic Transfer of Luminaire Optical Data
NEMA 77-2017	Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria
NEMA SSL 7A-2013	Phase cut dimming for solid-state lighting – basic compatibility
NEMA SSL 7A-2015	Phase cut dimming for solid-state lighting – basic compatibility
Ordinance No. 20, of February 15, 2017	Regulation for luminaires intended for public street lighting
SANS 60969-2010	Self-ballasted lamps for general lighting services - performance requirements
SANS 62612:2013	Self-ballasted LED lamps for general lighting services with supply voltages > 50 V - performance requirements
SANS 62612:2016	Self-ballasted LED lamps for general lighting services with supply voltages > 50 V - performance requirements
SASO 2870:2015	Energy efficiency, functionality and labeling requirements for lighting products, part 1 (compact fluorescent and LED direct and indirect lamps only)
SASO 2870:2018	Energy efficiency, functionality and labeling requirements for Lighting products, part 1 (compact fluorescent and LED direct and indirect lamps only)
SASO 2902:2018	Energy efficiency, functionality and labeling requirements for lighting products, part 2
US DOE 10 CFR 429	Certification, compliance, and enforcement for consumer products and commercial and industrial equipment
US DOE 10 CFR 430	Energy conservation program for consumer products
US DOE 10 CFR 431.324	Uniform test method for the measurement of energy efficiency and standby mode energy consumption of metal halide lamp ballasts

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US DOE 81 FR 43403	Energy conservation program test - procedures for integrated light-emitting diode lamps
US DOE 81 FR 59385	Energy conservation program - test procedure for compact fluorescent lamps
US DOE 81 FR 72493	Energy conservation program: test procedures for certain categories of general service lamps [docket no. EERE-2016-BT-TP-0005]

*CIE - International Commission on Illumination*

*CFR - Code of Federal Regulations*

*IEC - International Electrotechnical Commission*

*IES - Integrated Electrical Services or Illuminating Engineering Society*

*NEMA - National Electrical Manufacturers Association*

*SASO - Saudi Arabian Standards Organization*

*US DOE - United States Department of Energy*