



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL

Valid To: July 31, 2027

Certificate Number: 7054.01

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the organization's compliance with A2LA's EPA Energy STAR² ® and A2LA's R256 Specific Requirements), accreditation is granted to this laboratory to perform the following Electrical tests:

Test(s):

Test Method(s)^{1,3,4} :

Generic / Product Specific Standards

Household and Electrical Appliance – Safety –
Part 1: General Requirements

IEC 60335-1; EN 60335-1; AS/NZS 60335.1;
CAN/CSA-C22.2 No. 60335-1; UL 60335-1

Part 2-2: Particular Requirements for Vacuum
Cleaners and Water-Suction Cleaning Appliances

IEC 60335-2-2; EN 60335-2-2;
AS/NZS 60335-2-2

Part 2-3: Particular Requirements for Electric
Irons

IEC 60335-2-3; EN 60335-2-3;
AS/NZS 60335.2.3; UL 60335-2-3;
CAN/CSA C22.2 No. 60335-2-3

Part 2-4: Particular Requirements for Spin
Extractors

IEC 60335-2-4; EN 60335-2-4;
AS/NZS 60335-2-4

Part 2-5: Particular Requirements for Dishwashers

IEC 60335-2-5; EN 60335-2-5

Part 2-6: Particular Requirements for Stationary
Cooking Ranges, Hobs, Ovens and Similar
Appliances

IEC 60335-2-6; EN 60335-2-6;
AS/NZS 60335-2.6

Part 2-7: Particular Requirements for Washing
Machines

IEC 60335-2-7; EN 60335-2-7;
AS/NZS 60335.2.7

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Test(s):**Test Method(s)^{1,3,4}:**

Part 2-8: Particular Requirements for Shavers,
Hair Clippers and Similar Appliances

IEC 60335-2-8; EN 60335-2-8;
AS/NZS 60335.2.8; UL 60335-2-8;
CAN/CSA-C22.2 No. 60335-2-8

Part 2-9: Particular Requirements for Grills,
Toasters and Similar Portable Cooking
Appliances

IEC 60335-2-9; EN 60335-2-9;
AS/NZS 60335.2.9;
CAN/CSA C22.2 No. 60335-2-9

Part 2-10: Particular Requirements for Floor
Treatment Machines and Wet Scrubbing
Machines

IEC 60335-2-10; EN 60335-2-10;
AS/NZS 60335.2.10

Part 2-11: Particular Requirements for Tumble
Dryers

IEC 60335-2-11; EN 60335-2-11

Part 2-12: Particular Requirements for Warming
Plates and Similar Appliances

IEC 60335-2-12; EN 60335-2-12;
AS/NZS 60335.2.12

Part 2-13: Particular Requirements for Deep Fat
Fryers, Frying Pans and Similar Appliances

IEC 60335-2-13; EN 60335-2-13;
AS/NZS 60335.2.13

Part 2-14: Particular Requirements for Kitchen
Machines

AS/NZS 60335.2.14; UL 60335-2-14;
CAN/CSA C22.2 No. 60335-2-14;
IEC 60335-2-14; EN 60335-2-14;
EN IEC 60335-2-14

Part 2-15: Particular Requirements for Appliances
for Heating Liquids

IEC 60335-2-15; EN 60335-2-15;
AS/NZS 60335.2.15;
CAN/CSA-C22.2 No. 60335-2-15

Household Cooking and Liquid-Heating
Appliances

CAN/CSA C22.2 No. 64

Part 2-21: Particular Requirements for Storage
Water Heaters

IEC 60335-2-21; EN 60335-2-21

Part 2-23: Particular Requirements for Appliances
for Skin or Hair Care

IEC 60335-2-23;
AS/NZS 60335.2.23;
CAN/CSA C22.2 No. 60335-2-23;
EN 60335-2-23

Part 2-24: Particular Requirements for
Refrigerating Appliances Ice-Cream Appliances
and Ice-Makers

IEC 60335-2-24; EN 60335-2-24;
AS/NZS 60335.2.24;
CAN/CSA C22.2 No. 60335-2-24;
UL 60335-2-24

Part 2-27: Particular Requirements for Appliances
Foreskin Exposure to Ultraviolet and Infrared
Radiation

IEC 60335-2-27; EN 60335-2-27;
AS/NZS 60335.2.27

Test(s):**Test Method(s)^{1,3,4}:**

Part 2-28: Particular Requirements for Sewing Machines

IEC 60335-2-28; EN 60335-2-28

Part 2-29: Particular Requirements for Battery Chargers

IEC 60335-2-29; EN 60335-2-29;
AS/NZS 60335.2.29; UL 60335-2-29;
CAN/CSA C22.2 No. 60335-2-29

Part 2-30: Particular Requirements for Room Heaters

IEC 60335-2-30; EN 60335-2-30;
AS/NZS 60335.2.30

Part 2-31: Particular Requirements for Range Hoods and Other Cooking Fume Extractors

IEC 60335-2-31; EN 60335-2-31;
AS/NZS 60335.2.31

Part 2-32: Particular Requirements for Massage Appliances

AS/NZS 60335.2.32; UL 60335-2-32;
CAN/CSA C22.2 No. 60335-2-32;
IEC 60335-2-32; EN 60335-2-32

Part 2-35: Particular Requirements for Instantaneous Water Heaters

IEC 60335-2-35; EN 60335-2-35;
AS/NZS 60335.2.35

Part 2-36: Particular Requirements for Commercial Electric Cooking Ranges, Ovens, Hobs, and Hob Elements

IEC 60335-2-36; EN 60335-2-36

Part 2-38: Particular Requirements for Commercial Electric Griddles and Griddle Grills

IEC 60335-2-38; EN 60335-2-38

Part 2-41: Particular Requirements for Pumps

IEC 60335-2-41; EN 60335-2-41;
AS/NZS 60335.2.41

Part 2-43: Particular Requirements for Clothes Dryers and Towel Rails

IEC 60335-2-43; EN 60335-2-43;
EN IEC 60335-2-43

Part 2-44: Particular Requirements for Ironers

IEC 60335-2-44; EN 60335-2-44;
AS/NZS 60335.2.44

Part 2-45: Particular Requirements for Portable Heating Tools and Similar Appliances

IEC 60335-2-45; EN 60335-2-45;
AS/NZS 60335.2.45;
CSA C22.2 No. E60335-2-45

Part 2-52: Particular Requirements for Oral Hygiene Appliances

IEC 60335-2-52; EN 60335-2-52;
UL 60335-2-52;
CAN/CSA C22.2 NO. 60335-2-52

Part 2-53: Particular Requirements for Sauna Heating Appliances and Infrared Cabins

IEC 60335-2-53; EN 60335-2-53;
AS/NZS 60335.2.53

Test(s):

Part 2- 54: Particular Requirements for Surface-Cleaning Appliances for Household Use Employing Liquids or Steam

Part 2- 59: Particular Requirements for Insect Killers

Part 2- 60: Particular Requirements for Whirlpool Baths and Whirlpool Spas

Part 2-64: Particular Requirements for Commercial Electric Kitchen Machines

Part 2- 65: Particular Requirements for Air-Cleaning Appliances

Part 2-69: Particular Requirements for Wet and Dry Vacuum Cleaners, Including Power Brush, for Commercial Use

Part 2-75: Particular Requirements for Commercial Dispensing Appliances and Vending Machines

Part 2- 78: Particular Requirements for Outdoor Barbecues

Part 2-79: Particular Requirements for High Pressure Cleaners and Steam Cleaners

Part 2- 80: Particular Requirements for Fans

Part 2-82: Particular Requirements for Amusement Machines and Personal Service Machines

Part 2-84: Particular Requirements for Toilet Appliances

Part 2- 85: Particular Requirements for Fabric Steamers

Part 2-89: Particular Requirements for Commercial Refrigerating Appliances and Ice-Makers with an Incorporated or Remote Refrigerant Unit or Motor-Compressor

Test Method(s)^{1,3,4}:

IEC 60335-2-54; EN 60335-2-54; AS/NZS 60335.2.54

IEC 60335-2-59; EN 60335-2-59; AS/NZS 60335.2.59

IEC 60335-2-60; EN 60335-2-60; AS/NZS 60335.2.60

IEC 60335-2-64; EN 60335-2-64

IEC 60335-2-65; EN 60335-2-65; AS/NZS 60335.2.65

IEC 60335-2-69; EN 60335-2-69; AS/NZS 60335.2.69; UL 60335-2-69; CAN/CSA C22.2 NO. 60335-2-69

IEC 60335-2-75; EN 60335-2-75; AS/NZS 60335.2.75

IEC 60335-2-78; EN 60335-2-78; AS/NZS 60335.2.78

IEC 60335-2-79; EN 60335-2-79; AS/NZS 60335.2.79; UL 60335-2-79; CAN/CSA C22.2 No. 60335-2-79

IEC 60335-2-80; EN 60335-2-80; AS/NZS 60335.2.80

IEC 60335-2-82; EN 60335-2-82; AS/NZS 60335.2.82; UL 60335-2-82; CAN/CSA C22.2 No. 60335-2-82

IEC 60335-2-84; EN 60335-2-84

IEC 60335-2-85; EN 60335-2-85; AS/NZS 60335.2.85

IEC 60335-2-89; EN 60335-2-89; UL 60335-2-89; CAN/CSA C22.2 No. 60335-2-89

Test(s):**Test Method(s)^{1,3,4}:**

Part 2-94: Particular Requirements for Scissors Type Grass Shears	IEC 60335-2-94; EN 50636-2-94
Part 2-97: Particular Requirements for Drives for Shutters, Awnings, Blinds and Similar Equipment	IEC 60335-2-97; EN 60335-2-97
Part 2-98: Particular Requirements for Humidifiers	IEC 60335-2-98; EN 60335-2-98; AS/NZS 60335.2.98
Part 2-100: Particular Requirements for Hand-Held Mains Operated Garden Blowers, Vacuums and Blower Vacuums	IEC 60335-2-100; EN 50636-2-100; AS/NZS 60335.2.100
Part 2-101: Particular Requirements for Vaporizers	IEC 60335-2-101; EN 60335-2-101; AS/NZS 60335.2.101
Part 2-113: Particular Requirements for Cosmetic and Beauty Care Appliances Incorporating Lasers and Intense Light Sources	IEC 60335-2-113; EN 60335-2-113; UL 60335-2-113; CAN/CSA C22.2 No. 60335-2-113
Electric Motor-Operated Appliances	UL 73
Electric Gardening Appliances	UL 82
Electric Heating Pads	UL 130
Standard for Garage Equipment	UL 201
Household Refrigerators and Freezers	UL 250
Refrigerated Medical Equipment	UL 416
Waste Disposers	UL 430
Commercial Refrigerators and Freezers	UL 471
Electric Heating Appliances	UL 499
Electric Fans	UL 507
Fans and ventilators	CSA C22.2 No. 113
Refrigerated Vending Machines	UL 541
Ice Makers	UL 563
Vending Machines	UL 751

Test(s):**Test Method(s)^{1,3,4} :**

Motor-Operated commercial Food Preparing Machines	UL 763
Motor-Operated Water Pumps	UL 778
Liquid pumps	CSA C22.2 No. 108
Electrostatic Air Cleaners	UL 867
Personal Grooming Appliances	UL 859
Electric Hobby and Sports Equipment	UL 961
Household and Commercial Furnishings	UL 962
Motor-Operated Household Food Preparing Machines	UL 982
Stationary and Fixed Electric Tools	UL 987
Humidifiers	UL 998
Rotating Electrical Machines	UL 1004-1
Vacuum Cleaning Machines and Blower Cleaners	UL1017
Electric Household Cooking and Food Serving Appliances	UL 1026
Hair Clipping and Shaving Appliances	UL 1028
Swimming Pool Pumps, Filters, and Chlorinators	UL 1081
Household Electric Coffee Makers and Brewing-Type Appliances	UL 1082
Household Electric Skillets and Frying-Type Appliances	UL 1083
Movable and Wall or Ceiling Hung Electric Room Heaters	UL 1278
Personal Hygiene and Health Care Appliances	UL 1431
Motor-Operated Air Compressors, Vacuum Pumps, and Painting Equipment	UL 1450
Electric Spas, Equipment Assemblies, and Associated Equipment	UL 1563

<u>Test(s):</u>	<u>Test Method(s)</u>^{1,3,4} :
Standard for Light Emitting Diode (LED) Retrofit Luminaire Conversion Kits	UL 1598C
Motor-Operated Massage and Exercise Machines	UL 1647
High-Pressure Cleaning Machines	UL 1776
Vehicle Battery Adapters	UL 2089
Low Voltage Transformer – General Requirements	UL 5085-1
Low Voltage Transformer – Class 2 and Class 3 Transformer	UL 5085-3
Vacuum Cleaners for Household-Use Part 1: Dry Vacuum Cleaner-Method for Measuring the Performance	IEC 60312-1; IEC 62885-2; EN 60312-1; EU 666
Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	IEC 62262; EN 62262
Household refrigerating appliances – Characteristics and test methods – Part 1: General requirements	IEC 62552-1
Part 2: Performance requirements	IEC 62552-2
Part 3: Energy Consumption and Volume	IEC 62552-3
Household Refrigerating Appliances — Characteristics and Test Methods	EN 62552
Performance of Household Electrical Appliances – Refrigerating Appliances – Part 1: Energy Consumption and Performance	AS/NZS 4474.1
Part 2: Energy Labelling and Minimum Energy Performance Standard Requirements	AS/NZS 4474.2
Energy Performance and Capacity and Labeling of Household Refrigerators, Refrigerator Freezers, and Freezers	SASO 2664
Refrigerators, Refrigerator- Freezers and Freezers -Energy Performance, Testing and Labeling Requirements	SASO 2892

Test(s):**Test Method(s)^{1,3,4} :**

Households Refrigerating Appliances-
Characteristics and Test Method

SASO IEC 62552; IEC 62552; SANS 1691

EU Eco-Design Regulation for Household
Refrigerating Appliances

(EC) No 643/2009

Performance of household electrical appliances -
Clothes washing machines -
Methods for measuring performance, energy and
water consumption

AS/NZS 2040.1

Energy Efficiency Labelling Requirements

AS/NZS 2040.2

Performance Evaluation Procedure for Household
Washers

10 CFR 430 Subpart B Appendix J1 and
Appendix J2; AHAM HLW-1

EU Eco-Design Regulation for Household
Washing Machines

(EU) No 1015/2010

Clothes Washing Machines for Household Use -
Methods for Measuring the Performance

IEC 60456; EN 60456; SANS 1695

Clothes Washing Machines for Household Use –
Performance Requirements

SASO 2693

Clothes Washing Machines for Household Use –
Methods for Measuring the Performance
Electrical Clothes Washing Machines – Energy
and Water Performance Requirements and
Labeling

SASO 2683

SASO 2885

Household Electrical Appliances-Measurement
Standby Power

IEC 62301; EN 50564

Test Method for Measuring the Energy
Consumption of Refrigerators, Refrigerator-
Freezers, and Miscellaneous Refrigeration
Products

10 CFR Sections 430.23(a) (2008) and 430.23(b)
(2008); 10 CFR 430, Subpart B

Energy and Internal Volume of Refrigerating
Appliances

AHAM HRF-1

Energy Performance and Capacity of Household
Refrigerators, Refrigerator- Freezers, Freezers and
Wine Chillers

CAN/CSA-C300-15

ENERGY STAR ® Program Requirements²

Product Specification for Residential
Refrigerators and Freezers Eligibility Criteria
Version 5.1

Test(s):**Test Method(s)^{1,3,4} :**

Energy Performance, Water Consumption and Capacity of Household Clothes Washers

CAN/CSA-C360-13

ENERGY STAR ® Program Requirements²

Product Specification for Clothes Washers Eligibility Criteria Version 8.1

Energy Efficiency Regulations

SOR/2016-311 (Subdivision B, E and F)

Lighting - Electrical Appliance

Energy Efficiency, Functionality and Labelling Requirements for Lighting Products – Part 1

SASO 2870

Energy Efficiency, Functionality and Labelling Requirements for Lighting Products – Part 2

SASO 2902

Energy Efficiency, Functionality and Labeling Requirements for Lighting Products – Part 3

SASO 2927

Uniform Test Method for Measuring the Energy Consumption of Fluorescent Lamp Ballasts

10 CFR 430 Subpart B Appendix Q

Uniform Test Method for Measuring the Energy Consumption of Compact Fluorescent Lamps

10 CFR 430 Subpart B Appendix W

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 430 Subpart B Appendix BB

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 430 Subpart B Appendix DD

Self-Ballasted LED Lamps for General Lighting Services with Supply Voltages > 50 V – Performance Requirements

IEC 62612; EN 62612

Self-Ballasted LED Lamps for General Lighting Services by Voltage >50 V – Safety Specification

IEC 62560; GB 24906; EN 62560; AS/NZS 62560; UL 1993; INMETRO No. 144 of 03.13; IS 16102 (PART 2)

Test(s):**Test Method(s)^{1,3,4} :**

Double-capped LED Lamps Designed to Retrofit Linear Fluorescent Lamps – Safety Specifications	IEC 62776; EN 62776
Photobiological Safety of Lamps and Lamp Systems	GB/T 20145; IEC 62471; EN 62471; AS/NZS IEC 62471; IS 16108; IEC 62471-5; EN 62471-5; IEC 62471-7; EN 62471-7
Photobiological Safety of Lamps and Lamp Systems	DIN EN 62471
Method of Measuring and Specifying Colour Rendering Properties of Light Source	CIE 13.3
Colorimetry	CIE 15
The Measurement of Luminous Flux	CIE 84
Guide on the Maintenance of Indoor Electric Lighting Systems	CIE 97
Light and Lighting - Measurement and Presentation of Photometric Data of Lamps and Luminaires - Part 1: Measurement and File Format	EN 13032-1; DIN EN 13032-1
Photometry - Part 1: Methods of Measurement	DIN 5032-1
Operation Of Electric Lamps and Measurement of the Respective Quantities	DIN 5032-2
Part 4: Measurement of Luminaires	DIN 5032- 4
Part 6: Photometers; Concepts, Characteristics and Their Designation	DIN 5032-6
Ballasts for Tubular Fluorescent Lamps – Performance Requirements	IEC 60921; EN 60921
Double-Capped Fluorescent Lamps - Performance Specifications	IEC 60081
Single-Capped Fluorescent Lamps - Performance Specifications	IEC 60901
LED Modules for General Lighting - Performance Requirements	IEC 62717

Test(s):**Test Method(s)^{1,3,4} :**

Standard Method of Measuring the Pinch
Temperature of Quartz-Tungsten-Halogen Lamps

IEC 60682; SASO IEC 60682

Tungsten Halogen Lamps (Non-Vehicle) -
Performance Specifications

IEC 60357; EN 60357

High-Pressure Sodium Vapour Lamps -
Performance Specifications

IEC 60662; EN 60662

Metal Halide Lamps -
Performance Specification

IEC 61167; EN 61167

Electrical and Photometric Measurements of
Single-Based Fluorescent Lamps

IES LM-66

Projecting Long-Term Luminous Flux
Maintenance of LED Lamps and Luminaries

IES TM-28

Electric Lamps – Specifications for the
Chromaticity of Solid-State Lighting Products

ANSI C78.377

In-SITU Temperature Measurement Testing

ISTMT

Method of Measurement of Centre Beam Intensity
and Beam Angle(s) of Reflector Lamps

IEC/TR 61341; EN 61341; SASO IEC/TR 61341

Tungsten Filament Lamps for Domestic and
Similar General Lighting Purposes - Performance
Requirements

IEC 60064

Photometry - The CIE System of Physical
Photometry

CIE S 010; ISO 23539

Discharge Lamps (Excluding Fluorescent Lamps)
- Safety Specifications

IEC 62035; EN 62035

The Maintenance of Outdoor Lighting Systems

CIE 154

Energy Performance of Lamp Control Gear -
Part 1: Control Gear for Fluorescent Lamps -
Method of Measurement to Determine the Total
Input Power of Control Gear Circuits and the
Efficiency of Control Gear

IEC 62442-1; EN 62442-1; EN IEC 62442-1

Part 3: Control Gear for Halogen Lamps and LED
Modules - Method of Measurement to Determine
the Efficiency of the Control Gear

IEC 62442-3; EN 62442-3; EN IEC 62442-3

<u>Test(s):</u>	<u>Test Method(s)</u> ^{1,3,4} :
Measurement Method of Total Input Power of Ballast-Lamp Circuits	EN 50294
Non-ballasted LED Lamps – Performance Requirements	IEC 62663-1
LED-Binning - Part 1: General Requirements and White Colour Grid Intended for Automotive Applications Intended for Automotive Applications	IEC 62707-1; EN 62707-1
DC or AC Supplied Electronic Control Gear for LED Modules - Performance Requirements	IEC 62384; EN IEC 62384
Self-Ballasted Compact Fluorescent Lamps for General Lighting Services - Performance Requirements	GB/T 17263; IEC 60969; EN 60969; AS/NZS 60969; SASO IEC 60969; GSO IEC 60969
Self-Ballasted Lamps for General Lighting Services - Test Methods - Energy Performance	AS/NZS 4847.1
Minimum Energy Performance Standards (MEPS) Requirements	AS/NZS 4847.2
Luminaire performance - Part 2-1: Particular Requirements for LED Luminaires	GB/T 31897.1; IEC 62722-1; EN 62722-1; EN IEC 62722-1; GB/T 31897.201; IEC 62722-2-1; EN 62722-2-1; EN IEC 62722-2-1;
Radiance and Luminance	CIE18.2
Measurement of Colour Quantities	EN 13032-4; SASO EN 13032-4
The Spectroradiometric Measurement of Light Sources	CIE 63
Method of Measurement of Centre Beam Intensity and Beam Angle(s) of Reflector Lamps	IEC/TR 61341
Cone Luminous Flux	L2(AP)005
Electrical and Photometric Measurements of Fluorescent Lamps	IES LM-9
Photometric Testing of Indoor Fluorescent Luminaires	IES LM-41
Photometric Testing of Outdoor Fluorescent Luminaires	IES LM-10

Test(s):**Test Method(s)^{1,3,4} :**

Measuring Luminous Flux and Color
Maintenance of LED Lamps, Light Engines, and
Luminaires

IES LM-84

Self-Ballasted Lamps for General Lighting
Services - Safety Requirements

GB 16844; IEC 60968; EN 60968;
AS/NZS 60968

LED Modules for General Lighting – Safety
Specification

GB 24819; IEC 62031; EN 62031; EN IEC 62031

Luminaires – Part 1:
General Requirements and Tests

IEC 60598- 1; EN 60598-1; EN IEC 60598-1;
AS/NZS 60598.1;

Part 2-1:
Particular Requirements – Fixed General Purpose
Luminaires

IEC 60598-2-1; EN 60598-2-1;
EN IEC 60598-2-1; AS/NZS 60598.2.1;

Luminaires

UL 1598; CSA-C22.2 No. 250.0

Part 2-2: Particular Requirements – Recessed
Luminaires

IEC 60598-2-2; EN 60598-2-2; AS/NZS
60598.2.2

Part 2-3: Particular Requirements – Luminaires
for Road and Street Lighting

IEC 60598-2-3; EN 60598-2-3;
AS/NZS 60598.2.3; Inmetro No. 020, 02.15

Part 2-4: Particular Requirements – Portable
General Purpose Luminaires

IEC 60598-2-4; EN 60598-2-4; AS 60598.2.4;

Portable Electric Luminaires

UL 153; CSA C22.2 No. 12; CSA C22.2 No.
250.4

Part 2-5: Particular Requirements – Floodlights

IEC 60598-2-5; EN 60598-2-5;
AS/NZS 60598.2.5

Part 2-8: Particular Requirements – Handlamps

IEC 60598-2-8; EN 60598-2-8;
AS/NZS 60598.2.8

Part 2-10:
Particular Requirements – Portable Luminaires for
Children

IEC 60598-2-10; EN 60598-2-10;
AS/NZS 60598.2.10

Part 2-11: Particular requirements - Aquarium
luminaires

IEC 60598-2-11; EN 60598-2-11;

Part 2-12: Particular Requirements – Main Socket
Outlet Mounted Nightlights

IEC 60598-2-12; EN 60598-2-12;
AS/NZS 60598.2.12; UL 1786;
CSA-C22.2 No. 256



Test(s):**Test Method(s)^{1,3,4}:**

Part 2-13: Particular Requirements – Ground Recessed Luminaires

IEC 60598-2-13; EN 60598-2-13

Part 2-14: Particular requirements - Luminaires for cold cathode tubular discharge lamps (neon tubes) and similar equipment

IEC 60598-2-14; EN 60598-2-14

Part 2-17: Particular Requirements – Luminaires for Stage Lighting, Television and Film Studios (Outdoor and Indoor)

IEC 60598-2-17; EN 60598-2-17;
EN IEC 60598-2-17; AS/NZS 60598.2.17

Part 2-20: Particular Requirements - Lighting Chains

IEC 60598-2-20; EN 60598-2-20;
EN IEC 60598-2-20; AS/NZS 60598.2.20;
UL 588; CSA-C22.2 No. 37

Part 2-21: Particular Requirements – Rope Lights

IEC 60598-2-21; EN 60598-2-21;
AS/NZS 60598.2.21; UL 2388;
CSA-C22.2 No. 9

Part 2-22: Particular Requirements – Emergency Luminaires

IEC 60598-2-22; EN 60598-2-22;
EN IEC 60598-2-22; AS/NZS 60598.2.22;
UL 924; CSA-C22.2 No. 141

Part 2-24: Particular requirements - Luminaires with limited surface temperatures

IEC 60598-2-24; EN 60598-2-24

Lamp Control Gear –Part 1:
General and Safety Requirements

IEC 61347-1; EN 61347-1; EN IEC 61347-1;
AS/NZS 61347.1

Part 2-2: Particular Requirements for D.C. or A.C. Supplied Electronic Step-Down Convertors for Filament Lamps

IEC 61347-2-2; EN 61347-2-2; EN IEC 61347-2-2;
AS/NZS 61347.2.2

Part 2-3: Particular Requirements for A.C. and/or D.C. Supplied Electronic Control Gear for Fluorescent Lamps

IEC 61347-2-3; EN 61347-2-3; EN IEC 61347-2-3;
AS/NZS 61347.2.3;

Standard for Fluorescent-Lamp Ballasts

UL 935

Part 2-11:
Particular Requirements for Miscellaneous Electronic Circuits Used with Luminaires

IEC 61347-2-11; EN 61347-2-11;
EN IEC 61347-2-11; AS/NZS 61347.2.11

Part 2-13:
Particular Requirements for D.C. or A.C. Supplied Electronic Control Gear for LED Modules

IEC 61347-2-13; EN 61347-2-13;
EN IEC 61347-2-13; AS/NZS 61347.2.13;

Test(s):**Test Method(s)^{1,3,4} :**

Standard for Light Emitting Diode (LED)
Equipment for Use in Lighting Products

UL 8750

Energy Labelling of Electrical Lamps and
Luminaires

(EU) No 874/2012

Eco Design Requirements for Non-Directional
Household Lamps

(EC) No 244/2009;
(EU) 2015/1428

Eco Design Requirements for Fluorescent Lamps
Without Integrated Ballast,
for High Intensity Discharge Lamps, and for
Ballasts and Luminaires Able
to Operate Such Lamps

(EC) No 245/2009;
(EU) 2015/1428

Eco Design Requirements for Directional Lamps,
Light Emitting Diode Lamps and Related
Equipment

(EU) No 1194/2012;
(EU) 2015/1428

Application of IEC 62471 for the Assessment of
Blue Light Hazard to Light Sources and
Luminaires

IEC TR 62778

Energy Labelling of Light Sources and Repealing
Commission Delegated Regulation

(EU) 2019/2015

Energy labelling requirements for electronic
displays, household washing machines and
household washer-dryers, light sources,
refrigerating appliances, household dishwashers,
and refrigerating appliances with a direct sales
function

(EU) 2021/340

Eco Design Requirements for Light Sources and
Separate Control Gears Pursuant to Directive
2009/125/EC of the European Parliament and of
the Council and Repealing Commission
Regulations

(EU) 2019/2020

Ecodesign requirements for servers and data
storage products, electric motors and variable
speed drives, refrigerating appliances, light
sources and separate control gears, electronic
displays, household dishwashers, household
washing machines and household washer-dryers
and refrigerating appliances with a direct sales
function

(EU) 2021/341

Test(s):**Test Method(s)^{1,3,4} :**

Energy labelling requirements of air conditioners, light sources, refrigerating appliances, and refrigerating appliances with a direct sales function	(EU) 2023/2048
Characterization of LED Light Engines and LED Lamps for Electrical and Photometric Properties as a Function of Temperature	IES LM-82
Energy Conservation Program: Test Procedures for Integrated Light-Emitting Diode Lamps	US DOE 81 FR 43403
Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment Requirements	ANSI C82.77
Optical and Electrical Measurement of Solid-State Lighting Products	IES LM-79
Photometry of Reflector Type Lamps	IES LM-20
Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules	IES LM-80
Spectroradiometric Measurement Methods for Lighting Sources	IES LM-58; IES TM-21
The Electrical and Photometric Measurement of General Service Incandescent Filament Lamps	IES LM-45
Practical Guide to Colorimetry of Light Sources	IES LM-16
Colorimetry	CIE Pub. 15
IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000V and Less) AC Power Circuits	ANSI C62.41.2
ENEC Requirement Sheet 002 Horticultural luminaires with LED Application of EN IEC 60598 series and EN 62471:2008 to LED Horticultural Luminaires for the granting of the ENEC Mark within the European Certification System	ERS 002

Test(s):**Test Method(s)^{1,3,4}:**

ENEC+ Requirement Sheet 001: LED modules for general lighting - Performance. Application of EN 62717:2017

EPRS 001

ENEC+ Requirement Sheet 002: Luminaire Performance – General. Application of EN 62722-1:2022

EPRS 002

ENEC+ Requirement Sheet 003: Luminaire Performance – LED Luminaires. Application of EN 62722-2-1:2023

EPRS 003

ENEC+ Requirement Sheet 004: Self-ballasted LED lamps for general lighting services with supply voltage > 50V - Performance requirements Application of EN 62612:2013 + A2:2018

EPRS 004

Temporal Light Artifacts: Test Methods and Guidance for Accepted Criteria

NEMA 77

Quality Technical Regulation applicable to Luminaires for Public Road Illumination

INMETRO-Ordinance No. 20

Technical Quality Regulation for Luminaires for Public Street Lighting

INMETRO-Ordinance No. 62

Amendment on Technical Regulation for LED Lamps (Light-Emitting Diode) with Integrated Device to the Base

INMETRO-Ordinance No.143

Conformity Assessment Requirements for LED Lamps with Integrated Device to the Base

INMETRO-Ordinance No.144

Technical Regulation of Quality for LED Lamps with Device Integrated into the Base

INMETRO-Regulation 69

LED Lamps with Integrated Control Device, Consists of a Single Non-Detachable Unit, Operating on AC Power Distribution Network of 60Hz, for Nominal Voltage of 127 V and/or 220 V

INMETRO-Regulation 389

Laser Products

Safety of Laser Products - Part 1: Equipment Classification and Requirements

GB 7247.1; IEC 60825-1; EN 60825-1; EN 50689

Test(s):**Test Method(s)^{1,3,4} :****Electrical Accessories**

Approval and Test Specification - Plugs and Socket-Outlets	AS/NZS 3112
Flat Non-Wirable Two-Pole Plugs, 2,5 A 250 V, with Cord for the Connection of Class II-Equipment for Household and Similar Purposes	EN 50075
13 A Plugs, Socket-Outlets, Adaptors and Connection Units Part 1: Specification for Re-Wirable and Non-Re-Wirable 13 A Fused Plugs	BS 1363-1
Switches for appliances - Part 1: General requirements	IEC 61058-1; EN IEC 61058-1
Switches for appliances - Part 1-1: Requirements for mechanical switches	IEC 61058-1-1; EN 61058-1-1
Switches for appliances - Part 1-2: Requirements for electronic switches	IEC 61058-1-2; EN 61058-1-2
Switches for appliances - Part 2-1: Particular requirements for cord switches	IEC 61058-2-1; EN IEC 61058-2-1
Switches for appliances - Part 2-4: Particular requirements for independently mounted switches	IEC 61058-2-4; EN IEC 61058-2-4
Switches for appliances - Part 2-5: Particular requirements for change-over selectors	IEC 61058-2-5; EN IEC 61058-2-5
Switches for appliances - Part 2-6: Particular requirements for switches used in electric motor-operated hand-held tools, transportable tools and lawn and garden machinery	IEC 61058-2-6; EN IEC 61058-2-6
Automatic electrical controls for household and similar use - Part 1: General requirements	IEC 60730-1; EN 60730-1; EN IEC 60730-1
Switches for household and similar fixed electrical installations - Part 1: General requirements	IEC 60669-1; EN 60669-1
Plugs and socket-outlets for household and similar purposes – Part 1: General requirements	IEC 60884-1

Test(s):**Test Method(s)^{1,3,4}:****Tools**

Safety of Motor-Operated Hand-Held,
Transportable Electric Tools and Lawn and
Garden Tools-Part 1:General Requirements

IEC 62841-1; EN 62841-1; AS/NZS 62841.1;
UL 62841-1; CSA C22.2 NO 62841-1

Safety of Hand-Held Motor-Operated Electric
Tools -Part 1: General Requirements

IEC 60745-1; EN 60745-1; AS/NZS 60745.1;
UL 60745-1; CSA C22.2 NO 60745-1

Hand-Held Motor-Operated Electric Tools –
Safety –Part 2-1: Particular Requirements for
Drills and Impact Drills

IEC 60745-2-1; EN 60745-2-1; AS/NZS
60745.2.1;
UL 60745-2-1; CSA C22.2 NO 60745-2-1

Part 2-2: Particular Requirements for
Screwdrivers and Impact Wrenches

IEC 60745-2-2; EN 60745-2-2; AS/NZS
60745.2.2; UL 60745-2-2;
CSA C22.2 NO 60745-2-2

Part 2-3: Particular Requirements for Grinders,
Polishers and Disk-Type Sanders

IEC 60745-2-3; EN 60745-2-3;
AS/NZS 60745.2.3; UL 60745-2-3;
CSA C22.2 NO 60745-2-3

Part 2-4: Particular Requirements for Sanders and
Polishers other than Disk Type

IEC 60745-2-4; EN 60745-2-4; AS/NZS
60745.2.4;
UL 60745-2-4; CSA C22.2 NO 60745-2-4

Part 2-5: Particular Requirements for Circular
Saws

IEC 60745-2-5; EN 60745-2-5; AS/NZS
60745.2.5;
UL 60745-2-5; CSA C22.2 NO 60745-2-5

Part 2-6: Particular Requirements for Hammers

IEC 60745-2-6; EN 60745-2-6;
AS/NZS 60745.2.6; UL 60745-2-6;
CSA C22.2 NO 60745-2-6

Part 2-9: Particular Requirements for Tappers

IEC 60745-2-9; EN 60745-2-9; AS/NZS
60745.2.9;
UL 60745-2-9; CSA C22.2 NO 60745-2-9

Part 2-11: Particular Requirements for
Reciprocating Saws (Jig and Sabre Saws)

IEC 60745-2-11; EN 60745-2-11; AS/NZS
60745.2.11;
UL 60745-2-11; CSA C22.2 NO 60745-2-11

Part 2-14: Particular Requirements for Planers

IEC 60745-2-14; EN 60745-2-14; AS/NZS
60745.2.14; UL 60745-2-14; CSA C22.2 NO
60745-2-14

Test(s):**Test Method(s)^{1,3,4}:**

Part 2-15: Particular Requirements for Hedge Trimmers

IEC 60745-2-15; EN 60745-2-15; AS/NZS 60745.2.15;
UL 60745-2-15; CSA C22.2 NO 60745-2-15

Part 2-17: Particular Requirements for Routers and Trimmers

IEC 60745-2-17; EN 60745-2-17; AS/NZS 60745.2.17;
UL 60745-2-17; CSA C22.2 NO 60745-2-17

Part 2-19: Particular Requirements for Jointers

IEC 60745-2-19; EN 60745-2-19;
AS/NZS 60745.2.19; UL 60745-2-19;
CSA C22.2 NO 60745-2-19

Part 2-20: Particular Requirements for Band Saws

IEC 60745-2-20; EN 60745-2-20;
AS/NZS 60745.2.20; UL 60745-2-20

Part 2-21: Particular Requirements for Drain Cleaners

IEC 60745-2-21; EN 62841-2-21;
UL 60745-2-21; CSA C22.2 NO 60745-2-21

Part 2-22: Particular Requirements for Cut-Off Machines

IEC 60745-2-22; AS/NZS 60745.2.22;
EN 60745-2-22; UL 60745-2-22;
CSA C22.2 NO 60745-2-22

Part 2-23: Particular Requirements for Die Grinders and Small Rotary Tools

IEC 60745-2-23; AS/NZS 60745.2.23;
EN 60745-2-23; UL 60745-2-23

Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery – Safety –Part 2-1: Particular Requirements for Hand-Held Drills and Impact Drills

IEC 62841-2-1; AS/NZS 62841.2.1;
EN 62841-2-1; UL 62841-2-1;
CSA C22.2 NO 62841-2-1

Part 2-2: Particular Requirements for Hand-Held Screwdrivers and Impact Wrenches

IEC 62841-2-2; AS/NZS 62841.2.2;
EN 62841-2-2; AS/NZS 60745.2.2;
UL 62841-2-2; CSA C22.2 NO 62841-2-2

Part 2-3: Particular Requirements for Hand-Held Grinders, Disc-Type Polishers and Disc-Type Sanders

IEC 62841-2-3; EN IEC 62841-2-3;
AS/NZS 62841.2.3; UL 62841-2-3;
CSA C22.2 NO 62841-2-3

Part 2-4: Particular Requirements for Hand-Held Sanders and Polishers other than Disc Type

IEC 62841-2-4; AS/NZS 62841.2.4;
EN 62841-2-4; UL 62841-2-4;
CSA C22.2 NO 62841-2-4

Part 2-5: Particular Requirements for Hand-Held Circular Saws

IEC 62841-2-5; AS/NZS 62841.2.5;
EN 62841-2-5; UL 62841-2-5;
CSA C22.2 NO 62841-2-5

Test(s):**Test Method(s)^{1,3,4}:**

Part 2-6: Particular Requirements for Hand-Held Hammers

IEC 62841-2-6; AS/NZS 62841.2.6;
EN IEC 62841-2-6; UL 62841-2-6;
CSA C22.2 NO 62841-2-6

Part 2-8: Particular Requirements for Hand-Held Shears and Nibblers

IEC 62841-2-8; AS/NZS 62841.2.8;
EN 62841-2-8; UL 62841-2-8;
CSA C22.2 NO 62841-2-8

Part 2-9: Particular Requirements for Hand-Held Tappers and Threaders

IEC 62841-2-9; AS/NZS 62841.2.9;
EN 62841-2-9; UL 62841-2-9;
CSA C22.2 NO 62841-2-9

Part 2-10: Particular Requirements for Hand-Held Mixers

IEC 62841-2-10; AS/NZS 62841.2.10;
EN 62841-2-10; UL 62841-2-10;
CSA C22.2 NO 62841-2-10

Part 2-11: Particular Requirements for Hand-Held Reciprocating Saws

IEC 62841-2-11; AS/NZS 62841.2.11;
EN 62841-2-11; UL 62841-2-11;
CSA C22.2 NO 62841-2-11

Part 2-14: Particular Requirements for Hand-Held Planers

IEC 62841-2-14; AS/NZS 62841.2.14;
EN 62841-2-14; UL 62841-2-14;
CSA C22.2 NO 62841-2-14

Part 4-2: Particular Requirements for Hedge Trimmers

IEC 62841-4-2; AS/NZS 62841.4.2;
EN 62841-4-2; UL 62841-4-2;
CSA C22.2 NO 62841-4-2

Part 2-17: Particular Requirements for Hand-Held Routers

IEC 62841-2-17; AS/NZS 62841.2.17;
EN 62841-2-17; UL 62841-2-17;
CSA C22.2 NO 62841-2-17

Part 3-1: Particular Requirements for Transportable Table Saws

IEC 62841-3-1; EN 62841-3-1; UL 62841-3-1;
CSA C22.2 NO 62841-3-1

Part 3-4: Particular Requirements for Transportable Bench Grinders

IEC 62841-3-4; EN 62841-3-4; UL 62841-3-4;
CSA C22.2 NO 62841-3-4

Part 3-9: Particular Requirements for Transportable Mitre Saws

IEC 62841-3-9; EN IEC 62841-3-9;
UL 62841-3-9; CSA C22.2 NO 62841-3-9

Part 3-10: Particular Requirements for Transportable Cut-Off Machines

IEC 62841-3-10; EN 62841-3-10;
UL 62841-3-10; CSA C22.2 NO 62841-3-10

Part 4-1: Particular Requirements for Chain Saws

IEC 62841-4-1; EN IEC 62841-4-1

Part 4-3: Particular Requirements for Pedestrian Controlled Walk-Behind Lawnmowers

IEC 62841-4-3; EN IEC 62841-4-3

Test(s):**Test Method(s)^{1,3,4}:**

Part 4-4: Particular Requirements for Lawn Trimmers, Lawn Edge Trimmers, Grass Trimmers, Brush Cutters and Brush Saws

IEC 62841-4-4; EN IEC 62841-4-4;
UL 62841-4-4; CSA C22.2 NO 62841-4-4

Part 4-5: Particular Requirements for Grass Shears

IEC 62841-4-5; EN IEC 62841-4-5;
UL 62841-4-5

Part 4-6: Particular Requirements for Garden Blowers, Garden Vacuums and Garden Blower/Vacuums

IEC 62841-4-6; EN IEC 62841-4-6

Part 4-7: Particular Requirements for Pedestrian Controlled Walk-Behind Lawn Scarifiers and Aerators

IEC 62841-4-7; EN IEC 62841-4-7

Safety of Transportable Motor-Operated Electric Tools – Part 1: General Requirements

IEC 61029-1; EN 61029-1

Part 2-1: Particular Requirements for Circular Saw

IEC 61029-2-1; EN 61029-2-1

Part 2-4: Particular Requirements for Bench Grinders

IEC 61029-2-4; EN 61029-2-4

Part 2-9: Particular Requirements for Mitre Saws

IEC 61029-2-9; EN 61029-2-9

Part 2-10: Particular Requirements for Cutting-Off Grinders

IEC 61029-2-10; EN 61029-2-10

Lithium-Ion Batteries and Charging Systems - Safety

IEC 63370; BS IEC 63370

Transformer

Safety of Power Transformers, Power Supplies, Reactors and Similar Products -- Part 1: General Requirements and Tests

IEC 61558-1; EN 61558-1; EN IEC 61558-1;
AS/NZS 61558.1

Part 2-1: Particular Requirements and Tests for Separating Transformers and Power Supplies Incorporating Separating Transformers for General Applications

IEC 61558-2-1; EN 61558-2-1;
EN IEC 61558-2-1; AS/NZS 61558.2.1

Part 2-7: Particular Requirements and Tests for Transformers and Power Supplies for Toys

IEC 61558-2-7; EN 61558-2-7;
EN IEC 61558-2-7; AS/NZS 61558.2.7

Test(s):**Test Method(s)^{1,3,4}:**

Part 2-4:
Particular Requirements and Tests for Isolating
Transformers and Power Supply Units
Incorporating Isolating Transformers

IEC 61558-2-4; EN 61558-2-4;
EN IEC 61558-2-4; AS/NZS 61558.2.4

Part 2-6: Particular Requirements and Tests for
Safety Isolating Transformers and Power Supply
Units Incorporating Safety Isolating Transformers

IEC 61558-2-6; EN 61558-2-6;
EN IEC 61558-2-6; AS/NZS 61558.2.6

Part 2-13: Particular Requirements and Tests for
Auto Transformers and Power Supply Units
Incorporating Auto Transformers

IEC 61558-2-13; EN 61558-2-13;
EN IEC 61558-2-13; AS/NZS 61558.2.13

Part 2-16: Particular Requirements and Tests for
Switch Mode Power Supply Units and
Transformers for Switch Mode Power Supply
Units

IEC 61558-2-16; EN 61558-2-16;
EN IEC 61558-2-16; AS/NZS 61558.2.16

Safety of Portable Inverters

AS/NZS 4763

Power Supplies

Class 2 Power Units

UL 1310

Power Converters/Inverters and Power
Converter/Inverter Systems for Land Vehicles and
Marine Crafts

UL 458

Power Supplies

UL 1012

Power supplies with extra-low-voltage class 2
outputs

CSA C22.2 No. 223

Eco-Design Requirements for External Power
Supplies Pursuant

EU 2019/1782

Performance of External Power Supplies - Test
Method and Energy Performance Mark

AS/NZS 4665.1

Minimum Allowable Values of Energy Efficiency
and Evaluating Values of Energy Conservation
for Single Voltage External AC-DC and AC-AC
Power Supplies

GB 20943

California Code of Regulations, Title 20: Division
2, Chapter 4, Article 4, Sections 1601-1609:
Appliance Efficiency

CEC-400-2017-002

Test(s):**Test Method(s)^{1,3,4} :**

Energy Conservation Program for Consumer Products Department of Energy

Department of Energy 10 CFR Part 430

Uniform Test Method for Measuring the Energy Consumption of Battery Chargers

10 CFR Appendix Y to Subpart B of Part 430

Uniform Test Method for Measuring the Energy Consumption of External Power Supplies

10 CFR Appendix Z to Subpart B of Part 430

Test Method for Calculating the Energy Efficiency

CSA C381.1;

Information Technology Equipment and Office Equipment

Electrical and Electronic Household and Office Equipment Measurement of Low Power Consumption

EN 50564

Information Technology Equipment-Energy Performance of Computer Monitors; Part 1: Methods of Measurement of Energy Performance

AS/NZS 5815.1

Part 2: Minimum Energy Performance Standards (MEPS) and Energy Rating Labels

AS/NZS 5815.2

Information Technology Equipment-Safety-Part 1:General requirements

IEC 60950-1; EN 60950-1;
AS/NZS 60950.1; UL 60950;
CSA C22.2 NO. 60950

Universal serial bus interfaces for data and power - Part 1-2: Common components - USB Power Delivery specification

IEC 62680-1-2; EN IEC 62680-1-2;
SASO IEC 62680-1-2

Universal serial bus interfaces for data and power - Part 1-3: Common components - USB Type-C® cable and connector specification

IEC 62680-1-3; EN IEC 62680-1-3;
SASO IEC 62680-1-3

Audio and Video Equipment

Audio, Video and Similar Electronic Apparatus-Safety Requirements

IEC 60065; EN 60065; AS/NZS 60065;
UL 60065; CSA C22.2 No. 60065

Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements

IEC 62368-1; EN 62368-1;
AS/NZS 62368.1; EN IEC 62368-1; UL 62368-1;
CSA C22.2 No. 62368-1

Test(s):

Part 3: Safety Aspects for DC Power Transfer
Through Communication Cables and Ports

Safety Requirements for Radio Transmitting
Equipment – General Requirements and
Terminology

Battery

Batteries Containing Alkaline or Other Nonacid
Electrolytes - Safety Requirements for Portable
Sealed Secondary Cells, and for Batteries Made
from Them, for Use in Portable Applications

Secondary Cells and Batteries Containing
Alkaline or Other Nonacid Electrolytes - Safety
Requirements for Portable Sealed
Secondary Cells, and for Batteries Made from
Them, for use in Portable Applications
Part 1: Nickel Systems

Secondary Cells and Batteries Containing
Alkaline or Other Nonacid Electrolytes - Safety
Requirements for Portable Sealed
Secondary Cells, and for Batteries Made from
Them, for Use in Portable Applications
Part 2: Lithium Systems

Recommendations on the Transport of Dangerous
Goods Manual of Tests and Criteria Lithium
Batteries

Primary Batteries - Part 1: General

Primary Batteries - Part 2: Physical and Electrical
Specifications

Primary Batteries - Part 4: Safety of Lithium
Batteries

Primary Batteries - Part 5: Safety of Batteries with
Aqueous Electrolyte

Secondary Cells and Batteries Containing
Alkaline or Other Nonacid Electrolytes – Safety
Requirements for Secondary Lithium
Cells and Batteries, for Use in Industrial
Applications

Test Method(s)^{1,3,4}:

IEC 62368-3; EN IEC 62368-3

IEC 60215; BS IEC 60215

IEC 62133; EN 62133; UL 62133

IEC 62133-1; EN 62133-1; UL 62133-1;
CSA C22.2 No. 62133-1

IEC 62133-2; EN 62133-2; UL 62133-2;
CSA C22.2 No. 62133-2

ST/SG/AC.10/11/Rev.7/Amend.1 38.3.4.1

IEC 60086-1; EN 60086-1

IEC 60086-2; EN 60086-2

IEC 60086-4; EN 60086-4

IEC 60086-5; EN 60086-5

IEC 62619; EN 62619; EN IEC 62619

Test(s):

Secondary Cells and Batteries Containing
Alkaline or Other Nonacid
Electrolytes - Secondary Lithium Cells and
Batteries for Use in
Industrial Applications

Standard for General Requirements for Battery-
Powered Appliance

Lithium Batteries

Household and Commercial Batteries

ANSI/CAN/UL Batteries for Use in Stationary
and Motive Auxiliary Power Applications

ENEC Requirement Sheet 001
Li-ion batteries for emergency lighting –
Application of EN 62133-2 and EN 62620
according EN 60598-2-22 Annex A.7

**Electrical Equipment for Measurement,
Control, and Laboratory Use**

Safety Requirements for Electrical Equipment for
Measurement, Control, and Laboratory Use –
Part 1: General Requirements

Part 2-010: Particular Requirements for
Laboratory Equipment for the Heating of
Materials

Part 2-011: Particular Requirements for
Refrigerating Equipment

Part 2-020: Particular Requirements for
Laboratory Centrifuges

Part 2-051: Particular Requirements for
Laboratory Equipment for Mixing and Stirring

Part 2-081: Particular Requirements
for Automatic and Semi-Automatic Laboratory
Equipment for
Analysis and Other Purposes

Test Method(s)^{1,3,4}:

IEC 62620; EN 62620

UL 2595

UL 1642

UL 2054

UL 1973

ERS 001

IEC 61010-1; EN 61010-1; UL 61010-1;
CAN/CSA-C22.2 NO. 61010-1-1

IEC 61010-2-010; EN 61010-2-010;
EN IEC 61010-2-010; UL 61010-2-010;
CSA C22.2 NO. 61010-2-010

IEC 61010-2-011; EN 61010-2-011;
EN IEC 61010-2-011; UL 61010-2-011;
CSA C22.2 No. 61010-2-011

IEC 61010-2-020; EN 61010-2-020;
CSA C22.2 NO. 61010-2-020

IEC 61010-2-051; EN 61010-2-051;
EN IEC 61010-2-051; UL 61010-2-051;
CSA C22.2 NO. 61010-2-051

IEC 61010-2-081; EN 61010-2-081;
EN IEC 61010-2-081; UL 61010-2-081;
CSA C22.2 NO. 61010-2-081

Test(s):

Part 2-040: Particular Requirements for Sterilizers and Washer-Disinfectors Used to Treat Medical Materials

Part 2-101: Particular Requirements for in Vitro Diagnostic (IVD) Medical Equipment

Test Method(s)^{1,3,4}:

IEC 61010-2-040; EN 61010-2-040;
EN IEC 61010-2-040; UL 61010-2-040;
CSA C22.2 NO. 61010-2-040

IEC 61010-2-101; EN 61010-2-101;
EN IEC 61010-2-101; UL 61010-2-101;
CSA C22.2 NO. 61010-2-101

Explosive Equipment

Explosive Atmospheres

IEC 60079-0; EN IEC 60079-0;
UL 60079-0; CAN/CSA-C22.2 No. 60079-0

Part 1: Equipment Protection by Flameproof Enclosures "d"

IEC 60079-1; EN 60079-1; UL 60079-1;
CAN/CSA-C22.2 No. 60079-1

Part 7: Equipment Protection by Increased Safety "e"

IEC 60079-7; EN IEC 60079-7; UL 60079-7;
CAN/CSA-C22.2 No. 60079-7

Part 11: Equipment Protection by Intrinsic Safety "i"

IEC 60079-11; EN 60079-11; UL 60079-11;
CAN/CSA-C22.2 No. 60079-11

Part 15: Equipment Protection by type of protection "n"

IEC 60079-15; EN 60079-15; UL 60079-15;
CAN/CSA-C22.2 No. 60079-15

Part 18: Equipment Protection by Encapsulation "m"

IEC 60079-18; EN 60079-18; UL 60079-18;
CAN/CSA-C22.2 No. 60079-18

Part 28: Protection of Equipment and Transmission Systems Using Optical Radiation

IEC 60079-28; EN 60079-28; UL 60079-28;
CAN/CSA-C22.2 No. 60079-28

Part 31: Equipment Dust Ignition Protection by Enclosure "t"

IEC 60079-31; EN 60079-31; UL 60079-31;
CAN/CSA-C22.2 No. 60079-31

Medical Devices

(Excluding EMC)

Part 2-46: Particular Requirements for the Basic Safety and Essential Performance of Operating Tables

IEC 60601-2-46; EN IEC 60601-2-46;
CSA-C22.2 No. 60601-2-46

Part 2-52: Particular Requirements for the Basic Safety and Essential Performance of Medical Beds

IEC 60601-2-52; EN 60601-2-52;
CAN/CSA-C22.2 No. 60601-2-52

Part 2-57: Particular Requirements for the Basic Safety and Essential Performance of Non-Laser Light Source Equipment Intended for

IEC 60601-2-57; EN 60601-2-57;
CAN/CSA-C22.2 No. 60601-2-57

Test(s):

Therapeutic, Diagnostic, Monitoring and
Cosmetic/Aesthetic Use

Part 2-30: Particular Requirements
for the Basic Safety and Essential Performance of
Automated Noninvasive Sphygmomanometers

Part 2-56: Particular Requirements
for Basic Safety and Essential Performance of
Clinical Thermometers for Body Temperature
Measurement

Part 2-61: Particular Requirements
for Basic Safety and Essential Performance of
Pulse Oximeter Equipment

Medical Electrical Equipment –Part 1: General
Requirements for Basic Safety and Essential
Performance

Medical Electrical Equipment - Part 1-6: General
Requirements for
Basic Safety and Essential Performance -
Collateral Standard: Usability

Medical Electrical Equipment - Part 1-8: General
Requirements for Basic Safety and Essential
Performance - Collateral Standard: General
Requirements, Tests and Guidance for Alarm
Systems in Medical Electrical Equipment and
Medical Electrical Systems

Medical Electrical Equipment - Part 1-9: General
Requirements for Basic Safety and Essential
Performance - Collateral Standard: Requirements
for Environmentally Conscious Design

Medical Electrical Equipment –Part 1-11: General
Requirements for Basic Safety and Essential
Performance – Collateral Standard: Requirements
for Medical Electrical Equipment and Medical
Electrical Systems Used in the Home Healthcare
Environment

Medical Electrical Equipment –Part 1-12: General
Requirements for Basic Safety and Essential
Performance – Collateral Standard: Requirements
for Medical Electrical Equipment and Medical

Test Method(s)^{1,3,4} :

IEC 80601-2-30; EN IEC 80601-2-30;
ANSI AAMI IEC 80601-2-30;
CAN/CSA C22.2 NO. 80601-2-30

ISO 80601-2-56; EN ISO 80601-2-56;
CSA-C22.2 No. 80601-2-56

ISO 80601-2-61; EN ISO 80601-2-61;
CAN/CSA-C22.2 No. 80601-2-61

IEC 60601-1; EN 60601-1;
ANSI/AAMI ES60601-1;
CAN/CSA-C22.2 NO. 60601-1

IEC 60601-1-6; EN 60601-1-6;
CAN/CSA-C22.2 NO. 60601-1-6

IEC 60601-1-8; EN 60601-1-8;
ANSI/AAMI/IEC 60601-1-8;
CAN/CSA-C22.2 NO. 60601-1-8

IEC 60601-1-9; EN 60601-1-9;
CAN/CSA-C22.2 NO. 60601-1-9

IEC 60601-1-11; EN 60601-1-11;
ANSI AAMI HA60601-1-11;
CSA C22.2 No. 60601-1-11

IEC 60601-1-12; EN 60601-1-12;
ANSI AAMI IEC 60601-1-12;
CSA-C22.2 No. 60601-1-12

Test(s):**Test Method(s)^{1,3,4}:**

Electrical Systems Intended for Use in the
Emergency Medical Services Environment

Medical Electrical Equipment –Part 2-10:
Particular Requirements for the Basic Safety and
Essential Performance of Nerve and Muscle
Stimulators

IEC 60601-2-10;
EN 60601-2-10;
CSA-C22.2 NO. 60601-2-10

Medical Electrical Equipment - Part 2-18:
Particular Requirements for the Basic Safety and
Essential Performance of Endoscopic
Equipment

IEC 60601-2-18; EN 60601-2-18;
CSA-C22.2 No. 60601-2-18

Medical electrical equipment – Part 2-19:
Particular Requirements for the Basic Safety and
Essential Performance of Infant Incubators

IEC 60601-2-19; EN IEC 60601-2-19;
ANSI AAMI IEC 60601-2-19;
CSA C22.2 No. 60601-2-19

Medical Electrical Equipment - Part 2-20:
Requirements for the Basic Safety and Essential
Performance of Infant Transport Incubators

IEC 60601-2-20; EN IEC 60601-2-20;
AAMI 60601-2-20;
CSA C22.2 NO. 60601-2-20

Medical Electrical Equipment - Part 2-21:
Particular Requirements for the Basic Safety and
Essential Performance of Infant Radiant Warmers

IEC 60601-2-21; EN IEC 60601-2-21;
ANSI AAMI IEC 60601-2-21;
CSA C22.2 NO. 60601-2-21

Medical electrical equipment –Part 2-22:
Particular Requirements for Basic Safety and
Essential Performance of Surgical, Cosmetic,
Therapeutic and Diagnostic Laser Equipment

IEC 60601-2-22; EN IEC 60601-2-22;
CSA-C22.2 NO. 60601-2-22

Medical Electrical Equipment – Part 2-24:
Particular Requirements for the Basic Safety and
Essential Performance of Infusion Pumps and
Controllers

IEC 60601-2-24; EN 60601-2-24;
CSA C22.2 NO. 60601-2-24

Medical Electrical Equipment - Part 2-37:
Particular Requirements for the Basic Safety and
Essential Performance of Ultrasonic
Medical Diagnostic and Monitoring Equipment

IEC 60601-2-37; EN 60601-2-37;
EN IEC 60601-2-37;
CSA-C22.2 No. 60601-2-37

Medical Electrical Equipment –Part 2-41:
Particular Requirements for the Basic Safety and
Essential Performance of Surgical
Luminaires and Luminaires for Diagnosis

IEC 60601-2-41; EN 60601-2-41;
EN IEC 60601-2-41;
CSA-C22.2 NO. 60601-2-41

Medical Electrical Equipment - Part 2-25:
Particular Requirements for the Basic Safety and
Essential Performance of Electrocardiographs

IEC 60601-2-25; EN 60601-2-25;
CSA C22.2 NO. 60601-2-25;
ANSI AAMI IEC 60601-2-25

Test(s):

Medical Electrical Equipment – Part 2-26:
Particular Requirements for the Basic Safety and
Essential Performance of Electroencephalographs

Medical Electrical Equipment - Part 2-27:
Particular Requirements for the Basic Safety and
Essential Performance of Electrocardiographic
Monitoring Equipment

Medical Electrical Equipment – Part 2-28:
Particular Requirements for the Basic Safety and
Essential Performance of X-ray Tube Assemblies
for Medical Diagnosis

Medical Electrical Equipment – Part 2-34:
Particular Requirements for the Basic Safety and
Essential Performance of Invasive Blood Pressure
Monitoring Equipment
Medical Electrical Equipment - Part 2-44:
Particular Requirements for the Basic Safety and
Essential Performance of X-Ray Equipment for
Computed Tomography

Medical Electrical Equipment – Part 2-45:
Particular Requirements for the Basic Safety and
Essential Performance of Mammographic X-ray
Equipment and Mammographic Stereotactic
Devices

Medical Electrical Equipment – Part 2-54:
Particular Requirements for the Basic Safety and
Essential Performance of X-ray Equipment for
Radiography and Radioscopy

Medical Electrical Equipment – Part 2-63:
Particular Requirements for the Basic Safety and
Essential Performance of Dental Extra-Oral X-
Ray Equipment

Medical Electrical Equipment – Part 2-65:
Particular Requirements for the Basic Safety and
Essential Performance of Dental Intra-Oral X-Ray
Equipment

Medical Electrical Equipment - Part 2-47:
Particular Requirements for the Basic Safety and
Essential Performance of Ambulatory
Electrocardiographic Systems

Test Method(s)^{1,3,4}:

IEC 60601-2-26; EN 60601-2-26;
ANSI AAMI IEC 60601-2-26;
CSA C22.2 No. 60601-2-26

IEC 60601-2-27; EN 60601-2-27;
ANSI AAMI IEC 60601-2-27

IEC 60601-2-28; EN IEC 60601-2-28;
CSA C22.2 NO. 60601-2-28

IEC 60601-2-34; EN 60601-2-34;
EN IEC 60601-2-34;
CSA C22.2 NO. 60601-2-34

IEC 60601-2-44; EN 60601-2-44;
CSA C22.2 NO. 60601-2-44

IEC 60601-2-45; EN 60601-2-45;
CSA C22.2 NO. 60601-2-45

IEC 60601-2-54; EN 60601-2-54;
EN IEC 60601-2-54;
CSA C22.2 NO. 60601-2-54

IEC 60601-2-63; EN 60601-2-63;
CSA C22.2 NO. 60601-2-63

IEC 60601-2-65; EN 60601-2-65;
CSA C22.2 NO. 60601-2-65

IEC 60601-2-47; EN 60601-2-47;
ANSI AAMI IEC 60601-2-47;
CSA C22.2 NO. 60601-2-47

Test(s):**Test Method(s)^{1,3,4}:**

Medical Electrical Equipment - Part 2-49:
Particular Requirements for the Basic Safety and
Essential Performance of Multifunction Patient
Monitors

IEC 60601-2-49; EN 60601-2-49;
CSA C22.2 NO. 60601-2-49

Medical Electrical Equipment - Part 2-50:
Particular Requirements for the Basic Safety and
Essential Performance of Infant Phototherapy
Equipment

IEC 60601-2-50; EN 60601-2-50;
ANSI AAMI IEC 60601-2-50;
CSA C22.2 NO. 60601-2-50

Medical Electrical Equipment – Part 2-49:
Particular Requirements for the Basic Safety and
Essential Performance of Multifunction Patient
Monitors

IEC 80601-2-49; EN IEC 80601-2-49;
CSA C22.2 NO. 80601-2-49

Medical Electrical Equipment – Part 2-60:
Requirements for the Basic Safety and Essential
Performance of Dental Equipment

IEC 80601-2-60; EN IEC 80601-2-60;
CSA C22.2 NO. 80601-2-60

Medical Electrical Equipment — Part 2-12:
Particular Requirements for Basic Safety and
Essential Performance of Critical Care Ventilators

ISO 80601-2-12; EN ISO 80601-2-12;
CSA C22.2 NO. 80601-2-12

Medical Electrical Equipment - Part 2-55:
Particular Requirements for the Basic Safety and
Essential Performance of Respiratory Gas
Monitors

ISO 80601-2-55; EN ISO 80601-2-55;
CSA C22.2 NO. 80601-2-55

Medical Electrical Equipment — Part 2-74:
Particular Requirements for Basic Safety and
Essential Performance of Respiratory
Humidifying Equipment

ISO 80601-2-74; EN ISO 80601-2-74;
CSA C22.2 NO. 80601-2-74

Medical Electrical Equipment — Part 2-66:
Particular Requirements for the Basic Safety and
Essential Performance of Hearing Aids and
Hearing Aid Systems

IEC 60601-2-66; EN IEC 60601-2-66;
CSA C22.2 NO. 60601-2-66

Medical Electrical Equipment — Part 2-69:
Particular Requirements for the Basic Safety and
Essential Performance of Oxygen Concentrator
Equipment

ISO 80601-2-69; EN ISO 80601-2-69;
CSA C22.2 NO. 80601-2-69

Medical Electrical Equipment – Part 2-83:
Particular Requirements for the Basic Safety and
Essential Performance of Home Light Therapy
Equipment

IEC 60601-2-83; EN IEC 60601-2-83;
CSA C22.2 No. 60601-2-83

Test(s):**Test Method(s)^{1,3,4}:**

Medical Electrical Equipment - Part 2-2:
Particular Requirements for the Basic Safety and
Essential Performance of High Frequency
Surgical Equipment and High Frequency Surgical
Accessories

IEC 60601-2-2; EN IEC 60601-2-2;
ANSI AAMI IEC 60601-2-2;
CSA C22.2 NO. 60601-2-2

Medical Electrical Equipment - Part 2-26:
Particular Requirements for the Basic Safety and
Essential Performance of Electroencephalographs

IEC 80601-2-26; EN IEC 80601-2-26;
CSA C22.2 NO 80601-2-26

Medical Device Software – Software Life Cycle
Processes

IEC 62304; EN 62304; ANSI AAMI IEC 62304;
CSA IEC 62304

Electromagnetic Compatibility*Conducted Emissions Only*

ANSI C63.4:2014; EN 55011;
EN 55014-1; EN IEC 55014;
EN 55032;
EN IEC 55015;
IEC 61326-1; EN 61326-1; EN IEC 61326-1;
CISPR 11; CISPR 15; CISPR 32; CISPR 14-1;
CISPR 15; CISPR 32; AS/NZS CISPR 14.1;
AS/NZS CISPR 32; AS/NZS CISPR 15;
ICES-001; ICES-003; ICES-005;
J55014-1;
IEC 61000-6-3; EN 61000-6-3;
EN IEC 61000-6-3; AS/NZS 61000.6.3;
IEC 61000-6-4; EN 61000-6-4;
EN IEC 61000-6-4; AS/NZS 61000.4;
IEC 60601-1-2; EN 60601-1-2;
GB/T 18268.1; GB/T 17743; BM 4343.1;
GB/T 9254.1;
SANS 2332; SANS 214-1; SANS 215

Current Harmonics

IEC 61000-3-2; EN 61000-3-2;
EN IEC 61000-3-2

Voltage Fluctuations & Flicker

IEC 61000-3-3; EN 61000-3-3

Immunity

Electrostatic Discharge (ESD)

IEC 61000-4-2; EN 61000-4-2; GB/T 17626.2

Electrical Fast Transient/Burst

IEC 61000-4-4; ; EN 61000-4-4; GB/T 17626.4

Surge

IEC 61000-4-5; EN 61000-4-5; GB/T 17626.5

Test(s):**Test Method(s)^{1,3,4}:**

Conducted Immunity

IEC 61000-4-6; EN 61000-4-6; GB/T 17626.6

Power Frequency Magnetic Field

IEC/ 61000-4-8; EN 61000-4-8; GB/T 17626.8

Voltage Dips, Short Interruptions
Line Voltage VariationsIEC 61000-4-11; EN 61000-4-11;
EN IEC 61000-4-11; GB/T 17626.11

Generic Standards

IEC61000-6-1; EN 61000-6-1;
EN IEC 61000-6-1; IEC 61000-6-2;
EN 61000-6-2; EN IEC 61000-6-2;
IEC 61000-6-3;-EN 61000-6-3;
EN IEC 61000-6-3; IEC 61000-6-4;
EN 61000-6-4; EN IEC 61000-6-4

Product Family Standards and Industry Standards

CISPR 35; EN 55035; GB/T9254.2;
IEC 61547; EN 61547; EN IEC 61547;
GB/T 18595; CISPR 14-2; EN 55014-2;
GB/T 4343.2; EN IEC 55014-2; IEC 60601-1-2;
EN 60601-1-2; ANSI/AAMI/IEC 60601-1-2;
YY9706.102;IEC/EN 61326-1; EN IEC 61326-1;
GB/T 18268.1; IEC 61326-2-2; EN 61326-2-2;
EN IEC 61326-2-2; GB/T 18268.22;
IEC 61326-2-6; ; EN 61326-2-6;
EN IEC 61326-2-6; GB/T 18268.26;
EN 50130-4; IEC 61204-3; EN IEC 61204-3;
EN 50121-1; EN 50121-3-2; EN 50121-4;
EN 50121-5; SANS 2335; SANS 214-2;
SANS 61547

Induced Current Density

IEC 62493; EN 62493

Telecommunication StandardsETSI EN 301 489-1;
ETSI EN 301 489-3;
ETSI EN 301 489-17**EMF (Electromagnetic Fields)**

IEC 62233; EN 62233

Charging Equipment for Electric Vehicles TestElectric vehicle conductive charging system –Part
1: General requirementsEN IEC 61851-1; IEC 61851-1;
BS EN IEC 61851-1Electric vehicle conductive charging system –Part
23: DC electric vehicle supply equipmentEN 61851-23; IEC 61851-23; BS EN 61851-23;
EN IEC 61851-23; BS EN IEC 61851-23Electric vehicle conductive charging system - Part
24: Digital communication between a d.c. EV
charging station and an electric vehicle for control
of d.c. chargingEN 61851-24; IEC 61851-24; BS EN 61851-24;
EN IEC 61851-24; BS EN IEC 61851-24

Test(s):**Test Method(s)^{1,3,4} :**

Residual direct current detecting device (RDC-DD) to be used for mode 3 charging of electric vehicles

IEC 62955

Charging Equipment for Electric Vehicles Test
(continued)

In-code control and protection device (IC-CPD) for mode 2 charging of electric road vehicles

EN 62752; EN IEC 62752; IEC 62752;
BS EN 62752; BS EN IEC 62752

Electric vehicles charging system– Part 1 :
Electrical safety and general requirements

TR 25-1

Electric vehicles charging system- Part 2 : Low
power charging

TR 25-2

Electric vehicles charging system– Part 3: High
power charging

TR 25-3

DC Charging Equipment for Electric Vehicles

UL 2202

Electric Vehicle Supply Equipment

UL 2594

Personnel Protection Systems for Electric Vehicle
(EV) Supply Circuits: General Requirements

UL 2231-1

Personnel Protection Systems for Electric Vehicle
(EV) Supply Circuits: Particular Requirements for
Protection Devices for Use in Charging Systems

UL 2231-2

ENERGY STAR® Program Requirements ²

Electric Vehicle Supply Equipment Eligibility
Criteria Version 1.2

ENERGY STAR® Program Requirements ²

ENERGY STAR Level 1 and Level 2 Electric
Vehicle Supply Equipment Test Method (Rev.
Apr-2017)

ENERGY STAR® Program Requirements ²

ENERGY STAR DC-output Electric Vehicle
Supply Equipment Test Method (Rev. Mar-2021)

Power conversion equipment

CSA C22.2 No. 107.1

Safety requirements for power electronic
converter systems and equipment –
Part 1: General

IEC 62477-1, EN 624771-1; EN IEC 62477-1

INFORMATION TECHNOLOGY

Test(s)

Test Method(s):

Cybersecurity

Common security requirements for radio equipment - Part 1: Internet connected radio equipment

EN 18031-1

Test(s)

Test Method(s):

Common security requirements for radio equipment - Part 2: radio equipment processing data, namely Internet connected radio equipment

EN 18031-2

Common security requirements for radio equipment - Part 3: Internet connected radio equipment processing virtual money or monetary value

EN 18031-3

Cyber Security for Consumer Internet of Things: Conformance Assessment of Baseline Requirements

ETSI TS 103 701

¹When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per part C., Section 1 of A2LA *R101 - General Requirements- Accreditation of ISO-IEC 17025 Laboratories*.

² A2LA provides accreditation to the U.S. EPA's Conditions and Criteria for Recognition of Laboratories for the ENERGY STAR Program by verifying an organization's compliance to A2LA document R222 - Specific Requirements - EPA ENERGY STAR Accreditation Program and to the related test methods listed above.

Accreditation by A2LA does not infer Recognition by the EPA for ENERGY STAR ® testing. Please verify this organization's recognition status by using the EPA's searchable database listed below:

<http://www.energystar.gov/cms/default/index.cfm/news-and-announcements/hidden-articles/eparecognized-bodies-for-lighting-products/epa-recognized-bodies-for-lighting-products>

³ The laboratory is only accredited for testing activities outlined within the test methods listed above. Reference to any other activity within these standards, such as risk management or risk assessment, does not fall within the laboratory's accredited capabilities.

⁴ Exclusions Tables

Standard	Clause/ Exclusion Description
IEC 60335-1; EN 60335-1	Clause 7.5 of Annex T/ Flexural strength test and Charpy impact test
	Annex F/Capacitor
	19.11.4.2/ Radiated fields test
	19.11.4.7/ Mains signals test
IEC 60065; EN 60065	Cl.6.1/Ionizing radiation
IEC 60950; EN 60950	Cl.4.3.13.2/Ionizing radiation
IEC 60065; EN 60065	Cl.6.2/Laser radiation
IEC 60950; EN 60950	Cl.4.3.13.5/Laser radiation
IEC 60065; EN 60065	Cl.7/Softening temperature
IEC 60065; EN 60065	Cl.8.18/Endurance test for wound components
IEC 60065; EN 60065	Cl.14.2/Resistors
IEC 60065; EN 60065	Cl.14.3/Capacitors and RC-units
IEC 60950; EN 60950	Cl.3.2.5.1/External flexible cord
IEC 60065; EN 60065	Cl.16.3b/External flexible cord
IEC 60065; EN 60065	Cl.18/Mechanical strength of picture tubes and protection against effects of implosion
IEC 60950; EN 60950	Cl.4.2.8/Mechanical strength of picture tubes and protection against effects of implosion
IEC 60065; EN 60065	Cl.21.3/Pre-conditioning of printed circuit boards
IEC 60065; EN 60065	Annex H/Insulating winding wires
IEC 60950; EN 60950	Cl.4.3.13.3/Effect of UV radiation on materials
IEC 60950; EN 60950	Cl.4.3.13.4/Human exposure to UV radiation
IEC 60065; EN 60065	Cl.12.1/Vibration
IEC 60335-2-xx; EN 60335-2-xx	Cl.32/Ozone concentration
IEC 60335-2-2; EN 60335-2-2 IEC 60335-2-54; EN 60335-2-54 IEC 60335-2-69; EN 60335-2-69	Cl.21/test of current carrying hose

Standard	Clause/ Exclusion Description
IEC/EN 60335-2-75	Annex AA/Aging test for elastomeric parts
IEC 60335-2-7; EN 60335-2-7	Annex BB/Aging test for elastomeric parts
IEC 60745-1; EN 60745-1; IEC 60745-2-xx; EN 60745-2-xx	Cl.6.1/Noise
IEC 60745-1; EN 60745-1; IEC 60745-2-xx; EN 60745-2-xx	Cl.6.2/Vibration
IEC 62841-1; EN 62841-1; IEC 62841-2-xx; EN 62841-2-xx	Annex xx/Emission of acoustical noise
IEC 62841-1; EN 62841-1; IEC 62841-2-xx; EN 62841-2-xx	Annex xx/Emission of vibration
IEC 60745-2-5; EN 60745-2-5	annex AA and annex BB/Mechanical hazards(harness measurement, ruptures measurement)
IEC 62368-1; EN 62368-1; EN IEC 62368-1	5.4.1.10/Thermoplastic parts on which conductive metallic parts are directly mounted
	10.5/X-radiation
	10.6/Effect of UV radiation on materials
	Annex C/UV radiation
	Annex G.5.3.4/Transformers using fully insulated winding wire (FIW)
	Annex G.7/Mains supply cords
	Annex G.9/Integrated circuit (IC) current limiters
	Annex G.10/ Test for resistor serving as safeguard Test sequence
	Annex G.13.6.2/Test method and compliance criteria
	Annex G.15.2.1/Hydrostatic pressure
	Annex G.15.2.3/Tubing and fittings compatibility test
	Annex J/Insulated winding wires for use without interleaved insulation
	Annex M.7/Concentration of hydrogen gas
	Annex M.8.2/Protection against internal ignition from external spark sources – Spark Test

Standard	Clause/ Exclusion Description
IEC 62368-1; EN 62368-1; EN IEC 62368-1	Annex P.4/Metallized coatings and adhesives securing parts
	Annex S.3.2/Tests for resistance to heat and fire
IEC 62841-1; EN 62841-1	Cl.21.12/ Rubber aging test
	Cl.26.2/ Quick-connect terminals
	Cl.26.4/ Measure the thickness of the coating
	Cl.18.5.2/ Armature open-circuits test
IEC 62841-3-1; EN 62841-3-1	Cl.19.103/ Riving knife
IEC 62841-2-5; EN 62841-2-5	AA.19.104/ Flanges
IEC 61558-1; EN 61558-1; EN IEC 61558-1	Cl.19.9/19.9 Insulating material separating input and output windings
IEC 60335-2-75; EN 60335-2-75; EN IEC 60335-2-75	Annex AA/ Aging test for elastomeric parts
IEC 60335-2-79; EN 60335-2-79	Cl.11/ Carbon monoxide detector
IEC 60335-2-79; EN 60335-2-79	Annex DD/ Vibration test
IEC 60335-2-79; EN 60335-2-79	Annex CC/ Noise test
IEC 60335-1, EN 60335-1; IEC 60335-2-XX; EN 60335-2-XX	Annex R/ Software evaluation
IEC 62133-2; EN 62133-2	cl.7.3.9/Design evaluation – Forced internal short circuit (cells)

Standard	Clause/ Exclusion Description
IEC 60601-1 EN 60601-1 ANSI/AAMI ES60601-1 CAN/CSA-C22.2 NO. 60601-1	9.6.2.1 / Audible acoustic energy
	8.8.4.2 Resistance to environmental stress
	10.1.1 ME EQUIPMENT not intended to produce diagnostic or therapeutic X-radiation
	10.3 / Microwave radiation
	11.2.2.1 RISK of fire in an OXYGEN RICH ENVIRONMENT
	11.6.7 / Sterilization
	12.4.5.2 Diagnostic X-ray equipment
	15.4.2 / Temperature and overload control devices
	Annex G Protection against HAZARDS of ignition of flammable anaesthetic mixtures
	Annex L / Insulated winding wires for use without interleaved insulation
IEC 60601-2-46 EN 60601-2-46 EN IEC 60601-2-46 CSA-C22.2 No. 60601-2-46	203 / Radiation protection in diagnostic X-ray equipment
IEC 60601-2-52 EN 60601-2-52 CAN/CSA-C22.2 No. 60601-2-52	201.11.6.6.101 / Machine washable medical bed
IEC 60601-2-24 EN 60601-2-24 CSA C22.2 NO. 60601-2-24	201.12.1 / Accuracy of controls and instruments
	201.12.4.4.104 / Protection against UNINTENDED BOLUS volumes and by occlusion
IEC 60601-2-28 EN 60601-2-28 EN IEC 60601-2-28 CSA C22.2 NO. 60601-2-28	201.8.8.3 / Dielectric strength
	201.12.4.5.2 / Diagnostic X-RAY EQUIPMENT
	203 / RADIATION protection in diagnostic X-RAY EQUIPMENT

Standard	Clause/ Exclusion Description
IEC 60601-2-34 EN 60601-2-34 EN IEC 60601-2-34 CSA C22.2 NO. 60601-2-34	201.12.1.101 / Accuracy of pressure measurements
	208.6.6.2.101 / Physiological ALARM CONDITIONS, ALARM LIMITS and delay time of physiological ALARM SIGNALS
IEC 60601-2-44 EN 60601-2-44 CSA C22.2 NO. 60601-2-44	201.8.8.3 / Dielectric strength
	203 / General requirements for RADIATION protection in diagnostic X-ray equipment
IEC 60601-2-45 EN 60601-2-45 CSA C22.2 NO. 60601-2-45	201.8.5.4.101 / Stator and stator circuit dielectric strength testing
	201.8.8.3 / Dielectric strength
	201.9.2.101 / Three dimensional localization and interventional mammographic guidance
	203 / Radiation protection in diagnostic X-ray equipment
IEC 60601-2-54 EN 60601-2-54 EN IEC 60601-2-54 CSA C22.2 NO. 60601-2-54	201.8.5.4.101 / Stator and stator circuit dielectric strength testing
	201.8.8.3 / Dielectric strength
	203 / Radiation protection in diagnostic X-ray equipment
IEC 60601-2-63 EN 60601-2-63 CSA C22.2 NO. 60601-2-63	201.8.5.4.101 / Stator and stator circuit dielectric strength testing
	201.8.8.3 / Dielectric strength
	203 / Radiation protection in diagnostic X-ray equipment

Standard	Clause/ Exclusion Description
IEC 60601-2-65 EN 60601-2-65 CSA C22.2 NO. 60601-2-65	201.8.8.3 * Dielectric strength
	203 Radiation protection in diagnostic X-ray equipment
ISO 80601-2-74 EN ISO 80601-2-74 CSA C22.2 NO. 80601-2-74	201.12.1.101 / Humidification output
	201.12.1.105 / Dynamic temperature stability
ISO 80601-2-55 EN ISO 80601-2-55 CSA C22.2 NO. 80601-2-55	201.12 / Accuracy of controls and instruments and protection against hazardous outputs
ISO 80601-2-12 EN ISO 80601-2-12 CSA C22.2 NO. 80601-2-12	201.9.101 / Additional requirements for suction procedures
	201.12.1.101 / Volume-control inflation-type
	201.12.1.102 / Pressure-control inflation-type
	201.12.1.105 / Response of the ventilator to an increase in set O2 concentration
IEC 61010-1 EN 61010-1 UL 61010-1 CAN/CSA-C22.2 NO. 61010-1	9.5 / flammable liquid
	10.5.3(2) / Vi cat softening test
	12.2./ Ionizing radiation test
	12.4 / Microwave radiation test
	12.5 / Sonic and ultrasonic pressure
	13.2.3 / Implosion of cathode ray tubes
IEC 60079-0, EN IEC 60079-0, UL 60079-0, CAN/CSA-C22.2 No. 60079-0	26.5.3 Small component ignition test 26.10 Resistance to UV light 26.11 Resistance to chemical agents for Group I equipment 26.17 Transferred charge test
IEC 60079-1, EN 60079-1, UL 60079-1, CAN/CSA-C22.2 No. 60079-1	15.2.2 Determination of explosion pressure (reference pressure) 15.3 Test for non-transmission of an internal ignition 15.4 Tests of flameproof enclosures with breathing and draining devices Annex B Additional requirements for elements,

Standard	Clause/ Exclusion Description
	with non-measurable paths of breathing and draining devices
IEC 60079-7, EN IEC 60079-7 UL 60079-7, CAN/CSA-C22.2 No. 60079-7	6.2 rotating electric machines 6.3.3 Mechanical tests for screw lampholders other than E10 6.3.4 Abnormal operation of luminaires 6.3.5 Sulphur dioxide test for level of protection "eb" for the connection of bi-pin lamp caps to lampholders 6.6.4 Test for Level of Protection "eb" ventilation of battery container 6.7.4 Test for ventilation of Level of Protection "ec" battery container Annex B.1 resistance heating devices subjected to mechanical stresses
IEC 60079-11, EN 60079-11, UL 60079-11, CAN/CSA-C22.2 No. 60079-11	10.1 Spark ignition test.
IEC 60079-15, EN 60079-15, UL 60079-15; CAN/CSA-C22.2 No. 60079-15	11.1 Test for incandescence components. 11.2 Test for sealed devices 11.3 Type test requirements for restricted-breathing enclosures
IEC 60079-28; EN 60079-28; UL 60079-28, CAN/CSA-C22.2 No. 60079-28	5.2.4 ignition test 5.3 Requirements for protected optical radiation "op pr" 5.4 Optical system with interlock "op sh"
IEC 61000-6-1; EN IEC 61000-6-1; IEC 61000-6-2; EN IEC 61000-6-2	Radiated, radio-frequency electromagnetic field immunity test
CISPR 35; EN 55035; GB/T 9254.2; SANS 2335	Radiated, radio-frequency electromagnetic field immunity test
IEC 61547; EN IEC 61547; GB/T 18595; SANS 61547	Radiated, radio-frequency electromagnetic field immunity test
CISPR 14-2; EN 55014-2; EN IEC 55014-2; GB/T 4343.2; SANS 214-2	Radiated, radio-frequency electromagnetic field immunity test

Standard	Clause/ Exclusion Description
IEC 61326-1; EN IEC 61326-1; GB/T 18268.1; IEC 61326-2-2; EN IEC 61326-2-2; GB/T 18268.22; IEC 61326-2-6; EN IEC 61326-2-6; GB/T 18268.26	Radiated, radio-frequency electromagnetic field immunity test
EN 50130-4	Radiated, radio-frequency electromagnetic field immunity test
IEC 61204-3; EN IEC 61204-3	Radiated, radio-frequency electromagnetic field immunity test
ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-17	Radiated, radio-frequency electromagnetic field immunity test; 9.6 Vehicular transients and surges
IEC 60601-1-2; EN 60601-1-2; YY 9706.102	Radiated RF EM fields test; 8.10 Proximity fields from RF wireless communications equipment 8.11 Proximity magnetic fields
IEC 61058-1; EN IEC 61058-1	Testing limited to pushbutton-style switches only
ENERGY STAR DC-output Electric Vehicle Supply Equipment Test Method (Rev. Mar- 2021)	Testing limited to Load 1, 2, 3, 4 and 6 of Table 3



Accredited Laboratory

A2LA has accredited

EUROFINS ELECTRICAL TESTING SERVICE (SHANGHAI) CO., LTD.

Shanghai, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets A2LA R256 - Specific Requirements. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 14th day of July 2025.

A blue ink signature of Mr. Trace McInturff, Vice President of Accreditation Services.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7054.01
Valid to July 31, 2027

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.