



# CERTIFICATE OF ACCREDITATION

*This is to attest that*

## **UL VERIFICATION SERVICES INC.**

3020 1<sup>ST</sup> AVENUE EAST  
NEWTON, IOWA 50208 U.S.A.

**Testing Laboratory TL-643**

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 November 27, 2023



A handwritten signature in black ink, reading "Raj Nathan".

**President**

# SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | [www.iasonline.org](http://www.iasonline.org)

## UL VERIFICATION SERVICES INC.

[www.ul.com](http://www.ul.com)

**Contact Name** Curt Tremel

**Contact Phone** +1 641-787-8812

*Accredited to ISO/IEC 17025:2017*

*Effective Date November 27, 2023*

<b>Energy Star</b>
ENERGY STAR® program requirements for automatic commercial ice makers, 10 CFR part 431.134: uniform test methods for the measurement of energy and water consumption of automatic ice makers
ENERGY STAR® program requirements for boilers, 10 CFR Part 430, subpart B, appendix N: uniform test method for measuring the energy consumption of furnaces and boilers
ENERGY STAR® program requirements for commercial packaged boilers, thermal efficiency per 10 CFR 431.86, and turndown ratio per UL 795 or ANSI Z21.13-2014/CSA 4.9
ENERGY STAR® program requirements for commercial refrigerators and freezers, 10 CFR part 431 subpart C, Appendix B: commercial refrigerators, freezers and refrigerator-freezers
ENERGY STAR® program requirements for commercial water heaters 10 CFR part 431, subpart G, appendix E: uniform test method for measurement or energy efficiency of commercial heat pump water heaters
ENERGY STAR® program requirements for commercial water heaters 10 CFR Part 431.106: commercial water heaters, hot water supply boilers and unfired hot water storage tanks
ENERGY STAR® program requirements for residential water heaters 10 CFR Part 430, subpart B, Appendix E: uniform test method for measuring the energy consumption of water heaters.
ENERGY STAR® program requirements for residential water heaters, ENERGY STAR® connected residential water heaters test method to validate demand response.
ENERGY STAR® program requirements for residential refrigerators and freezers, 10 CFR 430, subpart B, appendix A: uniform test method for measuring the energy consumption of electric refrigerators and electric refrigerator-freezers
ENERGY STAR® program requirements for residential refrigerators and freezers, 10 CFR 430, subpart B, appendix B: uniform test method for measuring the energy consumption of freezers
ENERGY STAR® program requirements for residential dishwashers, 10 CFR 430, subpart B, appendix C1: uniform test method for measuring the energy consumption of dishwashers
ENERGY STAR® Test Method for Determining Residential Dishwasher Cleaning Performance
ENERGY STAR® program requirements product specification for clothes dryers, 10 CFR 430, subpart B, appendix D2: uniform test method for measuring the energy consumption of clothes dryers

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ENERGY STAR® program requirements product specification for clothes washers, 10 CFR 430, subpart B appendix J2: uniform test method for measuring the energy consumption of automatic and semi-automatic clothes washers	
ENERGY STAR® program requirements product specification for connected thermostat products, ENERGY STAR® test methods for connected thermostat products sections 4D, 4E, 4F, 4G	
ENERGY STAR® program requirements product specification for laboratory grade refrigerators & freezers, ENERGY STAR® test method for laboratory grade refrigerators, freezers, and ultra-low temperature freezers	
ENERGY STAR® program requirements product specification for pool pumps, ENERGY STAR® product specification for pool pumps	
ENERGY STAR Program Requirements Product Specification for Pool Pumps – Test Method to Validate Demand Response	
ENERGY STAR® program requirements product specification for refrigerated beverage vending machines, 10 CFR part 431 subpart Q, Appendix B: refrigerated bottled or canned beverage vending machines	
ENERGY STAR® program requirements product specification for water coolers, ENERGY STAR® test method for water coolers	
ENERGY STAR® program requirements product specification for commercial coffee brewers, ASTM F2990-12, standard test method for commercial coffee brewers	
ENERGY STAR® program requirements product specification for commercial hot food holding cabinets, ASTM F2140-11, standard test method for the performance of hot food holding cabinets	
ENERGY STAR® program requirements product specification for residential electric cooking products. 10 CFR 430, subpart B, Appendix I1: uniform test method for measuring the energy consumption of conventional cooking products	
<b>Electrical</b>	
AHRI 810	Performance rating of automatic commercial ice-makers
AHRI 820	Performance rating of ice storage bins
ANSI/AHRI 1200	Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets
ANSI/ASHRAE 18	Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration (only Sections 5.7 and 5.8)
ANSI/ASHRAE 29	Methods of testing automatic ice makers
ANSI/ASHRAE 32.1	Methods of testing for rating vending machines for bottled, canned, and other sealed beverages
ANSI/ASHRAE 72	Method of testing open and closed commercial refrigerators and freezers
ASTM F2143	Standard test method for performance of refrigerated buffet and preparation tables

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CAN/CSA C300	Energy performance and capacity of household refrigerators, refrigerator-freezers, freezers, and wine chillers
CAN/CSA C358	Energy consumption test methods for household electric ranges
CAN/CSA C360	Energy performance, water consumption and capacity of household clothes washers
CAN/CSA C361	Test method for measuring energy consumption and drum volume of electrically operated household tumble- type clothes dryers
CAN/CSA C373	Energy performance and water consumption of household dishwashers
CAN/CSA C657	Energy Performance standard for commercial refrigeration equipment
CAN/CSA C742	Energy performance of automatic ice makers and ice storage bins
CAN/CSA C804	Energy performance of vending machines
EN 16147	Heat pumps with electrically driven compressors - Testing, performance rating and requirements for marking of domestic hot water units
EN 50193-1	Electric instantaneous water heaters – Methods for measuring the performance – Part 1: general requirements.
EN 50193-2-2	Electric Instantaneous water heaters - Part 2-2: Performance requirements – Single point of use electric instantaneous showers – Efficiency
EN 50440	Efficiency of domestic electrical storage water heaters and testing methods
EN 50564	Electrical and electronic household and office equipment – measurement of low power consumption
IEC 60379	Methods for measuring the performance of electric storage water-heaters for household purposes
IEC 62301	Household electrical appliances – measurement of standby power
IEC 62552:2007	Household refrigerating appliances - characteristics and test methods
NSF/ANSI 184	Residential dishwashers
NSF/ANSI 456	Vaccine Storage
SASO 2884/2017	Water Heaters – Energy Performance Requirements and Labelling
SASO 2892/2018	Refrigerators, Refrigerator – Freezers and Freezers – Energy Performance, Testing and Labeling Requirements
<b>Heating/Cooling</b>	
ANSI/ASHRAE 103	Method of testing for annual fuel utilization efficiency of residential central furnaces and boilers
ANSI/ASHRAE 193	Method of test for determining the airtightness of HVAC equipment

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ANSI Z21.13-2014/CSA 4.9-2014	Gas-fired low pressure steam and hot water boilers; only Sections 5.3 Inlet test pressures and burner adjustments, 5.5, Combustion including Turndown Ratio
ANSI Z21.47/CSA 2.3	Gas-fired central furnaces
BTS-2000	Method to determine efficiency of commercial space heating boilers
CAN/CSA B211-00	Energy efficiency of oil-fired storage tank water heaters
CAN/CSA C191-13	Performance of electric storage tank water heaters for domestic hot water service
CAN/CSA C745-03	Energy Efficiency of Electric Storage Tank Water Heaters and Heat Pump Water Heaters
CAN/CSA P.5-09	Test method for measuring per-cycle energy consumption, energy factor, and low power mode energy consumption of residential gas clothes dryers
CAN/CSA P.6-09	Test method for measuring thermal efficiency of gas-fired pool heaters
CAN/CSA P.7-10	Test method for measuring energy loss of gas-fired instantaneous water heaters
CSA P.2	Testing method for measuring the annual fuel utilization efficiency of residential gas-fired or oil-fired furnaces and boilers
CSA P.3	Testing method for measuring energy consumption and determining efficiencies of gas-fired and fuel oil-fired water heaters
DOE 10 CFR Part 430	Uniform test method for measuring the energy consumption of furnace fans (subpart B, appendix AA)
DOE 10 CFR Part 430	Uniform test method for measuring the energy consumption of clothes dryers (subpart B, appendix D1)
DOE 10 CFR Part 430	Uniform test method for measuring the energy consumption of cooking products (subpart B, appendix I)
DOE 10 CFR Part 430	Uniform test method for measuring the energy consumption of conventional cooking products (subpart B, appendix I1)
DOE 10 CFR Part 430	Uniform test method for measuring the moisture absorption and retention characteristics of new energy test cloth lots (subpart B, Appendix J3)
DOE 10 CFR Part 430	Uniform test method for measuring the energy consumption of pool heaters (subpart B, appendix P)
DOE 10 CFR Part 431	Uniform Test Method for the Measurement of Energy Efficiency of Dedicated-Purpose Pool Pumps (subpart Y, Appendix B)
DOE 10 CFR Part 431	Automatic commercial ice-makers (subpart H)
DOE 10 CFR Part 431.464(b)	Test procedure for the measurement of energy efficiency, energy consumption, and other performance factors of pumps - Dedicated purpose pool pumps



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NTE INEN 2659	Household and similar electrical appliances. Electric clothes washers testing methods for energy consumption, water consumption, and volumetric capacity
UL 795	Standard for commercial-industrial gas heating equipment (section 46.1 only) combustion test including turndown ratio

*AHRI: The Air-condition, Heating, and Refrigeration Institute*

*ASHRAE: American Society of Heating, Refrigerating and Air-conditioning Engineers*

*CFR: Code of Federal Regulations*

*IEC: International Electrotechnical Commission*

*SASO: Saudi Arabian Standards Organization*

*UL: Underwriters Laboratories*