

# Required Test Methods for EPA-Recognized Laboratories

## Introduction

Per [Directive #2011-02, EPA Policy on Laboratory Scopes of Accreditation for the ENERGY STAR Program](#), for a laboratory to be recognized by the U.S. Environmental Protection Agency (EPA) to test *non-lighting* products for ENERGY STAR® qualification, the laboratory's scope of accreditation must include *at a minimum* the title of the relevant [ENERGY STAR product specification](#). If the laboratory wishes to list the specific test methods that specification references, then it must include each of the test methods listed in this document for that specification.

Each of the test methods and standards are listed by product specification, as enumerated in the table of contents on the next page. If you have any questions about this document, please contact [Certification@energystar.gov](mailto:Certification@energystar.gov).

Lighting product categories are outlined in "ENERGY STAR Guide to EPA Laboratory Recognition by Lighting Category," on the [Laboratory Resources web page](#).

## Acronyms Used in This Document

<b>AC</b>	=	Air Conditioning	<b>HVAC</b>	=	Heating, ventilation, and air conditioning
<b>AHAM</b>	=	Association Of Home Appliance Manufacturers: <a href="http://www.aham.org">www.aham.org</a>	<b>HVI</b>	=	Home Ventilating Institute: <a href="http://www.hvi.org">www.hvi.org</a>
<b>AHRI</b>	=	Air-Conditioning, Heating, and Refrigeration Institute	<b>IEC</b>	=	Commission Electrotechnique Internationale: <a href="http://www.iec.ch">www.iec.ch</a>
<b>ANSI</b>	=	American National Standards Institute: <a href="http://www.ansi.org">www.ansi.org</a>	<b>IESNA</b>	=	Illuminating Engineering Society of North America: <a href="http://www.iesna.org">www.iesna.org</a>
<b>ASHRAE</b>	=	American Society of Heating, Refrigerating, and Air-Conditioning Engineers: <a href="http://www.ashrae.org">www.ashrae.org</a> American Society for Testing and Materials	<b>ISO</b>	=	International Organization for Standardization: <a href="http://www.iso.org">www.iso.org</a>
<b>ASTM</b>	=	International: <a href="http://www.astm.org">www.astm.org</a>	<b>NFRC</b>	=	National Fenestration Rating Council: <a href="http://www.nfrc.org">www.nfrc.org</a>
<b>CEA</b>	=	Consumer Electronics Association: <a href="http://www.ce.org">www.ce.org</a>	<b>NVLAP</b>	=	National Voluntary Laboratory Accreditation Program: <a href="http://www.nist.gov/pml/nvlap">www.nist.gov/pml/nvlap</a>
<b>CFR</b>	=	Code of Federal Regulations: <a href="http://www.gpoaccess.gov/cfr">www.gpoaccess.gov/cfr</a>	<b>STB</b>	=	Set-Top Box
<b>DGX</b>	=	Direct geoechange (geothermal heat pumps)	<b>UL</b>	=	Underwriters Laboratories: <a href="http://www.ul.com">www.ul.com</a>
			<b>UPS</b>	=	Uninterruptible Power Supply

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# Required Test Methods for EPA-Recognized Laboratories

## Test Methods by ENERGY STAR Product & Sub-Product Type

ENERGY STAR Product Category	Test Method/Standard
<b>Appliances</b>	
<b>Residential &amp; Commercial Clothes Dryers</b> ENERGY STAR Program Requirements Product Specification for Clothes Dryers Version 1.1	- 10 CFR 430, Subpart B, Appendix D2 (Electronic Code of Federal Regulations)
<b>Residential &amp; Commercial Clothes Washers</b> ENERGY STAR Program Requirements Product Specification for Clothes Washers Version 8.0	- 10 CFR 430, Subpart B, Appendix J2 (Electronic Code of Federal Regulations)
<b>Residential Dishwashers</b> ENERGY STAR Program Requirements Product Specification for Residential Dishwashers Version 6.0	- 10 CFR 430, Subpart B, Appendix C1 (Electronic Code of Federal Regulations)
<b>Residential Refrigerators</b> ENERGY STAR Program Requirements Product Specification for Residential Refrigerators and Freezers Version 5.0	- 10 CFR 430, Subpart B, Appendix A (Electronic Code of Federal Regulations)
<b>Residential Freezers</b> ENERGY STAR Program Requirements Product Specification for Residential Refrigerators and Freezers Version 5.0	- 10 CFR 430, Subpart B, Appendix B (Electronic Code of Federal Regulations)

ENERGY STAR Product Category	Test Method/Standard
<p><b>Demand Response Capability for Residential Refrigerators and Freezers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Residential Refrigerators and Freezers Version 5.0</p>	<ul style="list-style-type: none"> <li>- ENERGY STAR Residential Refrigerators and Freezers Test Method to Validate Demand Response, Rev. May-2013 (Optional)</li> </ul>
<p><b>Heating and Cooling</b></p>	
<p><b>Boilers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Boilers Version 3.0</p>	<ul style="list-style-type: none"> <li>- 10 CFR Part 430 Subpart B, Appendix N (Electronic Code of Federal Regulations)</li> </ul>
<p><b>Central ACs and Air-Source Heat Pumps</b></p> <p>ENERGY STAR Program Requirements Product Specification for Air Source Heat Pump (ASHP) and Central Air Conditioner Equipment Version 5.0</p>	<ul style="list-style-type: none"> <li>- 10 CFR part 430 Subpart B, Appendix M (Electronic Code of Federal Regulations)</li> </ul>
<p><b>Commercial Packaged Boilers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Commercial Packaged Boilers Version 1.0</p>	<p><u>Thermal Efficiency:</u></p> <ul style="list-style-type: none"> <li>- 10 CFR Part 431.86 (Electronic Code of Federal Regulations)_</li> </ul> <p><u>Turndown ratio:</u></p> <ul style="list-style-type: none"> <li>- UL 795 <b>OR</b> ANSI Z21.13-2014/CSA 4.9</li> </ul>
<p><b>Commercial Water Heaters</b></p> <p>ENERGY STAR Program Requirements Product Specification for Commercial Water Heaters Version 2.0</p>	<p><u>Thermal Efficiency/Standby Loss:</u></p> <ul style="list-style-type: none"> <li>- 10 CFR Part 431.106 (Electronic Code of Federal Regulations).</li> </ul> <p><u>Coefficient of Performance:</u></p> <ul style="list-style-type: none"> <li>- 10 CFR Part 431.106, Subpart G, Appendix E (Electronic Code of Federal Regulations)</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<p><b>Connected Thermostats</b></p> <p>ENERGY STAR® Program Requirements for Connected Thermostat Products Version 1.0 (v1.0 CT spec)</p>	<ul style="list-style-type: none"> <li>- ENERGY STAR Method to Demonstrate Field Savings</li> <li>- Functionality in the absence of connectivity – v1.0 CT spec, sections 4) D and 4) E</li> <li>- Static temperature accuracy – v1.0 CT spec, sections 4) D and 4) F</li> </ul> <p>Network standby power consumption &amp; Time to standby – IEC 62301, Ed. 2.0, 2011-01, subject to clarifications in v1.0 CT spec sections 4) D and 4) G</p>
<p><b>Dehumidifiers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Dehumidifiers Eligibility Criteria Version 5.0</p>	<ul style="list-style-type: none"> <li>- 10 CFR 430, Subpart B, Appendix X1</li> </ul>
<p><b>Furnaces</b></p> <p>ENERGY STAR Program Requirements for Furnaces Eligibility Criteria Version 4.1</p>	<ul style="list-style-type: none"> <li>- 10 CFR Part 430, Appendix N (Electronic Code of Federal Regulations)</li> <li>- ANSI/ASHRAE 193-2010</li> </ul>
<p><b>Geothermal Heat Pumps</b></p> <p>ENERGY STAR Program Requirements Product Specification for Geothermal Heat Pumps Version 3.1</p>	<p style="text-align: center;"><i>See Below</i></p>
<ul style="list-style-type: none"> <li>- Water-to-air (Open or Closed systems)</li> <li>- Water-to-water (Open or Closed systems)</li> </ul>	<ul style="list-style-type: none"> <li>- ISO 13256-1-1998, Water-source heat pumps – Testing and rating for performance – Part 1: Water-to-air and brine-to-air heat pumps</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>- ISO 13256-2-1998, Water-source heat pumps – Testing and rating for performance –Part 2: Water-to-water and brine-to-water heat pumps</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<ul style="list-style-type: none"> <li>- DGX Systems</li> </ul>	<ul style="list-style-type: none"> <li>- ANSI/AHRI 870-2005, Performance Rating of Direct Geexchange Heat Pumps</li> </ul>
<p><b>Light Commercial HVAC</b></p> <p>ENERGY STAR Program Requirements Product Specification for Light Commercial HVAC Version 3.1</p>	<ul style="list-style-type: none"> <li>- 10 CFR part 431, Subpart F §431.96 (Electronic Code of Federal Regulations)</li> </ul>
<p><b>Room Air Cleaners</b></p> <p>ENERGY STAR Program Requirements Product Specification for Room Air Cleaners Version 2.0</p>	<p>ANSI/AHAM AC-1-2020: Method of Measuring the Performance of Portable Household Electric Room Air</p> <ul style="list-style-type: none"> <li>- UL 867 Ed. 5.0, Electrostatic Air Cleaners</li> <li>- IEC 62301 Ed. 2.0 Household electrical appliances – Measurement of standby power</li> </ul>
<p><b>Room Air Conditioners</b></p> <p>ENERGY STAR Program Requirements Product Specification for Room Air Conditioners Version 4.1</p>	<ul style="list-style-type: none"> <li>- 10 CFR 430, Subpart B, Appendix F (Electronic Code of Federal Regulations)</li> </ul>
<p><b>Demand Response Capability for Room Air Conditioners</b></p> <p>ENERGY STAR Program Requirements Product Specification for Room Air Conditioners Version 4.1</p>	<ul style="list-style-type: none"> <li>- ENERGY STAR Room Air Conditioners Test Method to Validate Demand Response, Rev. June- 2017 (Optional)</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<b>Residential Water Heaters</b> ENERGY STAR Program Requirements Product Specification for Residential Water Heaters Version 4.0	<i>See Below</i>
<ul style="list-style-type: none"> <li>- Gas and Electric products (not including gas-fired storage residential-duty commercial water heaters); FHR is applicable to storage products and Maximum GPM is applicable to instantaneous products.</li> </ul>	<ul style="list-style-type: none"> <li>- 10 CFR Part 430, Subpart B, Appendix E*</li> </ul>
<ul style="list-style-type: none"> <li>- Gas-fired Storage Residential-duty Commercial products</li> </ul>	<ul style="list-style-type: none"> <li>- 10 CFR Part 431, Subpart G</li> </ul>
<ul style="list-style-type: none"> <li>- Whole-home solar units</li> </ul>	<ul style="list-style-type: none"> <li>- ICC 900/SRCC 300-2020 Solar Thermal System Standard, Appendix A: Solar Uniform Energy Factor Procedure for Solar Water Heating Systems</li> </ul>
<ul style="list-style-type: none"> <li>- Connected Products</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Connected Residential Water Heaters Test Method to Validate Demand Response, Version 1.1</li> </ul>
<b>Commercial Food Service Equipment</b>	
<b>Commercial Coffee Brewers</b> ENERGY STAR Program Requirements Product Specification for Commercial Coffee Brewers Version 1.1	<ul style="list-style-type: none"> <li>- ASTM F-2990-12, Standard Test Method for Commercial Coffee Brewers</li> </ul>
<b>Commercial Dishwashers</b> ENERGY STAR Program Requirements Product Specification for Commercial Dishwashers Version 3.0 (Rev. – May 2021)	<ul style="list-style-type: none"> <li>-</li> </ul>

<ul style="list-style-type: none"> <li>- Under-counter; stationary single tank door; pot-pan-utensil</li> </ul>	<ul style="list-style-type: none"> <li>- ASTM F1696-20, Standard Test Method for Energy Performance of Stationary-Rack, Door-Type Commercial Dishwashing Machines</li> </ul>
<ul style="list-style-type: none"> <li>-Single tank conveyor; multiple tank conveyor; single tank flight; multiple tank flight</li> </ul>	<ul style="list-style-type: none"> <li>- ASTM F1920-20, Standard Test Method for Energy Performance of Rack Conveyor Commercial Dishwashing Machines</li> </ul>
<p><b>Commercial Fryers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Commercial Fryers Version 3.0 (Rev. December – 2020)</p>	<ul style="list-style-type: none"> <li>- ASTM F1361-20, Test Method for the Performance of Open Deep Fat Fryers</li> </ul> <p style="text-align: center;"><b><u>OR</u></b></p> <ul style="list-style-type: none"> <li>- ASTM Standard F2144-17, Test Method for Performance of Large Open Vat Fryers (largevat fryers)</li> </ul>

\* Includes any applicable guidance that DOE has issued regarding the testing of these products (See <http://www1.eere.energy.gov/guidance/default.aspx?pid=2&spid=1>).



ENERGY STAR Product Category	Test Method/Standard
<p><b>Commercial Griddles</b></p> <p>ENERGY STAR Program Requirements Product Specification for Commercial Griddles Version 1.2 (Rev. Dec – 2020)</p>	<ul style="list-style-type: none"> <li>- ASTM F1275-14 (reapproved 2020), Standard Test Method for the Performance of Griddles</li> <li>- ASTM F1605-14 (reapproved 2019), Standard Test Method for the Performance of Double-Sided Griddles</li> </ul>
<p><b>Commercial Hot Food Holding Cabinets</b></p> <p>ENERGY STAR Program Requirements Product Specification for Commercial Hot Food Holding Cabinets Version 2.0</p>	<ul style="list-style-type: none"> <li>- ASTM F2140-11, Standard Test Method for the Performance of Hot Food Holding Cabinets</li> </ul>
<p><b>Commercial Ice Makers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Automatic Commercial Ice Makers Version 3.0</p>	<ul style="list-style-type: none"> <li>- 10 CFR Part 431.134 (Electronic Code of Federal Regulations)</li> <li>- AHRI Standard 810-2007 with Addendum 1, (AHRI 810) Performance Rating of Automatic Commercial Ice-Makers</li> </ul>
<p><b>Commercial Ovens</b></p> <p>ENERGY STAR Program Requirements Product Specification for Commercial Ovens Version 2.2</p>	<p><i>See Below</i></p>
<ul style="list-style-type: none"> <li>- Commercial Combination Ovens</li> </ul>	<ul style="list-style-type: none"> <li>- ASTM F-2861-14, Standard Test Method for Enhanced Performance of Combination Oven in Various Modes</li> </ul>
<ul style="list-style-type: none"> <li>- Commercial Convection Ovens</li> </ul>	<ul style="list-style-type: none"> <li>- ASTM F1496-13 Standard Test Method for Performance of Convection Ovens</li> </ul>
<ul style="list-style-type: none"> <li>- Commercial Rack Ovens</li> </ul>	<ul style="list-style-type: none"> <li>- ASTM F2093-11, Standard Test Method for Performance of Rack Ovens</li> </ul>
<p><b>Commercial Refrigerators and Freezers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Commercial Refrigerators and Freezers Version 4.0</p>	<ul style="list-style-type: none"> <li>- 10 CFR Part 431 Subpart C (Electronic Code of Federal Regulations)</li> <li>- 10 CFR Part 431.64 (Electronic Code of Federal Regulations)</li> <li>- 10 CFR Part 431.66(e)(2) (Electronic Code of Federal Regulations)</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<b>Commercial Steam Cookers</b> ENERGY STAR Program Requirements Product Specification for Commercial Steam Cookers Version 1.2	<ul style="list-style-type: none"> <li>- ASTM F1484-99, Standard Test Method for the Performance of Steam Cookers</li> </ul>
<b>Electronics and Office Equipment</b>	
<b>Audio/Video</b> ENERGY STAR Program Requirements Product Specification for Audio/Video Version 3.0	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Audio/Video, ENERGY STAR Program Requirements Product Specification for Audio/Video, Rev. July-2012</li> </ul>
<b>Computers</b> ENERGY STAR Program Requirements Product Specification for Computers Version 8.0	<ul style="list-style-type: none"> <li>- ENERGY STAR Computer Draft Test Method, ENERGY STAR Program Requirements Product Specification for Computers, Rev. October 2019</li> </ul>
<b>Data Center Storage</b> ENERGY STAR Program Requirements Product Specification for Data Center Storage Version 2.1	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Data Center Storage Equipment, Rev. May 2020</li> </ul>
<b>Displays</b> ENERGY STAR Program Requirements Product Specification for Displays Version 8.0	<i>See Below</i>
<ul style="list-style-type: none"> <li>- All Product Types and Screen Sizes</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Determining Display Energy – Rev. April-2019</li> </ul>

<ul style="list-style-type: none"> <li>- Enhanced Performance Displays</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Determining Display Energy – Rev. April-2019 International Committee for Display Metrology (ICDM) Information Display Measurements Standard – Version 1.03</li> </ul>
<ul style="list-style-type: none"> <li>- Displays Claiming Full Network Connectivity</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Determining Display Energy – Rev. April-2019 CEA-2037-A, Determination of Television Set Power Consumption</li> </ul>
<ul style="list-style-type: none"> <li>- Displays Claiming High Dynamic Range (HDR)</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Determining Display Energy – Rev. April-2019</li> <li>- VESA High-performance Monitor and Display Compliance Test Specification (DisplayHDR CTS) Version 1.0</li> </ul>
<p><b>Enterprise Servers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Computer Servers Version 3.0</p>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Computer Servers, Rev. Sep- 2018 Standard Performance Evaluation Corporation (SPEC) Server Efficiency Rating Tool (SERT), most current version<sup>3</sup></li> </ul>
<p><b>Imaging Equipment</b></p> <p>ENERGY STAR Program Requirements Product Specification for Imaging Equipment Version 3.2</p>	<p><i>See Below</i></p>
<ul style="list-style-type: none"> <li>- All Imaging Products, excluding Professional Products</li> </ul>	<p>ENERGY STAR Test Method for Determining Imaging Equipment Energy Use, Rev. Dec-2018</p>
<ul style="list-style-type: none"> <li>- Professional Imaging Products</li> </ul>	<p>ENERGY STAR Test Method for Determining Professional Imaging Product Energy Use, Rev. Feb-2020</p>

<p><b>Large Network Equipment</b></p> <p>ENERGY STAR Program Requirements Product Specification for Large Network Equipment Version 1.1</p>	<p>- ENERGY STAR Test Method for Large Network Equipment, Rev. December-2015</p>
<p><b>Set-top Boxes &amp; Cable Boxes</b></p> <p>ENERGY STAR Program Requirements Product Specification for Set-top Boxes Version 5.1</p>	<p>- ENERGY STAR Test Method for Set-top Boxes (Rev. May-2016) CTA-2043, "Set-top Box (STB) Power Measurement" (Rev. Aug-2013)</p>

<sup>3</sup>For the purposes of this document, the most current SERT version is listed in the most recently published Servers 3.0 Clarification Memo, located on the Enterprise Servers Specification Version 3.0 website ([https://www.energystar.gov/products/spec/enterprise\\_servers\\_specification\\_version\\_3\\_0\\_pd](https://www.energystar.gov/products/spec/enterprise_servers_specification_version_3_0_pd))

ENERGY STAR Product Category	Test Method/Standard
<b>Telephony</b> ENERGY STAR Program Requirements Product Specification for Telephony Version 3.0	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Telephony, ENERGY STAR Program Requirements for Telephony, Rev. Nov-2013</li> </ul>
<b>Televisions</b> ENERGY STAR Program Requirements Product Specification for Televisions Version 8.0	<i>See Below</i>
<ul style="list-style-type: none"> <li>- All Ac Mains-powered TV/HTDs</li> </ul>	<ul style="list-style-type: none"> <li>- Uniform Test Method for Measuring the Energy Consumption of Television Sets incorporated in Appendix H to Subpart B of 10 CFR Part 430 (Electronic Code of Federal Regulations)</li> </ul>
<ul style="list-style-type: none"> <li>- Hospitality/HTDs</li> </ul>	<ul style="list-style-type: none"> <li>- CEA Procedure for DAM Testing: For TVs, Rev. 0.3, Sept. 2010</li> </ul>
<ul style="list-style-type: none"> <li>- TV/HTDs with Standby-Active, Low Mode</li> </ul>	<ul style="list-style-type: none"> <li>- CEA-2037-A, Determination of Television Set Power Consumption</li> </ul>
<b>Uninterruptible Power Supplies</b> ENERGY STAR Program Requirements Product Specification for Uninterruptible Power Supplies Version 2.0	<i>See Below</i>
<ul style="list-style-type: none"> <li>- UPSs capable of operating at 115 V and 60 Hz that use NEMA 1-15P or 5-15P plug</li> </ul>	<ul style="list-style-type: none"> <li>- Uniform Test Method for Measuring the Energy Consumption of Battery Chargers incorporated in Appendix Y to Subpart B of 10 CFR 430, Section 4: Testing Requirements for Uninterruptible Power Supplies All other UPSs ENERGY STAR</li> </ul>
<ul style="list-style-type: none"> <li>- All other UPSs</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Uninterruptible Power Supplies, Rev. Dec-2017</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<b>Lighting and Fans</b>	
<b>Ceiling Fans</b> ENERGY STAR Program Requirements Product Specification for Residential Ceiling Fans Version 4.0	<i>See Below</i>
<ul style="list-style-type: none"> <li>- Residential Ceiling Fans</li> </ul>	<ul style="list-style-type: none"> <li>- 10 CFR Part 430, Subpart B, Appendix U (Electronic Code of Federal Regulations)</li> </ul>
<ul style="list-style-type: none"> <li>- Ceiling Fan Light Kits</li> </ul>	<ul style="list-style-type: none"> <li>- Please see the “ENERGY STAR Program Requirements for Residential Ceiling Fans and Ceiling Fan Light Kits” for the relevant test methods.</li> </ul>
<b>Residential Ventilating Fans</b> ENERGY STAR Program Requirements Product Specification for Residential Ventilating Fans Version 4.1	<i>See Below</i>
<ul style="list-style-type: none"> <li>- Ventilating Fans (no light source)</li> </ul>	<p><u>Airflow Rating</u></p> <ul style="list-style-type: none"> <li>- Option 1) ANSI/AMCA 210-16 Laboratory Methods of Testing Fans for Aerodynamic Performance Rating</li> <li>- Option 2) HVI Publication 916 Airflow Test Procedure© (2015)</li> </ul> <p><u>Sound Rating</u></p> <ul style="list-style-type: none"> <li>- Option 1) ANSI/AMCA Standard 300-14 Reverberant Room Method for Sound Testing of Fans and AMCA Publication 311-16 Certified Ratings Program – Product Rating Manual for Fan Sound Performance (spherical sones method only)</li> <li>- Option 2) HVI Publication 915 Procedure for Loudness Rating of Residential Fan Products© (2015)</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<ul style="list-style-type: none"> <li>- Ventilating Fans with a light source</li> </ul>	<p><u>Airflow Rating</u></p> <ul style="list-style-type: none"> <li>- Option 1) ANSI/AMCA 210-16 Laboratory Methods of Testing Fans for Aerodynamic Performance Rating</li> <li>- Option 2) HVI Publication 916 Airflow Test Procedure© (2015)</li> </ul> <p><u>Sound Rating</u></p> <ul style="list-style-type: none"> <li>- Option 1) ANSI/AMCA Standard 300-14 Reverberant Room Method for Sound Testing of Fans and AMCA Publication 311-16 Certified Ratings Program – Product Rating Manual for Fan Sound Performance (spherical sones method only)</li> <li>- Option 2) HVI Publication 915 Procedure for Loudness Rating of Residential Fan Products© (2015)</li> </ul> <p><u>Lighting</u></p> <ul style="list-style-type: none"> <li>- Please see the “ENERGY STAR Guide to EPA Laboratory Recognition by Lighting Category” on the <a href="#">Laboratory Resources web page</a> for the relevant lighting category.</li> </ul>
<p><b>Decorative Light Strings</b></p> <p>ENERGY STAR Program Requirements Product Specification for Decorative Light Strings Version 1.5</p>	<ul style="list-style-type: none"> <li>- Please see the “ENERGY STAR Guide to EPA Laboratory Recognition by Lighting Category” on the Laboratory Resources web page.</li> </ul>
<p><b>Lamps</b></p>	<ul style="list-style-type: none"> <li>- Please see the “ENERGY STAR Guide to EPA Laboratory Recognition by Lighting Category” on the Laboratory Resources web page.</li> </ul>
<p><b>Luminaires</b></p>	<ul style="list-style-type: none"> <li>- Please see the “ENERGY STAR Guide to EPA Laboratory Recognition by Lighting Category” on the Laboratory Resources web page.</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<b>Home Building Materials</b>	
<p><b>Storm Windows</b></p> <p>ENERGY STAR Program Requirements for Residential Storm Windows Version 1.0</p>	<ul style="list-style-type: none"> <li>- Emissivity and Solar Transmission – v1.0 Storm Windows spec, section 5</li> <li>- Air Leakage – Attachments Energy Rating Council (AERC) 1.2 in accordance with ASTM E283</li> </ul>
<p><b>Windows, Doors, and Skylights</b></p> <p>ENERGY STAR Program Requirements for Residential Windows, Doors, and Skylights Version 6.0</p>	<ul style="list-style-type: none"> <li>- U-Factor – NFRC 100</li> <li>- Solar Heat Gain Coefficient (SHGC) – NFRC 200</li> <li>- Air Leakage – ASTM E283 in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440-11</li> </ul>



ENERGY STAR Product Category	Test Method/Standard
<b>Other</b>	
<b>Electric Vehicle Supply Equipment</b> ENERGY STAR Program Requirements Product Specification for Electric Vehicle Supply Equipment Version 1.1	<i>See Below</i>
<ul style="list-style-type: none"> <li>- Level 1 and Level 2 Electric Vehicle Supply Equipment</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Level 1 and Level 2 Electric Vehicle Supply Equipment Test Method (Rev. Apr-2017)</li> </ul>
<ul style="list-style-type: none"> <li>- DC-output Electric Vehicle Supply Equipment</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR DC-output Electric Vehicle Supply Equipment Test Method (Rev. Mar-2021)</li> </ul>
<ul style="list-style-type: none"> <li>- Electric Vehicle Supply Equipment with Display</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>- ENERGY STAR Test Method for Determining Display Energy – Rev. Sep-2015</li> </ul>
<ul style="list-style-type: none"> <li>- Electric Vehicle Supply Equipment with Full Network Connectivity</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>- Section 6.7.5.2 of Consumer Electronics Association (CEA) 2037 A, Determination of Television Set Power Consumption</li> </ul>
<b>Laboratory Grade Refrigerators &amp; Freezers</b> ENERGY STAR Program Requirements Product Specification for Laboratory Grade Refrigerators & Freezers Version 1.1	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Laboratory Grade Refrigerators, Freezers, and Ultra-Low Temperature Freezers, Rev. July 2014</li> </ul>

ENERGY STAR Product Category	Test Method/Standard
<p><b>Pool Pumps</b></p> <p>ENERGY STAR Program Requirements Product Specification for Pool Pumps Version 3.1</p>	<ul style="list-style-type: none"> <li>- DOE Test Procedure for Dedicated Purpose Pool Pumps (See 10 CFR 431.464(b))</li> <li>- Section 6.3 of ENERGY STAR Pool Pumps Test Method (Rev. Jan-2013)</li> <li>- ENERGY STAR Pool Pumps Test Method to Validate Demand Response (Rev. May-2021)</li> </ul>
<p><b>Smart Home Energy Management Systems</b></p> <p>ENERGY STAR Program Requirements Product Specification for Smart Home Energy Management Systems Version 1.0</p>	<p style="text-align: center;">ENERGY STAR SHEMS Method to Demonstrate Field Performance</p>
<ul style="list-style-type: none"> <li>- Non-ENERGY STAR Certified lighting control and plug load devices</li> </ul>	<ul style="list-style-type: none"> <li>- IEC 62301, Ed. 2.0, 2011-01, Household electrical appliances – Measurement of standby power</li> </ul>
<ul style="list-style-type: none"> <li>- SHEMS Hubs</li> </ul>	<ul style="list-style-type: none"> <li>- Test instructions in section 5F) of the ENERGY STAR SHEMS Version 1.0 Eligibility Criteria</li> </ul>
<p><b>Vending Machines</b></p> <p>ENERGY STAR Program Requirements Product Specification for Refrigerated Beverage Vending Machines Version 4.0</p>	<ul style="list-style-type: none"> <li>- 10 CFR Part 431 Subpart Q, Appendix B</li> </ul>
<p><b>Water Coolers</b></p> <p>ENERGY STAR Program Requirements Product Specification for Water Coolers Version 3.0</p>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Water Coolers (Rev. May - 2013)</li> <li>- ANSI/ASHRAE 18-2008 (RA 2013) 5.8 Hot-Water-Dispenser Capacity Test</li> </ul>
<ul style="list-style-type: none"> <li>- On Mode with No Water Draw (Conditioned Storage and On Demand)</li> </ul>	<ul style="list-style-type: none"> <li>- ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.1 and 7.1</li> </ul>
<ul style="list-style-type: none"> <li>- OMP for Cold Water Draw* (Conditioned Storage and On Demand Heating)</li> </ul>	<p style="text-align: center;">ENERGY STAR Test Method for Water Coolers (Rev. May-2013), Sections 6.2 and 7.6</p>

\*Reporting only.