§ 429.15 Room air conditioners.

(a) Sampling plan for selection of units for testing. (1) The requirements of §429.11 are applicable to room air conditioners; and

(2) For each basic model of room air conditioners, a sample of sufficient size shall be randomly selected and tested to ensure that—

(i) Any represented value of estimated annual operating cost, energy consumption or other measure of energy consumption of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(A) The mean of the sample, where:

\[
\bar{x} = \frac{1}{n} \sum_{i=1}^{n} x_i
\]

and, \( \bar{x} \) is the sample mean; \( n \) is the number of samples; and \( x_i \) is the \( i \)th sample; or,

(B) The upper 97 1/2 percent confidence limit (UCL) of the true mean divided by 1.05, where:

\[
UCL = \bar{x} + t_{0.975} \left( \frac{s}{\sqrt{n}} \right)
\]

And \( \bar{x} \) is the sample mean; \( s \) is the sample standard deviation; \( n \) is the number of samples; and \( t_{0.975} \) is the t statistic for a 97.5% one-tailed confidence interval with \( n-1 \) degrees of freedom (from Appendix A).

and

(ii) Any represented value of the energy efficiency ratio or other measure of energy consumption of a basic model for which consumers would favor higher values shall be less than or equal to the lower of:

(A) The mean of the sample, where:
or, (B) The lower 97 1/2 percent confidence limit (LCL) of the true mean divided by 0.95, where:

\[ LCL = \bar{x} - t_{0.975} \left( \frac{s}{\sqrt{n}} \right) \]

And \( \bar{x} \) is the sample mean; \( s \) is the sample standard deviation; \( n \) is the number of samples; and \( t_{0.975} \) is the \( t \) statistic for a 97.5% one-tailed confidence interval with \( n-1 \) degrees of freedom (from Appendix A).

(b) Certification reports. (1) The requirements of §429.12 are applicable to room air conditioners; and

(2) Pursuant to §429.12(b)(13), a certification report shall include the following public product-specific information: The energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/W-h)), cooling capacity in British thermal units per hour (Btu/h), and the electrical power input in watts (W).

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§ 429.16 Central air conditioners and heat pumps.

(a) Sampling plan for selection of units for testing. (1) The general requirements of §429.11 are applicable to central air conditioners and heat pumps; and

(2)(i) For central air conditioners and heat pumps, each single-package system and each condensing unit (outdoor unit) of a split-system, when combined with a selected evaporator coil (indoor unit) or a set of selected indoor units, must have a sample of sufficient size tested in accordance with the applicable provisions of this subpart. The represented values for any model of a single-package system, any model of a tested split-system combination, any model of a tested mini-split system combination, or any model of a tested multi-split system combination must be assigned such that—

(A) Any represented value of annual operating cost, energy consumption or other measure of energy consumption of the central air conditioner or heat pump for which consumers would favor lower values shall be greater than or equal to the higher of:

(1) The mean of the sample, where:

\[ \bar{x} = \frac{1}{n} \sum_{i=1}^{n} x_i \]

and, \( \bar{x} \) is the sample mean; \( n \) is the number of samples; and \( x_i \) is the \( i \)th sample;

Or,

(2) The upper 90 percent confidence limit (UCL) of the true mean divided by 1.05, where: