

(w) *Ceiling fans*. Measure the efficiency of a ceiling fan, expressed in cubic feet per minute per watt (CFM/W), in accordance with appendix U to this subpart.

* * * * *

■ 7. Appendix U to subpart B of part 430 is added to read as follows:

Appendix U To Subpart B OF Part 430—Uniform Test Method for Measuring the Energy Consumption of Ceiling Fans

Prior to January 23, 2017, manufacturers must make any representations with respect to the energy use or efficiency of ceiling fans as specified in Section 2 of this appendix (other than hugger ceiling fans, multi-mount ceiling fans in the hugger configuration, and large-diameter ceiling fans) in accordance with the results of testing pursuant either to this appendix, or to the applicable test requirements set forth in 10 CFR parts 429 and 430, as they appeared in the 10 CFR parts 200 to 499 edition revised as of January 1, 2016. On or after January 23, 2017,

manufacturers of ceiling fans, as specified in Section 2 of this appendix, must make any representations with respect to energy use or efficiency in accordance with the results of testing pursuant to this appendix.

1. Definitions:

1.1. *20% speed* means the ceiling fan speed at which the blade RPM are measured to be 20% of the blade RPM measured at high speed.

1.2. *40% speed* means the ceiling fan speed at which the blade RPM are measured to be 40% of the blade RPM measured at high speed.

1.3. *60% speed* means the ceiling fan speed at which the blade RPM are measured to be 60% of the blade RPM measured at high speed.

1.4. *80% speed* means the ceiling fan speed at which the blade RPM are measured to be 80% of the blade RPM measured at high speed.

1.5. *Airflow* means the rate of air movement at a specific fan-speed setting expressed in cubic feet per minute (CFM).

1.6. *Belt-driven ceiling fan* means a ceiling fan with a series of one or more fan heads, each driven by a belt connected to one or

more motors that are located outside of the fan head.

1.7. *Blade span* means the diameter of the largest circle swept by any part of the fan blade assembly, including any blade attachments.

1.8. *Ceiling fan efficiency* means the ratio of the total airflow to the total power consumption, in units of cubic feet per minute per watt (CFM/W).

1.9. *Centrifugal ceiling fan* means a ceiling fan for which the primary airflow direction is in the same plane as the rotation of the fan blades.

1.10. *High speed* means the highest available ceiling fan speed, *i.e.*, the fan speed corresponding to the maximum blade revolutions per minute (RPM).

1.11. *High-speed small-diameter ceiling fan* means a small-diameter ceiling fan that is not a very-small-diameter ceiling fan, highly-decorative ceiling fan or belt-driven ceiling fan and that has a blade thickness of less than 3.2 mm at the edge or a maximum tip speed greater than the applicable limit specified in the table in this definition.

HIGH-SPEED SMALL-DIAMETER CEILING FAN BLADE AND TIP SPEED CRITERIA

Airflow direction	Thickness (t) of edges of blades		Tip speed threshold	
	Mm	inch	m/s	feet per minute
Downward-only	4.8 > t ≥ 3.2	3/16 > t ≥ 1/8	16.3	3,200
Downward-only	t ≥ 4.8	t ≥ 3/16	20.3	4,000
Reversible	4.8 > t ≥ 3.2	3/16 > t ≥ 1/8	12.2	2,400
Reversible	t ≥ 4.8	t ≥ 3/16	16.3	3,200

1.12. *Highly-decorative ceiling fan* means a ceiling with a maximum rotational speed of 90 RPM and less than 1,840 CFM airflow at high speed, as determined by sections 3 and 4 of this appendix.

1.13. *Hugger ceiling fan* means a low-speed small-diameter ceiling fan that is not a very-small-diameter ceiling fan, highly-decorative ceiling fan or belt-driven ceiling fan; for

which the lowest point on the fan blades is less than or equal to 10 inches from the ceiling.

1.14. *Large-diameter ceiling fan* means a ceiling fan that is greater than seven feet in diameter.

1.15. *Low speed* means the lowest available ceiling fan speed, *i.e.*, the fan speed

corresponding to the minimum, non-zero, blade RPM.

1.16. *Low-speed small-diameter ceiling fan* means a small-diameter ceiling fan that has a blade thickness greater than or equal to 3.2 mm at the edge and a maximum tip speed less than or equal to the applicable limit specified in the table in this definition.

LOW-SPEED SMALL-DIAMETER CEILING FAN BLADE AND TIP SPEED CRITERIA

Airflow direction	Thickness (t) of edges of blades		Tip speed threshold	
	Mm	inch	m/s	feet per minute
Reversible	4.8 > t ≥ 3.2	3/16 > t ≥ 1/8	12.2	2,400
Reversible	t ≥ 4.8	t ≥ 3/16	16.3	3,200

1.17. *Multi-head ceiling fan* means a ceiling fan with more than one fan head, *i.e.*, more than one set of rotating fan blades.

1.18. *Multi-mount ceiling fan* means a low-speed small-diameter ceiling fan that can be mounted in the configurations associated with both the standard and hugger ceiling fans.

1.19. *Oscillating ceiling fan* means a ceiling fan containing one or more fan heads for which the axis of rotation of the fan blades cannot remain in a fixed position relative to the ceiling. Such fans have no inherent

means by which to disable the oscillating function separate from the fan blade rotation.

1.20. *Small-diameter ceiling fan* means a ceiling fan that is less than or equal to seven feet in diameter.

1.21. *Standard ceiling fan* means a low-speed small-diameter ceiling fan that is not a very-small-diameter ceiling fan, highly-decorative ceiling fan or belt-driven ceiling fan; for which the lowest point on fan blades is greater than 10 inches from the ceiling.

1.22. *Total airflow* means the sum of the product of airflow and hours of operation at

all tested speeds. For multi-head fans, this includes the airflow from all fan heads.

1.23. *Very-small-diameter ceiling fan* means a small-diameter ceiling fan that is not a highly-decorative ceiling fan or belt-driven ceiling fan; and has one or more fan heads, each of which has a blade span of 18 inches or less.

2. Scope:

The provisions in this appendix apply to ceiling fans except:

(1) Ceiling fans where the plane of rotation of a ceiling fan's blades is not less than or