CHAPTER 7605
DEPARTMENT OF PUBLIC SERVICE
ENERGY DIVISION
FLUORESCENT LAMP BALLASTS

7605.0100 AUTHORITY.

The commissioner is authorized by Minnesota Statutes, section 216C.19, subdivision 8, to establish minimum energy efficiency standards for fluorescent lamp ballasts. No person may sell, install, or place in inventory a fluorescent lamp ballast in Minnesota that does not comply with parts 7605.0100 to 7605.0160 after March 13, 1989.

Statutory Authority: *MS s 216C.19*

History: *13 SR 2154*

7605.0110 APPLICABILITY.

Subpart 1. **Applicability.** Parts 7605.0100 to 7605.0160 apply to fluorescent lamp ballasts distributed in commerce for personal or commercial use or consumption that are:

A. manufactured on or after January 1, 1990; or

B. sold by the manufacturer on or after April 1, 1990; or

C. incorporated into a luminaire by a luminaire manufacturer on or after April 1, 1991; and

D. designed to operate at nominal input voltages of 120 or 277 volts;

E. designed to operate with an input current frequency of 60 Hertz; and

F. designed for use in connection with F40T12, F96T12, or F96T12HO lamps.

Subp. 2. **Exclusion.** Fluorescent lamp ballasts excluded from parts 7605.0100 to 7605.0160 are:

A. those designed for dimming or for use in ambient temperatures of zero degrees Fahrenheit or less; and

B. those with a power factor of less than 0.90 and sold for use in residential building applications.

Statutory Authority: *MS s 216C.19*

History: *13 SR 2154*

7605.0120 DEFINITIONS.

Subpart 1. **Scope.** The definitions in this part apply to parts 7605.0100 to 7605.0160.

Subp. 2. **ANSI standard.** "ANSI standard" means a standard approved by a committee accredited by the American National Standards Institute.

Subp. 3. **Ballast efficacy factor.** "Ballast efficacy factor" means the relative light output divided by the power input of a fluorescent lamp ballast, as measured under test conditions specified in ANSI standard C82.2-1984.

Subp. 4. **Ballast input voltage.** "Ballast input voltage" means the rated input voltage of a fluorescent lamp ballast.

Subp. 5. **Energy efficiency standard.** "Energy efficiency standard" means a performance standard:

A. that prescribes a minimum level of energy efficiency for a covered product, determined in accordance with test procedures prescribed under United States Code, title 42, section 6293; and

B. that includes any other requirement that the department may prescribe.

Subp. 6. **Fluorescent lamp ballast.** "Fluorescent lamp ballast" means a device used to start and operate fluorescent lamps by providing a starting voltage and current and limiting the current during normal operation.

Subp. 7. **F40T12.** "F40T12" means a nominal 40 watt tubular fluorescent lamp that is 48 inches in length and 1.5 inches in diameter and conforms to ANSI standard C78.1-1978 (R1984).

Subp. 8. **F96T12.** "F96T12" means a nominal 75 watt tubular fluorescent lamp that is 96 inches in length and 1.5 inches in diameter and conforms to ANSI standard C78.3-1978 (R1984).

Subp. 9. **F96T12H0.** "F96T12H0" means a nominal 110 watt tubular fluorescent lamp that is 96 inches in length and 1.5 inches in diameter and conforms to ANSI standard C78.1-1978 (R1984).

Subp. 10. **Input current.** "Input current" means the root-mean-square (RMS) current in amperes delivered to a fluorescent lamp ballast.

Subp. 11. **Luminaire.** "Luminaire" means a complete lighting unit consisting of a fluorescent lamp or lamps and parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply through the ballast.

Subp. 12. **Nominal lamp watts.** "Nominal lamp watts" means the wattage at which a lamp is designed to operate.

Subp. 13. **Power factor.** "Power factor" means the power input divided by the product of ballast input voltage and input current of a fluorescent lamp ballast, as measured under test conditions specified in ANSI standard C82.2-1984.

Subp. 14. **Power input.** "Power input" means the power consumption in watts of a ballast and fluorescent lamp or lamps, as determined in accordance with the test procedures specified in ANSI standard C82.2-1984.

Subp. 15. **Relative light output.** "Relative light output" means the light output delivered through the use of a ballast divided by the light output delivered through the use of a reference ballast, expressed as a percent, as determined in accordance with the test procedures specified in ANSI standard C82.2-1984.

Subp. 16. **Test procedures.** "Test procedures" means the test procedures prescribed by the United States Department of Energy under United States Code, title 42, section 6293.

Statutory Authority: *MS s 216C.19*

History: *13 SR 2154*

7605.0130 FLUORESCENT LAMP BALLAST STANDARDS.

A fluorescent lamp ballast covered by parts 7605.0100 to 7605.0160 must have a power factor of 0.90 or greater and a ballast efficacy factor not less than the following:

Application for Operation of	Ballast Input Voltage	Total Nominal Lamp Watts	Ballast Efficacy Factor
one F40T12 lamp	120	40	1.805
	277	40	1.805

two F40T12 lamps	120	80	1.060
	277	80	1.050
two F96T12 lamps	120	150	0.570
	277	150	0.570
two F96T12H0 lamps	120	220	0.390
	277	220	0.390

Statutory Authority: *MS s 216C.19*

History: *13 SR 2154*

7605.0140 TESTING AND QUALITY ASSURANCE.

Subpart 1. **Procedures.** For fluorescent lamp ballasts manufactured on or after January 1, 1990, a manufacturer shall provide for the testing of each type of model of any covered product which it manufactures, using test procedures applicable to that model that comply with ANSI standard 82.2-1984.

Subp. 2. **Samples.** The manufacturer shall cause the testing of samples of each model of fluorescent lamp ballast to be sold or installed in Minnesota of the type described in part 7605.0110, subpart 1. A sample of sufficient size of each model must be tested to ensure that the ballast efficacy factor is no greater than the mean of the sample or the lower 97-1/2 percent confidence limit of the true mean divided by 0.95. A minimum of four ballasts of each model must be randomly selected and tested at least once a year.

Subp. 3. **Power input and relative light output.** The power input and relative light output must be determined in accordance with the ANSI standard C82.2-1984.

Statutory Authority: *MS s 216C.19*

History: *13 SR 2154*

7605.0150 LABELING.

The labeling of a fluorescent lamp ballast manufactured on or after January 1, 1990, must indicate conspicuously, in accordance with United States Code, title 42, section 6294, a capital letter "E" printed within a circle on the ballast and on the packaging of the ballast or of the luminaire into which the ballast has been incorporated.

Statutory Authority: *MS s 216C.19*

History: *13 SR 2154*

7605.0160 INCORPORATIONS BY REFERENCE.

Subpart 1. **Generally.** The portions of the standards listed in subpart 2 that are specified in parts 7605.0100 to 7605.0160 are incorporated by reference. The material is subject to frequent change, and all of the standards listed are available to the public at the libraries listed in subpart 3.

Subp. 2. **Standards.** The following American National Standards Institute standards are incorporated by reference:

A. ANSI Standard C78.1-1978 (R1984): Dimensional and Electrical Characteristics of Fluorescent Lamps, Rapid Start Types;

B. ANSI Standard C78.3-1978 (R1984): Dimensional and Electrical Characteristics of Fluorescent Lamps, Instant Start and Cold Cathode Types; and

C. ANSI Standard C82.2-1984: Methods of Measurement of Fluorescent Lamp Ballasts.

Subp. 3. **Availability.** The standards incorporated by reference are available to the public at the locations in items A and B.

A. All documents incorporated by reference in this chapter are available at the following locations in Saint Paul, Minnesota:

(1) Minnesota State Law Library; and

(2) James J. Hill Reference Library.

B. All ANSI standards are also available at the following locations:

(1) University of Minnesota Engineering Library; and

(2) American National Standards Institute, 1430 Broadway, New York, New York 10018, telephone (212) 354-3300.

Statutory Authority: *MS s 216C.19*

History: *13 SR 2154*