



ANSI C137.5-2021

*American National Standard for Lighting Systems—
Energy Reporting Requirements for Lighting Devices*

Secretariat:

National Electrical Manufacturers Association

Approved: March 4, 2021

American National Standards Institute, Inc.

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Foreword (This foreword is not a part of ANSI C137.5-2021)

This is a new Standard and not a revision of a previous Standard.

Suggestions for improvement of this Standard are welcomed. They should be sent to:

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This Standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Lighting Systems, C137. Approval of the Standard is not meant to imply that all Committee Members voted to approve it.

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1 Scope

This Standard specifies the minimum performance requirements for lighting devices that report energy data. These requirements include the specific energy data types to be reported, the nominal and statistical accuracy performance for all reported data types, and references to other Standards that define the information model for all data types.

Lighting devices addressed by this Standard include AC and DC powered light sources (including both integral replacement lamps and luminaires); LED drivers and other integral or remote power sources; lighting system or device controllers; and associated user interface devices. Energy metering devices, such as sub-meters for buildings, are excluded from the scope of this Standard.

A lighting device that reports its own energy consumption or reports consumption of a connected load, referred to herein as an “Energy Reporting Device,” or ERD, may include a wide variety of functional capabilities such as the following:

- a. End-Use Devices that consume power to provide an end-use function.

Example: the driver circuitry within a luminaire that consumes power as part of a light-emitting system (either as a discrete LED driver or integrated in the light engine circuitry).

Example: a sensor that is connected directly to an external power source.

- b. A power supply that consumes and converts power for connected, but physically separated, devices.

Example: a remote power supply that is connected to one or more luminaires.

Example: a power supply that is connected to one or more low-voltage sensors mounted in a ceiling, wall, or other building location.

Example: a discrete power supply that is contained within a luminaire, separate from the driver, that is connected to one or more low-voltage sensors also housed within the luminaire.

- c. A power consuming and converting device that provides multiple outputs for multiple purposes.

Example: an LED driver that provides separate connections for the light-emitting system and low-voltage sensors.

For purposes of clarity in this document, ERDs are grouped into two types: Class TE (total energy) ERD and Class SE (selected energy) ERD (see clause 5.4). The requirements for each ERD type are specified in clause 5.5.1.