ANSI C82.15-2021

American National Standard for Lighting Equipment— LED Drivers Robustness

Secretariat:

National Electrical Manufacturers Association

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American National Standards Institute, Inc.

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Foreword (This foreword is not part of ANSI C82.15)

This is a new Standard.

Suggestions for improvement of this Standard should be submitted to:

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This Standard was processed and approved by Accredited Standards Committee (ASC) C82. Committee approval of the Standard does not necessarily imply that all committee Members voted for that approval.

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1.1 Purpose

LED light source technologies are expected to have a longer useful life than traditional light sources. The lifetime of the LED lighting system is greatly influenced by the robustness of the LED driver; therefore, the purpose of these tests is to demonstrate a high level of robustness for the driver.

1.2 Scope

This Standard applies to hardware and microcontroller (microprocessor)-based LED drivers. This American National Standard describes testing methods used to evaluate LED driver robustness or a driver's ability to withstand the specific stresses described within.

The scope includes LED drivers that operate from supply sources up to 600 V and 50/60 Hz or DC applications. This Standard is the first of its type developed by the ANSI C82 committee; it includes only limited type tests in its first edition.

2 Normative References

All Standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the Standards indicated below.

ANSI C82.16	*American National Standard for Light-Emitting Diode Drivers—Methods of Measurement*
ANSI C82.77-2	*American National Standard for Lighting Equipment—Electrostatic Discharges*
ANSI C82.77-3	*American National Standard for Lighting Equipment—Electromagnetic Compatibility (EMC) Testing and Measurement Techniques—Radiated, Radio-Frequency Electromagnetic Field Immunity Test*
ANSI C82.77-5	*American National Standard for Lighting Equipment—Voltage Surge Requirements*
ANSI C82.77-7	*American National Standard for Lighting Equipment—Testing and Measurement Techniques—Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests*
IEC 61000-4-28	*Electromagnetic compatibility (EMC) - Part 4-28: Testing and measurement techniques - Variation of power frequency, immunity test*
JESD22-B103B	*Vibration, Variable Frequency*
NEMA 410	*Performance Testing for Lighting Controls and Switching Devices with Electronic Drivers and Discharge Ballasts*
UL 60730-1	*Automatic Electrical Controls - Part 1: General Requirements*
UL 8750	*Light Emitting Diode (LED) Equipment for Use in Lighting Products*