UL 1786

STANDARD FOR SAFETY

Direct Plug-In Nightlights

UL Standard for Safety for Direct Plug-In Nightlights, UL 1786

Fourth Edition, Dated December 17, 2014

Summary of Topics

This revision of ANSI/UL 1786 dated January 17, 2024 includes the following changes in requirements:

– Non-replaceable LED light sources shaped like filament lamps; 7.3.2.2, 7.18.2, 7.18.3, 7.18.4, 7.18.5, 10.7.3, 11.13, 11.13.1, 13.4A, 13.7, 13.8, Table 5, and Annex A

– Nightlights with integral USB ports; Clause 2, 6.3.1, 6.20, 7.22, and 7.22.1

– Nightlights with Rechargeable Batteries; 1.3, 6.2.1, 6.2.2, 7.23, 7.23.1, 7.23.2, 7.23.3, 7.23.4, 7.23.5, 7.23.6, 7.23.7, 8.5, 8.5.1, 8.5.2, 8.5.3, 8.5.4, 8.5.5, 8.5.6, 9.1.2, 10.8, 10.8.1, 10.8.2, 13.6, Table 5, and Table 6

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated August 18, 2023.

No Text on This Page

CSA Group
CSA C22.2 No. 256-14
Second Edition

ULSE Inc.
UL 1786
Fourth Edition

Direct Plug-In Nightlights

December 17, 2014

(Title Page Reprinted: January 17, 2024)

Approved American National Standard

ANSI/UL 1786-2024

Commitment for Amendments

This standard is issued jointly by the Canadian Standards Association (operating as "CSA Group") and ULSE Inc. (ULSE). Comments or proposals for revisions on any part of the standard may be submitted to CSA Group or ULSE at any time. Revisions to this standard will be made only after processing according to the standards development procedures of CSA Group and ULSE. CSA Group and ULSE will issue revisions to this standard by means of a new edition or revised or additional pages bearing their date of issue.

ISBN 978-177139-710-0 © 2014 Canadian Standards Association

This Standard is subject to review within five years from the date of publication, and suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include "Proposal for change" in the subject line: Standard designation (number); relevant clause, table, and/or figure number; wording of the proposed change; and rationale for the change.

To purchase CSA Group Standards and related publications, visit CSA Group's Online Store at www.csagroup.org/store/ or call toll-free 1-800-463-6727 or 416-747-4044.

This ANSI/UL Standard for Safety consists of the Fourth edition including revisions through January 17, 2024. The most recent designation of ANSI/UL 1786 as an American National Standard (ANSI) occurred on January 17, 2024. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

Comments or proposals for revisions on any part of the Standard may be submitted to ULSE at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.com.

For information on ULSE Standards, visit http://www.shopulstandards.com, call toll free 1-888-853-3503 or email us at ClientService@shopULStandards.com.

CONTENTS

Preface

This is the harmonized CSA Group and ULSE Standard for *Direct Plug-In Nightlights*. It is the second edition of CSA C22.2 No. 256 and the fourth edition of UL 1786. This edition of CSA C22.2 No. 256 supersedes the previous edition published in 2005. This edition of UL 1786 supersedes the previous editions published in 1995, 1988, and 2005. This harmonized standard has been jointly revised on January 17, 2024. For this purpose, CSA Group and ULSE are issuing revision pages dated January 17, 2024.

This harmonized Standard was prepared by the CSA Group and ULSE. The efforts and support of the CANENA Technical Harmonization Committee are gratefully acknowledged.

This Standard was reviewed by the CSA Subcommittee on Lighting Products, under the jurisdiction of the CSA Technical Committee on Consumer and Commercial Products and the CSA Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee.

This standard is considered suitable for use for conformity assessment within the stated scope of the standard.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is considered to be a minimum quantity.

Note: Although the intended primary application of this Standard is stated in its scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.

Level of harmonization

This Standard uses the IEC format but is not based on, nor is it to be considered equivalent to, an IEC Standard. This Standard is published as an equivalent Standard for CSA Group and ULSE. An equivalent Standard is a Standard that is substantially the same in technical content, except as follows: Technical national differences are allowed for codes and governmental regulations as well as those recognized as being in accordance with NAFTA Article 905, for example, because of fundamental climatic, geographical, technological, or infrastructural factors, scientific justification, or the level of protection that the country considers appropriate. Presentation is word for word except for editorial changes.

Reasons for differences from IEC

There is not an IEC Standard that is equivalent to the requirements contained in this Standard.

Interpretations

The interpretation by the standards development organization of an identical or equivalent Standard is based on the literal text to determine compliance with the Standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

No Text on This Page

1 Scope

1.1 This Standard applies to direct plug-in nightlights not exceeding 10 W input, for indoor use only, in non-hazardous locations and intended to be used in accordance with the *Canadian Electrical Code, Part I*, CSA C22.1, and the *National Electrical Code*, ANSI/NFPA 70. Light source types include incandescent candelabra base lamps, non-replaceable lamps, [fluorescent, neon, or light-emitting diode (LED) type] or electroluminescent panels.

1.2 These requirements cover direct plug in nightlights for insertion into a parallel slot receptacle rated 125 volts maximum.

1.3 These requirements do not cover:

(a) cord-connected luminaires;

(b) nightlights with more than one receptacle;

(c) direct plug-in devices with other primary functions, such as room deodorizers, insect repellers, or flashlights; (Note: A nightlight provided with non-rechargeable (replaceable) batteries is considered to be a flashlight); or

(d) direct plug-in devices utilizing plasma light.

2 Reference Publications

2.1 For undated references to Standards, such reference shall be considered to refer to the latest edition and all revisions to that edition up to the time when this Standard was approved. For dated references to Standards, such reference shall be considered to refer to the dated edition and all revisions published to that edition up to the time the Standard was approved.

2.2 Products covered by this Standard shall comply with the reference installation codes and Standards as appropriate for the country where the product is to be used. When the product is intended for use in more than one country, the product shall comply with the installation codes and Standards for all countries where it is intended to be used. A list of reference publications is provided below.

CSA Group

C22.1-12
Canadian Electrical Code, Part I

C22.2 No. 0.4-04 (R2013)
Bonding of Electrical Equipment

CAN/CSA-C22.2 No. 0.17-00 (R2013)
Evaluation of Properties of Polymeric Materials

C22.2 No. 0.23-15 (R2020)
General requirements for battery-powered appliances

C22.2 No. 42-10
General Use Receptacles, Attachment Plugs, and Similar Wiring Devices

C22.2 No. 223-15 (R2020)
Power supplies with extra-low-voltage Class 2 outputs

C22.2 No. 250.13-22
Light emitting diode (LED) equipment for lighting applications

CAN/CSA C22.2 No. 60065-03 (R2012)
Audio, Video, and Similar Electronic Apparatus – Safety Requirements

CAN/CSA C22.2 No. 60590-1:07 (R2021)
I*nformation Technology Equipment – Safety – Part 1: General Requirements*

C22.2 No. 62133-1-20
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 1: Nickel systems

C22.2 No. 62133-2-20
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems

C22.2 No. 62368-1-19
Audio/video, information and communication technology equipment – Part 1: Safety requirements

UL (Underwriters Laboratories Inc)

UL 498
Attachment Plugs and Receptacles

UL 498A
Current Taps and Adapters

UL 746C
Polymeric Materials – Use in Electrical Equipment Evaluations

UL 796
Printed-Wiring Boards

UL 840
Insulation Coordination Including Clearances and Creepage Distances for Electrical Equipment

UL 1310
Class 2 Power Units

UL 1449
Surge Protective Devices

UL 2054
Household and Commercial Batteries

UL 8750
Light Emitting Diode (LED) Equipment for Use in Lighting products

UL 60590-1
Information Technology Equipment – Safety – Part 1: General Requirements

UL 62133-1
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 1: Nickel systems

UL 62133-2
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems

UL 62368-1
Audio/video, information and communication technology equipment – Part 1: Safety requirements

ASTM (American Society for Testing and Materials)

ASTM D 1000
Standard Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications

ANSI/ASTM E230/E230M
Standard Specification and Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples

IEC (International Electrotechnical Commission)

IEC 60061-1
Lamp caps and holders together with gauges for the control of interchangeability and safety Part 1: Lamp caps

IEC 60664-1
Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests

NEMA (National Electrical Manufacturers Association)

NEMA ANSLG C81.61
Electrical Lamp Bases – Specifications for Bases (Caps) for Electric Lamps

NEMA ANSLG C81.63a
Gauges for Electric Lamp Bases and Lampholders

NFPA (National Fire Protection Association)

ANSI/NFPA 70
National Electrical Code (NEC)

3 Components

3.1 Except as indicated in Clause 3.2, a component of a product covered by this Standard shall comply with the requirements for that component. See Annex A for a list of Standards covering components generally used in the products covered by this Standard. A component shall comply with the CSA or UL Standards as appropriate for the country where the product is to be used.

3.2 A component is not required to comply with a specific requirement that:

(a) involves a feature or characteristic not required in the application of the component in the product covered by this Standard; or

(b) is superseded by a requirement in this Standard. Electrical circuit components of an LED light source, including the LED itself, that are directly connected to line voltage are considered covered by the requirements of this Standard.

3.3 A component shall be used in accordance with its rating established for the intended conditions of use.

3.4 Specific components are accepted as being incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

3.5 In Canada, a driver or part thereof providing an isolated output to an LED light source shall comply with applicable requirements of the Standard for Light Emitting Diode (LED) Equipment for Lighting Applications, CAN/CSA-C22.2 No. 250.13.

In the United States, a driver or part thereof providing an isolated output to an LED light source shall comply with applicable requirements of the Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products, UL 8750.

4 Units of Measurement

4.1 The values given in SI (metric) units shall be normative. Any other values given are for information only.

Note: Wire gauge sizes are expressed in American Wire Gauge sizes because of its widespread usage.

4.2 Temperatures are given in degrees Celsius only.

4.3 Unless indicated otherwise, all voltage and current values mentioned in this Standard are root-mean-square (rms).

5 Application of Requirements

5.1 The requirements of the national installation code and other practices of Canada and the United States have been addressed in the requirements of this Standard.

5.2 Products intended to be used in both Canada and the United States shall comply with the requirements of this Standard.

5.3 Products to be used only in Canada or only in the United States shall comply with the requirements of this Standard, but need only comply with the applicable country-specific requirement, if provided.

6 Definitions

6.1 For the purpose of these requirements, the following definitions apply:

6.2 **Accessible** – able to be contacted by the articulate probe described in Clause 8.2.2.