NEMA Standards Publication

NEMA LE 4-2012 (R2018)

Standard for Recessed Luminaires, Ceiling Compatibility

currently in preview, click buy full versi

National Electrical Manufacturers Association

NEMA Standards Publication LE 4-2012 (R2018)

Recessed Luminaires, Ceiling Compatibility

Published by:

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, VA 22209

www.nema.org

© 2019 National Electrical Manufacturers Association. All rights including translation into other languages, reserved under the Universal Copyright Convention, the Berne Convention for the Protection of Literary and Artistic Works, and the International and Pan American Copyright Conventions.

currently in preview, click buy full versi

NOTICE AND DISCLAIMER

The information in this publication was considered technically sound by the consensus of persons engaged in the development and approval of the document at the time it was developed. Consensus does not necessarily mean that there is unanimous agreement among every person participating in the development of this document.

The National Electrical Manufacturers Association (NEMA) Standards and guideline publications, of which the document contained herein is one, are developed through a voluntary consensus Standards development process. This process brings together volunteers and/or seeks out the views of persons who have an interest in the topic covered by this publication. While NEMA administers the process and establishes rules to promote fairness in the development of consensus, it does not write the document, and it does not independently test, evaluate, or verify the accuracy or completeness of any information or the soundness of any judgments contained in its Standards and guideline publications.

NEMA disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, application, or reliance on this document. NEMA disclaims and makes no guaranty or warranty, express or implied, as to the accuracy or completeness of any information published herein, and disclaims and makes no warranty that the information in this document will fulfill any of your particular purposes or needs. NEMA does not undertake to guarantee the performance of any individual manufacturer or seller's products or services by virtue of this Standard or guide.

In publishing and making this document available, NEMA is not undertaking to render professional or other services for or on behalf of any person or entity, nor is NEMA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances. Information and other Standards on the topic covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

NEMA has no power, nor does it undertake to police or enforce compliance with the contents of this document. NEMA does not certify, test, or inspect products, designs, or installations for safety or health purposes. Any certification or other statement of compliance with any health or safety-related information in this document shall not be attributable to NEMA and is solely the responsibility of the certifier or maker of the statement.

Currently in preview, click buy full version

© 2019 National Electrical Manufacturers Association

CONTENTS

Foreword ..... **ii**

Section 1 General **1**
1.1 Scope 1
1.2 Definitions 1
1.3 Support Wires 1

Section 2 Types of Recessed Fluorescent Luminaires **3**
2.1 General Information 3
2.2 Type F (Flanged) 3
2.3 Type M (Modular) And Type Z (Z Spline) 4
2.4 Type G (Grid) 7
2.5 Type GR (Grid-Regressed) 9
2.6 Type GN (Grid New) 11
2.7 Type NFG (Narrow Faced Grid) 13
2.8 Type NFSG (Narrow Faced Slot Grid) 15
2.9 Type SS (Screw Slot) 17

Currently in preview, click buy full versi

© 2019 National Electrical Manufacturers Association

Foreword

The purpose of this Standards publication is to establish standardized dimensions for recessed luminaires that, if adhered to, will ensure compatibility with conventional generic ceiling suspension systems. Compatibility, as referred to in this Standards publication, means that luminaires will be designed to fit into ceiling systems without causing distortion or misalignment of ceiling members and in such a manner as to ensure their proper support within the ceiling in accordance with the *National Electrical Code*®. Compatibility further means that a luminaire will be placed in support systems in a symmetrical manner without oversized gaps existing between the luminaire and ceiling tiles or ceiling suspension members.

It is not the intent of this Standards publication to inhibit luminaire design or to impose arbitrary tolerances on any luminaire manufacturer.

This Standards publication does not attempt to establish comprehensive ceiling grid system Standards; other sizes and designs of ceiling systems may be used. However, NEMA-type luminaires may not be compatible with these non-defined systems.

In the preparation of this Standards publication input of users and other interested parties has been sought and evaluated. Inquiries, comments, and proposed or recommended revisions should be submitted to the Indoor Lighting Equipment Subdivision of NEMA by contacting:

Megan Hayes, Technical Director, Operations
National Electrical Manufacturers Association
1300 North 17th Street
Rosslyn, Virginia 22209

The Standards or guidelines presented in a NEMA Standards publication are considered technically sound at the time they are approved for publication. They are not a substitute for a product seller's or user's own judgment with respect to the particular product referenced in the Standard or guidelines, and NEMA does not undertake to guarantee the performance of any individual manufacturer's products by virtue of this Standard or guide. Thus, NEMA expressly disclaims any responsibility for damages arising from the use, application, or reliance by others on the information contained in these Standards or guidelines.

This Standard was developed by the Luminaire Section to supersede and replace the original NEMA LE 1-1974 and later NEMA LE 4-1987. Section approval of the Standard does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the Luminaire Section was comprised of the following members:

ABB
Acuity Brands, Inc.
Atlas Lighting Products, Incorporated
Cree, Inc.
Current Powered by GE
Delight
Eaton Lighting Solutions
EiKO, Ltd.
Emerson
EYE Lighting International of N.A., Incorporated
Halco Lighting Technologies

© 2019 National Electrical Manufacturers Association

Currently in preview, click buy full version

Hubbell Lighting, Incorporated
Legrand, North America
Leviton Manufacturing Co. Inc.
Lutron Electronics Company, Inc.
MaxLite
RAB Lighting
Satco Products, Incorporated
Signify North America Corporation
Southwire Corporation
TCP International Holdings Ltd.
Universal Lighting Technologies
Westgate MFG, Inc.

currently in preview, click buy full versi

© 2019 National Electrical Manufacturers Association

<This page is intentionally left blank.>

currently in preview, click buy full versi

© 2019 National Electrical Manufacturers Association

Section 1
General

1.1 Scope

This Standards publication contains definitions, dimensions , and tolerances for recessed luminaires designed to use fluorescent, high-intensity discharge, and incandescent light sources.

Drawing examples show fluorescent lamps. However, these drawings also apply to high-intensity discharge, compact fluorescent, incandescent, and other lamp sources.

This Standard does not apply to hard metric dimensioned products. However, soft metric dimensions or direct metric conversions may be applied throughout this Standard as one inch equals 25.4 millimeters.

1.2 Definitions

ceiling suspension system: the entire network or grid of structural components that provide support for acoustical ceiling tiles, acoustical ceiling panels, luminaires, and air handling terminals.

recessed luminaire: a luminaire that is mounted above the ceiling (or behind a wall or other surface) with the opening of the luminaire essentially level with the surface.

splay: decorative trim of various materials provided by ceiling manufacturers, used to conceal edges of the tile and supporting member.

1.3 Support Wires

There shall be no ceiling grid support wires between recessed luminaire ends where the luminaires are mounted in continuous rows, see **Figure 1-1**.

Currently in preview, click buy full version

© 2019 National Electrical Manufacturers Association