



ANSI C136.41-2021
Revision of ANSI C136.41-2013

*American National Standard for Roadway and Area Lighting
Equipment—Interface between an External Locking Type Control
Device and Ballast or Driver*

Secretariat:

National Electrical Manufacturers Association

Approved December 3, 2021

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.

American National Standards Institute (ANSI) 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 guarantee 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.

AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires verification by ANSI. ANSI states that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means significantly more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and a concerted effort be made toward their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether they have approved the standards or not, from: manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards, and will under no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

Caution Notice: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Published by

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

© 2022 National Electrical Manufacturers Association

All rights reserved 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.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, and without the prior written permission of the publisher.

Printed in the United States of America.

< This page intentionally left blank. >

CONTENTS

Foreword	vi
1 Scope	1
2 Normative References	1
3 Informative References	1
4 Definitions	2
5 General Requirements	2
5.1 Background	2
5.2 Dimming Standards	2
6 Mechanical Requirements	5
6.1 Plug Type	5
6.2 Receptacle Type	5
6.3 Vibration Test	5
7 Electrical Requirements	6
7.1 Plug Type	6
7.2 Receptacle Type	6
8 Marking Requirements	6
Figure 1 Limiting Dimensions For Spring Contact	7
Figure 2 Locking-Type Plug Dimensions Per Ansi C136.10	8
Figure 3 Locking-Type Receptacle Dimensions Per Ansi C136.10	9
Figure 4 Locking-Type Receptacle Dimensions Per Ansi C136.10	10
Figure 5 Dimming Contact Contacts, Minimum Size And Locations	11
Figure 6 Example Wiring Diagram	12

Foreword

Note: The user's attention is called to the possibility that compliance with this standard could require use of an invention covered by patent rights.

By publication of this standard, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the Secretary, or the NEMA website.

At the time this standard was approved the ANSI C136 committee was composed of the following members:

Acuity Brands	LED Roadway Lighting
Alabama Power Company	Legrand, North America
American Electric Power	Leotek Electronics, USA Corp
Amphenol Canada Corp.	Light Smart
Atlas Lighting Products, Inc.	Littlefuse, Inc.
California Lighting Technology Center University of California Davis	Lumispec Consulting
Caltrans	Mississippi Power
CIMCON Lighting	National Grid
City of Kansas City, Missouri	NightSwitch LLC
City of Los Angeles, Bureau of Street Lighting	OSRAM SYLVANIA, Inc
Comptek Technologies	Pacific Northwest National Laboratory
Cooper Lighting Solutions	Phoenix Lighting
Cree Lighting	PSEG Power
Dominion Energy	Radian Research, Inc.
Duke Energy	Realterm Energy.
Duke Energy Progress	Ripley Lighting Controls LLC
EPRI	ROAM/DTL
Excellence Opto, Inc.	SELC Ireland Limited
EYE Lighting International	Signify North America Corporation
Florida Power and Light Company	Solais Lighting, INC.
Gateway International 360.	South Carolina Electric & Gas
GE Current, a Daintree Company	StressCrete/King Luminaire
Georgia Power Company	Sunrise Technologies, Inc.
Graeme Lister Consulting	Tampa Electric Company
GreenStar Products, Inc.	TE Connectivity
Hancock Consulting	Telematics Wireless
Hapco Aluminum Pole Products	Telensa
Howard Lighting	TESCO The Eastern Specialty Company.
Hubbell Lighting, Inc.	Ubicquia
Intelligent Illuminations, Inc.	Utility Metals Division of Fabricated Metals, LLC
Intermatic Incorporated	Valmont Composite Structures
Intertek USA	Valmont Industries, Inc.
Itron, Inc.	Vandal Shields
JEA	Watthour Engineering Company, Inc.
Kauffman Consulting, LLC	Xcel Energy

1 Scope

This standard describes interface methods between an external locking type control and a luminaire for roadway and area lighting equipment. Mechanical, electrical, and marking requirements are established for dimming and other functions for locking type control devices and mating receptacles. All requirements of ANSI C136.10 for photocontrols and receptacles shall apply except where specifically superseded by this standard.