

ANSI C136.37-2019 Revision on ANSI C136.37-2011

American National Standard For Roadway and Area Lighting Equipment— Solid State Luminaires Used in Roadway and Area Lighting

Secretariat:

**National Electrical Manufacturers Association** 

Approved May 3, 2019

American National Standards Institute, Inc.

#### 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.

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 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.

# 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, Suite 900 Rosslyn, VA 22209

© 2019 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	
1 SCOPE	
2 NORMATIVE REFERENCES	
3 INFORMATIVE REFERENCES	2
4 DEFINITIONS	
5 GENERAL REQUIREMENTS	3
5.1 APPLICABLE STANDARDS	3
5.2 ELECTRICAL IMMUNITY	
5.2.1 Pre/Post-Test Measurements	
5.2.2 Electrical Overstress (EOS)	
5.2.3 Dielectric Voltage-Withstand	
5.2.4 Conducted and Radiated Emissions	
5.2.5 Surge – 1.2/50 μs – 8/20 μs Combination Wave	4
5.2.6 Surge – 0.5 μs – 100 kHz Ring Wave	5
5.2.7 Electrical Fast Transients (EFT)	5
5.2.8 Electrostatic Discharge (ESD)	
5.2.9 Total Harmonic Distortion (THD)	
5.2.10 Inrush Current	
5.3 ENVIRONMENTAL TEST	6
5.3.1 Ingress Protection	
5.3.2 Material and Protective Coatings	
5.4 MECHANICAL	
5.5 DRIVER LABELING	
6 OPERATING TEMPERATURE	7
7 CORRELATED COLOR TEMPERATURE (CCT)	7
8 RATINGS	8
9 MOUNTING PROVISIONS	
9.1 POST TOP LUMINAIRES	
9.2 SIDE-MOUNTED LUMINAIRES	
9.3 SET-BACK OR FLOODLIGHT LUMINAIRES – TRUNNION OR YOKE MOUNT	
9.4 SET-BACK OR FLOODLIGHT LUMINAIRES – SWIVEL TENON MOUNT	
9.5 PENDANT MOUNT LUMINAIRES	
10 LATCHING AND HINGING REQUIREMENTS	
11 TERMINAL BLOCKS FOR INCOMING AC LINES	
12 DIMMING	
13 WIRING AND GROUNDING	
14 PHOTOCONTROL RECEPTACLE	
15 EPA AND WEIGHT	
16 LABELING	
17 FIELD MOUNTING AND SERVICING	10

ANSI C136.37-2019 Page vi

### Foreword

At the time this Standard was approved, the ANSI C136 Committee was composed of the following members:

Acuity Brands, Inc. Alabama Power Company Atlas Lighting Products California Lighting Technology Center University of California, Davis **CIMCON** Lighting City of Kansas City, Missouri City of Los Angeles, Bureau of Street Lighting Cree. Inc. Current Powered by GE **Dominion Energy Duke Energy Duke Energy Progress** E J Kramer Consulting, LLC EPRI Excellence Opto, Inc. EYE Lighting International of N.A., Inc. Florida Power & Light Company Gateway International 360 **GE** Lighting Georgia Power Graeme Lister Consulting GreenStar Products, Inc. Hancock Consulting Hapco Aluminum Pole Products Howard Lighting Hubbell Lighting, Inc. Intelligent Illuminations, Inc. Intermatic Incorporated

Intertek Itron, Inc. JEA Kauffman Consulting, LLC LED Roadway Lighting Ltd Legrand North America Leotek Electronics USA Corp Light Smart Littelfuse, Inc. Lumispec Consulting **Mississippi Power** National Grid **OSRAM SYLVANIA Inc.** Pacific Northwest National Laboratory **PNNL-Battelle PSEG** Power Radian Research, Inc. **Ripley Lighting Controls LLC** ROAM/DTL **SELC Ireland Limited** Sensus, A Xylem Brand Signify South Carolina Electric & Gas Stresscrete/King Luminaire Sunrise Technologies, Inc. **TE Connectivity Telematics Wireless** Telensa Utility Metals Division of Fabricated Metals, LLC Valmont Composite Structures Valmont Industries, Inc. Westire Technology Limited Xcel Energy

### 1 Scope

This Standard defines interchangeability of, and some requirements for, solid-state light (SSL) source fixtures, also referred to as luminaires and/or LED (light-emitting diode) fixtures. These are used in roadway and area lighting applications that are within the scope of various ANSI C136 Standards. This Standard does not address replacement or interchangeability of lamps/light sources.