C22.2 No. 250.4-14

National Standard of Canada

(reaffirmed 2019)

Portable luminaires

Standards Council of Canada
Conseil canadien des normes

REVISED JULY 2019

Legal Notice for Standards

Canadian Standards Association (operating as "CSA Group") develops standards through a consensus standards development process approved by the Standards Council of Canada. This process brings together volunteers representing varied viewpoints and interests to achieve consensus and develop a standard. Although CSA Group administers the process and establishes rules to promote fairness in achieving consensus, it does not independently test, evaluate, or verify the content of standards.

Disclaimer and exclusion of liability

This document is provided without any representations, warranties, or conditions of any kind, express or implied, including, without limitation, implied warranties or conditions concerning this document's fitness for a particular purpose or use, its merchantability, or its non-infringement of any third party's intellectual property rights. CSA Group does not warrant the accuracy, completeness, or currency of any of the information published in this document. CSA Group makes no representations or warranties regarding this document's compliance with any applicable statute, rule, or regulation.

IN NO EVENT SHALL CSA GROUP, ITS VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES, DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF CSA GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES.

In publishing and making this document available, CSA Group is not undertaking to render professional or other services for or on behalf of any person or entity or to perform any duty owed by any person or entity to another person or entity. The information in this document is directed to those who have the appropriate degree of experience to use and apply its contents, and CSA Group accepts no responsibility whatsoever arising in any way from any and all use of or reliance on the information contained in this document.

CSA Group is a private not-for-profit company that publishes voluntary standards and related documents. CSA Group has no power, nor does it undertake, to enforce compliance with the contents of the standards or other documents it publishes.

Intellectual property rights and ownership

As between CSA Group and the users of this document (whether it be in printed or electronic form), CSA Group is the owner, or the authorized licensee, of all works contained herein that are protected by copyright, all trade-marks (except as otherwise noted to the contrary), and all inventions and trade secrets that may be contained in this document, whether or not such inventions and trade secrets are protected by patents and applications for patents. Without limitation, the unauthorized use, modification, copying, or disclosure of this document may violate laws that protect CSA Group's and/or others' intellectual property and may give rise to a right in CSA Group and/or others to seek legal redress for such use, modification, copying, or disclosure. To the extent permitted by licence or by law, CSA Group reserves all intellectual property rights in this document.

Patent rights

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. CSA Group shall not be held responsible for identifying any or all such patent rights. Users of this standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.

Authorized use of this document

This document is being provided by CSA Group for informational and non-commercial use only. The user of this document is authorized to do only the following:

If this document is in electronic form:

- load this document onto a computer for the sole purpose of reviewing it;
- search and browse this document; and
- print this document if it is in PDF format.

Limited copies of this document in printed or paper form may be distributed only to persons who are authorized by CSA Group to have such copies, and only if this Legal Notice appears on each such copy.

In addition, users may not and may not permit others to

- alter this document in any way or remove this Legal Notice from the attached standard;
- sell this document without authorization from CSA Group; or
- make an electronic copy of this document.

If you do not agree with any of the terms and conditions contained in this Legal Notice, you may not load or use this document or make any copies of the contents thereof, and if you do make such copies, you are required to destroy them immediately. Use of this document constitutes your acceptance of the terms and conditions of this Legal Notice.

Revision History

C22.2 No. 250.4-14, Portable luminaires

National Standard of Canada — July 2019
Outside front cover, National Standard of Canada text, title page, and preface.

Standards Update Service

C22.2 No. 250.4-14
November 2014

Title: *Portable luminaires*

To register for e-mail notification about any updates to this publication
- go to **store.csagroup.org**
- click on **Product Updates**

The **List ID** that you will need to register for updates to this publication is **24233**.

If you require assistance, please e-mail **techsupport@csagroup.org** or call 416-747-2233.

Visit CSA Group's policy on privacy at **www.csagroup.org/legal** to find out how we protect your personal information.

Canadian Standards Association (operating as "CSA Group"), under whose auspices this National Standard has been produced, was chartered in 1919 and accredited by the Standards Council of Canada to the National Standards system in 1973. It is a not-for-profit, nonstatutory, voluntary membership association engaged in standards development and certification activities.

CSA Group standards reflect a national consensus of producers and users — including manufacturers, consumers, retailers, unions and professional organizations, and governmental agencies. The standards are used widely by industry and commerce and often adopted by municipal, provincial, and federal governments in their regulations, particularly in the fields of health, safety, building and construction, and the environment.

Individuals, companies, and associations across Canada indicate their support for CSA Group's standards development by volunteering their time and skills to Committee work and supporting CSA Group's objectives through sustaining memberships. The more than 7000 committee volunteers and the 2000 sustaining memberships together form CSA Group's total membership from which its Directors are chosen. Sustaining memberships represent a major source of income for CSA Group's standards development activities.

CSA Group offers certification and testing services in support of and as an extension to its standards development activities. To ensure the integrity of its certification process, CSA Group regularly and continually audits and inspects products that bear the CSA Group Mark.

In addition to its head office and laboratory complex in Toronto, CSA Group has regional branch offices in major centres across Canada and inspection and testing agencies in eight countries. Since 1919, CSA Group has developed the necessary expertise to meet its corporate mission: CSA Group is an independent service organization whose mission is to provide an open and effective forum for activities facilitating the exchange of goods and services through the use of standards, certification and related services to meet national and international needs.

For further information on CSA Group services, write to
CSA Group
178 Rexdale Boulevard
Toronto, Ontario, M9W 1R3
Canada

A National Standard of Canada is a standard developed by a Standards Council of Canada (SCC) accredited Standards Development Organization, in compliance with requirements and guidance set out by SCC. More information on National Standards of Canada can be found at www.scc.ca.

SCC is a Crown corporation within the portfolio of Innovation, Science and Economic Development (ISED) Canada. With the goal of enhancing Canada's economic competitiveness and social well-being, SCC leads and facilitates the development and use of national and international standards. SCC also coordinates Canadian participation in standards development, and identifies strategies to advance Canadian standardization efforts.

Accreditation services are provided by SCC to various customers, including product certifiers, testing laboratories, and standards development organizations. A list of SCC programs and accredited bodies is publicly available at www.scc.ca.

Standards Council of Canada
600-55 Metcalfe Street
Ottawa, Ontario, K1P 6L5
Canada

Standards Council of Canada
Conseil canadien des normes

Cette Norme Nationale du Canada n'est disponible qu'en anglais.

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 to judge its suitability for their particular purpose.

National Standard of Canada

C22.2 No. 250.4-14
Portable luminaires

Published in November 2014 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

To purchase standards and related publications, visit our Online Store at ***store.csagroup.org***
or call toll-free 1-800-463-6727 or 416-747-4044.

ICS 29.140.40
ISBN 978-1-77139-739-1

Contents

Technical Committee on Consumer and Commercial Products

A. Milne	21st Olympiad Sales, Burlington, Ontario *Category: General Interest*	*Chair*
D. Mascarenhas	Brampton, Ontario *Category: General Interest*	*Vice-Chair*
D.P. Badry	Government of Yukon, Whitehorse, Yukon *Category: Regulatory Authority*	
G. Benjamin	Thomas & Betts Limited, Dorval, Québec *Category: Producer Interest*	
W.J. Burr	Burr and Associates, Campbell River, British Columbia *Category: General Interest*	
R. Cleary	The Home Depot Canada Inc., Toronto, Ontario	*Associate*
J.E. Evans	Evans Regulatory Certification Consulting, Jasper, Ontario	*Associate*
W. Hansen	Trane Ingersoll Rand, La Crosse, Wisconsin, USA *Category: Producer Interest*	
F. LaRiccia	Health Canada The Risk Assessment Bureau, Ottawa, Ontario *Category: Regulatory Authority*	
S. Lawrence	Cisco Systems Canada Co., Scarborough, Ontario *Category: Producer Interest*	
G. Lundy	IBM Canada Limited, Markham, Ontario *Category: Producer Interest*	

R. Martel	Electro-Federation Canada, Toronto, Ontario *Category: Producer Interest*	
W. Morris	Association of Home Appliance Manufacturers (AHAM), Washington, D.C., USA	*Associate*
T. Olechna	Electrical Safety Authority, Mississauga, Ontario *Category: Regulatory Authority*	
C.S. Seaby	Burlington, Ontario	*Associate*
M. Staples	City of Victoria, Victoria, British Columbia *Category: Regulatory Authority*	
M.K. Timmings	Studio Four Technical Lighting Services, Oakville, Ontario *Category: General Interest*	
A.Z. Tsisserev	Applied Engineering Solutions Ltd., Vancouver, British Columbia *Category: General Interest*	
A. Andronescu	CSA Group, Mississauga, Ontario	*Project Manager*

Integrated Committee on Lighting Products

M.K. Timmings	Studio Four Technical Lighting Services, Oakville, Ontario	*Chair*
K.L. Rodel	Hubbell Canada LP, Pickering, Ontario	*Vice-Chair*
B. Alsop	Intertek ETL SEMKO, Arlington Heights, Illinois, USA	
S. Altamura	Seasonal Specialties LLC, Scarsdale, New York, USA	
B. Arguirova	Morrison Hershfield Limited, Burnaby, British Columbia	
N. Baird	EGS Electrical Group Canada Ltd., Elmira, Ontario	
J. Beare	Stanpro Lighting Systems Inc., Dorval, Québec	
G. Benjamin	Thomas & Betts Limited, Dorval, Québec	
D.M. Berlin	Intermatic Incorporated, Spring Grove, Illinois, USA	
R. Brown	Columbia Lighting, Spokane Valley, West Virginia, USA	
W.J. Bryans	Electro-Federation Canada, Toronto, Ontario	
F. Carpenter	Lithonia Lighting A Division of Acuity Holdings Inc, Conyers, Georgia, USA	
N. Chen	Orient Advantage Inc, Markham, Ontario	

C.A. Coimbra	Hydro One Networks Inc, Toronto, Ontario
F. Dabiet	Allanson International Inc., Toronto, Ontario
T. De Francesco	Aeromation Inc, Vancouver, British Columbia
P. Desilets	Leviton Manufacturing of Canada Limited, Pointe-Claire, Québec
T. Dinic	Electrical Safety Authority, Mississauga, Ontario
M. Dobson	Lighting Sales Representative, Toronto, Ontario
P. Doucet	New Brunswick Department of Public Safety, Moncton, New Brunswick
M.E. Duffy	GE Consumer & Industrial, Cleveland, Ohio, USA
N. El-Sherif	Startco Engineering ULC, Saskatoon, Saskatchewan
A. Ertz	Memphis, Tennessee, USA
J. Flores	Kino Flo Inc, Burbank, California, USA
J.S. Frederic	Underwriters Laboratories Inc., Melville, New York, USA
J.A. Gibson	TriVar Inc., Brampton, Ontario
I. Giosan	Valmont West Coast Engineering Ltd., Delta, British Columbia
D.V. Grandin	Bureau Veritas Consumer Products Services, Buffalo, New York, USA

J. Green	Cooper Lighting Division of Cooper Industries, Inc., Peachtree City, Georgia, USA
N. Gu	Orient Advantage Inc, Markham, Ontario
J. Guarino	Kenall Manufacturing Company, Inc., Gurnee, Illinois, USA
A.D. Hart	SENTINEL Pole & Traffic Equipment Limited, Mississauga, Ontario
R. Harvey	Osram Sylvania Products, Inc., Danvers, Massachusetts, USA
M. Harwood	William F. White International Inc., Toronto, Ontario
M.A. Hayes	National Electrical Manufacturers Association, Rosslyn, Virginia, USA
D.J. Heron	Electrical Safety Authority, Sudbury, Ontario
R. Holden	PS Production Services Ltd., Burnaby, British Columbia
T. Hum	Leviton Manufacturing of Canada Limited, Pointe-Claire, Québec
S. Hunt	IATSE Local 891, Vancouver, British Columbia
I. Lauzums	Lighting Science Group Corporation, Satellite Beach, Florida, USA
S. Léger	Stanpro Lighting Systems Inc., Dorval, Québec
D. Lenasi	Philips Lighting North America, Langley, British Columbia

F. Li	Ledup Enterprise Inc, Agoura Hills, California, USA
J. Lincoln	Everstar Merchandise, Canton, Connecticut, USA
G.A. Lue	Illumineer Limited, Mississauga, Ontario
P. Martin	NEOLUMENS Inc, Stoney Creek, Ontario
R. Mattatall	Mattatall Signs Limited, Dartmouth, Nova Scotia
T. McGowan	American Lighting Association, Cleveland Heights, Ohio, USA
M.M. McRae	National Tree Company, Ormond Beach, Florida, USA
E. Mendoza	Philips Lighting Electronics, N.A., Rosemont, Illinois, USA
A. Milne	21st Olympiad Sales, Burlington, Ontario
G. Montminy	Régie du bâtiment du Québec, Québec, Québec
M.S. O'Boyle	Philips Professional Luminaires North America, Fall River, Massachusetts, USA
J. Parisella	Osram Sylvania Inc., Danvers, Massachusetts, USA
J. Porter	Westbury National Show Systems Ltd, Scarborough, Ontario
M. Porumbaceanu	Liteline Corp., Brampton, Ontario

G. Prosser	GE Lighting Solutions, East Cleveland, Ohio, USA
R. Rapeanu	Thomas & Betts Limited, Dorval, Québec
D. Rittenhouse	Maple Ridge, British Columbia
P. Rotiroti	The Home Depot Canada Inc., Toronto, Ontario
S. Sajid	Philips Lighting, Burlington, Massachusetts, USA
C.S. Seaby	Burlington, Ontario
F. Sellers	Chauvet, Sunrise, Florida, USA
A.W. Serres	Lucidity Lights, Inc, Concord Twp, Ohio, USA
P.L. Shilling	Beghelli Canada, Markham, Ontario
M.S. Shulman	UL LLC, San Jose, California, USA
S.K. Simon	Zaneen Lighting Inc., Toronto, Ontario
G. Steinman	Thomas & Betts Limited, St-Jean-sur-Richelieu, Québec
A. Tazbaz	Lumec, a division of Phillips Electronics Limited, Boisbriand, Québec
A.Z. Tsisserev	Applied Engineering Solutions Ltd., Vancouver, British Columbia
K. Van Bavel	Fifth Light Technology Ltd, Oakville, Ontario

K.E. Vannice	Portland, Oregon, USA	
J. Vu	Ledup Enterprise Inc, Agoura Hills, California, USA	
H.L. Wolfman	Lumispec Consulting, Northbrook, Illinois, USA	
A. Yearwood	CSA Group, Toronto, Ontario	
J. Mereuta	CSA Group, Mississauga, Ontario	*Project Manager*

Preface

This is the first edition of CSA C22.2 No. 250.4, *Portable luminaires*, one of a series of Standards issued by CSA Group under Part II of the *Canadian Electrical Code*. It supersedes CSA C22.2 No 12, published in 1982. This Standard also replaces the following Technical Information Letters (TILs), for products covered in this Standard: TIL No. B-31C, *Temporary Lighting Strings*, TIL No.B-60, *Interim Certification Requirements for Polymeric Enclosure Materials for Portable Luminaires*, and TIL No. B-67, *Interim Certification Requirements for Extension Handlamps*.

This Standard contains specific requirements for portable luminaires and is intended to be used together with the requirements for luminaires contained in CSA C22.2 No. 250.0.

For general information on the Standards of the *Canadian Electrical Code, Part II*, see the Preface of CAN/CSA-C22.2 No. 0, *General requirements — Canadian Electrical Code, Part II*.

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

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

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Interpretations: The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of standards under its jurisdiction: "The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant committee interpretation has not already been published, CSA Group's procedures for interpretation shall be followed to determine the intended safety principle".

Notes:

1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *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.*
3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:*
   a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
   b) *provide an explanation of circumstances surrounding the actual field condition; and*
   c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

   Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the Current Standards Activities page at* ***standardsactivities.csa.ca***.

5) *This Standard is subject to review within five years from the date of publication. 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:*
   a) *Standard designation (number);*
   b) *relevant clause, table, and/or figure number;*
   c) *wording of the proposed change; and*
   d) *rationale for the change.*

C22.2 No. 250.4-14
Portable luminaires

1 Scope

1.1

This Standard applies to portable luminaires, intended for use in dry, damp, and wet locations, and intended to be used in accordance with the Rules of the *Canadian Electrical Code, Part I*, in non-hazardous locations, on a nominal 120 V system and 15 A or 20 A branch circuits, or on the load side of a Class 2, LED Class 2, or safety extra-low voltage (SELV) circuit.

1.2

This Standard applies to portable, incandescent, fluorescent, HID, LED, and other lighting technology luminaires for illuminative or decorative purposes and combinations of these, such as

a) amateur movie lights;
b) aquarium;
c) cabinet (including under-cabinet);
d) clamp type;
e) chain-and hook-supported types (including flexible-cord-, steel-cable- or rope-supported);
f) colour wheels;
g) display case type;
h) drafting type;
i) electronic (flashing, touch-control) types;
j) extension handlamps;
k) extra low voltage portable luminaires, supplied from a remote power source;
l) fibre-optic types;
m) flood lights;
n) floor type;
o) counterfeit detectors;
p) hobby type;
q) hospital type;
r) illuminated forms or shapes (figurines, fire logs, terrestrial globes, plaques, etc);
s) kits, portable luminaires;
t) lighting strings;
u) machine-shop lamps (e.g., illuminated shields for use with electric grinders);
v) make-up mirrors;
w) office furnishing luminaires;
x) picture lights;
y) planter lights;
z) paint curing types;
aa) rechargeable hand lamps;
ab) table type;
ac) wall (pin-ups); and
ad) work lamps.

1.3

This Standard does not apply to luminaires covered by other CSA Standards, such as

a) decorative lighting products;
b) emergency lighting equipment;
c) stage and studio luminaires;
d) electric signs and displays;
e) radiant heaters and infrared and ultraviolet lamp assemblies for cosmetic or hygienic;
f) purposes in non-medical applications;
g) low voltage landscape lighting systems;
h) submersible lighting systems; and
i) direct plug-in nightlights.

1.4

For the purpose of this Standard, the term “luminaire” means portable luminaire.

1.5

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

2 Reference publications

In addition to the reference publications listed in CSA C22.2 No. 250.0, this Standard refers to the following publications and where such references is made, it shall be to the edition listed below, including all amendments published thereto.

CSA Group

C22.2 No. 1-15
Canadian Electrical Code, Part 1

CAN/CSA-C22.2 No. 0-10
General Requirements - Canadian Electrical Code, Part 2

CAN/CSA-C22.2 No. 0.4-04 (R2014)
Bonding of electrical equipment

C22.2 No. 21-14
Cord sets and power-supply cords

