



Nonindustrial photoelectric switches for lighting control



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Revision History

CSA C22.2 No. 284:16, Nonindustrial photoelectric switches for lighting control — originally published January 2016

Note: For information about the *Standards Update Service* or if you are missing any updates go to store.csagroup.org or techsupport@csagroup.org.

Revisions issued: Update No. 1 — May 2018

Update No. 2 — June 2020	Revision symbol (in margin)
Cover, Copyright page, Preface, Clause 8.1.13, and Table 42.1	
Note: Only the revised pages have been provided.	

National Standard of Canada — June 2020
Outside front cover, National Standard of Canada text, and title page.
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.

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***Nonindustrial photoelectric switches
for lighting control***



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Standard for Safety for Nonindustrial Photoelectric Switches for Lighting Control

Sixth Edition, Dated January 19, 2016

Summary of Topics

This revision dated June 26, 2020 incorporates the Addition of Requirements for Manufacturer's Recommended Field Wiring Terminal Tightening torque to Clause 8.1.13 and Table 42.1.

Text that has been changed in any manner or impacted by UL'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 November 15, 2019.

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Association of Standardization and Certification
NMX-J-715-ANCE
First Edition



CSA Group
CSA C22.2 No. 284-16
First Edition



Underwriters Laboratories Inc.
UL 773A
Sixth Edition

Nonindustrial Photoelectric Switches for Lighting Control

January 19, 2016

(Title Page Reprinted: June 26, 2020)



ANSI/UL 773A-2020



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This ANSI/UL Standard for Safety consists of the Sixth Edition including revisions through June 26, 2020. The most recent designation of ANSI/UL 773A as an American National Standard (ANSI) occurred on June 26, 2020. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

The Department of Defense (DoD) has adopted UL 773A on June 13, 1989. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

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PREFACE

This is the harmonized ANCE, CSA Group, and UL standard for Nonindustrial Photoelectric Switches for Lighting Control. It is the first edition of NMX-J-715-ANCE, the first edition of CSA-C22.2 No. 284-16, and the sixth edition of UL 773A. This edition of UL 773A supersedes the previous edition published on February 10, 2006. This harmonized standard has been jointly revised on June 26, 2020. For this purpose, CSA Group and UL are issuing revision pages dated June 26, 2020, and ANCE is issuing a new edition dated June 26, 2020.

This harmonized standard was prepared by the Association of Standardization and Certification, (ANCE), CSA Group and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Subcommittee, on the Harmonization of Electrotechnical Standards of the Nations of the Americas (CANENA), are gratefully acknowledged.

The CSA Group standard also replaces the following Technical Information Letters (T.I.L.), for products covered in this Standard:

– TIL No. A-15 Photo-electric switches

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

The present Mexican standard was developed by the CT 23 Electrical Accesries from the Comité de Normalización de la Asociación de Normalización y Certificación, A.C., CONANCE, with the collaboration of the Electrical of manufactures, manufacturers and users.

This standard was reviewed by the CSA Integrated Committee on Wiring Devices, under the jurisdiction of the CSA Technical Committee on Wiring Products and the CSA Strategic Steering Committee on requirements for Electrical Safety, and has been formally approved by the CSA 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.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered 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 is published as an identical standard for ANCE, CSA Group and UL.

An identical standard is a standard that is exactly the same in technical content except for national differences resulting from conflicts in codes and governmental regulations. Presentation is word for word except for editorial changes.

Reasons for Differences From IEC

There is no corresponding IEC standard.

8.1.12 Unplated iron or steel shall not be used for wire-binding screws and terminals. Stainless steel, or steel that is protected against corrosion by zinc plating or the equivalent coating may be used, if the steel parts are not depended upon to carry current.

8.1.13 A Non Industrial Photoelectric switch employing field wiring terminals shall be provided with the manufacturers recommended terminal tightening torque. These instructions shall appear on the device where visible during installation, on the smallest unit container, or on an information sheet packed in the smallest unit container in accordance with [Table 42.1](#) Ref. 4a.

8.2 Outlet-box-mounted units

8.2.1 In addition to the requirements in [8.1.1](#) – [8.1.12](#), an outlet-box-mounted unit shall comply with [8.2.2](#) – [8.2.5](#).

8.2.2 Wiring terminals and other live parts and sharp-edged grounded or dead metal parts of a unit intended for mounting on an outlet box or similar enclosure shall be located or protected so that they will not be forced against wiring in the box during installation.

8.2.3 With reference to [8.2.2](#), back wiring terminals may be employed if they are recessed or are protected by close-fitting barriers of insulating material or the equivalent so that contact with wiring installed in the box will not occur.

8.2.4 Terminals that do not project into a box beyond the plane of the front edge of the box are acceptable.

8.2.5 With reference to [8.2.3](#), guards provided alongside terminals and extending at least 6.4 mm (1/4 in) beyond the terminals before wiring, with a corresponding guard between double-pole switching mechanisms, are acceptable.

8.3 Cord-connected or direct plug-in units

8.3.1 A cord-connected unit shall be provided with a multi-conductor flexible cord or cable. The cord or cable shall:

- a) Be sized in accordance with [Table 8.3](#) corresponding to the electrical rating of the equipment but shall not be smaller than 18 AWG (0.82 mm²). Higher ampacities shall not be used unless the cord and product assembly has been tested and complies with Clause [22](#), Temperature Test. Temperature measurements of the cord, and adjacent components shall be monitored to demonstrate that they do not exceed their thermal ratings.
- b) If the unit is intended for indoor use only, the cord or cable shall be rated "Not Hard" usage with an overall insulation thickness of 1.14 mm (0.45 in) or greater (such as Type SPT-2 cord), or "Hard usage" or "Extra hard usage" and shall be rated for the conditions of use.
- c) If the unit is intended for outdoor use, the cord or cable shall be rated for "Hard usage" or "Extra hard usage" and for the conditions of use. The outdoor-use cord or cable shall be marked in accordance with [Table 42.1](#), ref 27.
- d) Be provided with strain-relief that complies with [35.1](#).