



# UL 1598A

## STANDARD FOR SAFETY

Supplemental Requirements for  
Luminaires for Installation on Marine  
Vessels

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UL Standard for Safety for Supplemental Requirements for Luminaires for Installation on Marine Vessels,  
UL 1598A

First Edition, Dated December 4, 2000

### **Summary of Topics**

***This revision to ANSI/UL 1598A dated October 26, 2020 includes the following changes in requirements:***

- Expand the scope of the Standard to include low voltage marine luminaires and emergency lighting marine luminaires; [1.1](#) and [1.3](#)***
- Wiring and conductors; [12.1](#) and [12.2](#)***
- Use of fuses; [10.3](#)***

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 July 24, 2020.

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**ANSI/UL 1598A-2020**

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## **UL 1598A**

### **Standard for Supplemental Requirements for Luminaires for Installation on Marine Vessels**

**First Edition**

**December 4, 2000**

This ANSI/UL Standard for Safety consists of the First Edition including revisions through October 26, 2020.

The most recent designation of ANSI/UL 1598A as an American National Standard (ANSI) occurred on October 26, 2020. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

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## INTRODUCTION

### 1 Scope

1.1 These requirements are supplementary to other applicable requirements in the Standard for Luminaires, UL 1598 and other luminaire standards, to qualify the luminaire for installation on marine vessels.

[Informational note: Most fixed installation luminaires are evaluated for compliance with the Standard for Luminaires, UL 1598. References to requirements in UL 1598 are in italics for easy identification. Luminaires evaluated to UL 2108, Standard for Low Voltage Lighting Systems, and UL 924, Standard for Emergency Lighting Equipment, are also eligible to apply the supplementary UL 1598A requirements.]

1.2 These requirements apply to luminaires for installation on marine vessels utilizing grounded systems in accordance with the United States Coast Guard Electrical Engineering Regulations 46 CFR, Parts 110 – 113, Subchapter J and, insofar as it applies, the National Electrical Code, ANSI/NFPA 70, and the Recommended Practice for Electrical Installations on Shipboard, IEEE 45.

1.3 These requirements do not apply to marine lighting luminaires for use in hazardous locations, as defined in the National Electrical Code, ANSI/NFPA 70.

1.4 A product that contains features, characteristics, components, materials, or systems new or different from those covered by the requirements in this standard, and that involves a risk of fire or of electric shock or injury to persons shall be evaluated using appropriate additional component and end-product requirements to maintain the level of safety as originally anticipated by the intent of this standard. A product whose features, characteristics, components, materials, or systems conflict with specific requirements or provisions of this standard does not comply with this standard. Revision of requirements shall be proposed and adopted in conformance with the methods employed for development, revision, and implementation of this standard.

### 2 Glossary

2.1 For the purpose of this supplement, the following definitions apply:

2.2 **INSIDE DRIPPROOF-TYPE LUMINAIRE** – A luminaire intended for use on a marine vessel in an inside damp or wet location and subject to oil or water drippage.

2.3 **INSIDE-TYPE LUMINAIRE** – A luminaire intended for use on a marine vessel in an inside dry or damp location.

2.4 **OUTSIDE-TYPE LUMINAIRES** – A luminaire intended for use outside or in other severely wet locations on a marine vessel.

### 3 General

#### 3.1 Components

3.1.1 Except as indicated in [3.1.2](#), a component of a product covered by this standard shall comply with the requirements for that component. See Appendix [A](#) for a list of standards covering components used in the products covered by this Standard.

3.1.2 A component is not required to comply with a specific requirement that:

a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or

b) Is superseded by a requirement in this standard.

3.1.3 A component shall be used in accordance with its rating established for the intended conditions of use.

3.1.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

## 3.2 Units of measurement

3.2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

## 3.3 Undated references

3.3.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

# MECHANICAL CONSTRUCTION

## 4 Corrosion Protection

4.1 All inside and outside surfaces of cast ferrous metal, sheet metal, or ferrous tubing shall comply with the following requirements:

a) Inside-type – The corrosion protection means shall comply with the requirements of *Clause 5.6* in the Standard for Luminaires, UL 1598. A luminaire that complies with all of the Inside-Type requirements of this supplement shall be marked in accordance with [Table 18.1](#), Item 1.1.

b) Inside Drip-proof-Type – The corrosion protection means shall comply with the requirements of *Clause 13.4.2* in the Standard for Luminaires, UL 1598. A luminaire that complies with all of the Inside Drip-proof-Type requirements of this supplement shall be marked in accordance with [Table 18.1](#), Item 1.2.

c) Outside-Type (fresh water only) – The corrosion protection means shall comply with the requirements of *Clause 13.4.2* in the Standard for Luminaires, UL 1598. A luminaire that complies with all of the Outside-Type requirements for this supplement and has been evaluated only for fresh water shall be marked in accordance with [Table 18.1](#), Item 1.3.

d) Outside-Type – The corrosion protection means shall comply with the Standard Test Method of Salt Spray (Fog) Testing, ASTM B117 for 200 hours. The material shall not show pitting, cracking, or other deterioration more severe than that resulting from a similar test on passivated AISI type 304 stainless steel. A luminaire that complies with all of the Outside-Type requirements of this supplement shall be marked in accordance with [Table 18.1](#), Item 1.4.

4.2 All inside and outside surfaces of cast aluminum, sheet aluminum, or aluminum tubing shall comply with the following requirements:

a) Inside-Type or Inside Drip-proof-Type – shall comply with the following, as applicable:

1) Unplated Sheet Aluminum – material shall be an alloy of the 5000 series as given in the Standard Specification for Aluminum-Alloy Sheet and Plate, ANSI/ASTM B209.

2) Unplated Cast or Machined Aluminum – material shall be one of the alloys included in [Table 4.1](#).

3) Painted or Plated Aluminum – use of other aluminum alloys is not prohibited when they have an additional coating or plating corrosion protection means which complies with *Clause 13.4.2.2 (c), (d), or (e)*, in the Standard for Luminaires, UL 1598.

4) Other unplated aluminum alloys equivalent in corrosion resistance to (1) or (2).

b) Outside-Type – shall comply with the following as applicable:

1) The unplated, plated, or painted aluminum alloy shall have a copper content of 0.4 percent or less; or

2) The unplated, plated, or painted aluminum alloy complies with the test described in [4.1\(d\)](#).

**Table 4.1**  
**Aluminum alloys**

Sand-cast	Permanent-mold cast	Die-cast	Machined bar and rod stock
353.0	356.0	360.0	5052
356.0	A356.0	A360.0	5056
A356.0	A357.0	A413.0	5456
A443.0	A443.0	C443.0	6061
B443.0	B443.0	518.0	
512.0	512.0		
514.0	535.0		
520.0			
710			

NOTE – These designations conform with those given in the specifications of the ANSI H35.1.

4.3 The use of other corrosion resistant materials such as silver, corrosion-resistant stainless steel, copper, brass, bronze, and copper-nickel alloys do not require any additional corrosion protection.

## 5 Openings

5.1 There shall be no openings in a luminaire except as indicated in [5.2](#) and [5.3](#).

5.2 An Inside-Type surface mounted luminaire shall have no openings in the wireway exposed to the mounting surface.

5.3 An Inside-Type surface mounted luminaire, 660 mm (26 inches) or less in length, shall have not more than two open mounting holes exposed to the mounting surface. Each hole shall be not larger than 6.4 by 12.7 mm (1/4 by 1/2 inch) or 10.2 mm (0.40 inch) in diameter. Each additional 610 mm (24 inches) of length or fraction thereof qualifies the luminaire for two additional mounting holes.

5.4 An Inside-Type recessed luminaire shall have no openings in the wireway that contains uninsulated live parts. A slot or louver located in the recessed portion of the enclosure shall not exceed 9.5 cm<sup>2</sup> (1-1/2 square inches) in area, and any other ventilating hole provided in the recessed portion of the enclosure

shall not be more than 25.4 mm (1.0 inch) in diameter. The total area of ventilating openings shall not be more than 15 percent of the area of the surface in which they are located.

## 6 Joints and Gaskets

6.1 A seam or joint in a luminaire enclosure, for other than the Inside-Type, shall be provided with a gasket or shall be otherwise constructed to exclude oil or water drippage.

6.2 Gaskets relied upon to exclude oil or water drippage shall comply with the gasket requirements described in *Clause 13.4.5* in the Standard for Luminaires, UL 1598.

## 7 Means for Mounting

7.1 A luminaire shall be provided with a permanent mounting means.

7.2 A luminaire is not required to have a separate mounting means when it is intended to be mounted by holes that are drilled at the shipyard.

7.3 A luminaire that is intended for outlet box mounting shall be provided with the outlet box.

7.4 A pendant mounted luminaire shall be the rigid metal conduit stem-suspended type only.

7.5 A fluorescent luminaire using straight tube lamps shall not be of the pendant mounted type.

## 8 Glass and Lamp Support

8.1 Glassware shall be securely mounted in a frame or held by a clamp-type fitter.

8.2 Straight tube lamps used in a fluorescent lamp luminaire, other than the 6-watt or 8-watt T-5 types, shall be protected against damage and dropout by means such as louvers, hinged doors, or other devices.

8.3 Straight type lamps used in a fluorescent lamp luminaire having a length of 1.02 m (40 inches) or more shall be provided with supplementary clamps or other means to prevent loose contact or dropout because of vibration.

8.4 With reference to [8.3](#), a spring-loaded end-feed lampholder for single-pin or recessed-bicontact lamps complies with this requirement.

## ELECTRICAL CONSTRUCTION

### 9 General

9.1 All electrical components shall comply with the environmental requirements of this Standard as follows:

a) Inside-Type luminaires shall comply with the damp location requirements of the UL 1598 Standard.

b) Inside Dripproof-type and Outside-Type luminaires shall comply with the wet location requirements of the UL 1598 Standard, except as modified in [15.1](#) and [15.2](#).

9.2 Thermal protection specified in *Clause 11.5* in the Standard for Luminaires, UL 1598, is not required for recessed luminaires.

## 10 Convenience Receptacles, Switches, and Fuses

10.1 A lampholder or switch of the pull-chain type shall not be provided.

10.2 A receptacle shall not be provided, except for Inside-Type wall mounted luminaires.

10.3 A renewable fuse shall not be provided in a luminaire, except as protection internal to a ballast.

## 11 Lampholders

11.1 A porcelain part of a lampholder shall not be rigidly mounted unless a silicone rubber gasket, or equivalent, at least 1.27 mm (0.05 inch) thick is provided between the porcelain and mounting means. The gasket material shall have a relative thermal index (RTI) at least equal to the maximum lampholder temperature obtained during the Normal Temperature Test of Section [14](#).

*Exception: The gasket is not required when the lampholder assembly does not show any signs of damage that impairs normal operation when subjected to the Mechanical Shock Test of Section [17](#).*

11.2 A luminaire shall not rely upon the screw shell of a lampholder as a means of support for the luminaire.

## 12 Wiring and Conductors

12.1 Luminaire conductors longer than 18 inches, or a conductor terminated at a movable or flexible part, shall be stranded.

12.2 *Deleted*

## 13 Power Supply Connections

13.1 A luminaire shall be provided with an outlet box or shall have an opening for the connection of marine-type cable.

*Exception: A luminaire is not required to be provided with an outlet box or an opening for connection of marine-type cable when the luminaire is:*

- a) Intended for cable connections and shipyard drilling and installation;*
- b) Cord-equipped adjustable type, such as a outdoor-type flood light; or*
- c) Cord-equipped and provided with an attachment plug such as a desk lamp or a pendant mounted cargo light.*

13.2 The opening for marine-type cable shall comply with the conduit opening dimensions of *Clause 6.15.2* in the Standard for Luminaires, UL 1598. Unless the luminaire is Indoor-Type, the openings shall be threaded.

13.3 Cord connected luminaires shall have flexible cord of at least the hard usage type.

13.4 A luminaire shall not be used as a connection box for a circuit other than the branch circuit supplying the luminaire.