UL 676

STANDARD FOR SAFETY

Underwater Luminaires and Submersible Junction Boxes

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UL Standard for Safety for Underwater Luminaires and Submersible Junction Boxes, UL 676

Ninth Edition, Dated August 10, 2015

Summary of Topics

This revision of ANSI/UL 676 dated April 9, 2024 includes the following changes in requirements:

– Scope clarifications; 1.1 – 1.3

– Glossary updates; 5.1A – 5.1C, 5.2A, 5.2B, 5.3A, 11.4.1, 46.1

– Non-metallic housings; Section 7 (title change), 7.2, Table 7.1, Section 7A, Section 8, 31.1, 46.2

– Flexible cord; 10.1 – 10.6

– Cord connectors; 10.7

– Grounding exception for non-metallic housings and brackets; 25.4, 26.1.1

– Integral overheating protection; 28.1 – 28.3, 34.1, 34.2, 34.7, 44.5, 44.6, Appendix A

– Temperature Test; 33.1, 33.1A, 44.15

– Water Leakage Test; 35.1, 35.2, 46.2, Section 53

– Dielectric Withstand Test; 11.4.4, 36.1, Table 36.1

– Impact Test; 6.4, Section 40 (title change only), Section 55 (title change only)

– Markings and instructions; Markings and Instructions section (title change), Section 44 (title change), 44.1 – 44.4, Table 44.1, Table 44.1A, 44.7 – 44.10, 44.14 – 44.17, Section 45, 46.2, Section 57

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The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated July 28, 2023.

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1

UL 676

Standard for Underwater Luminaires and Submersible Junction Boxes

The first edition was titled Standard for Underwater Lighting Fixtures and Junction Boxes for Swimming Pools. The second and third editions were titled Standard for Underwater Lighting Fixtures for Swimming Pools. The fourth, fifth, sixth, and seventh editions were titled Standard for Underwater Lighting Fixtures. The submersible luminaires now covered by this standard were originally covered by the Standard for Electric Lighting Fixtures, UL 57.

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The most recent designation of ANSI/UL 676 as an American National Standard (ANSI) occurred on April 9, 2024. 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 ULSE at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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CONTENTS

INTRODUCTION

1 Scope 7
2 Components 7
3 Units of Measurement 8
4 References 8
5 Glossary 8

PART I – SWIMMING POOL LUMINAIRES

CONSTRUCTION – LUMINAIRES

6 General 9
7 Metal Enclosures 10
7A Polymeric Enclosures 10
8 Cast Metal 11
9 Mounting Means 11
10 Flexible Cord and Connectors 11
11 Power Supply Connections 13
11.1 General 13
11.2 Wet-niche and no-niche luminaires 14
11.3 Dry-niche luminaires 15
11.4 Low voltage luminaires 15
12 Diffusers 15
13 Guards 15
14 Gaskets 16
15 Adhesives Used in Underwater Luminaires 16
16 Wiring Devices 16
17 Wireways 17
18 Wiring 17
19 Splices 18
20 Polarization and Identification 18
21 Exposure of Live Parts 18
22 Position of Live Parts 18
23 Spacings 18
24 Barriers 19
25 Grounding 19
26 Bonding 20
26.1 Ground-fault current path continuity 20
26.2 Continuity to pool bonding grid conductor 22
27 Drainage and Water Entry 23
28 Integral Overheating Protection 23

CONSTRUCTION – LUMINAIRE HOUSINGS (FORMING SHELLS) FOR WET-NICHE LUMINAIRES

29 General 24
30 Sheet Metal 24
31 Cast Metal 24
32 Connections for Wiring Systems 25

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PERFORMANCE

33 Temperature Test 25
34 Abnormal Operation Tests 25
35 Water Leakage Test 26
36 Dielectric Voltage-Withstand Test 27
37 Strain-Relief Test 27
38 Bonding Millivolt Drop Test 27
38.1 General 27
38.2 Ground-fault current path impedance determination 28
38.3 Impedance to pool bonding grid determination 30
39 High Current Test 30
40 Swimmer Impact Test 32
41 Electric Shock Test 39
41.1 General 39
41.2 Sea water tests 43
42 Gasket Accelerated Aging Test 43
43 Flexible Cord Guard and Support Test 44
43A Conduit Hub Torque Test 45

MARKINGS AND INSTRUCTIONS

44 General 45
45 Luminaire Housings 47

PART II – SUBMERSIBLE LUMINAIRES

CONSTRUCTION

46 General 47
47 Corrosion Protection 48
48 Power Supply Connections 48
49 Bonding 48
50 Barriers 49
51 Strain Relief 49

PERFORMANCE

52 Temperature Test 49
53 Cycling Under Water Test 50
54 Static Load Test 50
55 Cylinder Impact Test 50
56 Strain-Relief Test 50

MARKINGS AND INSTRUCTIONS

57 General 51

PART III – SUBMERSIBLE JUNCTION BOXES

CONSTRUCTION

58 General 51
59 Corrosion Protection 51
60 Enclosure 51

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61 Gaskets 52

PERFORMANCE

62 Watertightness Test 52

APPENDIX A

Standards for Components 53

APPENDIX B Discussion and Illustration of Bonding Millivolt Drop Test Requirements Described in Section 38

B1 Purpose 54
B2 Important Test Technique Considerations 54
B3 Examples of Application of Selected Test Requirements to a Metal Wet-Niche Swimming Pool Luminaire and Luminaire Housing 54

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INTRODUCTION

1 Scope

1.1 These requirements cover electric luminaires for installation where subject to continuous or frequent immersion in one of the following locations:

a) Swimming pools, permanently installed spas, hot tubs, and similar water-containing vessels intended to accommodate the complete or partial immersion of persons in accordance with the National Electrical Code, NFPA 70, Article 680 Parts II – IV;

b) Permanently installed fountains, including splash pads and similar recreational amenities used by persons without immersion, in accordance with the National Electrical Code, NFPA 70, Article 680 Part V.

1.2 These requirements also cover:

a) Luminaire housings (forming shells) and mounting brackets for swimming pool luminaires; and

b) *Deleted*

c) Submersible junction boxes for installation in fountains and similar water-containing vessels not intended to accommodate the complete or partial immersion of persons.

1.3 These requirements do not cover:

a) Junction boxes for use in the deck area around swimming pools, fountains, and spas (see the Standard for Junction Boxes for Swimming Pool Luminaires, UL 1241),

b) Swimming pool luminaire power supplies (see the Standard for Power Units for Fountain, Swimming Pool, and Spa Luminaires, UL 379),

c) Low voltage landscape lighting (see the Standard for Low Voltage Landscape Lighting Systems, UL 1838), or

d) Battery-powered portable luminaires intended for underwater operation (see the Standard for Portable Electric Luminaires, UL 153 or the Standard for Flashlights and Lanterns, UL 1576).

1.4 *Revised and relocated as 5.4*

1.5 *Revised and relocated as 5.2*

1.6 *Revised and relocated as 5.3*

2 Components

2.1 Except as indicated in 2.2, 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.

2.2 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

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b) Is superseded by a requirement in this standard.

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

2.4 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 Units of Measurement

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

3.2 Unless indicated otherwise, all voltage and current values specified in this standard are root-mean-square (rms).

4 References

4.1 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.

5 Glossary

5.1 For the purpose of this standard the following definitions apply.

5.1A BRACKET – A structure designed to support and mount a mating no-niche luminaire in or on a pool structure.

5.1B FORMING SHELL – A structure designed to support and mount a mating wet-niche luminaire in a pool structure. Also referred to as a luminaire housing.

5.1C LAMP – A user-replaceable or non-replaceable light source, including incandescent bulbs, self-ballasted compact fluorescent (SBCFL) or LED (SBLED) bulbs, or LED arrays consisting of LED modules on a circuit board.

5.2 LUMINAIRE, DRY-NICHE – intended to be permanently mounted and sealed in the wall of a swimming pool or fountain. It is equipped with provisions for conduit connection, and is designed to be serviced from the rear in a passageway or tunnel behind the wall or from the deck.

5.2A LUMINAIRE, HOUSING – See forming shell.

5.2B LUMINAIRE, LOW VOLTAGE – A luminaire whose input and operating voltage does not exceed 15 Vac (sinusoidal), 21.2 Vac peak (non-sinusoidal), 30 Vdc (continuous), or 12.4 Vdc peak (10 – 200 hz interrupted).

5.3 LUMINAIRE, NO-NICHE – intended for installation on a mounting bracket that is, in turn, mounted in or on the wall of a swimming pool or fountain where the luminaire will not extend behind the plane of the wall and will be surrounded by water. The luminaire is supplied by a flexible cord of a length that permits the luminaire to be removed from the mounting bracket and lifted to the deck for servicing.

5.3A LUMINAIRE, SUBMERSIBLE – A luminaire intended for installation in a fountain not intended for immersed persons or swimmers, or integral with a recreational pedestrian use splash pad area.

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