

UL 676

STANDARD FOR SAFETY

Underwater Luminaires and Submersible Junction Boxes



OCTOBER 22, 2019 - UL 676 tr1

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 October 22, 2019 includes the following changes in requirements.

Scope clarifications for non-metallic forming shells and junction boxes

Lens Guards

Installation instructions related to flexible cords

Electric shock test luminaire constant (N)

Gasket testing

Submersible luminaires – applicable clauses from part I

Cycling under water test

Number of required grounding connections for submersible junction boxes

Editorial corrections and adjustments

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 April 26, 2019.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

No Text on This Page

AUGUST 10, 2015

(Title Page Reprinted: October 22, 2019)



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.

First Edition – March, 1972 Second Edition – December, 1977 Third Edition – June, 1980 Fourth Edition – October, 1984 Fifth Edition – April, 1986 Sixth Edition – October, 1993 Seventh Edition – April, 1999 Eighth Edition – June, 2003

Ninth Edition

August 10, 2015

This ANSI/UL Standard for Safety consists of the Ninth Edition including revisions through October 22, 2019.

TThe most recent designation of ANSI/UL 676 as an American National Standard (ANSI) occurred on October 14, 2019. 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.

UL's Standards for Safety are copyrighted by UL. Neither a printed nor electronic copy of a Standard should be altered in any way. All of UL's Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of UL.

COPYRIGHT © 2019 UNDERWRITERS LABORATORIES INC.

This is a preview. Click here to purchase the full publication.

No Text on This Page

CONTENTS

IN	TR	O	วบ	C.	TΙ	OI	N
				_		•	

1	Scope	
2	Components	
3	Units of Measurement	7
4	References	8
5	Glossary	8
PART I	- SWIMMING POOL LUMINAIRES	
CONST	RUCTION - LUMINAIRES	
6	General	8
7	Sheet Metal	
8	Cast Metal	
9	Mounting Means	
10		
11	Power Supply Connections	
	11.1 General	
	11.2 Wet-niche and no-niche luminaires	
	11.3 Dry-niche luminaires	
	11.4 Low voltage luminaires	
12		
13	Guards	14
14	Gaskets	14
15	Adhesives Used in Underwater Luminaires	15
16	Wiring Devices	15
17	Wireways	
18	Wiring	16
19	Splices	
20	Polarization and Identification	16
21	Exposure of Live Parts	16
22	Position of Live Parts	17
23	Spacings	17
24	Barriers	18
25	Grounding	18
26	Bonding	19
	26.1 Ground-fault current path continuity	19
	26.2 Continuity to pool bonding grid conductor	21
27		
28	Integral Overheating Protection	22
CONST	RUCTION – LUMINAIRE HOUSINGS (FORMING SHELLS) FOR WET-NICHE LUMINAIRE	:S
29	General	23
30		
31		
32		

PERFORMANCE

33	Temperature Test	24
34	Abnormal Operation Tests	
35	Water Leakage Test	
36	Dielectric Voltage-Withstand Test	
37	Strain-Relief Test	
38	Bonding Millivolt Drop Test	
	38.1 General	
	38.2 Ground-fault current path impedance determination	
	38.3 Impedance to pool bonding grid determination	
39	High Current Test	
40	· ·	
41	Electric Shock Test	
• • • • • • • • • • • • • • • • • • • •	41.1 General	
	41.2 Sea water tests	
42		
	Flexible Cord Guard and Support Test	
	A Conduit Hub Torque Test	
43	A Coriduit hub forque lest	44
	NOO	
MARKI	NGS	
44	Luminaires	44
45		
40	Laminano i loudings	
PART II	- SUBMERSIBLE LUMINAIRES	
CONST	RUCTION	
46	General	17
46 47		
48	The state of the s	
49	•	
50		
51	Strain Relief	48
PERFO	RMANCE	
E 0	Tomporature Toot	49
	Temperature Test	
53	, ,	
54		
55	·	
56	Strain-Relief Test	50
MARKI	NGS AND INSTALLATION INSTRUCTIONS	
57	General	50
PART II	I – SUBMERSIBLE JUNCTION BOXES	
CONST	RUCTION	
58	General	51
58 59		

This is a preview. Click here to purchase the full publication.