



---

# UL 1576

## STANDARD FOR SAFETY

### Flashlights and Lanterns



UL Standard for Safety for Flashlights and Lanterns, UL 1576

First Edition, Dated February 23, 2018

### **Summary of Topics**

***This revision of ANSI/UL 1576 dated November 4, 2020 includes the following changes in requirements:***

- Revisions To The Scope And Addition Of Photobiological Safety Assessment To Clarify Requirements With Ultraviolet (UV) Radiation Sources; [1.4](#), [1.7](#), [18.1](#), [18.6](#), [18.7](#), Section [18A](#)***
- Revisions To The Mechanical Strength Test To Clarify The Conditioning Time For Products Stored In Unheated Spaces Prior To The Drop Or Impact Test; [15.2](#)***
- Revisions To Correct The Intent Of The Marking Location On Permanently Connected Products; [27.1.1](#)***
- Revision To Correct The Indent Instructions For The Water Spray Test; [31.1](#)***

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 requirements are substantially in accordance with Proposal(s) on this subject dated July 17, 2020 and September 4, 2020.

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

**FEBRUARY 23, 2018**  
(Title Page Reprinted: November 4, 2020)



**ANSI/UL 1576-2020**

1

**UL 1576**

**Standard for Flashlights and Lanterns**

**First Edition**

**February 23, 2018**

This ANSI/UL Standard for Safety consists of the First Edition including revisions through November 4, 2020.

The most recent designation of ANSI/UL 1576 as an American National Standard (ANSI) occurred on October 30, 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>.

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 © 2020 UNDERWRITERS LABORATORIES INC.**

No Text on This Page

## CONTENTS

### PART I – REQUIREMENTS SPECIFIC TO BATTERY- POWERED FLASHLIGHTS AND LANTERNS

#### INTRODUCTION

1	Scope .....	7
2	Units Of Measurement.....	7
3	References.....	8
4	Glossary.....	12

#### CONSTRUCTION

5	Components .....	13
5.1	General .....	13
5.2	Specific component requirements .....	14
6	Frame And Enclosure .....	15
7	Child-Appealing Features .....	16
8	Adhesives Used To Secure Parts.....	16
9	Mechanical Assembly.....	16
10	Protection Against Corrosion.....	17
11	Bushings For External Conductors.....	17
12	Current-Carrying Parts.....	18
13	Internal Wiring.....	18
13.1	Mechanical protection .....	18
13.2	Splices and connections.....	19
14	Sharp Edges.....	19

#### PERFORMANCE – ALL APPLIANCES

15	Mechanical Strength Test.....	19
16	Stability Test .....	20
17	Exterior Surfaces Test.....	21
18	Radiation .....	21
18A	Photobiological Safety Assessment.....	22
19	Ozone Test .....	22
20	Permanence Of Marking Test .....	23
21	Movable Joint Rotation Test .....	23
22	Movable Joint Torsion And Pull Test.....	23
23	Mounting Means Strength Test .....	24
24	Strength Of Handles Test .....	24
25	Loading Test .....	24
26	Accelerated Aging Test .....	24

#### MARKING

27	Details .....	25
27.1	General.....	25
27.2	Products suitable for rain.....	26
27.3	Hot surfaces.....	26

**INSTRUCTIONS**

28	Safety Warnings.....	27
29	Operating Instructions.....	28
30	User Maintenance Instructions .....	28

**ADDITIONAL REQUIREMENTS FOR BATTERY-POWERED FLASHLIGHTS AND LANTERNS**

31	Construction And Performance.....	28
----	-----------------------------------	----

**PART II – REQUIREMENTS SPECIFIC TO BATTERY-POWERED FLASHLIGHTS AND LANTERNS  
ALSO POWERED BY LINE-VOLTAGE SUPPLY**

32	Scope.....	29
33	Attachment Plugs, Receptacles, Connectors, And Terminals .....	29
34	Boxes And Raceways .....	30
35	Capacitors And Filters .....	30
36	Controls.....	30
37	Cords, Cables, And Internal Wiring .....	30
38	Cord Reels .....	31
39	Film-Coated Wire (Magnet Wire) .....	31
40	Ground-Fault, Arc-Fault, And Leakage Current Detectors/Interrupters.....	31
41	Insulation Systems .....	32
42	Light Sources And Associated Components .....	32
43	Overcurrent Protection.....	32
44	Polymeric Materials And Enclosures .....	32
45	Supplemental Insulation, Insulating Bushings, and Assembly Aids .....	32
46	Switches For Primary Circuits.....	33
47	Transformers And Power Units.....	33
48	Printed Wiring Boards.....	33
49	Frame And Enclosure .....	34
50	Protection Against Electric Shock .....	34
51	Accessibility Of Uninsulated Live Parts And Film-Coated Wire .....	35
52	Cords And Cord Connections .....	37
	52.1 Cords and plugs .....	37
	52.2 Strain relief.....	41
53	Multiple Rated Voltages .....	41
54	Separation Of Circuits.....	42
55	Capacitors .....	42
56	Grounding .....	42
	56.1 General.....	42
	56.2 Grounding identification .....	42
57	Lampholders.....	42
58	Overload Or Thermal-Protective Devices .....	43
59	Receptacles.....	43
60	Switches And Controls.....	45
61	Spacings .....	45

**PERFORMANCE**

62	Leakage Current Test .....	46
63	Leakage Current Test Following Humidity Conditioning .....	48
64	Input Test.....	48
65	Temperature Tests.....	48
	65.1 General.....	48