



UL 844

STANDARD FOR SAFETY

Luminaires for Use in Hazardous
(Classified) Locations

UL Standard for Safety for Luminaires for Use in Hazardous (Classified) Locations, UL 844

Thirteenth Edition, Dated June 29, 2012

Summary of Topics

This revision to ANSI/UL 844 dated October 11, 2021 is being issued to correct errors in -60°C Explosion Test Wording; [26.18](#) and [Table 28.1](#)

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 revised requirements are substantially in accordance with Proposal(s) on this subject dated September 3, 2021.

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

JUNE 29, 2012
(Title Page Reprinted: October 11, 2021)



ANSI/UL 844-2021

1

UL 844

Standard for Luminaires for Use in Hazardous (Classified) Locations

The First through Eighth editions were titled Electric Lighting Fixtures for Use in Hazardous Locations. The Ninth through Eleventh were titled Electric Lighting Fixtures for Use in Hazardous (Classified) Location.

Fifth Edition – August, 1969
Sixth Edition – August, 1971
Seventh Edition – June, 1972
Eighth Edition – October, 1978
Ninth Edition – November, 1984
Tenth Edition – November, 1990
Eleventh Edition – August, 1995
Twelfth Edition – January, 2006

Thirteenth Edition

June 29, 2012

This ANSI/UL Standard for Safety consists of the Thirteenth Edition including revisions through October 11, 2021.

The most recent designation of ANSI/UL 844 as an American National Standard (ANSI) occurred on October 11, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

The Department of Defense (DoD) has adopted UL 844 on June 6, 1989. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

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 © 2021 UNDERWRITERS LABORATORIES INC.

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

No Text on This Page

CONTENTS

INTRODUCTION

1	Scope	7
2	General	7
3	Components	7
4	Units of Measurement	7
5	Undated References	8
6	Class, Zone, and Group Equivalency	8
6.1	Class I, Zone 1, Group IIA	8
6.2	Class I, Zone 1, Group IIB	8
6.3	Class I, Zone 1, Group IIB plus hydrogen.....	8
6.4	Class I, Zone 1, Group IIC	8
6.5	Class I, Zone 2, Group IIA	8
6.6	Class I, Zone 2, Group IIB	8
6.7	Class I, Zone 2, Group IIB plus hydrogen.....	8
6.8	Class I, Zone 2, Group IIC	8
6.9	Zone 20 and 21	9
6.10	Zone 22	9
7	Luminaires Subject to Deposits of Combustible-Paint Residue	9
8	Enclosure Types	9

PART I – LUMINAIRES FOR CLASS I, DIVISION 1, GROUPS A, B, C, AND D, AND CLASS II, DIVISION 1, GROUPS E, F, AND G LOCATIONS

CONSTRUCTION

9	Enclosure Material	9
10	Enclosure Thickness	10
10.1	Enclosures for Class I locations	10
10.2	Enclosures for Class II locations	10
11	Joints in Enclosures for Class I Locations	12
11.1	General.....	12
11.2	Luminaires for Class I, Groups C and D locations	14
11.3	Luminaires for Class I, Group B locations.....	19
11.4	Luminaires for Class I, Group A locations.....	19
12	Joints in Enclosures for Class II, Groups E, F, and G Locations	20
13	Holes in Enclosure	20
13.1	Luminaires for Class I locations	20
13.2	Luminaires for Class II locations.....	21
14	Shaft Openings	21
14.1	General.....	21
14.2	Luminaires for Class I locations	21
14.3	Luminaires for Class II locations.....	22
15	Guards of Luminaires for Classes I and II Locations	22
16	Nonmetallic External Parts	22
17	Supply Connections	22
17.1	Luminaires for Class I locations	22
17.2	Luminaires for Class II locations.....	25
17.3	Leads	26
18	Disconnecting Means	26
19	Protection Against Corrosion.....	26
20	Materials Applied to Joint Surfaces	27

21	Fuses	27
22	Grounding and Bonding	28
23	Porosity in Enclosure Materials	28
24	Luminaires for Wet Locations	28

PERFORMANCE

25	Temperature Test	29
26	Explosion Tests	31
27	Tests on Luminaires with Fuses	35
28	Hydrostatic Pressure Test	35
29	Dust-Penetration Test	36
29A	Dust-Penetration Test	37
30	Thermal Shock Test	37
31	Rust-Resistance Test	37
32	Test for Secureness of Conduit Hubs	37
	32.1 General	37
	32.2 Pullout	38
	32.3 Bending	38
33	Vibration Test	39
34	Electrical Resistance Test	42
35	Non-Metallic Enclosure Materials Tests – Class I	42
	35.1 General	42
	35.2 Chemical compatibility by material samples	42
	35.3 Chemical compatibility by complete end product tests	43
	35.4 Test for Accumulation of Static Electricity	45
36	Tests on Sealing Compounds	45
37	Non-Metallic Enclosure Tests – Class II	46
38	Leakage Test on Factory-Installed Conduit Seals	47

PART II – LUMINAIRES FOR CLASS I, DIVISION 2, GROUPS A, B, C, AND D LOCATIONS

GENERAL

39	Details	47
----	---------------	----

CONSTRUCTION

40	Enclosure	47
	40.1 General	47
	40.2 Supply connections	48
	40.3 Luminaires for wet locations	48
	40.4 Protection against corrosion	48
41	Arcing and Sparking Parts	48

PERFORMANCE

42	Temperature Test	49
----	------------------------	----

PART III– LUMINAIRES FOR CLASS II, DIVISION 2, GROUPS F AND G AND CLASS III LOCATIONS

GENERAL

43	Details	50
----	---------------	----

CONSTRUCTION

44	Enclosure	50
45	Supply Connections	50
46	Control Devices.....	51
47	Protection Against Corrosion	51

PERFORMANCE

48	Temperature Test	52
49	Dusttight Enclosure Test	53
	49.1 General.....	53

PART IV – PORTABLE LUMINAIRES**GENERAL**

50	Details	53
51	Protection of Glass Parts	53
52	Seal Between Lamp and Terminal Compartments	54
53	Supply Connections	54
	53.1 Cords, plugs, and provision for connection.....	54
54	Terminal enclosure	54
	54.1 Class I	54
	54.2 Class II	54
55	Cord Clamp and Strain Relief	55
56	Attachment of Parts	55
57	Hook and Handle	55
58	Castors and Wheels	55
59	External Metal Parts	55
60	Switches.....	55
61	Spacings	56

PERFORMANCE

62	Temperature Test	57
63	Accelerated Aging Test of Bushing.....	58
64	Thread-Wear Test	58
65	Strain-Relief Test.....	58
66	Rough-Usage Test.....	59
67	Drop Test.....	59
68	Impact Test	59
69	Overturning Test.....	59
70	Stability Test	60
71	Resistance Test.....	60

PART V – MANUFACTURING AND PRODUCTION TESTS

72	Bonding Test on Portable Luminaires	60
73	Hydrostatic Pressure Test	60

PART VI – MARKING

74	Details	60
75	Installation Instructions	67

75.1 General.....	67
75.2 Electronic medium for required instructions.....	67

SUPPLEMENT SA – INVESTIGATION OF ELASTOMERIC GASKETS

SA1 Scope	69
SA2 General	69
SA3 Physical Properties	69
SA4 Accelerated Air-Oven Aging Test.....	69
SA5 Compression Set	70
SA5.1 General	70
SA5.2 Compression set determination	70
SA5.3 Dust penetration	71
SA6 Identification	72

SUPPLEMENT SB – ALTERNATIVE JOINTS IN ENCLOSURES

SB1 General.....	73
SB2 Cemented Joints.....	73
SB3 Joints with Flamepaths Class I, Groups A, B, C, and D	73
SB4 Labyrinth Joints A, B, C, and D	74
SB5 Threaded Joints.....	74
SB5.1 General – Class I, Groups A, B, C, and D	74
SB5.2 Class I, Groups A and B.....	74
SB5.3 Class I, Groups C, and D	75
SB6 Straight (Flat or Cylindrical), and Rabbet Joints: Class I, Groups A, B, C, and D.....	75

SUPPLEMENT SC – ALTERNATIVE EXPLOSION TESTS

SC1 Explosion Tests	83
---------------------------	----

SUPPLEMENT SD – LUMINAIRES INTENDED FOR FLUSH MOUNTING IN PAINT SPRAY AREAS

SD1 Scope.....	89
SD2 Hip- or Ceiling-Mounted Luminaires Accessed from Outside a Down Draft Paint Spray Booth Only	89
SD3 Hip- or Ceiling-Mounted Luminaires Accessed from Inside a Down Draft Paint Spray Booth.....	89
SD4 Wall-Mounted Luminaires Accessed from Outside a Down Draft Paint Spray Booth Only	90
SD5 Wall-Mounted Luminaires Accessed from Inside a Down Draft Paint Spray Booth.....	90
SD6 Marking	91
SD7 Installation Instructions	91