



**SLOVENSKI STANDARD  
SIST-TS CEN/TS 17951:2024**

**01-november-2024**

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**Uporaba razsvetljave - Prilagodljivi sistemi varnostne razsvetljave**

Lighting Applications - Adaptive Emergency Escape Lighting Systems

Angewandte Lichttechnik - Adaptive Sicherheitsbeleuchtungsanlagen

Éclairagisme - Systèmes d'éclairage de sécurité adaptatifs

**Ta slovenski standard je istoveten z: CEN/TS 17951:2024**

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**ICS:**

01.080.10	Simboli za javno obveščanje. Public information symbols. Znaki. Table. Označbe Signs. Plates. Labels
91.160.10	Notranja razsvetljava Interior lighting

**SIST-TS CEN/TS 17951:2024**

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SPÉCIFICATION TECHNIQUE  
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ICS 01.080.10; 91.160.10

English Version

**Lighting Applications - Adaptive Emergency Escape  
Lighting Systems**

Éclairagisme - Systèmes d'éclairage de sécurité  
adaptatifs

Angewandte Lichttechnik - Adaptive  
Sicherheitsbeleuchtungsanlagen

This Technical Specification (CEN/TS) was approved by CEN on 8 January 2024 for provisional application.

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (CEN/TS 17951:2024) has been prepared by Technical Committee CEN/TC 169, “Light and Lighting”.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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## CEN/TS 17951:2024 (E)

### Introduction

Emergency lighting is provided for use when the power supply to the normal lighting fails and is therefore powered from a source independent of that supplying the normal lighting. Whilst the supply to the normal lighting is present, emergency lighting can operate in non-maintained or in maintained mode.

In particular, the objective of escape route lighting is to assist the safe exit from a location for occupants by providing appropriate visual conditions and direction finding on escape routes by means of a combination of luminaires and signs designed to meet predetermined conditions.

Adaptive Emergency Escape Lighting Systems (AEELS) can be used to revise the escape routing and increase the conspicuity of emergency signage depending upon the location of a particular hazard, by using directional exit signs that can be controlled to change routing information and to direct occupants away from an exit route that has become unusable.

Adaptive Emergency Escape Lighting Systems can operate in two ways, where signage is changed at the start of the evacuation procedure only, or alternatively where the information displayed by the signs can be changed during the evacuation as circumstances dictate. In this second mode, during an evolving incident, escape routing can be revised using AEELS by using directional exit signs that can be controlled to change routing information directing occupants away from an exit route that has become unusable.

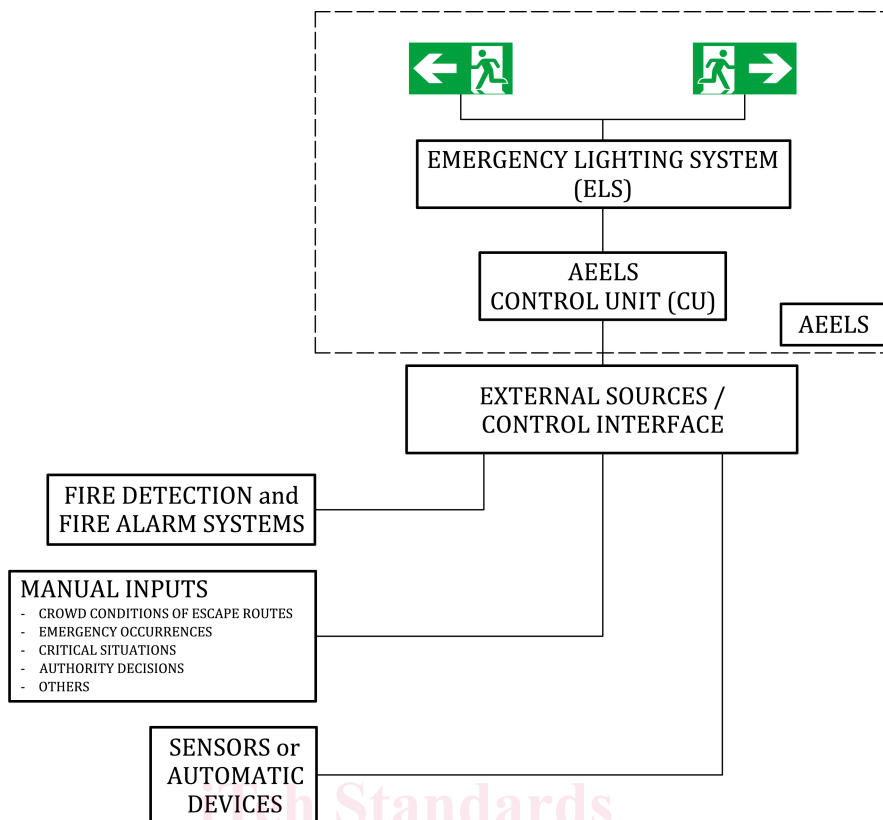
To improve the conspicuity of emergency signage AEELS could, for example, introduce a time-varying component to the sign such as a flashing or sequentially activated directional arrow.

In case of failure of the AEELS control unit making it impossible to provide control signals to the Emergency Lighting System (ELS), luminaires of the ELS would remain in the last known condition or revert to the original condition in accordance with the EN 1838 design requirements depending on risk assessment. It is essential, that in all cases the consistency between all escape signage is preserved.

For the purposes of this technical specification, Adaptive Emergency Escape Lighting Systems are regarded as a generic term of which there are a number of specific forms, depending upon the configuration and available system inputs as shown in Figure 1.

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**Figure 1 — Example of AEELS configuration**

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## CEN/TS 17951:2024 (E)

### 1 Scope

This document specifies the lighting and operating requirements for the application of adaptive emergency escape lighting systems that can interact with management and control systems or be provided with functionality to modify the operation of emergency escape lighting according to situational requirements, in terms of luminous flux output, escape directions and the characteristics and meaning of emergency escape lighting.

The situational requirements can require the involvement and interaction with components and systems other than emergency escape lighting systems. Requirements for these components or systems are not part of this document.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1838, *Lighting applications - Emergency lighting for buildings*

EN 50172, *Emergency escape lighting systems*

EN 60598-2-22, *Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting*

EN 62034, *Automatic test systems for battery powered emergency escape lighting*

EN ISO 7010, *Graphical symbols - Safety colours and safety signs - Registered safety signs (ISO 7010)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1838 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

#### 3.1

##### **emergency lighting**

lighting provided for use when the power supply to the normal lighting fails

[SOURCE: EN 12665:2024, 3.5.6]

#### 3.2

##### **escape route**

designated route used to evacuate, in case of an emergency, to a place of safety



### 3.3

#### **emergency escape lighting**

part of emergency lighting that provides illumination for visibility of the escape route and of safety signage for fire-fighting and safety equipment and for the guidance and the safety of people leaving a location to a place of safety or attempting to terminate a potentially hazardous process or situation before doing so

[SOURCE: EN 12665:2024, 3.5.36]

### 3.4

#### **adaptive emergency escape lighting**

enhanced emergency escape lighting responding to various circumstances or according to predefined conditions

Note 1 to entry: Emergency escape lighting with fixed/defined illumination level and/or fixed safety sign information is not considered as adaptive emergency escape lighting

Note 2 to entry: The term “dynamic emergency escape lighting” is used with the similar meaning.

### 3.5

#### **escape route lighting**

part of emergency escape lighting provided to ensure that the escape route can be effectively identified and safely used when the location is occupied

### 3.6

#### **open area (anti-panic) lighting**

part of emergency escape lighting provided to avoid panic and provide illumination allowing people to reach a place where an escape route can be identified

### 3.7

#### **local area lighting**

part of emergency lighting that provides illumination for people allowed to remain temporarily in a premise during a mains supply failure if it is risk assessed for the activities that are allowed to be performed

### 3.8

#### **high risk task area lighting**

part of emergency lighting that provides illumination for the safety of people involved in a potentially dangerous process or situation and to enable proper shut down procedures for the safety of the operator and other occupants of the building

### 3.9

#### **standby lighting**

part of emergency lighting provided to enable normal activities to continue substantially unchanged

[SOURCE: EN 12665:2024, 3.5.74]

### 3.10

#### **emergency exit**

way out marked with a safety sign that is intended to be used during an emergency leading to a defined place of safety

[SOURCE: EN 12665:—<sup>1</sup>, modified: definition elaborated, will be aligned in final version of EN 12665]

**CEN/TS 17951:2024 (E)****3.11****safety sign**

sign that gives a general safety message, conveyed by a combination of colour and geometric shape and which, by the addition of a graphical symbol, gives a particular safety message

[SOURCE: ISO 3864-1:2011, 3.12]

**3.12****supplementary sign**

sign that is supportive of a safety sign and the main purpose of which is to provide additional clarification

[SOURCE: ISO 3864-1:2011, 3.14]

**3.13****additional sign**

symbol or text that is supportive of a safety sign or a supplementary sign, the main purpose of which is to provide additional information

Note 1 to entry: an example of an additional sign is a red X escape route closure symbol.

**3.14****adaptive emergency escape route signage**

emergency escape route signage using internally illuminated escape route signs that can change the information they display

Note 1 to entry: signs include safety signs, supplementary signs and additional signs

**3.15****emergency escape lighting system**

all items functioning together in order to provide emergency escape lighting

Note 1 to entry: This includes luminaires, controlgear, wiring etc.

**3.16****emergency lighting system design**

set of documentation approved by the lighting system designer detailing the information used and the solutions proposed for the emergency lighting project

**3.17****adaptive emergency escape lighting system****AEELS**

electrically operated escape lighting system which provides directional guidance and adequate illuminance by means of a set of emergency lighting luminaires and directional indication that can manually or automatically change the escape route direction and improve the conspicuity of the emergency signage and optionally the lighting level on escape routes