



SLOVENSKI STANDARD SIST-TS CEN/TS 17623:2021

01-julij-2021

BIM-lastnosti za razsvetljavo - Svetilke in senzorji

BIM Properties for lighting - Luminaires and sensing devices

BIM Merkmale für die Beleuchtung - Leuchten und Sensoren

BIM Propriétés pour l'éclairage - Luminaires et capteurs

Ta slovenski standard je istoveten z: **CEN/TS 17623:2021**

[SIST-TS CEN/TS 17623:2021](https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021)

<https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021>

ICS:

35.240.67	Uporabniške rešitve IT v gradbeništvu	IT applications in building and construction industry
91.160.01	Razsvetljava na splošno	Lighting in general

SIST-TS CEN/TS 17623:2021

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST-TS CEN/TS 17623:2021](https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021)

<https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021>

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 17623

May 2021

ICS 35.240.67

English Version

BIM Properties for lighting - Luminaires and sensing devices

BIM Propriétés pour l'éclairage - Luminaires et capteurs

BIM Merkmale für die Beleuchtung - Leuchten und Sensoren

This Technical Specification (CEN/TS) was approved by CEN on 12 March 2021 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

[SIST-TS CEN/TS 17623:2021](https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021)

<https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021>



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Contents	Page
European foreword	3
Introduction	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions.....	5
4 Principle structure	6
4.1 General.....	6
4.2 Detailed description of set of attributes.....	7
4.2.1 General.....	7
4.2.2 GUID.....	7
4.2.3 ID.....	7
4.2.4 Name.....	7
4.2.5 Description.....	7
4.2.6 Symbol	7
4.2.7 Format, unit	8
4.2.8 Value set.....	8
4.2.9 Examples.....	8
4.3 Further IT-related attributes.....	8
5 Properties for luminaires and sensing devices.....	9
5.1 Mechanical properties	9
5.2 Electrical properties	16
5.3 Emergency lighting properties	27
5.4 Photometric properties.....	31
5.5 Sensing device properties.....	41
5.6 Mounting and accessory properties.....	46
5.7 Marketing properties	51
5.8 Operations and maintenance properties.....	59
Bibliography	64

European foreword

This document (CEN/TS 17623:2021) has been prepared by Technical Committee CEN/TC 169 “Light and lighting”, the secretariat of which is held by DIN.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST-TS CEN/TS 17623:2021](https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021)

<https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021>

CEN/TS 17623:2021 (E)

Introduction

Building Information Modelling (BIM) is a concurrent process that gives engineering and construction professionals the tools to more efficiently plan, construct, and manage buildings and infrastructure.

Within standardization committees much work is being performed to define the fundamental principles of BIM that will allow this to happen in an effective and consistent manner.

For lighting applications, it is essential that this work is monitored and, where required, input is made to ensure that the requirements for lighting applications are considered.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST-TS CEN/TS 17623:2021

<https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eaf6b/sist-ts-cen-ts-17623-2021>

1 Scope

This document identifies and clarifies lighting properties for digital building design and maintenance.

This document provides all the needed properties to design and to describe luminaires and sensing devices. These properties are intended to be used as mapping properties for property providers and requesters. The mapping of the identifiers enables the exchange of luminaire and sensing device data within different databases.

The unambiguous mapping and description of properties improve the data quality, reduce misinterpretations and the processing time in digital environments. Therefore, the properties listed in this document establish the essential description of luminaires and sensing devices in BIM systems and databases.

The listed properties in this document are used to structure the product data sheet which is complemented with real product information.

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 12464-1:2011, *Light and lighting - Lighting of work places - Part 1: Indoor work places*

EN 60598-1, *Luminaires - Part 1: General requirements and tests*

EN 60598-2-13:2006,¹ *Luminaires - Part 2-13: Particular requirements - Ground recessed luminaires*

EN 60598-2-22:2014,² *Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting*

EN 61231, *International lamp coding system (ILCOS) (IEC 61231)*

EN ISO 23386, *Building information modelling and other digital processes used in construction - Methodology to describe, author and maintain properties in interconnected data dictionaries (ISO 23386)*

ISO 8601-1, *Date and time - Representations for information interchange - Part 1: Basic rules*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 <http://www.electropedia.org/>

¹ As impacted by corrigendum EN 60598-2-13:2006/corrigendum Dec. 2006 and amendments EN 60598-2-13:2006/A1:2012 and EN 60598-2-13:2006/A1:2016.

² As impacted by amendment EN 60598-2-22:2014/A1:2020.

CEN/TS 17623:2021 (E)**3.1****building information modelling****BIM**

use of a shared digital representation of a built object (including buildings, bridges, roads, process plants, etc.) to facilitate design, construction and operation processes to form a reliable basis for decisions

Note 1 to entry: The acronym BIM also stands for the shared digital representation of the physical and functional characteristics of any construction works.

[SOURCE: EN ISO 29481-1:2017, 3.2]

3.2**data dictionary**

information resource dictionary

database that contains metadata

[SOURCE: ISO/IEC 2382:2015, 2121501; modified: Notes to entry removed]

3.3**attribute**

data element for the computer-sensible description of a property, a group of properties, etc.

Note 1 to entry: An attribute describes only one single detail of a property or a group of properties.

EXAMPLE The name of a property, the definition of a group of properties.

[SOURCE: EN ISO 23386:2020, 3.4]

3.4**property**

inherent or acquired feature of an item

EXAMPLE Thermal efficiency, diameter, luminous flux.

[SOURCE: EN ISO 23386:2020, 3.17, modified: The example was modified.]

4 Principle structure**4.1 General**

The properties for luminaires and sensing devices have been organized in eight tables listed in Clause 5 according to different disciplines. This sub-division is indicative only and not to be taken as exclusive.

- Mechanical properties – ID 01 (Table 1)
- Electrical properties – ID 02 (Table 2)
- Emergency lighting properties – ID 03 (Table 3)
- Photometric properties – ID 04 (Table 4)
- Sensing device properties – ID 05 (Table 5)
- Mounting and accessory properties – ID 06 (Table 6)
- Marketing properties – ID 07 (Table 7)
- Operations and maintenance properties – ID 08 (Table 8)

4.2 Detailed description of set of attributes

4.2.1 General

The structure of the attributes is according to EN ISO 23386 and enhanced by the property ID.

The properties have no mandatory or optional aspect. All properties are equal in importance and hierarchy. The use case and the application provide structure and mandatory to the properties.

4.2.2 GUID

In EN ISO 23386 named “Globally unique identifier”.

Identifier given to a product that guarantees its uniqueness throughout its entire life (see ISO 6707-2:2017, 3.2.46).

This attribute identifies the property unambiguously. A Globally Unique identifier GUID is generated using an algorithm. This machine-readable code will allow matching across databases, lists and data template.

In IFC and EN ISO 12006-3 the compressed version of GUID is used. It can be uncompressed to the standard GUID with open tools.

4.2.3 ID

This attribute identifies the property unambiguously. It is human-readable and corresponds to the globally unique identifier.

Note The ID always starts with the table number, from 4.1 followed by a dash and an individual serial number with four digits.

4.2.4 Name

In EN ISO 23386 named “Names in language en-EN”

The name of the property.

4.2.5 Description

In EN ISO 23386 named “Descriptions in language en-EN”.

This attribute is used to provide a plain language description of the property.

For some descriptions the name is enough. To avoid the repeating of the name, just “*identical with name.*” is entered.

4.2.6 Symbol

In EN ISO 23386 named “Symbols of the property in a given property group”.

Symbol of a property if existing. Character or combination of characters denoting a property (see the ISO/IEC 80000 series and the EN 60027 series).

CEN/TS 17623:2021 (E)

4.2.7 Format, unit

In EN ISO 23386 named “Digital format”.

Precision is the maximum number of significant digits that can be represented in a format, or the number of digits that a result is rounded to (see also ISO/IEC 60559).

In EN ISO 23386 named “Units”.

Concept type representing a scale that enables a value to be measured. Properties that do not have a unit are be designated as not applicable (n.a.).

4.2.8 Value set

In EN ISO 23386 named “List of possible values in language en-EN”.

Collection of acceptable values for a property. Values outside the value set are not permitted. Multiple values may be possible for some properties.

4.2.9 Examples

In EN ISO 23386 named “Examples in language en-EN”.

A sample for a value of the specific property.

4.3 Further IT-related attributes

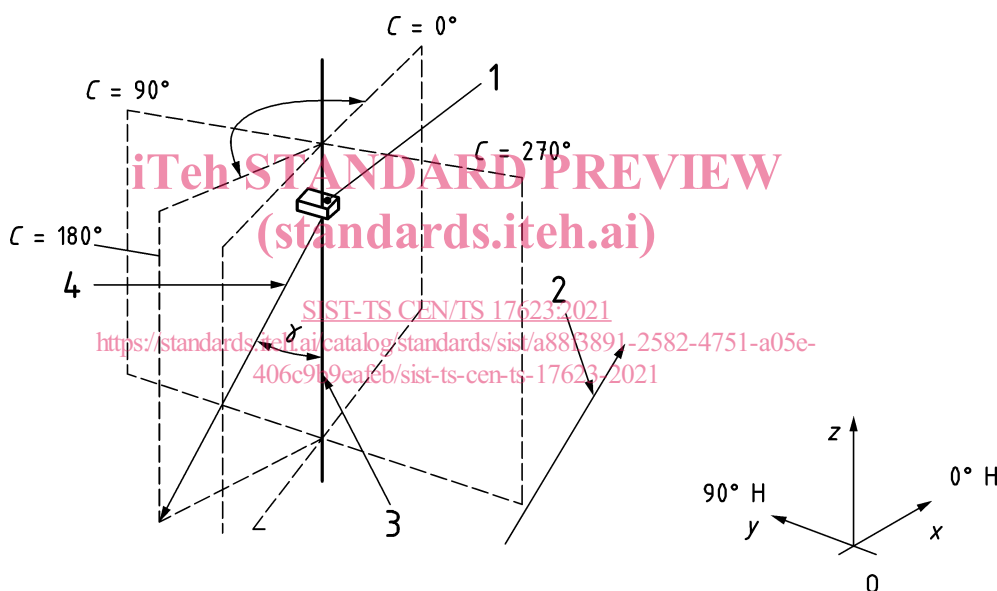
Where potential attributes are not specified in 4.2, they may be defined separately within a data-dictionary. These attributes can be found in EN ISO 23386:

- **Definitions in language en-EN:** A description of the attribute in order to define it unambiguously.
- **Method of measurement:** Evaluation of construction products to ensure their suitability according to requirements in harmonized technical specifications.
- **Number of values:** This attribute provides information about the number of values to specify. It may be one value or a table of values (ifcPropertyTableValue in EN ISO 16739-1). In case of a table value, the number of values represent the number of rows of a 2 columns table.
- **Name of the index values:** In a table of values, this attribute provides the name of the defining values (ifcPropertyTableValue in EN ISO 16739-1).
- **Data type:** Format for expressing the value of the property. This can be understood as the storage type from a software perspective (see also ISO/IEC 11404:2007, 8.1). Examples: String, Float, Integer.
- **Status:** Status of the property during its life cycle. Example: Active.
- **Date of creation:** Date of validation of the property creation request. All dates in accordance with ISO 8601-1. Format=YYYY-MM-DDThh:mm:ssZ. Example: 2014-04-30T10:39:53Z.
- **Date of activation:** Date after when the property can be used.
- **Date of last change:** Date of validation of the last change request.
- **Date of revision**
- **Date of version**

- **Date of deactivation:** Date when property becomes obsolete. The property is maintained in the dictionary.
- **Version number:** Enables tracking of major changes.
- **Revision number:** Enables tracking of minor changes. If the version number changes, the revision number starts again at 1. Examples: new translation, changes of typos.
- **Replaces:** Identifier of the replaced property (or properties). List of GUIDs.
- **Replaced by:** Identifier of the replacing property (or properties). List of GUIDs.
- **Deprecation explanation:** Reason of deprecation. Deprecated may indicate the property will be removed in the future. This explanation shall be written in international English (EN).

5 Properties for luminaires and sensing devices

5.1 Mechanical properties



Key

- 1 luminaire
- 2 length
- 3 photometric z-axis
- 4 intensity direction

Figure 1 — Orientation of a luminaire in C plane and gamma angle coordination system

Table 1 — Mechanical properties

GUID	ID	Name	Description	Symbol	Format, Unit	Value set	Examples
2GZ1YB8enFVhDHOKgLc\$BU	01-0001	overall diameter	Overall diameter of the housing of the luminaire or sensing device.		1E0, mm	n.a.	
19Z9XKYDT4p8HR0ZbD\$wO_	01-0002	height	Height of the housing of the luminaire or sensing device. Corresponds to z-axis, gamma angle 180° and 180° vertical of the light distribution curve. This definition is regardless of orientation of luminaires. See Figure 1.		1E0, mm	n.a.	
1uJglYpRnFpQ4tStHaR2Pf	01-0003	length	Length of the housing of the luminaire or sensing device. Length is set parallel to the C90-C270 plane. Corresponds to y-axis and with 90° horizontal of the Light Distribution Curve. This definition is regardless of orientation of luminaires. See Figure 1.		1E0, mm	n.a.	
1dPvrZN3vEIB0n0vwYvDcX	01-0004	width	Width of the housing of the luminaire or sensing device. Width is set parallel to the C0-C180 plane. Corresponds to the x-axis and with 0° horizontal of the Light Distribution Curve. This definition is regardless of orientation of luminaires. See Figure 1.		1E0, mm	n.a.	
1RPyGAgMf4hRTZ0DogLFnU	01-0005	weight	Weight of the luminaire or sensing device.		1E-2, kg	n.a.	
2A6xVIUTj9QP1G\$qb4FiWv	01-0006	cut-out diameter	Diameter of the cut-out hole (for recessed or flush mount).		1E0, mm	n.a.	
1RIsLltoX1whNaYkaCoHXJ	01-0007	recessed required depth	Required minimum installation depth, height of the invisible / hidden mounting part of the luminaire (for recessed or flush mount).		1E0, mm	n.a.	
2VEYAfD7j4FQtJgAb_riA5	01-0008	cutting out length	Length of the cut-out hole (for recessed or flush mount).		1E0, mm	n.a.	

GUID	ID	Name	Description	Symbol	Format, Unit	Value set	Examples
2pFfNB0uv1Tf_RTQpYktGL	01-0009	cutting out width	Width of the cut-out hole (for recessed or flush mount).		1E0, mm	n.a.	
1zs4Cj96j3d8TWAeeixJga	01-0010	luminaire housing shape 3D	Three-dimensional simplified shape of luminaire or sensing device.		n.a.	Cylinder, Cuboid, Cube, Cone, Pyramid, Sphere, Half-Sphere, User Defined.	
1Zek8UyXfE6gToN8_RDHFg	01-0011	shipping weight	Weight of the shipping package of the luminaire or sensing device.		1E-2, kg	n.a.	
1i_XY2Awj5RRadNmgPS3yQ	01-0012	shipping height	Height of the packed luminaire or sensing device as it is shipped.		1E0, mm	n.a.	
10UDC\$GOvEHexmf_I8j9xG	01-0013	shipping length	Length of the packed luminaire or sensing device as it is shipped.		1E0, mm	n.a.	
1ybyhd8TbACg99OxpWMoOg	01-0014	shipping width	Width of the packed luminaire or sensing device as it is shipped.		1E0, mm	n.a.	
0yvFhm4xvDggZvLzgzhiyq	01-0015	type of packaging	Type of packaging. Available types of packaging to be specified by the manufacturers.		n.a.	Carton, Pallet, Container, Without, Other	

CEN/TS 17623:2021 (E)

GUID	ID	Name	Description	Symbol	Format, Unit	Value set	Examples
16XdXw8T3H0li0TOcc8LH	01-0016	impact protection rating IK	Degree of protection provided by enclosures for electrical equipment against external mechanical impacts (see EN 62262 and EN 60068-2-75).		n.a.	IK00, IK01, IK02, IK03, IK04, IK05, IK06, IK07, IK08, IK09, IK10.	
1LrBLaYtnCARkperF_2Ykh	01-0017	glow wire resistance	The glow wire test for fire hazard (see EN 60695-2-10) to test electrical products, assemblies or individual components.		1E0, °C	550°C, 650°C, 750°C, 850°C, 960°C	
1284Zyx8D4uR55X2cRsWzu	01-0018	needle flame test	Method for testing and assessment of the fire hazard of plastic material using a needle flame (see EN 60695-11-5).		n.a.	Yes No	
1PMNxHS2z4tRuwiQxyzRfs	01-0019	number of light outputs	Number of plane surfaces with light output.		1E0, n.a.	n.a.	
1mHV_4yHLEFuxOaIDINmNn	01-0020	diameter of the luminous area	<i>Identical with name.</i>		1E0, mm	n.a.	
0WXZRI6CD2KfL4xC1uuLBF	01-0021	height of the luminous area	To be aligned with z-axis and gamma 180°.		1E0, mm	n.a.	
1auIwSthrFvRTJgX6Nf09Z	01-0022	length of the luminous area	Length is parallel to the C90-C270 plane. Aligned with the y-axis and with 90° horizontal.		1E0, mm	n.a.	

GUID	ID	Name	Description	Symbol	Format, Unit	Value set	Examples
2SqBhDZKD1hBjGWsV4q_GQ	01-0023	width of the luminous area	Width is parallel to the C0-C180 plane. Aligned with the x-axis and with 0° horizontal.		1E0, mm	n.a.	
2gBflnlCfCgwR3hT_QVGtQ	01-0024	cable length	Cable for power supply. Zero means no cable supplied.		1E0, mm	n.a.	
1oCak0l6v9Bew_SHOfRFnw	01-0025	pliable	The luminaire body is flexible.		n.a.	Yes No	
3CckyLFxX8KxZVvgilS7jt	01-0026	ground recessed accessibility class	Specific application class for ground recessed luminaries according to temperature limits, dimensions and static load resistance in kN, according to EN 60598-2-13:2006. https://standards.iteh.ai/catalog/standards/sist/a88f3891-2582-4751-a05e-406c9b9eafcb/sist-ts-cen-ts-17623-2021		n.a.	A1-non-accessible A2-pedestrians A3-parking A4-snow-ploughs A5-particular	A2
0f2af0EifB1Qi6xalTs1Xn	01-0029	sealing material	Material of the sealing of a luminaire.		n.a.	n.a.	
3jAmXEFTn9oPIBD_o04BfE	01-0030	silicon-free	States whether the luminaire is silicon-free.		n.a.	Yes No	
2DJLgonKH2zvtUylGDtoL3	01-0031	halogen-free	States whether the product is halogen-free (see EN 61249-2-21).		n.a.	Yes No	
3lPpBFdz17PB0W0suiESss	01-0032	temperature on light aperture	Average temperature of light emitting surface of a luminaire.		1E0, °C	n.a.	
30M\$RN1TX7\$gz008\$bv0j4	01-0033	operating temperature	Range defined by the minimum and maximum operating temperatures at which the luminaire operates normally as specified by the supplier or manufacturer.		1E0, °C	n.a.	