SLOVENSKI STANDARD
oSIST prEN IEC 62676-5-1:2023

01-januar-2023

Sistemi za videonadzor v varnostnih aplikacijah - 5-1. del: Specifikacije podatkov in kakovost slike kamer - Okoljske preskusne metode za kakovost slike

Video surveillance systems for use in security applications - Part 5-1: Data specifications and image quality performance for camera devices - Environmental test methods for image quality performance

Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité - Partie 5-1: Spécifications des données et performances de la qualité d'image pour les dispositifs de caméra - Méthodes d'essai d'environnement pour les performances de la qualité d'image

Ta slovenski standard je istoveten z: **prEN IEC 62676-5-1:2022**

ICS:

13.320 Alarmni in opozorilni sistemi Alarm and warning systems

oSIST prEN IEC 62676-5-1:2023 **en**

79/670/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:	
IEC 62676-5-1 ED1	
DATE OF CIRCULATION: **2022-09-23**	CLOSING DATE FOR VOTING: **2022-12-16**
SUPERSEDES DOCUMENTS: **79/631/CD, 79/637A/CC**	

IEC TC 79 : ALARM AND ELECTRONIC SECURITY SYSTEMS

SECRETARIAT:	SECRETARY:
France	Mr Jean-François LIGNEREUX
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING ☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Video surveillance systems for use in security applications – Part 5-1: Data specifications and image quality performance for camera devices – Environmental test methods for image quality performance

PROPOSED STABILITY DATE: 2028

NOTE FROM TC/SC OFFICERS:

In order to be fully in line with IEC Directives, the title was changed to read: Video surveillance systems for use in security applications – Part 5-1: *Data specifications and image quality performance for camera devices* – Environmental test methods for image quality performance.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Alarm systems – Video surveillance systems (VSS) for use in security applications

Part 5-1: Data specifications and image quality performance for camera devices – Environmental test methods for image quality performance

FOREWORD

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International Standard IEC 62676-5-1 has been prepared by IEC technical committee TC 79: Alarm and electronic security systems.

The text of this International Standard is based on the following documents:

Draft	Report on voting
79/XX/FDIS	79/XX/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available

at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The goal of this standard is to define the performance test methods for image quality, a feature of video surveillance systems, which is subject to change depending on the environmental conditions (temperature and humidity).

ALARM SYSTEMS – VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 5-1: Data specifications and image quality performance for camera devices – Environmental test methods for image quality performance

1 Scope

This standard is an extension of IEC 62676-5 which defines measuring methods for performance values of video surveillance camera equipment and defines image quality tests under the given temperature and humidity environment.

This standard is mainly targeting cameras with integrated lenses as the lenses is a major component that may impact the results. If the lens is selectable, the lens shall be stated together with the results.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-1: Environmental Testing - Part 2-1: Tests - Test A: Cold

IEC 60068-2-2: Environmental Testing - Part 2-2: Tests - Test B: Dry heat

IEC 60068-2-78: Environmental testing – Part 2-78: Tests-Test Cab: Damp heat, steady state

IEC 62599-1: Alarm systems –Part 1: Environmental test methods

IEC 62676-1-1: Video surveillance systems for use in security applications — Part 1-1: System requirements — General

IEC 62676-2-1: Video surveillance systems for use in security applications — Part 2-1: Video transmission protocols — General requirements

IEC 62676-3: Video surveillance systems for use in security applications — Part3: Analogue and digital video interfaces

IEC 62676-4: Video surveillance systems for use in security applications — Part 4: Application guidelines

IEC 62676-5:2018: Video surveillance systems for use in security applications - Part 5: Data Specifications and Image Quality Performance for Camera devices

ISO 12231: Photography – Electronic still picture imaging – Vocabulary

ISO 12233: Photography – Electronic still picture imaging – Resolution and spatial frequency responses

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
color temperature
numerical value used to indicate the chromaticity of a light source that has a spectral distribution of (or close to) the radiation generated when heat is applied to a blackbody radiator

3.2
gain
camera's function to amplify the electronic signal

3.3
image
visual representation of a scene shown through the camera

Note The term "image" in this document shall include multiple images within an image stream.

3.4
image quality
describes how precisely an image reproduces the captured scene; It is measured as a collection of parameters like sharpness, brightness, color reproduction, resolution, uniformity of illumination, contrast, image distortion, etc.

3.5
resolution
ability of a camera or video system to reproduce the details of the original scene

3.6
stable temperature
The stable temperature is reached when the internal object temperature changes less than 0.1oC for a period of 5 minutes, with a measurement integration time of >10 seconds.

3.7
field of view
angle at which the a camera can capture an image through the lens; it is expressed as a horizontal field of view, a vertical field of view, and a diagonal field of view.

4 Test environment

4.1 Overview

This clause provides general conditions of the test environment and equipment configuration needed for the evaluation of image quality according to the temperature and humidity conditions during operation of a video surveillance system.

4.2 Test environment configuration

4.2.1 Standard shooting conditions

Standard measurement conditions shall follow IEC 62676-5:2018 Clause 5.1.

Measurement shall be at a room temperature of 23 °C ± 2 °C.

4.3 Measurement environment

The measurement environment shall follow IEC 62676-5:2018 Clause 5.3.

As environmental testing is required, the test equipment shall be placed into an environmental chamber to change environmental conditions. An example of the measurement environment is shown in **Figure 1**:

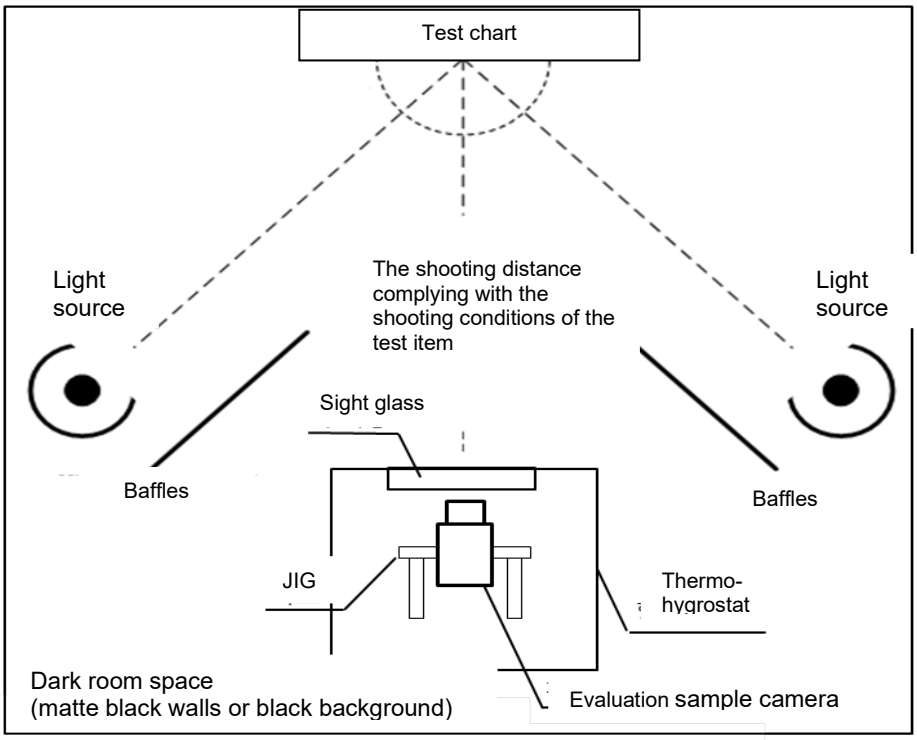

Figure 1 — Example of Measurement environment

The structure of the test equipment consists of a thermo-hygrostat chamber with a sight glass, an evaluation sample camera, a jig (for horizontal/vertical control of the evaluation sample camera), a chart (test chart), a light source, and baffles. The test lab shall be a dark space (matte black walls or a black background).

Only the evaluation sample camera shall be placed in the thermo-hygrostat chamber and other measurement equipment such as test chart, light source and others shall not be placed inside the thermo-hygrostat chamber because specifications are not guaranteed in conditions different from room temperature.

The distance between the evaluation sample camera and the sight glass shall be as close as possible to avoid reflection or other optical issues.

When a 3100 K light source is irradiated, the illuminance attenuation of 50 % or less shall be maintained compared to the conditions without a sight glass. See **Annex A** for the method of measuring the sight glass illuminance attenuation rate.

Note Baffles are used to prevent the light source from directly irradiating the evaluation sample camera, but it may be removed if the camera is not influenced by the configuration of the test lab.

5 Test

5.1 General test conditions

General test conditions shall follow IEC 62676-5:2018 Clause 5.3.

5.2 General standard photographing conditions

5.2.1 Lighting conditions

Lighting conditions shall follow IEC 62676-5:2018 Clause 5.1.2.1.

5.2.2 Field angle

Field angle shall follow IEC 62676-5:2018 Clause 5.1.2.4.