IEC TR 62977-1-31

Edition 1.1 2022-03
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

colour inside

Electronic displays –
Part 1-31: Generic – Practical information on the use of light measuring devices

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Electronic displays –
Part 1-31: Generic – Practical information on the use of light measuring devices



IEC TR 62977-1-31:2021-04+AMD1:2022-03 CSV(en)

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ELECTRONIC DISPLAYS –

Part 1-31: Generic – Practical information on the use of light measuring devices

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In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

IEC TR 62977-1-31 has been prepared by IEC technical committee 110: Electronic displays. It is a Technical Report.

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/standardsdev/publications.

A list of all parts in the IEC 62977 series, published under the general title *Electronic displays*, can be found on the IEC website.

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- withdrawn,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

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INTRODUCTION

Measurements of the optical characteristics of electronic displays are primarily affected by three factors: measuring procedures, displays (devices under test: DUTs), and light measuring devices (LMDs), for which there are many international standards supporting consistent and comparable measurements. Most of them, however, provide only limited information on LMDs, making it difficult to appropriately select and use the LMD for the measurement objective. The purpose of this document is to provide best practices and suggestions which are missing in the standards.

This document addresses how the major properties of a typical LMD affect the measurement results. It is often impractical and unnecessary to consider the influences of all properties of LMDs and all characteristics of DUTs as well as their interactions and influences on the measurement results. Therefore, the multiple interaction effects that exist are beyond the scope of this document. Due to the rapid innovation and abundance of LMDs, covering all types of LMDs is also outside the objectives of this document.

INTRODUCTION to Amendment 1

This document provides additional information to IEC TR 62977-1-31:2021 regarding the influence of spectral stray light and spectral bandwidth of a spectroradiometer on chromaticity measurements. It is described in Annex E.

This document also provides the corrections of editorial errors of IEC TR 62977-1-31:2021. The corrections are:

– Typos are fixed:
  - “fiber” and “$x(\lambda)$, $y(\lambda)$, $z(\lambda)$” is replaced with “fibre” and “$\overline{x}(\lambda), \overline{y}(\lambda), \overline{z}(\lambda)$”, respectively in Figure 2,
  - “(%)” in the label of vertical axis is removed in Figure 9, Figure 10, and Figure 12,
  - “0” label of the tick mark of vertical axis is replaced with “1” in Figure C.4.
– The lists for Formula (A.1) and Formula (B.1) are aligned.

ELECTRONIC DISPLAYS –

Part 1-31: Generic – Practical information on the use of light measuring devices

1 Scope

This part of IEC 62977 provides practical information on light measuring devices (luminance meters, colorimeters, and spectroradiometers) with luminance measuring optics for the characterization of electronic displays.

2 Normative references

There are no normative references in this document.

IEC TR 62977-1-31

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Electronic displays –
Part 1-31: Generic – Practical information on the use of light measuring devices



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ELECTRONIC DISPLAYS –

Part 1-31: Generic – Practical information on the use of light measuring devices

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- amended.

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INTRODUCTION

Measurements of the optical characteristics of electronic displays are primarily affected by three factors: measuring procedures, displays (devices under test: DUTs), and light measuring devices (LMDs), for which there are many international standards supporting consistent and comparable measurements. Most of them, however, provide only limited information on LMDs, making it difficult to appropriately select and use the LMD for the measurement objective. The purpose of this document is to provide best practices and suggestions which are missing in the standards.

This document addresses how the major properties of a typical LMD affect the measurement results. It is often impractical and unnecessary to consider the influences of all properties of LMDs and all characteristics of DUTs as well as their interactions and influences on the measurement results. Therefore, the multiple interaction effects that exist are beyond the scope of this document. Due to the rapid innovation and abundance of LMDs, covering all types of LMDs is also outside the objectives of this document.

INTRODUCTION to Amendment 1

This document provides additional information to IEC TR 62977-1-31:2021 regarding the influence of spectral stray light and spectral bandwidth of a spectroradiometer on chromaticity measurements. It is described in Annex E.

This document also provides the corrections of editorial errors of IEC TR 62977-1-31:2021. The corrections are:

– Typos are fixed:
  - “fiber” and “$x(\lambda)$, $y(\lambda)$, $z(\lambda)$” is replaced with “fibre” and “$\overline{x}(\lambda), \overline{y}(\lambda), \overline{z}(\lambda)$”, respectively in Figure 2,
  - “(%)” in the label of vertical axis is removed in Figure 9, Figure 10, and Figure 12,
  - “0” label of the tick mark of vertical axis is replaced with “1” in Figure C.4.
– The lists for Formula (A.1) and Formula (B.1) are aligned.

ELECTRONIC DISPLAYS –

Part 1-31: Generic – Practical information on the use of light measuring devices

1 Scope

This part of IEC 62977 provides practical information on light measuring devices (luminance meters, colorimeters, and spectroradiometers) with luminance measuring optics for the characterization of electronic displays.

2 Normative references

There are no normative references in this document.