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Laser displays –
Part 5-1: Measurement of optical performance for laser front projection

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

Draft	Report on voting
110/1351/FDIS	110/1367/RVD

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

The language used for the development of this International Standard is English.

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 62906 series, published under the general title *Laser displays*, can be found on the IEC website.

Future documents in this series will carry the new general title as cited above. Titles of existing documents in this series will be updated at the time of the next edition.

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- withdrawn,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
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LASER DISPLAYS –

Part 5-1: Measurement of optical performance for laser front projection

1 Scope

This part of IEC 62906 specifies the standard measurement conditions and measurement methods for front projection displays without screen which use lasers or laser hybrids as light sources. The hybrid light sources can use both lasers and spontaneous emission-based light sources. This document covers optical performance measurements for full-frame projection technologies such as digital micro-mirror devices (DMDs), liquid crystal on silicon (LCOS), and liquid crystal display (LCD) projectors. Other displays, such as raster-scanned (flying spot) projection displays, are not included.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content shall constitute 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.

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 61947-1:2002, *Electronic projection – Measurement and documentation of key performance criteria – Part 1: Fixed resolution projectors*

IEC 62471-5, *Photobiological safety of lamps and lamp systems- Part 5: Image projectors*

IEC TR 62977-2-3, *Electronic display devices – Part 2-3: Measurements of optical properties – Multi-colour test patterns*

ISO/CIE 11664-4, *Colorimetry – Part 4: CIE 1976 L*a*b* colour space*

ISO 15076-1:2010, *Image technology colour management – Architecture, profile format and data structure – Part 1: Based on ICC.1:2010*

CIE 15, *Colorimetry*

CIE 168-2005, *Criteria for the evaluation of extended-gamut colour encoding*