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INTERNATIONAL STANDARD

colour inside

Electronic displays –
Part 3-9: Evaluation of optical performance – Display sparkle contrast



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ELECTRONIC DISPLAYS –

Part 3-9: Evaluation of optical performance – Display sparkle contrast

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

Draft	Report on voting
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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/publications.

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ELECTRONIC DISPLAYS –

Part 3-9: Evaluation of optical performance – Display sparkle contrast

1 Scope

This part of IEC 62977 specifies standard measurement conditions and methods for determining the sparkle contrast of direct-view displays which comprise display matrix elements to render real 2D images on a flat panel and an anti-glare layer. This document excludes measurement of sparkle, which is intentionally obtained by the specular reflection from reflecting flakes in coatings and paints.

2 Normative references

There are no normative references in this document.

3 Terms, definitions, abbreviated terms and letter symbols

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

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

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

3.1 Terms and definitions

3.1.1
sparkle
visual phenomenon that becomes obvious as a random pattern extending across the display area formed by a distribution of tiny patches (granules, dots) with varying luminance and chromaticity (depending on the test pattern shown on the display) through the anti-glare layer of the display, resulting in a visually disturbing pattern that is distinctly changing with viewing direction

Note 1 to entry: In other fields, the term “sparkle” can refer to reflections from reflecting particles in effect coatings [1].

Note 2 to entry: Sparkle looks like “speckle” [2] in the field of laser displays (coherent or partially coherent light), however sparkle and speckle are different because the origins of both phenomena are quite different.

3.1.2
sparkle pattern
radiance distribution of sparkle

Note 1 to entry: The sparkle pattern can contain (1) periodic modulations caused by the display pixel matrix, (2) non-periodic effects caused by, for example, pixel defects, and (3) low-frequency radiance variations caused by non-uniformities of the backlight unit.