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Evaluation requirements for visual comfort of indoor LED displays

室内LED显示屏光舒适度评价要求

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

Please be noted that certain content of this document may involve patents. The institution issuing this document does not undertake the responsibility of identifying these patents.

This document was proposed by Ministry of Industry and Information Technology of the People's Republic of China.

This document shall be under the jurisdiction of National Technical Committee on Electronic Displays of Standardization Administration of China (SAC/TC 547).

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Evaluation Requirements for Visual Comfort of Indoor LED Displays

1 Scope

This document specifies the evaluation requirements for visual comfort of indoor light emitting diode (LED) display (hereinafter referred to as "LED display").

This document is applicable to the evaluation of visual comfort of LED display (excluding movie theaters, studios and multimedia classrooms).

2 Normative References

GB/T 43770-2024

GB/T 43979-2024

3 Terms and Definitions

The terms and definitions defined in GB/T 43770-2024 and SJ/T 11141-2017, and the following are applicable to this document.

3.1 Visual comfort of indoor LED displays

During the viewing of the LED display, the degree of physical and psychological comfort that the viewer feels.

3.2 Ambient contrast ratio

Under the application environment, the ratio of the 100% white field brightness to the black field brightness of the LED display.

3.3 Brightness ratio of displays and ambient

The ratio of the 100% white field brightness of the LED display to the average brightness of

- a burning sensation in the eyes;

- eye pain;

--a feeling of tightness in the eyes;

- eye irritation;

- a tearing sensation in the eyes;

- blurred vision;

- double vision;

- dry eyes.

c) Other feelings

- headache.

5.1 Requirements for Use

Before use, users shall read the user manual. To ensure the comfort of the LED display, it shall be used in accordance with the manufacturer's requirements.

5.2 Requirements for Maintenance

To ensure the comfort of the LED display, the LED display shall be regularly maintained, and only professional LED display maintenance personnel can maintain or repair it.

6.1 Watching Distance

The watching distance is one of the factors that affects the light comfort evaluation of the LED display. The watching distance should not be less than the minimum range of visibility. The relations between the minimum range of visibility and the pixel center spacing can be found in Formula (1). Where, DMVD---the minimum range of visibility, expressed in (mm);

P---the pixel center spacing, expressed in (mm). .....