

STN	Letectvo a kozmonautika Spektrálna kvalita LED svietidiel použitých so systemom fotoluminiscenčného značenia	STN EN 4731 31 0655
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Aerospace series - Spectral quality of LED luminaires used with photoluminescent marking systems

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Aerospace series - Spectral quality of LED luminaires used with photoluminescent marking systems

Série aérospatiale - Qualité spectrale des luminaires à diodes électroluminescentes appliquées aux systèmes de marquage photoluminescents

Luft- und Raumfahrt - Spektrale Qualität von LED Leuchten zur Verwendung mit langnachleuchtenden Markierungssystemen

This European Standard was approved by CEN on 20 November 2017.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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EN 4731:2018 (E)

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European foreword

This document (EN 4731:2018) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2018, and conflicting national standards shall be withdrawn at the latest by November 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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EN 4731:2018 (E)**Introduction**

Photoluminescent marking systems are commonly used in passenger airplanes to provide visual guidance in emergency events. Those marking systems need to be charged by ambient light during cabin preparation and/ or aircraft operation as to be operational if, at any phase of a flight, an emergency occurs.

While the certification regulations require photoluminescent marking system to be sufficiently charged solely by cabin interior lighting, i.e. without accounting for daylight entering the cabin through windows, only certain portions of the visual light spectrum emitted by a cabin interior luminaire are stored by the photoluminescent pigment and thus contribute to charging.

1 Scope

This document defines a measure for the spectral quality of LED luminaires in terms of the ratio of the amount of visual light emitted by the luminaire versus the amount effective for charging photoluminescent products contained in that spectrum.

Fulfilment of this document by a LED luminaire will ensure general compatibility of the luminaire with photoluminescent marking systems.

This document alone does not provide any means of compliance to fulfil any airworthiness requirements.

For a specific aircraft installation, the spectral power distribution and illuminance at the photoluminescent marking systems are relevant.

2 Normative references

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

EN 4706, *Aerospace series — LED colour and brightness ranking*

CIE 018.2:1983, *The basis of physical photometry*

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