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TECHNICAL REPORT

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Photobiological safety of lamps and lamp systems – Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PHOTOBIOLOGICAL SAFETY OF LAMPS AND LAMP SYSTEMS –

Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety

FOREWORD

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IEC 62471-2, which is a technical report, has been prepared by Technical Committee 76: Optical radiation safety and laser equipment

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
76/396/DTR	76/410/RVC

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62471 series, published under the general title *Photobiological safety of lamps and lamp systems,* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

IMPORTANT – The "colour inside" logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

INTRODUCTION

Optical radiation hazards from all types of lamps or other broadband light sources are assessed by the application of IEC 62471:2006 (Edition 1), *Photobiological safety of lamps and lamp systems*. IEC 62471 covers LEDs as well as incandescent, low and high pressure gas-discharge, arc and other lamps. It also covers electrically-powered optical radiation sources that are not lamps. The standard provides a risk group classification system for all lamps and lamp systems, and the measurement conditions are well developed. IEC 62471 does not include manufacturing or user safety requirements that may be required as a result of a lamp or lamp system being assigned to a particular risk group. The safety requirements for lamp systems necessarily vary and are best dealt with in vertical standards. This Part 2 provides the basis for safety requirements dependent upon risk group classification and examples thereof. The assigned risk group of a product may be used to assist with risk assessments, e.g. for occupational exposure in workplaces. National requirements may exist for the assessment of products or occupational exposure.

NOTE 1 There are some instances where the IEC 60825 laser product standards may be useful for a nearly “point” source, as in an LED fibre source or a superluminescent diode (see 3.16).

NOTE 2 IEC 62471 is currently being revised and will be published as IEC 62471-1.

PHOTOBIOLOGICAL SAFETY OF LAMPS AND LAMP SYSTEMS –

Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety

1 Scope

This technical report provides the basis for optical radiation safety requirements of non-laser products, serving as a guide for development of safety requirements in vertical product standards and assisting lamp system manufacturers in the interpretation of safety information provided by the lamp manufacturers.

This report provides guidance on:

- requirements for optical radiation safety assessment;
- allocation of safety measures;
- labelling of products.

This technical report does not address safety requirements of intentional exposure to optical radiation from sun tanning equipment, ophthalmic instruments or other medical/cosmetic devices whose specific safety issues are addressed through appropriate standards.

2 Normative references

The following referenced documents are indispensable for the application 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 62471, *Photobiological safety of lamps and lamp systems*

IEC 60825 (all parts), *Safety of laser products*

IEC 60050-845, *International Electrotechnical Vocabulary – Chapter 845: Lighting*

IEC 60417, *Graphical symbols for use on equipment*