



BSI Standards Publication

# Assessment of lighting equipment related to human exposure to electromagnetic fields

Part 1: Results of the EMF measurement campaign from the VDE Test and Certification Institute and VDEI, the German Electrical and Electronic Manufacturers' Association

### National foreword

This Published Document is the UK implementation of IEC/TR 62493-1:2013.

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A list of organizations represented on this committee can be obtained on request to its secretary.

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# TECHNICAL REPORT



**Assessment of lighting equipment related to human exposure to electromagnetic fields –  
Part 1: Results of the EMF measurement campaign from the VDE Test and Certification Institute and ZVEI, the German Electrical and Electronic Manufacturers' Association**

INTERNATIONAL  
ELECTROTECHNICAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ASSESSMENT OF LIGHTING EQUIPMENT RELATED  
TO HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS –****Part 1: Results of the EMF measurement campaign from the VDE Test and  
Certification Institute and ZVEI, the German Electrical and Electronic  
Manufacturers' Association**

## FOREWORD

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IEC/TR 62493-1, which is a technical report, has been prepared by IEC technical committee 34: Lamps and related equipment.

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

Enquiry draft	Report on voting
34/178/DTR	34/183/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 the parts in the IEC 62493 series, published under the general title *Assessment of lighting equipment related to human exposure to electromagnetic fields* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

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## INTRODUCTION

In 2011 it was decided by VDE and ZVEI to start a measurement campaign for testing a broad range of different types of luminaires with different lamp technologies against the new EMF (Electromagnetic Fields) standard IEC 62493:2009 (identical to EN 62493:2010-02). The goal was to get an overview on the EMF measurement results dependent on different lamp technologies used in current luminaires on the market. For this measurement campaign only the test procedure with the so called Van der Hoofden head in the frequency range from 20 kHz to 10 MHz was used.

The goal of this campaign is to identify construction details of lighting equipment which are critical for the EMF measurements.

NOTE The VDE Testing and Certification Institute is a part of the VDE Association for Electrical, Electronic & Information Technologies. The VDE Testing and Certification Institute is accredited on a national and international level for the area of testing and certification of electrotechnical equipment, components and systems. ZVEI is the German Industry Association for the Electrical Industry.

## ASSESSMENT OF LIGHTING EQUIPMENT RELATED TO HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS –

### Part 1: Results of the EMF measurement campaign from the VDE Test and Certification Institute and ZVEI, the German Electrical and Electronic Manufacturers' Association

#### 1 Scope

This part of the IEC 62493 series presents an overview on EMF measurement results dependent on different lamp technologies used in current luminaires. For the measurement only the test procedure with the so called Van der Hoofden head in the frequency range from 20 kHz to 10 MHz was used.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62493:2009, *Assessment of lighting equipment related to human exposure to electromagnetic fields*

#### 3 Test procedure

The testing of luminaires has been performed according to the requirements of IEC 62493:2009. The luminaires have been placed over the test head at the distance  $d$  as required by the standard. Figure 1 shows the set-up in principal.