



DPC: 23 / 30481789 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 31 October 2023

Origin: International

Latest date for receipt of comments: 22 November 2023

Project No. 2023/02438

Responsible committee: EPL/47 Semiconductors

Interested committees:

Title: BS EN IEC 62906-5-8 Laser Displays

Part 5-8: Measurement of scanning characteristics for raster-scanning laser display

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD.
THIS DRAFT IS NOT CURRENT BEYOND 22 November 2023**

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <http://standardsdevelopment.bsigroup.com>

Responsible Committee Secretary: **Committee Service Centre (BSI)**
Direct tel: **020 8996 7009**
E-mail: csc@bsigroup.com

 **Documents**
Document Sharing Hub

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
------------------	------------------------

1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



110/1582/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:

IEC 62906-5-8 ED1

DATE OF CIRCULATION:

2023-10-27

CLOSING DATE FOR COMMENTS:

2023-12-22

SUPERSEDES DOCUMENTS:

110/1490/NP, 110/1510A/RVN

IEC TC 110 : ELECTRONIC DISPLAYS

SECRETARIAT:

Japan

SECRETARY:

Mr Yoshi SHIBAHARA

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:



Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☐ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE:

LASER DISPLAYS - Part 5-8: Measurement of scanning characteristics for raster-scanning laser display

NOTE FROM TC/SC OFFICERS:

Copyright © 2023 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

CONTENTS

1		
2		
3	FOREWORD	4
4	INTRODUCTION	6
5	1 Scope	7
6	2 Normative references	7
7	3 Terms and definitions	7
8	3.1 Terms and definitions	7
9	3.2 Abbreviated terms	8
10	3.3 Letter symbols	8
11	4 Standard measuring conditions	9
12	4.1 Standard measuring environmental conditions	9
13	4.2 Standard ambient lighting conditions	9
14	4.3 Standard measuring equipment requirements	9
15	4.3.1 2D image sensor	9
16	4.3.2 Signal source	9
17	4.3.3 Slide track	10
18	4.3.4 Gantry track	10
19	4.4 Standard DUT conditions	10
20	5 Standard measuring setup and adjustment of DUT	10
21	5.1 Standard measuring setup	10
22	5.2 Adjustment of DUT	11
23	6 Measuring methods	11
24	6.1 General	11
25	6.2 Scanning linearity	11
26	6.2.1 General	11
27	6.2.2 Measuring equipment	11
28	6.2.3 Measuring methods	12
29	6.3 Scanning repeatability	12
30	6.3.1 General	12
31	6.3.2 Measuring equipment	12
32	2D image sensor	12
33	6.3.3 Measuring methods	13
34	6.4 Waviness	13
35	6.4.1 General	13
36	6.4.2 Measuring equipment	13
37	6.4.3 Measuring methods	14
38	7 Report	16
39	Annex A (informative) Capture of single frame image	17
40	A.1 General	17
41	A.2 Setting of exposure time	17
42	Bibliography	19
43		

44 Figure 1 – The example of measuring waviness 8

45 Figure 2 – The setup of measurement 11

46 Figure 3 – The test pattern of scanning linearity 12

47 Figure 4 – The test pattern of scanning repeatability 13

48 Figure 5 – The test pattern of waviness 14

49 Figure A.1 - Timing of display and capture image 17

50 Figure A.2 - The exposure time is shorter than the frame period of the display 18

51 Figure A.3 - The exposure time is larger than the frame period of the display 18

52 Figure A.4 – The examples of captured Images 18

53

54 Table 1 – Letter symbols (quantity symbols / unit symbols) 8

55 Table 2 – Example of measurement report 16

56

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LASER DISPLAYS –

Part 5-8: Measurement of Scanning Characteristics for Raster-Scanning Laser Display

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62908-5-8 has been prepared by IEC technical committee TC110: Electronic displays. It is an International Standard.

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

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**.

106 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance
107 with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at
108 www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in
109 greater detail at www.iec.ch/publications.

110 The committee has decided that the contents of this document will remain unchanged until the stability
111 date indicated on the IEC website under webstore.iec.ch in the data related to the specific document.
112 At this date, the document will be

- 113 • reconfirmed,
- 114 • withdrawn, or
- 115 • revised.

116