

AS/NZS 4356.3:1996
IEC 1262-3:1994

Australian/New Zealand Standard[®]

**Medical electrical equipment—
Characteristics of electro-optical
X-ray image intensifiers**

**Part 3: Determination of the
luminance distribution and
luminance non-uniformity**

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee HT/23, Medical Diagnostic Imaging Equipment. It was approved on behalf of the Council of Standards Australia on 14 September 1995 and on behalf of the Council of Standards New Zealand on 11 September 1995. It was published on 5 March 1996.

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Australasian College of Physical Scientists and Engineers in Medicine
 Australian Academy of Dento-Maxillo-Facial Radiologists
 Australian and New Zealand Society of Nuclear Medicine
 Australian Chamber of Commerce and Industry
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PUBLISHED JOINTLY BY:

STANDARDS AUSTRALIA
1 The Crescent,
Homebush NSW 2140 Australia

STANDARDS NEW ZEALAND
Level 10, Standards House,
155 The Terrace,
Wellington 6001 New Zealand

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee HT/23 on Medical Diagnostic Imaging Equipment, as a Joint Standard.

It is identical with and has been reproduced from IEC 1262-3:1994, *Medical electrical equipment—Characteristics of electro-optical X-ray image intensifiers, Part 3: Determination of the luminance distribution and luminance non-uniformity*.

Under arrangements made between Standards Australia/Standards New Zealand and the IEC, as well as certain other Standards organizations, users of this Standard are advised that the number of this Standard is not reproduced on each page; its identity is shown only on the cover.

For the purpose of this Standard, the IEC text should be modified as follows:

- (a) *Terminology* The words 'this Australian/New Zealand Standard' should replace the words 'this International Standard' wherever they appear.
- (b) *Decimal marker* Substitute a full point for a comma where it appears as a decimal marker.
- (c) *References* The references to international Standards should be replaced by references to the following Australian or Joint Australian/New Zealand Standards:

*Reference to International Standard
or other publication*

Australian/New Zealand Standard

IEC

AS/NZS

788 Medical radiology—Terminology

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The Australian/New Zealand committee has contacted the IEC committee responsible for the publication of this document, IEC TC/62B, as it was felt that the requirements of clause 4.1 could not be applied to some makes of equipment. The IEC committee has confirmed that such a problem exists and the resultant information is included as Appendix YY. A marginal bar has been appended to the text to indicate where the comment applies.

The term 'informative' has been used in this Standard to define the application of the Annex to which it applies. An 'informative' Annex is for information and guidance only.

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AUSTRALIAN/NEW ZEALAND STANDARD

MEDICAL ELECTRICAL EQUIPMENT – CHARACTERISTICS OF ELECTRO-OPTICAL X-RAY IMAGE INTENSIFIERS –

Part 3: Determination of the luminance distribution and luminance non-uniformity

1 Scope

This International Standard applies to ELECTRO-OPTICAL X-RAY IMAGE INTENSIFIERS for medical use, as components of diagnostic X-RAY EQUIPMENT.

This International Standard describes a method of determining the LUMINANCE DISTRIBUTION and LUMINANCE NON-UNIFORMITY of X-RAY IMAGE INTENSIFIERS related to conditions of uniform X-IRRADIATION in the ENTRANCE PLANE.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 788: 1984, *Medical Radiology - Terminology*

3 Terminology

3.1 Definitions

For the purposes of this International Standard, the following definitions apply together with those given in IEC 788. The definitions given below take preference over those given in IEC 788 when differences occur.

3.1.1 *XRII*: An abbreviation for ELECTRO-OPTICAL X-RAY IMAGE INTENSIFIER.

3.1.2 *ENTRANCE PLANE*: The plane perpendicular to the axis of symmetry of the XRII and grazing the part of the XRII, including its housing, that protrudes most in the direction of the RADIATION SOURCE.

3.1.3 *ENTRANCE FIELD*: For an XRII, the area in the ENTRANCE PLANE that can be used for the transmission of an X-RAY PATTERN under specific conditions.

3.1.4 *ENTRANCE FIELD SIZE*: For an XRII, the diameter of the field in the ENTRANCE PLANE that can be used at a specified SED for the transmission of an X-RAY PATTERN. For an XRII with more than one magnification mode, the ENTRANCE FIELD SIZE for each of the magnification modes shall correspond to the same diameter of the XRII OUTPUT IMAGE occurring with the largest ENTRANCE FIELD SIZE.