
**Optics and photonics — Medical
endoscopes and endotherapy devices —**

**Part 5:
Determination of optical resolution of
rigid endoscopes with optics**

*Optique et photonique — Endoscopes médicaux et dispositifs
d'endothérapie —*

*Partie 5: Détermination de la résolution optique des endoscopes
optiques rigides*



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Foreword

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ISO 8600-5 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 5, *Microscopes and endoscopes*.

ISO 8600 consists of the following parts, under the general title *Optics and photonics — Medical endoscopes and endotherapy devices*:

- *Part 1: General requirements*
- *Part 2: Particular requirements for rigid bronchoscopes*
- *Part 3: Determination of field of view and direction of view of endoscopes with optics*
- *Part 4: Determination of maximum width of insertion portion*
- *Part 5: Determination of optical resolution of rigid endoscopes with optics*
- *Part 6: Vocabulary*

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Optics and photonics — Medical endoscopes and endotherapy devices —

Part 5: Determination of optical resolution of rigid endoscopes with optics

1 Scope

This part of ISO 8600 specifies a test method for determining the optical resolution of endoscopes for type testing. It is applicable to rigid endoscopes with optics designed for use in the practice of medicine for type testing. It is not applicable to endoscopes having a fibre-optic or opto-electronic imaging system.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

working distance

d

distance between object and distal end of endoscope

NOTE For the purposes of the test specified in this part of ISO 8600, the “object” will be the resolution target specified in 3.1.1.

2.2

optical resolution

$r(d)$

maximum number of line pairs per millimetre which can be just perceived at a given working distance d of the endoscope

2.3

angular resolution

α

smallest angle whose vertex is at the distal window surface of the endoscope at which a line pair at a given working distance d can just be identified; it is calculated as follows:

$$\alpha = \arctan \frac{1}{d \times r(d)}$$

2.4

maximum image height

2.4.1

maximum image height

(circular field of view) radius of the field circle