

Visual acuity test types —

Part 1: Test charts for clinical determination of distance visual acuity — Specification

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee CH/78/6, Ophthalmic Instruments, upon which the following bodies were represented:

- Association of British Dispensing Opticians
- BMA
- College of Optometrists
- DoH — Medical Devices Agency
- Federation of Ophthalmic and Dispensing Opticians
- Federation of Manufacturing Opticians
- Flat Glass Manufacturers' Association
- Institute of Mechanical Engineers
- Medical sterile Products Association
- Optic (UK)
- Royal College of Ophthalmologists

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Foreword

This part of BS 4274, which has been prepared for clinical use by Technical Committee CH/78, supersedes BS 4274-1:1968, which is withdrawn.

The other parts of BS 4274, which are for non-clinical purposes, are:

- Part 2: *Specification for Landolt ring optotype for non-clinical purposes* (BS EN ISO 8596);
- Part 3: *Method for correlating optotypes used for non-clinical purposes* (BS EN ISO 8597).

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 9 and a back cover.

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Introduction

This British Standard utilizes the logMAR notation (logarithm of the minimum angle of resolution) as opposed to the traditional Snellen notation. Use of the logMAR notation facilitates analysis of visual acuity scores, and changes in such scores, more effectively than other notations because equal linear steps on the logMAR scale represent equal ratios in the standard size sequence. This minimum standard, which in itself does not represent a full logMAR chart, is intended as a stepped approach to the goal of the introduction of a full logMAR chart. This British Standard takes into account the need for these charts to fit into existing hardware/test cabinets. The physical size of a full logMAR chart would exclude this possibility. Nevertheless, although a full chart exceeds the minimum requirements of this British Standard, this British Standard does not preclude the use of a full chart.

1 Scope

This Part of BS 4274 specifies minimum requirements for test charts and test types employing upright sans-serif capital letters for use in the clinical determination of distance visual acuity.

NOTE Unless otherwise indicated by the context, the word “letter” includes, in any orientation, the single letter C (Landolt or broken ring) and the single letter E (illiterate E).

This Part of BS 4274 is primarily intended for clinical measurements but may be used for other purposes such as screening, certification and licensing. It is not applicable to chart projectors, charts or types designed for specialized use (e.g. crowding symbols, lower case letters, isolated letters, low vision evaluation and contrast sensitivity testing).

NOTE This British Standard makes no reference to surrounding luminance because this relates to the conditions in the consulting room or clinic itself and this is outside the Scope of this British Standard. Nevertheless, the level of surrounding luminance can seriously affect the visual acuity scores obtained, for example, by producing glare or excessive contrast. Attention, therefore, should be paid to the level of surrounding luminance when installing and utilizing these test charts.

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 applies.

BS EN 60601-1:1990, *Medical electrical equipment — Part 1: General requirements for safety*.

BS ISO 9022-2:1994, *Optics and optical instruments— Environmental test methods — Part 2: Cold, heat, humidity*.

BS ISO 9022-3:1994, *Optics and optical instruments— Environmental test methods —Part 3: Mechanical stress*

3 Terms and definitions

For the purposes of this Part of BS 4274, the following terms and definitions apply.

3.1

Landolt ring

character in the form of a letter C in any one of the orientations described in 4.9

3.2

letter size

distance, measured in metres, at which the height of the letter subtends an angle of five minutes of arc, expressed as the number only

3.3

limb

constituent component of a letter, which may be straight or curved

3.4

line

row of letters