Doc No.: LITD 11 (28613)
Draft IEC 60793-1-44:2023
August 2025

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

मसौदा भारतीय मानक

प्रकाशिक तंतु भाग 1 मापन विधियाँ और परिक्षण प्रक्रियाएँ

अनुभाग 44 कट- ऑफ़ तरंग लम्बाई

(पहला पुनरीक्षण)

Draft Indian Standard

Optical fibres: Part 1 measurement methods and test procedures: Sec 44 cut - Off wavelength

(first Revision)

ICS 33.180.10

LITD 11 (Fibre Optics, Fibers, Cables and Devices Sectional Committee)	**Last date of Comments 28 October 2025**

NATIONAL FOREWORD

(Formal clauses will be added later)

This Draft Indian Standard *(first Revision*) which is identical with IEC 60793-1-44: 2023 'Optical fibres Part 1 measurement methods and test procedures: Sec 44 cut - Off wavelength' issued by the International Electrotechnical Commission (IEC) *will be* adopted by the Bureau of Indian Standards on the recommendation of Fibre Optics, Fibers, Cables and Devices Sectional Committee and approval of the Electronics and Information Technology Division Council.

This standard was originally published in 2013 and was identical with IEC 60793-1-44:2011. The first revision of this standard has been undertaken to align it with the latest version of International Standard IEC 60793-1-44:2023.

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This edition includes the following significant technical changes with respect to the previous edition:

a) used the diameter of the fibre loops to describe deployment;
b) added Annex D related to cut-off curve artifacts;
c) reorganized information and added more figures to clarify concepts.

The text of IEC Standard *may be* approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

The technical committee has reviewed the provisions of following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

International standards	Corresponding Indian standards	Degree of Equivalence
IEC 60793-1-1, Optical fibres – Part 1-1: Measurement methods and test procedures – General and guidance.	IS/IEC 60793-1-1:2022, Optical fibres Part 1 Measurement Methods and Test Procedures Section 1 General and Guidance (Second Revision)	Identical with IEC 60793-1-1:2022.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:2022 'Rules for rounding off numerical values *(Second Revision)*'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

SCOPE OF IEC 60793-1-44:2023

This part of IEC 60793 establishes uniform requirements for measuring the cut-off wavelength of single-mode optical fibre, thereby assisting in the inspection of fibres and cables for commercial purposes. This document gives methods for measuring the cut-off wavelength for uncabled or cabled single mode telecom fibre. These procedures apply to all category B and C fibre types. There are three methods of deployment for measuring the cut-off wavelength:

• method A: cable cut-off using uncabled fibre 22 m long sample, λ cc;
• method B: cable cut-off using cabled fibre 22 m long sample, λ cc;
• method C: fibre cut-off using uncabled fibre 2 m long sample, λ c.

All methods require a reference measurement. There are two reference-scan techniques, either or both of which can be used with all methods:

• bend-reference technique;
• multimode-reference technique using category A1(OM1-OM5) multimode fibre.

(for example, national) standards.

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Note: - The Technical content of this document has not been enclosed as these are identical with the corresponding IEC Standard. For details, please refer to IEC 60793-1-44:2023 or kindly contact.

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