

ISO 13696:2022-06 (E)

Optics and photonics - Test method for total scattering by optical components

| Contents | Page |
|---|-------------|
| Foreword | iv |
| Introduction | vi |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms, definitions and symbols | 1 |
| 3.1 Terms and definitions..... | 1 |
| 3.2 Symbols and units of measure..... | 3 |
| 4 Test method | 3 |
| 4.1 Principle..... | 3 |
| 4.2 Measurement arrangement and test equipment..... | 3 |
| 4.2.1 General..... | 3 |
| 4.2.2 Radiation source..... | 4 |
| 4.2.3 Beam preparation system..... | 4 |
| 4.2.4 Integrating sphere..... | 5 |
| 4.2.5 Detection system..... | 6 |
| 4.2.6 Specimen holder..... | 6 |
| 4.3 Arrangement with high sensitivity..... | 6 |
| 4.4 Preparation of specimens..... | 7 |
| 5 Procedure | 7 |
| 5.1 General..... | 7 |
| 5.2 Alignment procedure..... | 8 |
| 5.2.1 General..... | 8 |
| 5.2.2 Alignment of the beam..... | 8 |
| 5.2.3 Alignment of the specimen..... | 8 |
| 5.3 Measurement procedure..... | 8 |
| 6 Evaluation | 9 |
| 6.1 Determination of the total scattering value..... | 9 |
| 6.2 Error budget..... | 12 |
| 7 Test report | 12 |
| Annex A (informative) Set-up with a Coblentz hemisphere | 14 |
| Annex B (informative) Example of test report | 17 |
| Annex C (informative) Statistical evaluation example | 21 |
| Annex D (informative) Example for selection of spacing | 26 |
| Annex E (informative) Alternative method for calibrating total scatter measurements using a calcium fluoride diffuser disk | 29 |
| Bibliography | 31 |