ISO/TS 22247:2022-04 (E)

Optics and photonics - Effective numerical aperture of laser lenses - Definition and verification procedure

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Coordinate systems 4

5 Short description of the verification procedure 4

6 Permitted beam sources 5

7 Measurement of the beam propagation ratio of the initial probe laser beam (before collimation) 5

8 Measurement of the divergence angle of the initial laser beam (before collimation) 5

9 Verification of the effective numerical aperture of rotational symmetric laser lenses based on the beam propagation ratio 6

10 Verification of the effective numerical aperture of rotational symmetric laser lenses based on the residual divergence 9

11 Verification of the effective numerical aperture of cylindrical laser lenses 11

12 Long cylindrical laser lenses 13
12.1 General 13
12.2 Sequential procedure 13
12.3 Parallel procedure 14

13 Test report 16
13.1 General information 16
13.2 Test lens 16
13.3 Probe laser 16
13.4 Measurement 16
13.5 Measurement results 16
13.5.1 "Beam propagation ratio" method 16
13.5.2 "Residual divergence" method 17
13.6 Lower limit for effective numerical aperture 17

Bibliography 18