

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