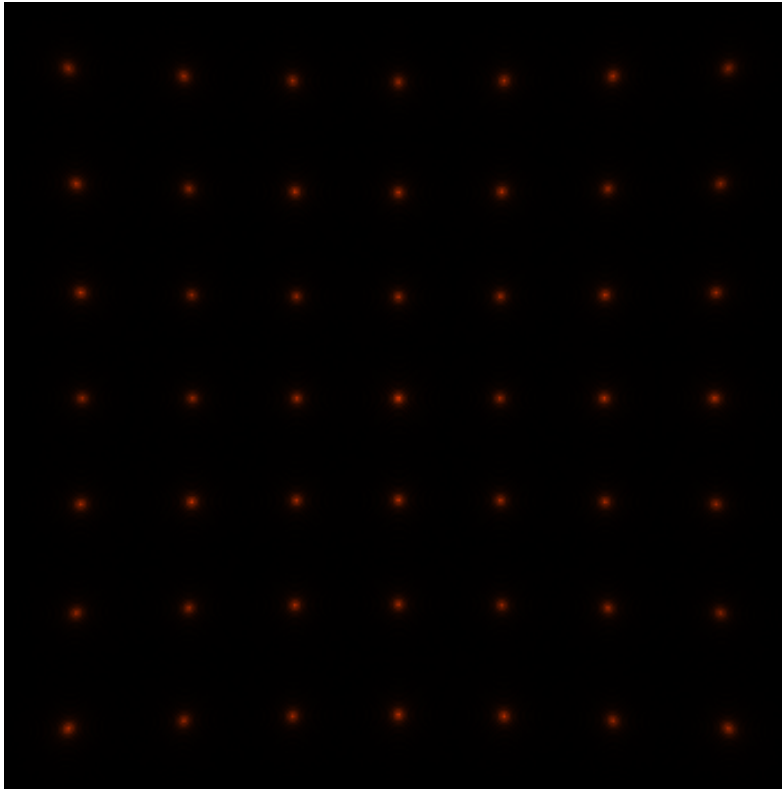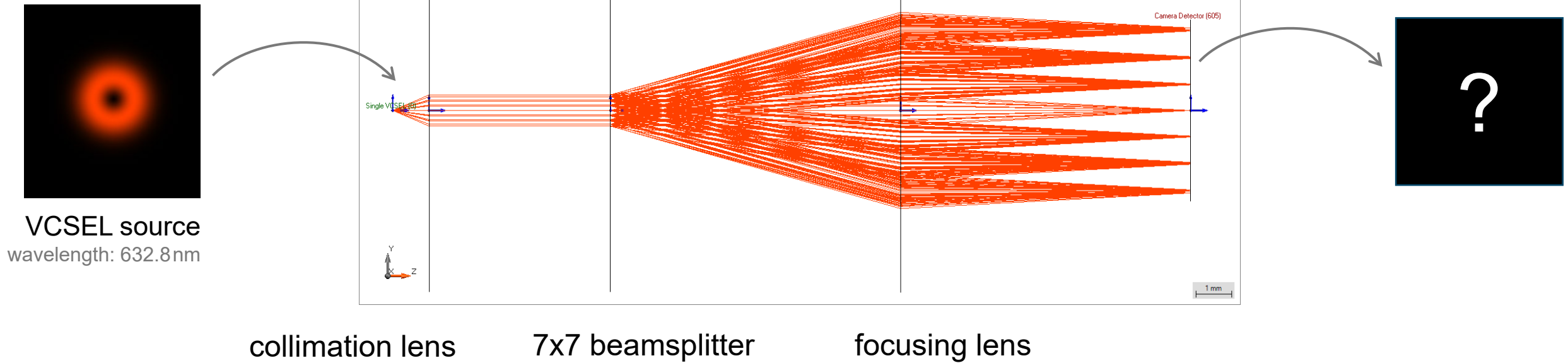# 7x7 Beam Splitter in 2f Setup with a VCSEL Source
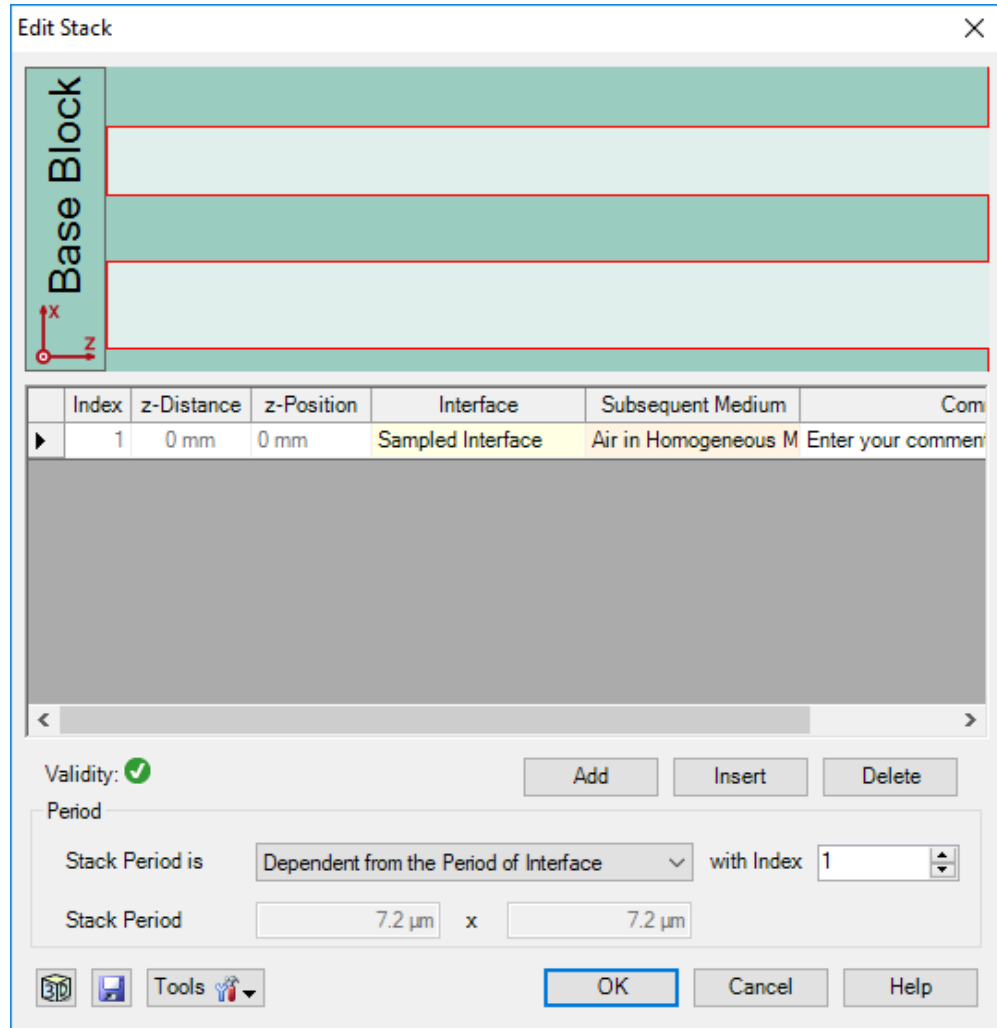
Abstract

Diffractive elements like beam splitters can be modeled in complex optical systems. Efficiencies are evaluated rigorously, e.g. by Fourier Modal method (FMM) or RCWA, respectively. Physical optics enables the access to any kind of light information in the desired image plane.
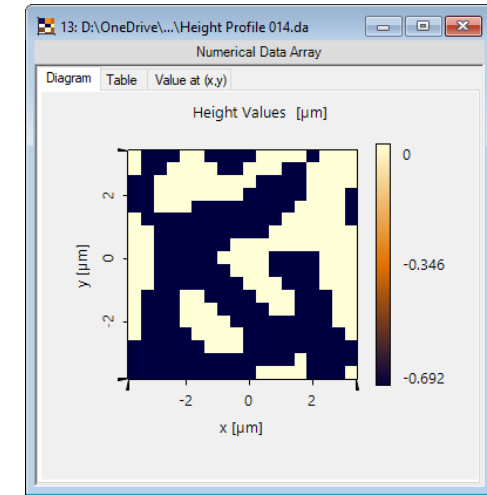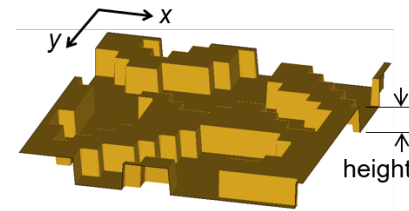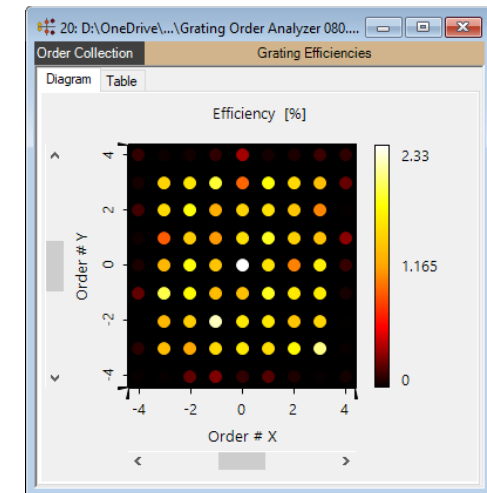
Task: Beam Splitter in a Complex Optical System

VCSEL source
wavelength: 632.8nm

collimation lens   7x7 beamsplitter   focusing lens

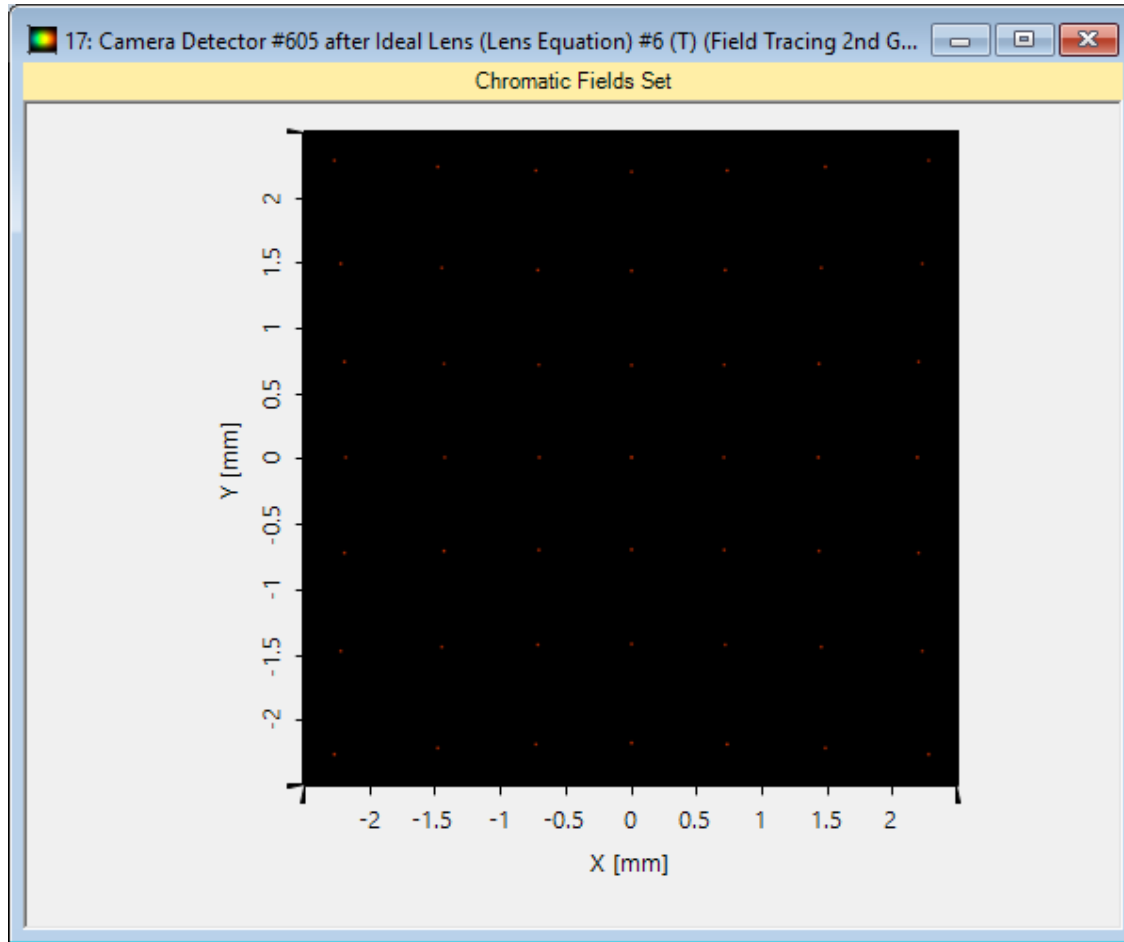# Parameters: 7x7 Beam Splitter

height profile:

rigorously
calculated efficiencies:
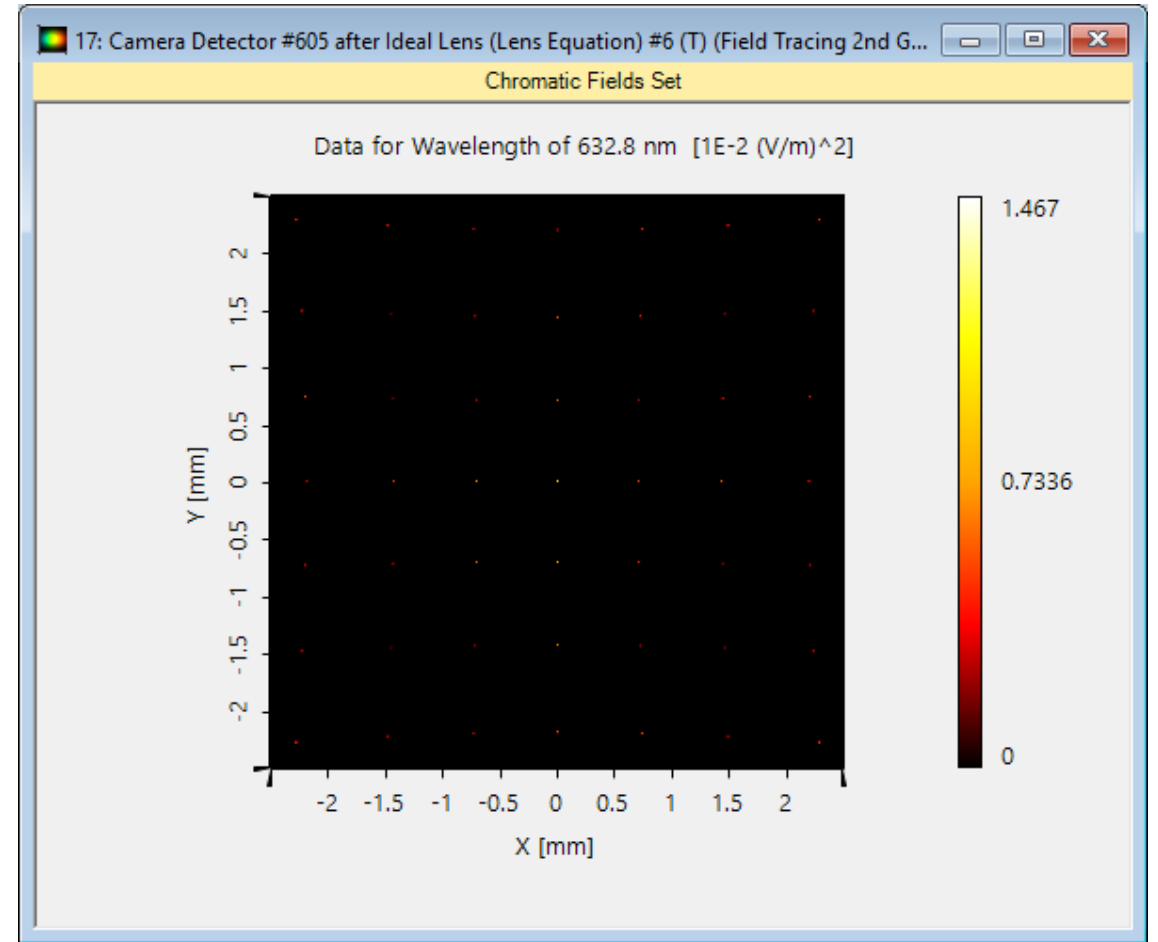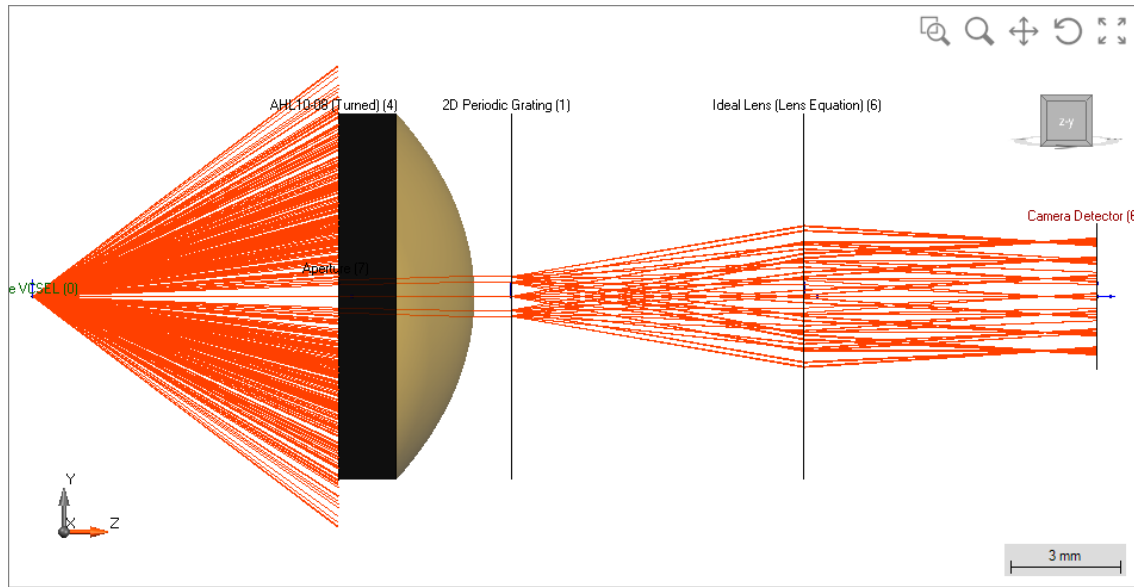
Results

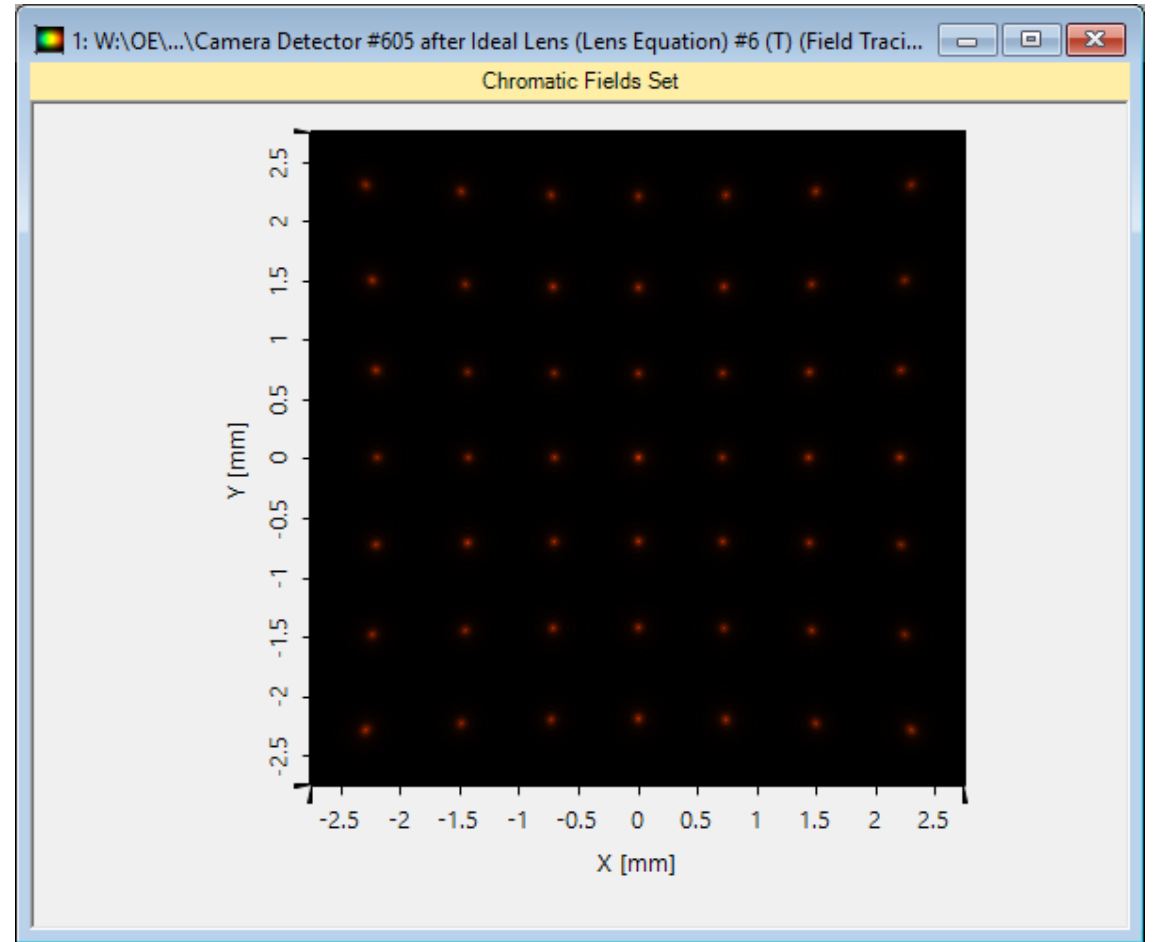real color perception: false color:

Now: Real Collimation Lens (Aspherical Lens)

Result: (including aberrations):

Summary

- Diffractive elements like beam splitters can be modeled in complex optical systems

- Efficiencies are evaluated rigorously, e.g. by Fourier Modal method (FMM), RCWA, respectively

- Physical optics and ray propagation techniques available for detailed investigations

- Physical optics enables the access to any kind of light information in the desired image plane

Document Information

title	7x7 Beam Splitter in 2f Setup with a VCSEL Source
document code	Demo.0002
version	1.0
VL version used for simulations	VirtualLab Fusion Summer Release 2019 (7.6.1.18)
category	Demo
further reading	- Design and Rigorous Analysis of Non-Paraxial Diffractive Beam Splitter - Design of a 3x3 Beam Splitter