**Supplementary Figure 5:** Diffraction around a knife edge. a) Experimental setup: Light is focused with an incoherent light source (M470L3 Thorlabs, $\lambda_0 = 470\, \text{nm}$) such that an almost plane wave ($NA = 0.001$) illuminated the knife edge. The diffracting light was imaged below at different depths from the edge. b) The simulation was done on a computational cell of size $(1024 \times 256 \times 1830)$ with voxel size $\Delta x = 0.29\, \mu\text{m}$. We simulated the diffraction in the case of a single plane wave (coherent, top) and the incoherent superposition of 100 incident plane waves of uniformly sampled wavelengths $\lambda \in [460\, \text{nm}, 480\, \text{nm}]$, corresponding to the measured spectral width of $\pm 10\, \text{nm}$ of the light source (incoherent, bottom). c) The experimentally acquired intensity. Scale bar is $12\, \mu\text{m}$ in both axial and lateral direction (depicted with axial/lateral aspect ratio of 8, due to space constraints). d) Intensity plot at a given axial position (dashed line) for simulation, experiment and the intensity calculated via Fresnel-integral (Theory).