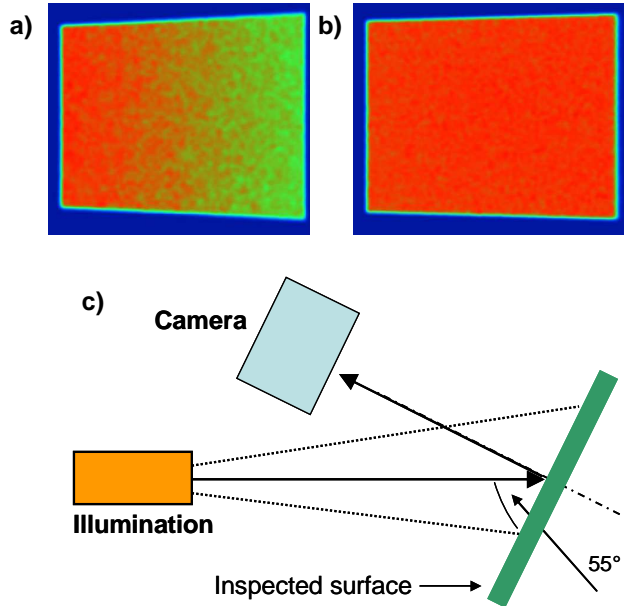


**Example: Tilted illumination for inspection tools**

A new kind of asymmetric homogenizer consists of an array of micro-lenses with different profiles. Free-form surfaces of every individual micro-lens enable a uniform illumination at the tilted surface. Compared to a conventional two-sided illumination, here only one illumination device is needed. This reduces system cost and complexity up to a factor of two.



**Figure:** Intensity distribution at the surface non orthogonal to the illumination by using a) symmetric and b) asymmetric micro-lens arrays, 300 x 340 mm<sup>2</sup> field, angle 55°, working distance 1.5 m, inhomogeneity < 5% peak-valley, c) Schematic principle