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(54) **Title:** ASYMMETRIC METROLOGY TOOL FOR REFLECTIVE WAVEGUIDE

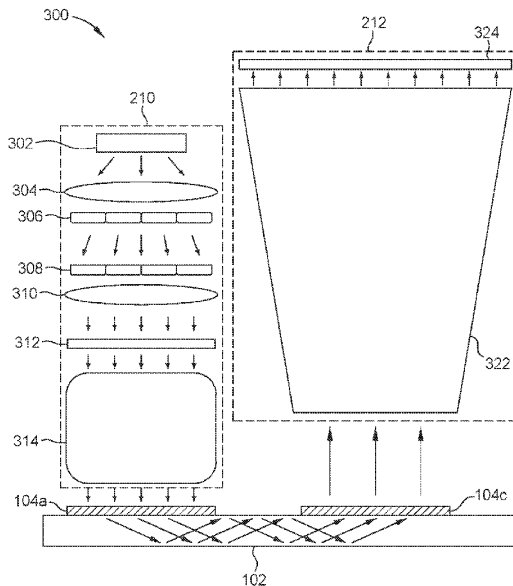


FIG. 3

(57) **Abstract:** Embodiments described herein provide an asym-
metric optical metrology system for evaluating and inspecting the
performance of optical devices, such as augmented reality (AR)
waveguide combiners. The system utilizes an asymmetric optical
configuration and fly-eye illumination to enhance the detection
limit of image sharpness and the accuracy of luminance uniformity.
By employing different lenses with various focal lengths, the sys-
tem increases the sampling rate in the angular space, addressing the
challenges of form factor limitations and pixel density inherent in
conventional metrology tools. Embodiments described herein offer
improved contrast and sharp image details, as well as a compact
design, making it suitable for the development, optimization, and
quality control of optical devices, such as AR waveguide combin-
ers.

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