

LIGHTING APPARATUS, EXPOSURE APPARATUS AND MICRO DEVICE MANUFACTURING METHOD

ABSTRACT

5 An illumination apparatus is arranged to illuminate a surface to be
illuminated M with illumination light emitted from a light source 5. The
illumination apparatus includes an incidence-side reflection-type fly-eye
optical system 12 having multiple reflection-type partial optical systems
arranged in rows, an emission-side reflection-type fly-eye optical
10 system 14 having multiple reflection-type partial optical systems
arranged in rows such that the multiple reflection-type partial optical
systems in the emission-side reflection-type fly-eye optical system
respectively correspond to the multiple reflection-type partial optical
systems in the incidence-side reflection-type fly-eye optical system 12,
15 and a condensing optical system including two reflecting mirrors 18, 20
that guide illumination light, reflected by the emission-side reflection-
type fly-eye optical system 14, to the surface to be illuminated M. At
least one of the two reflecting mirrors has a center of curvature that is
optically eccentric with respect to a normal to the surface to be
20 illuminated M at the center of the illuminated region.

Figure 1