

ABSTRACT

BACKLIGHTING DEVICE FOR AN INFORMATION DISPLAY ELEMENT
OF A PORTABLE OBJECT

The backlighting device (1) enables an information display element of a portable object such as a wristwatch to be illuminated from the back. This device comprises a light guide plate (7) having a front face and a rear face, a light reflector (6) located on the rear face of the light guide plate, a light diffuser film (9) and a rectifier film (11) located on the front face of the light guide plate and a source of visible light (2). This light source, such as a light emitting diode (2), feeds light beams to the edge of the light guide plate, which spread in the light guide plate between its two faces. A layer, such as a diffuser film, has a zone (10') with opacity decreasing from a limit (25) located close to the boundary area of the light guide plate, which receives the light beams of the light source, in order to attenuate the intensity of the light crossing said zone. This zone with decreasing opacity is, for example, a shading white or silver dye disposed on the diffuser film, or a semi-transparent metal covering of variable thickness, or a metal covering pierced by a plurality of small holes of varying diameter and spacing, or a metal covering formed from a plurality of metal dots of varying diameter and spacing so that light beams are partially reflected and returned into the light guide plate to reduce the losses of useful photons.

Figure 1