The invention is associated with an illuminator containing light sources in the form of a LED diode matrix and an optical system. The LED diode matrix (3) has a central hole with the lens (4) situated there, and in front of the LED diode matrix (3) there is situated the focusing lens matrix (2) which makes the optic radiation beams parallel. The focusing lens matrix (2) has a central hole, no smaller than the diameter of the lens (4). In front of the focusing lens matrix (2), there is situated a concave mirror (1) at a distance that allows to focus all the parallel light beams leaving the focusing lens matrix (2), by reflecting from the concave mirror (1) on the lens (4). Directly behind the lens (4) there is situated the fiber optic cable (5). The LED diode matrix (3) and the focusing lens matrix (2) and the concave mirror (1), are permanently attached mechanically in the housing (8).
— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
— of inventorship (Rule 4.17(iv))

Published:
— with international search report (Art. 21(3))

Date of publication of the amended claims: 28 July 2016
THE CLAIMS (amended)

1. Illuminator with the light source in the form of a LED diode matrix and an optic system, wherein the LED diode matrix (3) has a central hole with a lens (4), and in front of the LED diode matrix (3) there is situated a focusing lens matrix (2), behind which the optical radiation beam is parallel, possessing a central hole not smaller than the lens (4) diameter, and in front of the focusing lens matrix (2) there is situated a concave mirror (1) at the distance that allows to concentrate all the parallel light beams leaving the focusing lens matrix (2) by reflecting from the concave mirror (1) on the lens (4) and directly behind the lens (4) there is situated a fiber optic mirror (5) attached mechanically, while the LED diode matrix (3), focusing lens matrix (2) and concave mirror (1) are attached permanently and mechanically in the housing (8), characterized in that the LED diode matrix (3) contains the diodes that allow to emit the radiation of the wavelength of: 400 nm - 410 nm and/or the LED diode matrix (3) contains the diodes that allow to emit the radiation of the wavelength of: 630 nm - 640 nm and/or the LED diode matrix (3) contains the diodes that allow to emit the radiation of the wavelength of: 660 nm - 675 nm.

2. The illuminator according to claim 1, characterized in that the number of lens in the focusing lens matrix (2) is equal to the number of the LED diodes in the LED diode matrix (3).

3. The illuminator according to claim 1 or 2, characterized in that the lens from the focusing lens matrix (2) are situated in the longitudinal axis of each LED diode in the LED diode matrix (3).

4. The illuminator according to any of the claims 1-3, characterized in that the fiber optic cable (5) is a liquid fiber optic cable.