

US 20240237498A9

(19) United States

(12) Patent Application Publication LEE et al.

(10) Pub. No.: US 2024/0237498 A9

(48) **Pub. Date: Jul. 11, 2024 CORRECTED PUBLICATION**

(54) LIGHT-EMITTING DISPLAY DEVICE

(71) Applicant: LG Display Co., Ltd., Seoul (KR)

(72) Inventors: **Booheung LEE**, Gimpo-si (KR); **KiSeob SHIN**, Goyang-si (KR)

(21) Appl. No.: 18/458,874

(22) Filed: Aug. 30, 2023

Prior Publication Data

(15) Correction of US 2024/0138240 A1 Apr. 25, 2024See (22) Filed.See (30) Foreign Application Priority Data.

(65) US 2024/0138240 A1 Apr. 25, 2024

(30) Foreign Application Priority Data

Oct. 19, 2022 (KR) 10-2022-0134901

Publication Classification

(51) **Int. Cl.**

H10K 59/80 (2006.01) G09G 3/3233 (2006.01) H10K 59/131 (2006.01) (52) U.S. Cl.

CPC *H10K 59/879* (2023.02); *G09G 3/3233* (2013.01); *H10K 59/131* (2023.02); *G09G 2300/0426* (2013.01); *G09G 2300/0819* (2013.01); *G09G 2300/0842* (2013.01); *G09G 2300/0861* (2013.01); *G09G 2310/08* (2013.01); *G09G 2320/068* (2013.01); *G09G 2358/00* (2013.01); *G09G 2380/10* (2013.01)

(57) ABSTRACT

A display device includes a display panel in which a plurality of active areas including a first active area and a second active area is defined. The device includes a plurality of sub-pixels disposed in each of the plurality of active areas, and a gate driver disposed on the plurality of active areas. Each of the plurality of sub-pixels includes a first light-emitting diode (LED) that emits light in response to a driving current and a first lens that refracts the light emitted from the first LED and a second LED that emits light in response to the driving current and a second lens that refracts the light emitted from the second LED and has a different shape from the first lens. Accordingly, the device can operate in any one of a private mode and a share mode by using the first lens and the second lens.



