## **Supporting Information**

## Design of ceramic phosphor plate with functional materials for applications in high power LEDs

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Fig. S1 The XRD patterns of Lu<sub>3</sub>Al<sub>5</sub>O<sub>12</sub>: Ce<sup>3+</sup> phosphor

Sample	Intensity (@200 <sup>°</sup> C)	Δx, Δy (29 <sup>°</sup> C~200 <sup>°</sup> C)	Δλ (29 <sup>°</sup> C~200 <sup>°</sup> C)	Intensity (@1000 h)
LAP-L40 Powder	85.7 %	$\Delta x = 0.016$ $\Delta y = -0.009$	2 nm	92.1 %
LAP-L40 Ceramic	95.4 %	Δx = 0.012 Δy = -0.008	2 nm	95.1 %
LAP-L40+MgO Ceramic	97.3 %	Δx = 0.01 Δy = -0.004	1 nm	96.6 %

Table S1. The information of the characteristics in  $Lu_3Al_5O_{12}$ : Ce<sup>3+</sup> ceramic phosphor plate