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1 Gallium nitride transistors enable the compact design of this 2680 lumen retrofit LED lamp (exploded diagram for purpose of illustration).

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2 Full ceramic LED module for lighting applications.

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ENERGY-EFFICIENT LIGHTING BASED ON GALLIUMNITRIDE

Scientists at Fraunhofer IAF developed an LED light which provides a light output power twice as high as commercial models of same size. The energy-efficiency of an LED light is decisively influenced by the LED driver unit which converts the AC voltage of the power grid into DC with a reduced voltage. The semiconductor gallium nitride, which is already used for the LED chips of the lamp, is also utilized in its driver electronics and exhibits several advantages compared to commonly used silicon.

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Features

- High switching frequencies
- Low switching losses
- Volume reduction of coils and condensers
- Operation at high temperatures possible

Data retrofit LED lamp

- Design E27 lamp
- Driver efficiency: 86 % with galvanic isolation
- Power consumption: 22,4 W
- Luminous flux: 2680 lm
- Overall efficiency: 120 lm/W