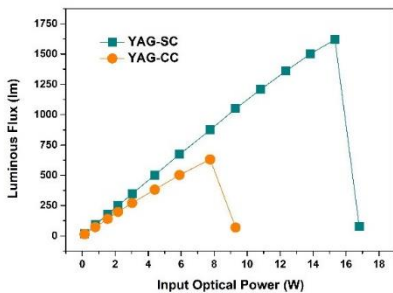
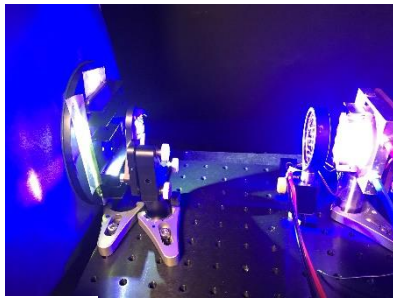
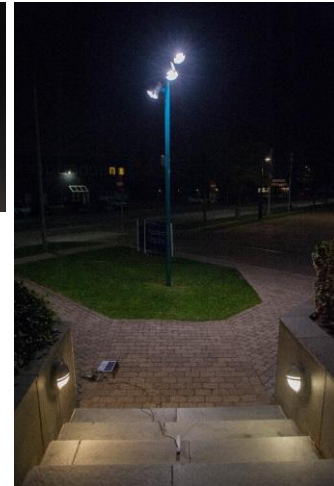


Laser lighting

- Lighting for specialty applications



Test and measurements on components for laser lighting.



Laser lighting luminaires in industrial area in Albertslund.

Value Proposition/USP

We develop laser lighting for specific applications. Laser lighting has the unique feature that high flux light can be emitted from a small emitting area with the efficiency increasing with higher luminous output. This is contrary to other lighting technologies, where the efficiency drops with increasing output light. The light properties can be tailored to the application by optimizing the properties of the phosphor material.

Business Opportunity/Objective/Commercial Perspectives

Laser lighting is part of the future lighting technologies. Due to the high possible luminance, laser lighting is ideal for applications requiring a narrow light cone or coupling to optical fibers. Furthermore, laser lighting provides the possibility of having the white light generated remotely from the laser source providing access to lighting in remote or harsh environments. Laser lighting is currently being implemented in e.g. car headlights and projectors with the application areas rapidly increasing.

Technology Description/Technology Summary

Laser lighting utilizes a similar technology as white LEDs. A phosphor material is used to convert blue laser light into white light. Contrary to LEDs, the nature of lasers enables efficient generation of light even at high luminous flux. The small emission point in laser lighting enables coupling to optical fibers or generation of narrow light cones. The phosphor is placed remotely enabling operation in both transmissive and reflective configurations with different benefits.

Development Phase/Current State

DTU Fotonik is working on laser lighting for specialty and general applications. Currently we have demonstrated the efficiency and light quality of a number of laser-phosphor combinations and have close collaboration with researchers in the field. We have developed different luminaire prototypes and have demonstrated long lifetime outdoor operation of luminaires in an industrial area in Albertslund. Besides the development of the technology we also have state-of-the-art facilities for testing and characterization of the light.

The inventors

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Seeking

- Industrial partners
- Research Collaboration