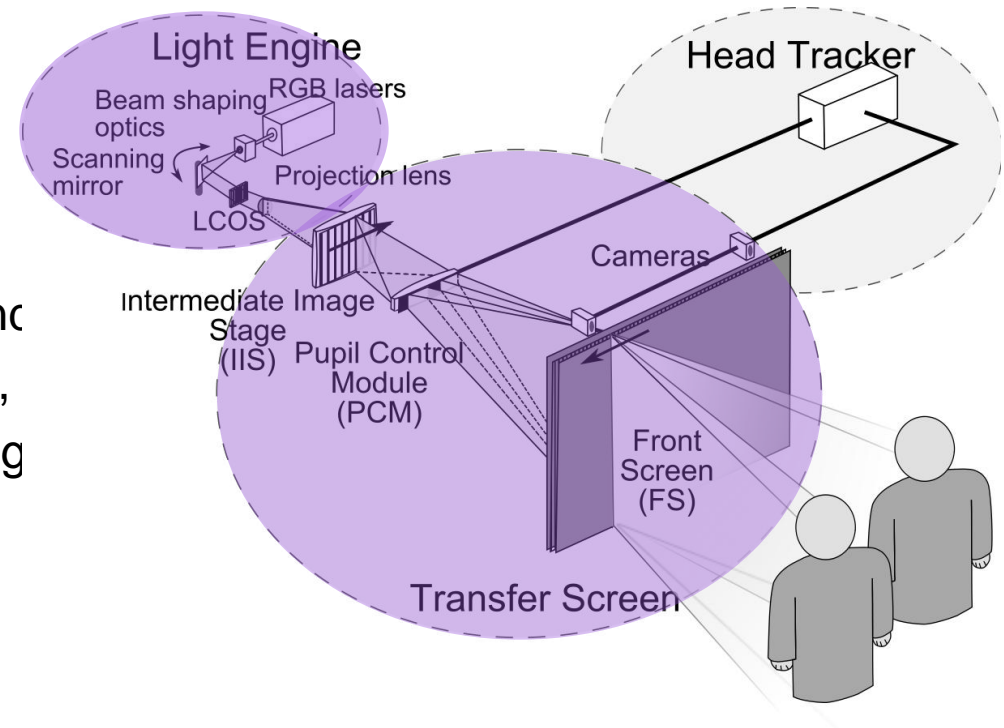


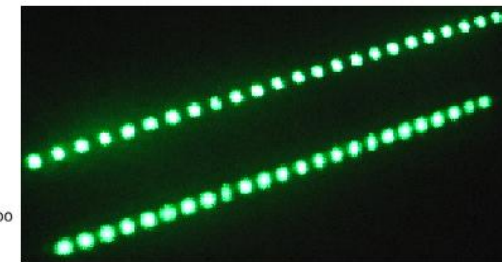
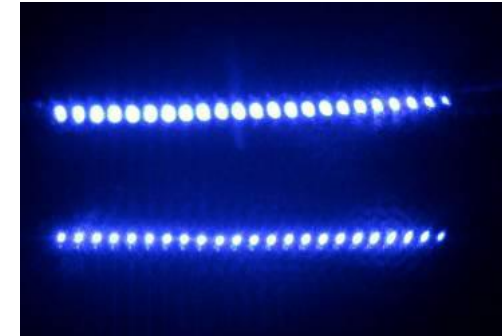
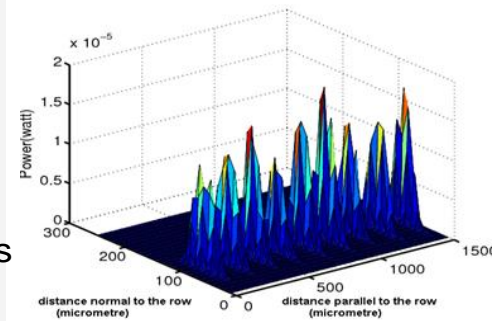
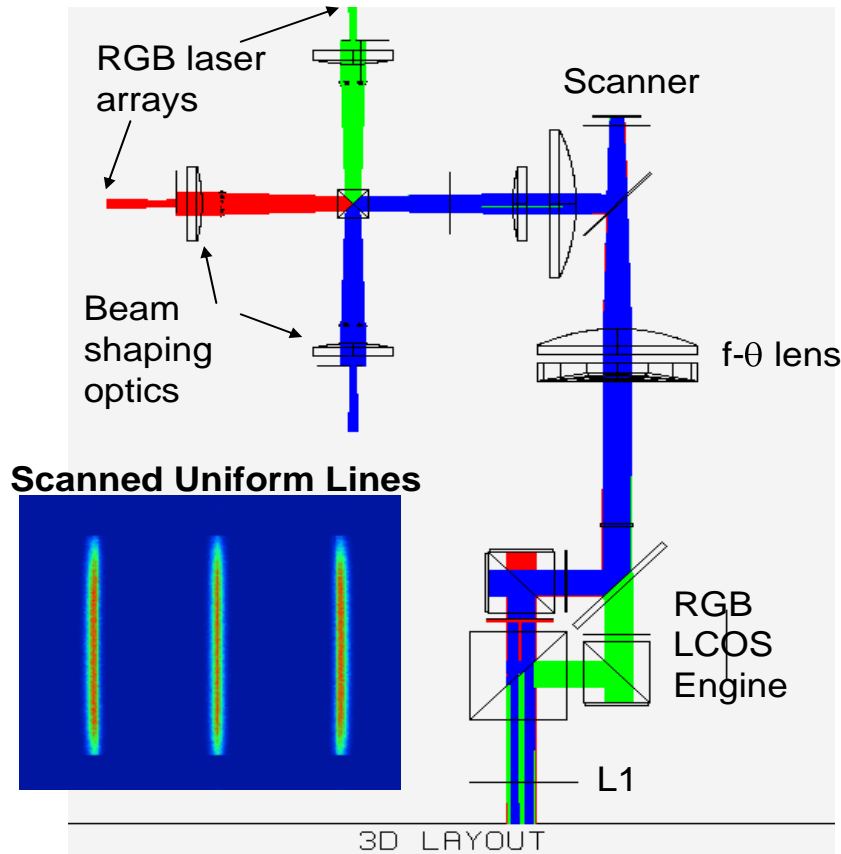
High Efficiency Laser Based Multi User Multi Modal 3D Display (HELIUM3D)

- **Aim** - to develop a laser illuminated three dimensional display for multiple viewers without the need for them to wear special viewing glasses (autostereoscopic).
- **The consortium members –**
 - De Montfort University, UK,
 - UCL, UK
 - Philips Consumer Lifestyle, NL,
 - Barco, BE, University College Lonc
 - Fraunhofer Heinrich-Hertz-Institut,
 - Eindhoven University of Technolog
 - Koç University, TR,
 - Nanjing University, CN



HELIUM3D – UCL Involvement

includes laser scanning and beam forming



HELIUM3D link to C. Kao

- Red, Green and Blue **Lasers** are now being used in displays.
- Charles K. Kao and George Hockham succeeded Antoni E. Karbowiak at Standard Telecommunications in 1964 and redirect the research from thin film **waveguides** to optical fibre **waveguides**
- K.C. Kao and G.A. Hockham paper, “**Dielectric-Fibre Surface Waveguides** for optical frequencies” *Proc. IEEE*, 113, 1151 (1966).
- In their paper they wrote that "A fibre of glassy material in a cladded structure represents a practical optical waveguide worth important potential as a new form of communication medium."
- The HELIUM3D light engine uses 48 **laser** emitters in each of the green and blue lasers (3 Watts each) and 20 laser emitters in the red laser (4 Watts).
- The red, green and blue lasers are combined and focused into either an **optical fibre** or a **waveguide** as part of the light engine.