OLEDs for General Illumination

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Tremendous advances have been made in organic light emitting diode (OLED) technology over the past decade. OLED devices spanning all colors ranging from red to blue and including white have been demonstrated with brightness and lifetime suitable for commercial applications. To date, most of the research effort has focused on developing OLEDs for display applications. However, the OLED performance characteristics have improved to the point where it is now possible to envision developing OLEDs as a low cost solid state light source. Key technical challenges that need to be overcome include increasing the intrinsic device efficiency, improving device lifetime at high brightness, and providing illumination quality white light. In this talk, an overview of the commercial and technical challenges will be given and then recent work aimed at creating illumination quality white light with an OLED will be described.