Light emitting diodes as an alternative ambient illumination source in photolithography environment - DTU Orbit (13/04/2019)

We explored an alternative light emitting diode (LED) - based solution to replace the existing yellow fluorescent light tubes (YFT) used in photolithography rooms. A no-blue LED lamp was designed and a prototype was fabricated. For both solutions, the spectral power distribution (SPD) was measured, the colorimetric values were calculated, and a visual comparison using Gretagmacbeth colorcharts was performed. The visual comparison showed that the LED bulb was better to render colors despite a low color rendering index (CRI). Furthermore, the LED bulb was tested in a photolithography room and there was no exposure to the photoresist even after 168 hours illumination.

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