

Advances in Phosphorescent OLED Technology Provide Additional Power Efficiency Gains for White Lighting

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[Universal Display Corporation](#), a leading developer of [organic light emitting device \(OLED\)](#) technologies for flat panel displays, lighting and other opto-electronic applications, has been awarded a \$100,000 Small Business Innovation Research (SBIR) Phase I contract by the U.S. Department of Energy (DOE). The goal of this new program is to demonstrate **an innovative approach** using Universal Display's TOLED® transparent OLED and PHOLED™ phosphorescent OLED technologies to increase the power efficiency of white OLED lighting.

In a program entitled “Transparent, Highly-Efficient White OLEDs for Lighting Applications,” Universal Display’s work will involve developing and fabricating a white transparent PHOLED light source that is coupled to an external reflector. This approach is expected to yield improvements in optical extraction efficiency over conventional OLED designs. This novel light source may find application in diffuse lighting applications in the commercial, residential and industrial sectors. Based on features that include its thin, lightweight form and transparency, such a light source may also be used in future architectural, automotive, and wearable electronic applications.

As general lighting is responsible for more than 20% of the energy consumption in the U.S., new broadband white-lighting sources such as these are sought to offer significant gains in power efficiency and color quality while having less environmental impact than traditional

incandescent and fluorescent lights. Recent breakthroughs in Universal Display's highly-efficient PHOLED technology have created an enthusiasm for this technology.

“We are very excited to win this contract from the U.S. Department of Energy. The continued support by the DOE indicates their commitment to fund novel approaches to next-generation lighting technologies,” stated Steven V. Abramson, President and Chief Operating Officer of Universal Display Corporation. “Our PHOLED and TOLED technologies hold great potential for the general lighting industry, and we look forward to taking yet another step toward making OLEDs a viable competitor to traditional lighting sources.”

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