Universal Display Announces Fundamental Breakthrough in Blue Phosphorescent OLEDs

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Universal Display Corporation announced a fundamental technical achievement in the development of its blue PHOLED phosphorescent OLED technology: a sky blue PHOLED with over 15,000 hours of operating lifetime. This is the first blue PHOLED which has broken through, by an order of magnitude, the 1,000 hour lifetime barrier – a challenge that some people thought might be insurmountable. The announcement was made today at Universal Display's annual shareholders' meeting, held in Philadelphia, PA.

The Company's proprietary blue PHOLED demonstrates a lifetime that exceeds 15,000 hours at 200 cd/m 2 , and also offers excellent efficiency, a trait for which the Company's PHOLED technology is renowned, with 9.5% external quantum efficiency and 22 cd/A luminous efficiency. With CIE coordinates of (0.16, 0.37) and a 474 nm peak emission wavelength, which is equivalent to a sky blue color, this material system is not yet saturated enough for commercial full-color applications. Earlier this year, Universal Display had disclosed a deep blue PHOLED. The Company is now continuing its research efforts to unify the deep blue color, efficiency and lifetime in one system to meet the needs of the commercial OLED market.

The quest for a long-lived blue phosphorescent OLED has been the subject of years of unshakable commitment and effort by the entire Universal Display research team, including scientists and engineers at

Universal Display, PPG Industries, Princeton University and the University of Southern California. Discovered in the late 1990's by Universal Display's research partners at Princeton University, led by Professor Stephen R. Forrest, and the University of Southern California, led by Professor Mark E. Thompson, Universal Display's proprietary PHOLED technology offers up to four times higher efficiency than conventional OLED technology – a feature that is very important for today's battery-operated cell phones and other portable devices, as well as for tomorrow's large-area TVs.

Working with PPG Industries to develop and manufacture its proprietary PHOLED materials, Universal Display has reported a series of world-record performance achievements for its red and green PHOLED systems over the past few years. Leading electronic display manufacturers have been evaluating the Company's red and green PHOLED technologies for use in commercial OLED products. Now with this blue PHOLED breakthrough, Universal Display is a step closer to an all-phosphorescent system that may provide significant benefits in OLED power efficiency for portable and large-area displays, as well as in other areas of organic electronics such as solid state lighting.

“Universal Display's dedicated team disregarded conventional thinking to achieve an extraordinarily difficult result: the creation of a long-lasting blue phosphorescent OLED,” stated Steven V. Abramson, President and Chief Operating Officer of Universal Display Corporation. “Our people were relentless in their efforts, and after years of hard work and dedication, we made an essential breakthrough necessary to achieve a long-lived blue PHOLED. This is yet another crucial success on the road to developing commercial full-color PHOLED displays .”