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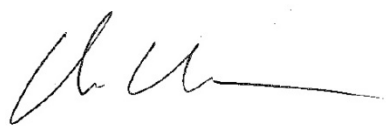
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## CEO's Message

Hello Everyone,

These are exciting times at Intematix. Our mission to bring a complete choice of innovative lighting materials and components for high light quality, efficacy and low cost has hit home as LED lighting takes off. We started the year off strong with the introduction of our XR Red Nitride phosphors, key building blocks for making warm white and high CRI LEDs. These materials are invented-at-Intematix originals and hold great promise for the future of LED lighting performance worldwide. On the lighting systems side, we were able to congratulate Horner Lighting Group for their award of excellence in the U.S. Department of Energy's Next Generation Luminaires competition. For a proof point on how remote phosphor increases quality and efficacy for area lighting while reducing costs we couldn't ask for better. At Lightfair we unveiled two new and timely remote phosphor products that we expect to contribute significantly to our customers' designs through the rest of the year in retrofit lamps and linear commercial lighting applications. I look forward to working together in the days ahead to bringing the next phase of the LED lighting revolution to the marketplace.

Thanks,



Mark Swoboda  
Chief Executive Officer

## In the News – LED Industry Highlights

[Strategies Unlimited publishes annual Worldwide LED Market forecast.](#) Projects double digit annual percentage growth in LED lighting applications. They also mention the entry of 4K TVs and monitors which require more LED backlighting.

[Xicato launches Vibrant Series remote phosphor lighting modules.](#) Targeted at retail and other applications, these employ a special color spectrum to highlight colors and increase store sales.

[Osram Lighting IPOs on Frankfurt Stock exchange](#) becoming the largest pure play lighting company in the world

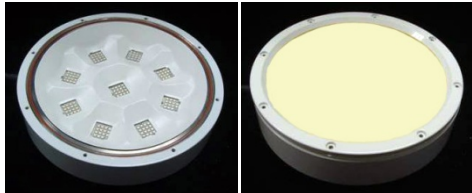
[Audi announces debut of Matrix LED adaptive headlights](#) that dynamically change the shape of their beams in response to driving conditions, improving safety.

### Lighting Applications: New System Architectures Reduce Costs

Area lighting encompasses a wide range of indoor and outdoor applications from 800 lumen downlights to 20,000 lumen high bay luminaires. However, they share similar design priorities: low cost of ownership, uniform light quality and minimized glare. These can be challenges when using point source white LEDs with coated phosphor. Diffusers can help but they introduce additional costs and light loss.

Designing with remote phosphor ensures light quality and consistency both on day one and over time without hot spots or pixilation. And with increases in system efficacies of up to 30% compared to white LED based systems, you can be way ahead on lowering component costs and power costs. Since just a blue LED engine of mixed bins is needed for all color temperatures, supply chain is just easier.

See the Intematix [Document Library](#) for more information.



Remote Phosphor High Bay Luminaire  
Module Reference Design, 110lm/W

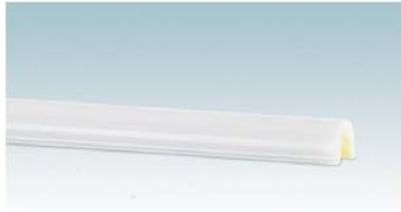


Remote Phosphor Area Lighting at the Rotonda a Mare, Senigallia, Italy

Credit: [NERI](#)

## New Product – A New Way of Thinking About Linear Lighting

The ChromaLit Linear remote phosphor was unveiled at LightFair International earlier this year. It lowers costs and increases efficacy and uniformity for LED linear applications while showcasing a completely new white off-state, sleek design. White LEDs face challenges in linear designs since they are point sources and remain visible or lose efficacy with use of a strong diffuser. Now commercial, industrial and architectural lighting can have:



- Diffuse and uniform luminance at any length with no pixelation
- An ultra slim form factor that opens up new design possibilities for sleek and innovative lighting fixture designs
- Up to 130 lm/W and 2000 lm/ft. requiring fewer components and lower costs

Intematix is currently offering samples of this exciting new product to select customers world-wide. To learn more about ChromaLit Linear, please contact your local sales representative or [ChromaLit@intematix.com](mailto:ChromaLit@intematix.com).

## Frequently Asked Question

### How do I qualify remote phosphor for Energy Star and Design Lights Consortium (DLC) Standards?

As a first option, luminaires and lamps can qualify by testing the lumen maintenance of their system for 6000 hours. Remote phosphor systems tested in this way have shown very high levels of lumen and color maintenance. A second option is to measure the performance of the luminaire and match it with test data for the LEDs inside that already have an LM-80 testing report. Intematix is co-chairing a working group at the IES to publish new testing standards that define an LM-80 equivalent for remote phosphor. It is important that lighting component and system makers engage with the IES to publish and approve this standard. The result will be that system makers can use option 2 with remote phosphor and not be required to put systems on life test for any period, shortening their design cycle. While it is expected for standards to be available in early 2014, in the meantime Intematix has organized certified LM-80 tests for various LED modules in cooperation with blue LED makers.

Please connect with Intematix at [ChromaLit@intematix.com](mailto:ChromaLit@intematix.com) for more information about qualification support for remote phosphor.

## Events

Where to see Intematix:

August 25-29, 2013, [SPIE Optics+Photonics](#), San Diego, CA. Chuck Edwards will be presenting "Novel multi-layer remote phosphor linear optics for solid state lighting."

September 6, [LEDs Magazine Webcast](#), Online. In a webcast co-sponsored by Intematix, Dr. Jianzhong Jiao of Osram Opto Semiconductors will present “Standards help solve technology and market issues and broaden SSL deployment”

September 24-26, 2013, [LED Professional Symposium+Expo \(LpS 2013\)](#) , Bregenz, Austria. David Nauth will be presenting “Advancing Remote Phosphor Technology.”

October 26-29, 2013, [IES Annual Conference](#), Huntington Beach, CA. Julian Carey will be presenting at the poster session “Best Practices for Designing Remote Phosphor LED Lighting Systems for Reliability”

October 27-30, 2013, [Hong Kong International Lighting Fair](#), Hong Kong, China

### **About Intematix**

Intematix develops essential materials to drive the LED lighting revolution. The company’s comprehensive range of phosphors and remote phosphor components can be used to build the foundation for the world’s LED lighting products and systems including general lighting, displays, automotive and many others. A broad product selection of phosphors for LED makers and ChromaLit remote phosphors for lighting system manufacturers accelerate time-to-market, improve light quality and efficacy and reduce costs.