



*Press Release*  
**Goldeneye Inc.**  
April 11, 2005

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## **Invention Enables Use of LEDs in Large Area Projection Displays**

### **For Immediate Release-**

**Carlsbad, CA** –Goldeneye Inc. today announced the issuance to the company of US Patent No. **6,869,206** describing a revolutionary new method of fabrication of high intensity LED-based light sources. The invention enables the creation of devices that match the brightness of expensive ultra high-pressure arc lamps using low-cost current generation LEDs.

“Implementation of the technology behind this and other patents the company currently has pending will have a major impact on the projection display market”, says Bill Livesay, President of Goldeneye. “Besides significantly reducing manufacturing and ownership costs, using LEDs provides for much better color purity than current arc lamp based displays.”

In Goldeneye’s technology, multiple LEDs are combined in a recycling cavity where their individual brightness outputs are enhanced. Normally, the concept of etendue states that multiple light sources cannot be combined to create output that is brighter than any one individual source. But unlike blackbody radiators, LEDs can be fabricated such that they absorb very little of the light they emit. Using Goldeneye’s recycling optical approach these “white body” sources can be additively combined. The result is significant radiance improvement in the output of the source.

A big advantage of using LEDs is a 50-fold increase in service life: 500-2,000 hours for arc lamps versus as much as 50,000 to 60,000 hours for LEDs. And unlike die-based approaches such as resonant cavity LEDs and laser diodes, Goldeneye’s technology is scalable. This, combined with the added benefits of spectral averaging and redundancy, makes Goldeneye’s approach a truly elegant engineering solution.

Products that leverage this proprietary technology can be used in a wide variety of consumer applications including front and rear projection TVs, automotive headlights, and general lighting. Presently, Goldeneye is developing sources capable of generating sufficient brightness to potentially replace conventional arc lamps found in current commercial projectors.

## **About Goldeneye**

Goldeneye Inc. is a technology foundry creating innovations in optics and the solid-state lighting market. The company's principals have generated over 50 issued patents in the fields of micro-optics, displays, semiconductor processing, and electronic packaging. Founded in 2004, Goldeneye Inc. has already accumulated a large and comprehensive IP portfolio, including ten filings related to solid-state lighting. The company is headquartered in Carlsbad, California.

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