



FRAEN Corporation Sheds New Light On Mysterious “Mona Lisa”

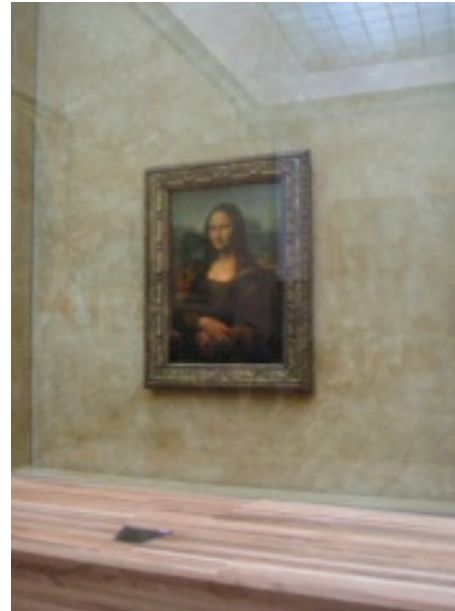
Turns LED Technology Into Fine Art Illuminating Masterpiece In The Louvre

READING, MA (May 2, 2005) – One of the most famous paintings in the world, Leonardo Da Vinci’s “Mona Lisa”(La Gioconda, La Gioconde) in the Louvre Museum, Paris, is now being seen in a new multi-million dollar gallery -- and actually in a whole new light -- as the result of a highly advanced optical system developed by FRAEN Srl, Milan, Italy, the R&D Division of FRAEN Corporation in Reading, Massachusetts.

FRAEN’s unique lighting solution on this rare international collaborative project is a precisely focused beam of intense color-perfect LED (Light Emitting Diode) light that now illuminates the painting with unprecedented clarity. Taking nearly a year to develop, FRAEN’s design for the “Mona Lisa” lighting scheme incorporates high-powered LEDs that replicate daylight without the harmful effects of ultra-violet (UV) light and infrared (IR) radiation.

After a visitor’s attack with a stone in 1956, the 500-year-old “Mona Lisa” has been protected for decades behind glass in a modestly lighted gallery at the Louvre, where the reflections and dimness often frustrated the millions of visitors. Now in its new, environmentally controlled installation, the “Mona Lisa” is displayed behind thick glass and is clearly, yet subtly, illuminated.

Selected because of their extraordinary experience in optical design and development, FRAEN’s designers were asked to achieve a precise color mix, utilizing various colors of Luxeon I and Luxeon III LEDs from Lumileds Lighting LLC, San Jose, CA. To achieve the precise color rendering, FRAEN’s designers used computer simulations to determine the optimum quantity and color of the LEDs, while producing the exact rectangular shape of the area to be lighted.



Priceless “Mona Lisa” at the Louvre in Paris now resides in a new, environmentally-controlled glass case illuminated by a small, unique LED light developed especially for the painting by FRAEN Corporation



For FRAEN, the color and intensity of the LED beam were especially challenging due to Da Vinci's unique painting style in the "Mona Lisa," which features soft transitions of color, giving the painting, and that famous smile, a mysterious misty atmosphere. FRAEN's advanced optical system created an innovative lighting application, while retaining the genius of the "Mona Lisa" by not masking or changing it in any way.



This compact but highly-advanced lighting system developed by FRAEN Corporation shed a precise, color-balanced LED beam only onto the canvas area of the "Mona Lisa" to clearly illuminate Da Vinci's subtle painting technique.

In addition to FRAEN Corporation, the "Mona Lisa" technical group included other engineering leaders in Europe, coordinated by the project's lead company, Sklaer of Germany. Sklaer produces high quality lighting systems for museums, automotive industry and architecture.

For more than fifty years, FRAEN Corporation, with facilities worldwide, has been serving a global market as a high precision manufacturer of innovative products. FRAEN's commitment to developing high-quality technologically advanced optical solutions has made them a world leader in focusing light from high-powered Light Emitting Diodes (LEDs).

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