Gaggione Drives Innovation Forward with New Optics Tailored for Urban and Smart Lighting

Gaggione

Gaggione, a leading innovator in high-performance optical solutions, recently made a strong impression at the Guangzhou International Lighting Exhibition (GILE) 2025, one of the world's premier lighting industry events. This exhibition marked the beginning of Gaggione's 2025 global trade show circuit, where the company demonstrated its expertise in custom optical design and cost-efficient standard solutions, ensuring the perfect balance of performance and value.

At its booth, Gaggione highlighted its cutting-edge optical technologies, featuring both bespoke optical systems and the latest additions to its standard optics portfolio. Key innovations included advancements in precision light control featuring patented RGBW color mixing zoom optic, efficiency optimization, new recycled materials and compact optical designs— reinforcing Gaggione's role as a trusted partner for high-end lighting applications.

Strategic Focus for 2025: Innovation & Global Engagement

With a strong emphasis on visibility and next-generation optical solutions, Gaggione is set to deepen its engagement with industry leaders across major markets. The company's participation in GILE 2025 underscores its commitment to pushing the boundaries of lighting technology while supporting clients with tailored, high-performance optics.

Next Stop: The Street & Area Lighting Conference (SALC) – USA

Gaggione's 2025 roadshow continues at the Street & Area Lighting Conference (SALC), where it will present its latest innovations for urban, architectural, and smart lighting applications. Industry professionals are invited to connect with Gaggione's team to explore next-gen optical solutions that enhance efficiency, durability, and design flexibility.

Gaggione: French Expertise in the Service of Precision Optics

Gaggione (**Figure 1**) is a French company located between Lyon and Geneva (Switzerland). Founded in 1948, it first made its name in plastic injection molding, before specializing, for over 30 years now, in the design and manufacturing of high-precision optical components. With a strong international focus, Gaggione conducts a significant portion of its business through exports and also operates a production site in Canada via its subsidiary, Quadratec.

With a team of around 100 employees, the company has invested heavily in skills development, relying on an expert R&D team and top-tier optical engineers. These investments also extend to its advanced technological equipment, including high-precision injection molding machines, machining tools, and state-of-the-art optical measurement systems.

Thanks to this extensive set of resources, Gaggione can support clients at every stage of their project, regardless of geographical location — from the initial optical study to component design and manufacturing. While historically focused on custom solutions, the company has recently expanded its offer with a standard range of efficient and cost-effective optical components.

Lenses, reflectors, collimators, and light guides — Gaggione meets the diverse needs of the lighting market by combining innovation with industrial excellence.

Gaggione's Technical Heritage: A Mark of Trust

From its early days, Gaggione has distinguished itself through its ability to design high-value-added optical components that meet stringent regulatory requirements. From urban lighting to medical optics, including specialized applications such as light obstruction, the company has established itself as a go-to-partner capable of tackling the most complex challenges.

This historical know-how has played a major role in building Gaggione's reputation and remains a key part of its brand identity. In the market and among its clients, the name "Gaggione" is instantly associated with technical components — whether very small or very large in size.

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The Development of the Standard Range: A Strategic Response to Changes in the LED Lighting Market

Faced with competition and the rapid transformation of the LED lighting industry, Gaggione proactively launched its standard optics range as early as the 2000s, marking its entry into a new market segment.

While its custom solutions remained high performing, they no longer met all client demands or the growing constraints of technical specifications. The need for standard components quickly became evident. This strategic diversification enabled Gaggione to offer high-quality optical components for a broader range of applications, all while optimizing production efficiency and cost.

By betting on a demanding technical approach and maintaining close market awareness, Gaggione has confirmed its status as a leader in the optic sector. Refusing to rely solely on its high-end specialist reputation, the company continuously refines its strategy with one clear objective: delivering the optimal balance of performance, quality, and cost-effectiveness. A strategy that challenges conventional wisdom and strengthens its legitimacy in an increasingly global market.

Optical Performance that Stands Out

With proven experience in executing complex, high-tech custom projects, Gaggione has developed unmatched expertise in color mixing and high-intensity beams with ultra-low divergence. This specialized skillset has been further refined through a strategic partnership with the renowned stage lighting brand Ayrton (**Figure 2** – Ayrton MagicPanel FX), allowing Gaggione to deepen its knowledge in color rendering capabilities.

Figure 2: Ayrton MagicPanel FX.

This strategic partnership — now extended to many top-tier manufacturers — is a key competitive advantage. To address the unique demands of this market, Gaggione has designed high-performance collimators, such as the LLC59N and LLC59C, which deliver exceptional color mixing uniformity and bring energy savings for the customers. **Figure 3** shows the performance of Gaggione's narrow beam optic vs competition.

Gaggione's technical mastery shines in the development of high-intensity beams — a field in which the company provides exceptional added value. Thanks to its engineering expertise and precision plastic injection capabilities, Gaggione can produce thick, complex optical components that are typically very challenging to mold and more prone to defects.

By consistently pushing technical boundaries, Gaggione has developed differentiated solutions that clearly distinguish it from competitors.

Figure 1: Gaggione headquarters.

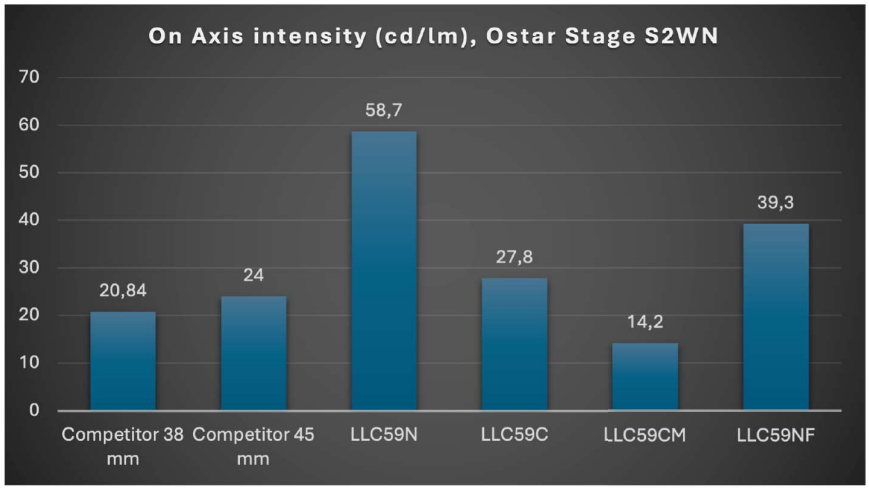

Figure 3: Performance of Gaggione's narrow beam optic vs competition.

An Expanded Standard Optics Offering

In 2024, Gaggione strengthened its market position by expanding its portfolio of standard optical solutions. Originally focused on collimators, the company broadened its product lines to address emerging applications.

The Pollux range was introduced, bringing linear optics tailored to indoor lighting needs — such as offices, retail spaces, and commercial buildings.

Simultaneously, the Avika range was developed to meet the demands of urban and outdoor lighting, with lenses optimized for those specific applications. More recently, the range has expanded to include

Amber-Orange (**Figure 4**) and Amber-Yellow (**Figure 5**) nightlife friendly road lighting optics.

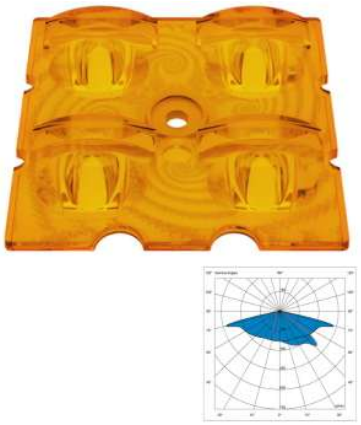

Figure 4: Amber-Orange optic.

Figure 5: Amber-Yellow optic (LOR: 85%, CRI 68).

Gaggione's amber optic options are available with multiple photometries and backlight blocking masks. Gaggione can customize photometries, optical design and desired wavelength according to customer requirements.

Amber-Orange creates conventional sodium vapor like color temperature (1995K with 3000K LEDs, **Figure 6**) with as high CRI as 59 and LOR of 74%. Amount of blue light (380nm-500nm 0.007%).

The company also advanced its expertise in collimators with the launch of the Hadar70 range, specially designed for COB LEDs. A key innovation accompanies this launch: a clip-on "window"-type accessory that clips-on directly to the collimator, allowing beam adjustment without having to replace the optical part itself – a breakthrough in flexibility and cost-efficiency.

Continuing this momentum into 2025, Gaggione is further expanding its ranges. The Hadar range now includes 50 mm collimators (**Figure 7**), while Pollux offers

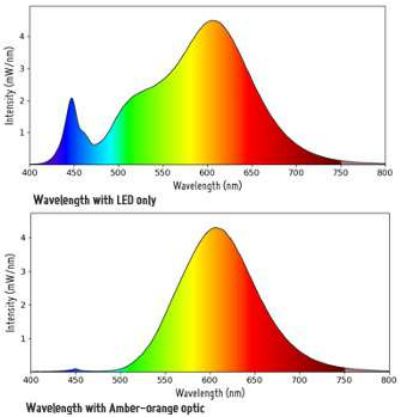

Figure 6: Wavelength comparison with Amber-Orange optic.

new beam angles and patterns. The Avika range is about to take a major leap forward with the development of specialized beam types tailored to demanding road lighting applications — such as tunnels and parking lots.

Figure 7: New Hadar50 range.

These next-generation solutions will enhance Gaggione's portfolio by delivering:

- High-performance illumination
- Exceptional durability
- Precision-optimization for complex environments

Through these strategic developments, Gaggione reaffirms its dual commitment to innovation and market responsiveness, ensuring ever-more powerful and diverse optical solutions to meet the evolving needs of the market.

Benchmark

In a market where standard optical components are becoming increasingly competitive, Gaggione has made the strategic choice to stand out not only through the quality of its optical performance but also by aligning its pricing with current market expectations.

This carefully balanced approach allows the company to maintain strong competitiveness without compromising on performance. Gaggione have also created Color Consistency Index[4] to accurately measure and quantify the color mixing performance of the optic.

- CCI = Color Consistency Index, lower value is better
- CCI 1-2 – Not visible to the naked eye
- CCI 2-5 – Hardly visible to the eye
- CCI 5 and more – Clearly visible to the eye

Figure 8 illustrates 10-degree (FWHM) color mixing optics, both 45mm diameter.

Summary

Gaggione, a French optics expert, showcased advanced technologies at GILE 2025, highlighting custom and standard optical solutions. With innovations in color mixing, recycled materials, and urban lighting, Gaggione expands its global reach. Its standard range now includes amber optics and COB collimators, balancing performance, cost-efficiency, and environmental responsibility. ■

[4] https://www.optic-gaggione.com/gaggiones-technology/color-consistency-index/

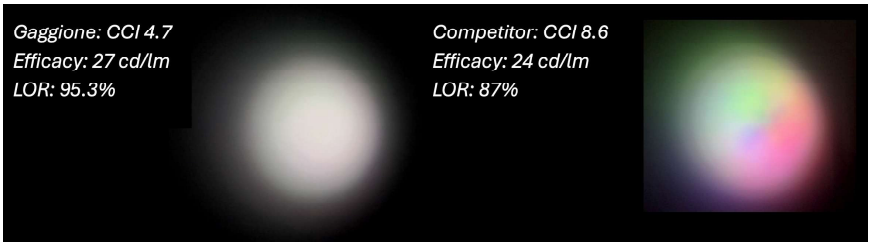

Figure 8: Comparison of color mixing optics.