ledNlight
by GAGGIONE

SHAPING YOUR LIGHT

who we are

Established in 1948, GAGGIONE's corporate and primary manufacturing facilities are in Montréal La Cluse within the Northern Rhone-Alps region of France, located between LYON (Fr) and GENEVA (Ch), at the heart of one of the main European industrial cross-roads.

We continue our dedication to successfully producing the highest quality optical solutions for LED and other light applications since introducing the world's first collimator for the Barracuda LED in 1996. GAGGIONE applies its extensive experience and resources to provide comprehensive design, development and manufacturing capabilities for the production of custom-made optical parts and systems.

Quality and production consistency are the results of highly educated optic designers along with our pre-production and tooling team, generations of know-how optimized with great technology such as diamond machining equipment to realize mould inserts; and naturally a production shop of the highest precision injection process machines, operators and ISO 9001 and ISO TS 16949 certifications.

GAGGIONE also operates strategic alliance and sister company relationships with SURCOTEC based in Geneva, Switzerland and QUADRATEC based in Quebec, Canada. SURCOTEC provides high-end surface analysis and treatment including silver metallization, UV/AR coating and texture finishing. Our QUADRATEC operations provide general and optical grade injection facilities serving some North American production needs.

The LEDNLIGHT range of standard optics is the fruit of long experience in the custom optical components business. It has developed naturally in the face of constantly changing market demands and fast time-to-market, and continues to be one of the exciting businesses GAGGIONE serves in shaping our customer's light.

collimator 16mm family

Whatever your application may be, you will find a selection of quality, suitable optics from a large portfolio. With beam distribution starting at 8° FWHM beam and up to 60° FWHM, our 16mm diameter by 8mm height collimators can offer several light distribution within the same form factor.

To make assembly easier, this large variety of optics can be delivered with different holder types and even the option for holders on adhesive sheets. Holder types are based on LED being used.

Single lens holder, Tri-lenses holder or Quad-Lenses holder are available. The holder can be supplied in standard white or black color. Options include golden-like, aluminum-like or specific films can be deposit to provide better aesthetics functionality to the TRI and QUAD optic holder products.

All these options concentrated in an off-the-shelf product line offer you the flexibilities in the design of your lighting fixture, and the opportunity for rapid development of product implementation and launch.

collimator 32mm family

With a height of 16mm, the 32mm diameter series is the shortest solution to provide a narrow beam angle as low as 5° FWHM. Thanks to its complex design, the on-axis efficiency can achieve up to 105cd/lm. For these reasons, the 32mm is very appreciated in markets which are looking for a very intensive light distribution. This optics is the right solution for very powerful lighting fixtures (surgical, railway, aircraft, architectural).

To support you in offering several light pattern options to your market, the LEDNLIGHT 32mm family of optics is available in several beam angles up to 40° FWHM. And because tight adjustment with LED is mandatory to get the best light output ratio, LEDNLIGHT offers single unit complimentary holders available plain or prepared on adhesive sheet for easier manufacturing process.

collimator 45mm family

A very special solution available on the market, GAGGIONE released the 45mm in 2010 with an extremely narrow beam collimator providing excellent color mixing properties to address stage lighting, entertainment lighting and architectural lighting applications.

The result of intense collaboration between LED lighting optical designers and some of the most experienced mold makers and plastics engineers in the business succeeded to reach 8° FWHM beam angle with RGBW LED types while guaranteeing a very uniform color mixing and high light output ratio.

This 45mm collimator in the LEDN-LIGHT product line is the unique answer for lighting fixture designers looking for powerful multicolor light concentration. The specification of achieving a high-quality narrow beam is a technical challenge requiring GAGGIONE to produce a collimator 45mm in diameter and 25mm in height, demonstrating unique experience injecting thick polymer optics.

To adapt to your lighting desires and requirements, the family is available with narrow, medium, wide and elliptical light distributions.

At the request of the stage lighting industry, GAGGIONE designed a ZOOMABLE version to play with beam angle from narrow up to wide while guaranteeing a high-quality color mixing and a light output ratio of 80%. For mono-color applications using single chip LED, the tightest achievable beam is 3° FWHM with more than 130 cd/lm output.

collimator 67mm family

There are several critical factors which drive the net result performance of an optic: design, material, tooling and the science and art of the injection process.

Gaggione have always challenged every prospect and customer and today introduces a new release in its collimator family, a result of more than a year of development.

The first of this series is a narrow beam collimator for with big chips and Chip-On-Board LEDs, providing a 5,6° FWHM and up to 70,5 cd/lm (depending on the LED chip size and power). In addition there are color mixing versions to provide intense collimation for stage lighting and other high power color mixing applications.

Specifically designed to deal with the unique challenges of shaping light this latest addition to Gaggione's standard product line-up demonstrates a clear core competence producing thick optics with high performance photometry.

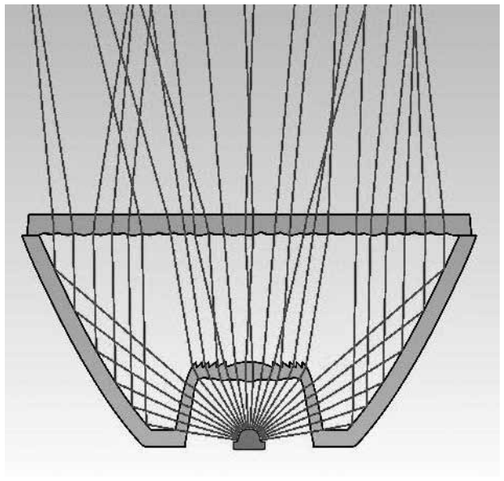
The 67mm TIR now expands the portfolio of 16mm, 32/35mm and 45mm TIR optics, it has been developed successfully achieving very good light homogeneity and narrow beam. Also, it integrates directly mechanical function and there is no need to use it with an additional holder.

hybrid-reflector family

Our Hybrid Reflectors are created from its optical design and based on the integrated relationship of transmittance surfaces and reflective surfaces in the process of directing light.

The concept results from close collaboration between optical, plastics, and coating engineers and experts all focused on the same goal: beaming in the most uniform light while keeping a very compact form factor, especially for large format LED light sources and chips.

To ensure the best achievable performances, the Hybrid Reflectors is the result of using LUMENCOAT ™ Technology developed by our Switzerland based sister company SURCOTEC.



The company provides cutting-edge specialty thin-film coatings and treatment services for components engineered of various materials. The reflectivity of LUMENCOAT ™ is achieving 95%.

We understand that stock management and value is a challenge to all industrial companies. For that reason, we have based our Hybrid-Reflector product line on one design architecture and typology providing a narrow beam angle along with multiple spreading or diffusing windows to open the beam angle to medium and wide options. Thanks to special design characteristics on certain spreading windows, we also provide color mixing capabilities for an array of LEDs or multi-chip LEDs.

Gaggione expands upon its existing hybrid-reflector family design concept and introduces a new product to its line-up with a standard AR111 hybrid-reflector. Compatible with 50mm BJB connectors, the design is optimized for 23mm Chip-On-Board LEDs and can be used with smaller Light-Emitting-Surface using the same 50mm connector. The first version released is dedicated to retrofit and complies with the market standard AR111.

With a medium beam of 22° FWHM and 3 cd/lm in only 25mm height, the AR111 version provide an innovative solution for an easy retrofit and good alternative to existing halogen AR111 and QR111. A second version is also offered with a full parabolic frame 111mm diameter for higher performances and new designs opportunities.

fresnel lens

Since the first high power LED released on the market, we have offered a 200mm diameter and 300mm diameter FRESNEL Lenses to comply with the traffic lighting market.

This proven design works with any kind of high brightness led arranged in a cluster in the center of the optical system. The optical concept is the association of Fresnel grooves and specific optical elements to guarantee the best light homogeneity and different lighting application for this lens are being applied and discovered. To improve sun phantom effect, the Fresnel lenses are available with tinted options.

silicone optics

Gaggione goes a step forward by adding new materials and process to its know-how and capabilities, to achieve new design freedom and possibilities.

Already considered an expert in making very thick transparent plastic-injected secondary optics for LED lighting for almost twenty years, today Gaggione integrates a new dedicated workshop to provide Liquid Silicone Optics. Key investments include state-of-the-art injection technology and talent base.

Silicone resin provides the opportunity to make parts with complex design features, some of which are simply not possible with thermoplastic.Liquid silicone breaks down design barriers allowing designers to create new types of parts never before possible leveraging the fast changing technologies in our market.

Some of liquid silicone key features include:

- More than 90% transmission in the greater than 350nm wavelength spectrum, even with thick parts
- Incredible resistance against UV rays, and more chemical agents than polycarbonate (PC) or acrylic (PMMA)
- Incomparable resistance to high temperature (>150°C) whereby PC (130°C) and PMMA (90°C) breakdown
- New optical design concepts thanks to micro-detail replication from liquid material properties
- Increased ability to integrate new functions for unique applications and total system integration
- Impact resistance unmatched by thermo plastics with reformation properties

The above is only a sample list of benefits and unique technical features of liquid silicone.

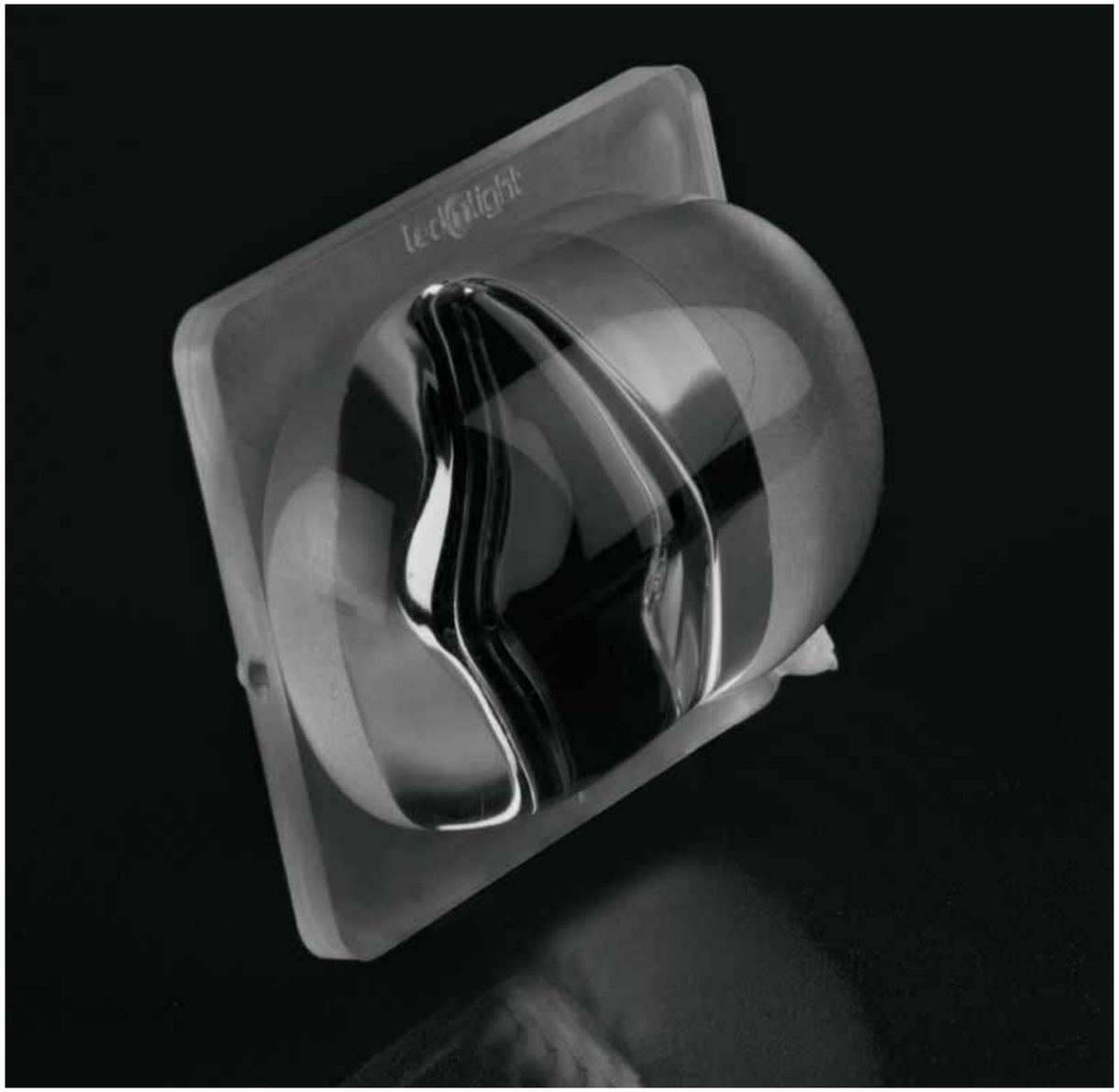
free form lens

GAGGIONE's free form lens is designed with no technical compromises to meet a high level of performances inspired by the European regulation for road and street lighting applications, GAGGIONE has focused on the longest and most uniform light distribution along with the lowest glare factor.

Because we feel important to bring the light only where it is needed, the design includes some optical elements for a very sharp cut-off.

To follow the very fast changing LED market, the source compatibility has been one of the main challenges of designing a flexible and effective optic. The result is that the street lighting lens will accept LEDs with a 1mm^2 die size up to 4mm^2 without any major impact on the light distribution.

Because of its rectangular spot, the product line can satisfy several applications as roads, corridors, warehouses or any kinds of large areas.



custom solution

A custom made solution is the right choice for a customer not finding the standard optic in the GAGGIONE's off-the-shelf LEDNLIGHT portfolio. Based on customer's specifications and requirements, GAGGIONE is able to design the complete optical system and deliver the appropriated lens, collimator, diffuser, light guide or other optic to work with the requirement.

Our experience includes applications in the field of general lighting, street and area lighting, transportation industry or other applications requiring us to shape the light a certain way.

But creating a specific light distribution is not the only reason to decide for a custom design. More and more companies understand the strategic value and show the interest to invest in their own solution to achieve cost savings. In this growing market, reducing the bill of materials as well of time of assembly is critical to bringing competitiveness and delivering to the market fast.

Optics are playing a more impactful role than before and are bringing many opportunities for integration of functionality and increasing lifetime value. In the end, a single part if well designed optimized can help reduce the bill of materials, simplify stock management, and shorten assembly time resulting in lower overall cost.

Not only do custom optics help reduce the complexity of the system; they are also the solution for a better performance efficiency and market distinction and recognition.

Having your own optical system is a differentiation by design and provides greater potential for increased performance of the end product. Leveraging a partner with solid experience and proven reputation is the solution GAGGIONE serves in Shaping Your Light.

GAGGIONE SAS Headquarter
3, Rue de la Rolland
01460 Montréal la Cluse
France
Tel : +33 (0) 4 74 76 12 66
Email: lednlight@gaggione.com
www.lednlight.com
www.gaggione.com

GAGGIONE Asia
Xu Zhen
Rm. 503, No. 25, Chenzhong Rd,
Jiading District
Shanghai, China, 201800
Tel : +86 21 3777 6276
Email: z.xu@gaggione.com
www.lednlight.com

GAGGIONE Germany
Lightconsulting GmbH
Kreuzstrasse 7
D-83355 Grabenstätt
Tel : +49 8661 983 44 77
Email: a.aigner@gaggione.com
www.lednlight.com

GAGGIONE Italy
Roberto Milli
Via Monticelli 9/1
16142 Genova
Tel : +39 347 888 7208
Email: r.milli@gaggione.com
www.lednlight.com

GAGGIONE North America
John-Michael Ermel
1360 Old Skokie Rd Suite 2N, Highland Park
IL 60035 USA
Tel : + 1 847 810 7392
Email: jm.ermel@gaggione.com
www.lednlight.com

design by lightconsulting gmbh 2014