

Lens for LEDs

Khatod making the perfect match

KCHATOD OPTOELECTRONIC

Since 1985, Khatod has been successful in specifying and developing optoelectronic devices, optics for industrial applications, and secondary optics for Power LEDs. Advanced research, scientific rigor, great attention to the continuous evolution in LED Technology, have led Khatod to develop optical solutions which meet and exceed the new requirements of LED Illumination. By nature, LED Lighting reduces the environmental impact caused by light pollution, while reducing as well the energy costs. Therefore, the ever-growing requirements for LED Lighting applications also for wide areas - outdoor and indoor- was a natural process. Khatod, a real front-runner in lighting solutions, intercepted these new requirements already years ago.

The great benefits coming from LED Technology paired with the most cutting-edge technologies developed by Khatod for Wide Area Lighting applications, make LEDs and Khatod WAL Systems the perfect match.

Its great expertise in lensing for Power LEDs led to the creation of Galileo Optical System, first-of-its-class modular system dedicated to Wide Area Lighting.

Nactus 101 - Optical Systems for Power LEDs

Khatod optical solutions have made the mark in the ever-evolving LED Industry: from a huge choice of optoelectronic components to the most advanced lenses for Power LEDs. We first used the NJC Technology in the manufacturing of secondary optics for Power LEDs, and our commitment to develop innovative products together with our capability of creating custom optics are the best response to market and application needs. Now, we are proud to introduce the most revolutionary optic solutions specified for any applications in the Wide Area Lighting: NACTUS 101, the new optical system offering the most advanced innovation in Wide Area Lighting.



NACTUS 101 merges together our expertise and the experiences coming from our customers worldwide; a high-tech product, but easy-to-use for upmost engineering applications. Conceived for Power LEDs of latest generation, 100 l/W to 300l/W; realized in many multi-lens arrays, 6 to 24 – 36 – 48 optics and more; hundred configurations from stock; for any Indoor/Outdoor applications in Wide Area Lighting.

Key Features

- NACTUS 101 is a ready-to-use optical system combining different lenses to perform the requested lighting beam.
- The optical engineering of this system assures an excellent lighting distribution in any applications.
- The customer does not need to develop further photometric analysis: this is our task , enabling us to assure our customers the most efficient and cost-effective solution in short lead time and at any time.
- NACTUS 101 is realized in many different multi-lens arrays, from 6 to 24 – 36 – 48 optics and over; more than a hundred standard configurations are available from stock.
- Conceived for Power LEDs of latest generation,

from 100 l/W to 300l/W.

- The board is preset with holes for the housing of sensors.
- IP protected, rating up to IP65, on request.
- Supplied with the PCB, on request.
- The optics are made of PMMA and PC.
- The optics never come in contact either with the LED or with the PCB.
- The optics are UV protected and guaranteed for outdoor applications.
- Non-yellowing effect
- NACTUS 101 is suitable for any application in Wide Area Lighting.
- The optics comply with UL94 Specifications.
- NACTUS 101 Optical System is Patent Pending.

Galileo Plus - Optical Systems for Power LEDs

Galileo PLUS is a new, innovative version of this unique optical system; meets the most demanding applications from the world of Wide Area Lighting; provides solutions for most of the requests for WAL



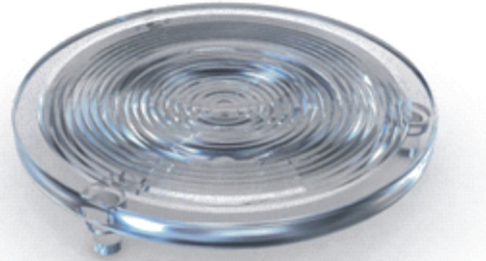
Galileo PLUS Developed on A Clear-Colour Mother Board (Wafer Base)

optical systems. New lay-out of Galileo Systems. Allows 50% reduction of LEDs currently used to perform the same lighting efficiency. Lenses geometries have been increased by adding a new optic; six optics, each with its individual geometry, able to rotate 360°, allow to realize any lighting pattern. Excellent performance with 100 l/W to 300 l/W LEDs. For any Wide Area Lighting applications, Indoor and Outdoor.

The optics of Galileo System convey the light beams emitted by the LEDs, and ensure an excellent lighting distribution which allows to perfectly realize the pattern requested by the lamp manufacturers.

Fresnel Lenses for Power LEDs

Realized by merging Fresnel technology with the most advanced technologies; made of PC specific



Fresnel Lenses PL1174 Series

for high optical performance; special manufacturing process by using NJC Technology that first Khatod used in the manufacturing of secondary optics; total anti-glare effect; up to 70% reduced in height, compared to the conventional TIR lenses, allow uniform light flux, and perform as a real Fluxlens.

Khatod Fresnels are made of two off axis Fresnel lenses fixed together in one piece, through an only moulding process, by using the NJC Technology. As in any Fresnel, also in the PL1174 Series, the lens surface is made of concentric grooves which allow to reduce the mass and volume of material that is required to realize the typical curved surface of conventional lenses.

Features:

- New Fresnel Lens; MR16 Standard, 50 mm diameter
- Up to 70% Height Reduction, compared to the conventional TIR lenses
- Height ranges from 13 mm in the Narrow version (12°) to 5 mm in the Super-Wide version (70°), measured from the LED top
- Operating temperature -40 to +120°
- Special manufacturing process by using NJC Technology
- Special optical design for a total anti-glare effect
- Superior optical engineering for a perfect uniform light distribution
- Made of new special PC for high optical performance
- New innovative design
- UV protected and guaranteed for outdoor applications
- Complying with UL94 Specifications

Triple Lenses for Power LEDs

The new series of Triple Lenses PL1342 which merge our great expertise in lensing while delivering an efficient and cost-effective solution. PL1342 Series turns to the latest Power LEDs launched on the market by manufacturers of Power



Triple Lenses – PL1342 Series

LEDs leaders in the industry. These new Triples merge Khatod great expertise in lensing while delivering an efficient and cost-effective solution. Specific for Power LEDs of latest generation, assure high efficiency, excellent luminous flux, easy fixing system to the PCB thanks to NJC Technology; fit any LED applications: wall washing, architectural lighting, lamps etc. ..and all those applications in narrow or recessed spaces.

Key Features

- MR16 49,9mm Diameter
- Available in Narrow, Medium, Wide, Super Wide Beam
- Innovative design
- High lighting efficiency
- Excellent luminous flux
- Superior optical engineering for a perfect uniform light distribution
- NJC Technology
- Easy fixing system to the PCB
- No vibration problems
- Complying with UL94 Specifications
- UV protected

Blade Lens

Khatod 's focus on the ever-growing use of LEDs in Lighting applications, has led us to develop our New

Blade Lens - KEPL1344 - a high technical product for superior lensing solutions in SSL Applications.

KEPL1344 Blade Lens, conceived for LEDs sized up to 3,00 mm dome, joins those series of Khatod Lenses specifically developed for Luxeon Rebel® , Cree XP® , Seoul Z5®, LEDs Series

Khatod's engineering team has succeeded in realizing a technically unique product; Blade Lens shapes the light beam from the LED into a blade of light, while maximizing the efficiency and granting a high optical performance.

Features

- New Blade Lens for Lambertian LEDs; 22,86 mm diam
- Conceived for LEDs sized up to 3,00 mm dome
- Recommended for Luxeon Rebel® , Cree XP® , Seoul Z5® , , LEDs Series

The great benefits coming from LED Technology paired with the most cutting-edge technologies developed by Khatod for Wide Area Lighting applications, make LEDs and Khatod WAL Systems the perfect match.

- Minimum LED luminous flux recommended : 100 lm
- Beam Angle : 7°x55° FWHM
- Blade-shaped light beam
- Lens made of PMMA
- Holder made of PC



Blade Lens

- UV protected and guaranteed for outdoor applications
- Complying with UL94 Specifications

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