LEDiL

Guide for street lighting optics

V1-0 / 2025

Why LEDiL?

The world is full of different roads and strict street lighting requirements. Add to this different LED package preferences and mechanical size limitations and possible combinations multiply exponentially. That is why LEDiL offers so many specific light distributions for road lighting to help you meet these requirements.

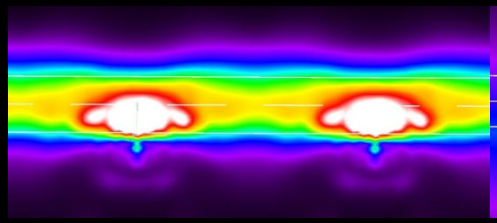
Whether it is a tunnel in Europe or road in Brazil, we offer solutions for virtually any LED model and type; from tiny CSPs to large COBs, while keeping the optics as future proof and modular as we can, so you can keep it simple and flexible.

Make our optics the heart of your luminaire to optimise cost, efficacy and light distribution with great results.

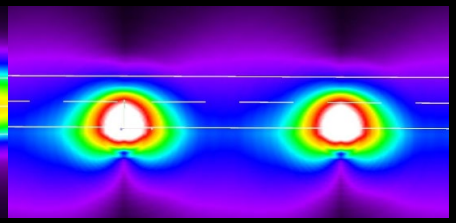
Efficiency

With the same installation and light output LEDiL light distribution is 80 % more efficient than competitior equivalent!

- Needs fewer LEDs, lenses and heat sinks
- Uses less energy for a faster return on investment



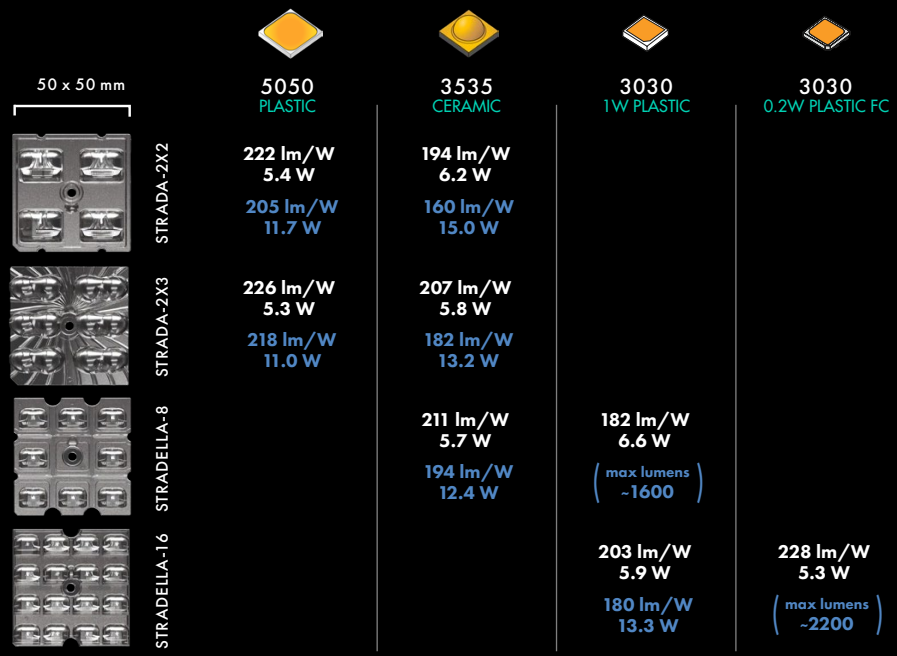
LEDiL lens Average: 18 lx
Uniformity (uO): 0.58



Competitor lens Average: 10 lx
Uniformity (uO): 0.34

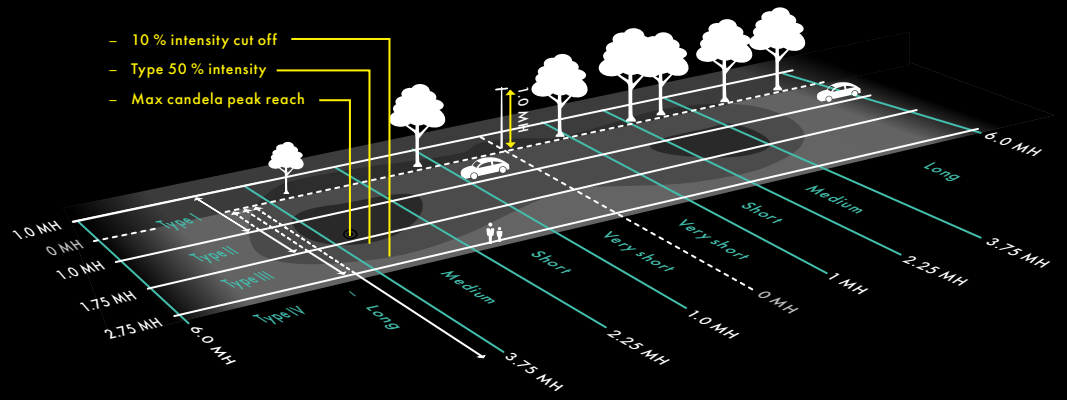
Freedom of design

Allows easy and flexible cost and efficacy optimisation.



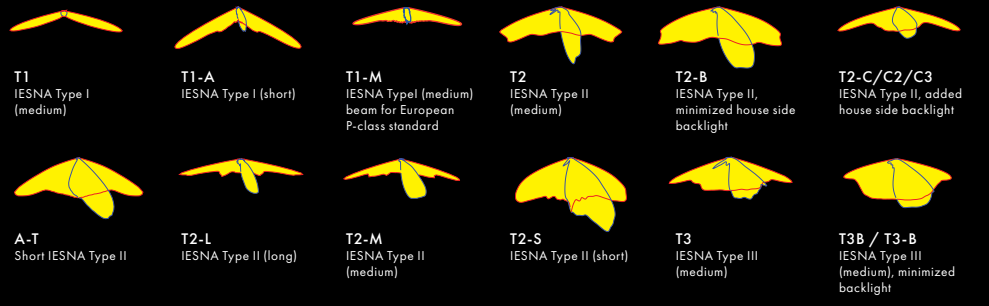
IESNA Type

IESNA Type is defined by position of highest candela intensity. IESNA Type classification is established by measuring where the bulk of the pattern falls on the grid.



Beams for street lighting

★ for luminance based road standards



T1
IESNA Type I (medium)

T1-A
IESNA Type I (short)

T1-M
IESNA TypeI (medium) beam for European P-class standard

T2
IESNA Type II (medium)

T2-B
IESNA Type II, minimized house side backlight

T2-C/C2/C3
IESNA Type II, added house side backlight

A-T
Short IESNA Type II

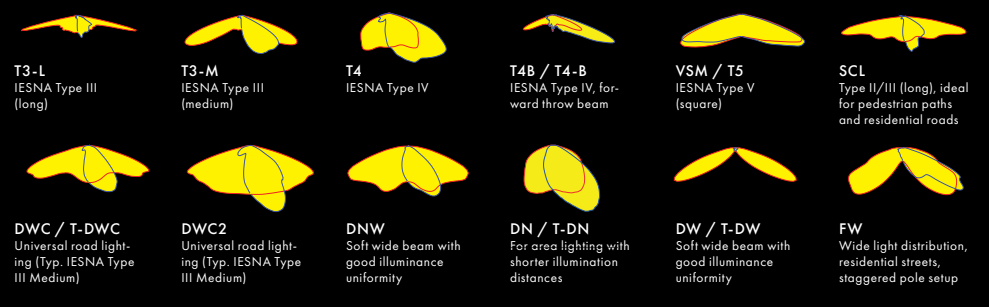
T2-L
IESNA Type II (long)

T2-M
IESNA Type II (medium)

T2-S
IESNA Type II (short)

T3
IESNA Type III (medium)

T3B / T3-B
IESNA Type III (medium), minimized backlight



T3-L
IESNA Type III (long)

T3-M
IESNA Type III (medium)

T4
IESNA Type IV

T4B / T4-B
IESNA Type IV, forward throw beam

VSM / T5
IESNA Type V (square)

SCL
Type II/III (long), ideal for pedestrian paths and residential roads

DWC / T-DWC
Universal road lighting (Typ. IESNA Type III Medium)

DWC2
Universal road lighting (Typ. IESNA Type III Medium)

DNW
Soft wide beam with good illuminance uniformity

DN / T-DN
For area lighting with shorter illumination distances

DW / T-DW
Soft wide beam with good illuminance uniformity

FW
Wide light distribution, residential streets, staggered pole setup

ME ★
Excellent longitudinal luminance uniformity fulfilling EN13201 M-class requirements

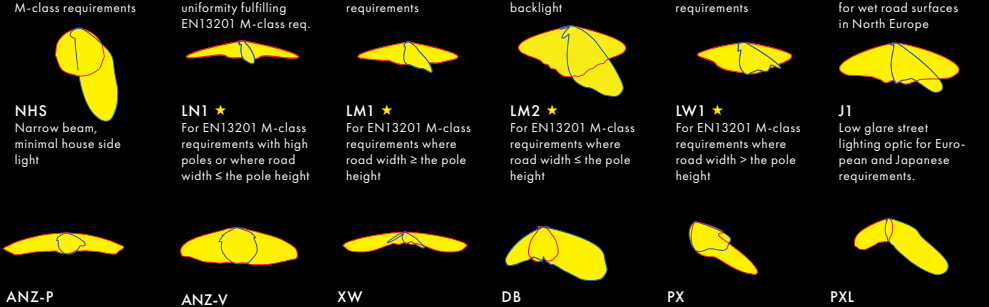
ME3 ★
For ultra-long pole distances with excellent longitudinal luminance uniformity fulfilling EN13201 M-class req.

ME-N ★
Designed for high poles, fulfilling EN13201 M-class requirements

ME-WIDE1 ★
Fulfilling EN13201 M-class requirements, added house side backlight

ME-WIDE2 ★
For staggered pole setups fulfilling EN13201 M-class requirements

MEW/3 ★
Extremely low glare fulfilling EN13201 M-class requirements for wet road surfaces in North Europe



NHS
Narrow beam, minimal house side light

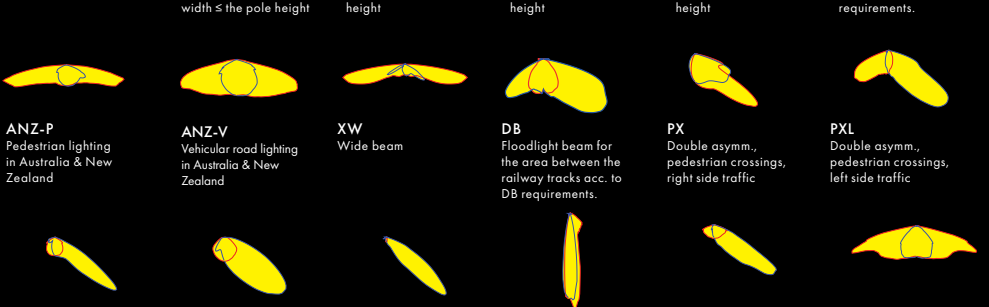
LN1 ★
For EN13201 M-class requirements with high poles or where road width ≤ the pole height

LM1 ★
For EN13201 M-class requirements where road width ≥ the pole height

LM2 ★
For EN13201 M-class requirements where road width ≤ the pole height

LW1 ★
For EN13201 M-class requirements where road width > the pole height

J1
Low glare street lighting optic for European and Japanese requirements.



ANZ-P
Pedestrian lighting in Australia & New Zealand

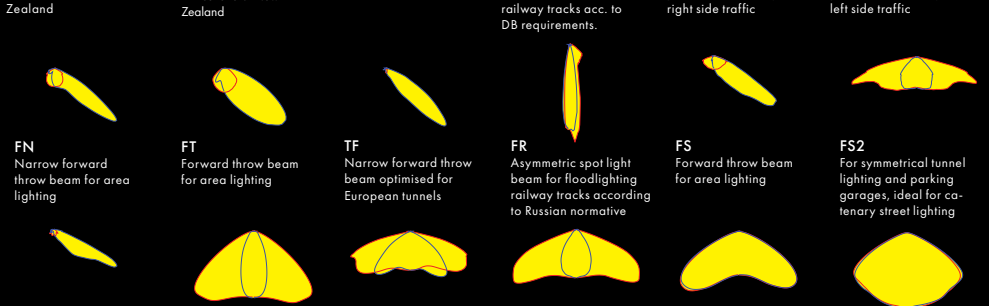
ANZ-V
Vehicular road lighting in Australia & New Zealand

XW
Wide beam

DB
Floodlight beam for the area between the railway tracks acc. to DB requirements.

PX
Double asymm., pedestrian crossings, right side traffic

PXL
Double asymm., pedestrian crossings, left side traffic



FN
Narrow forward throw beam for area lighting

FT
Forward throw beam for area lighting

TF
Narrow forward throw beam optimised for European tunnels

FR
Asymmetric spot light beam for floodlighting railway tracks according to Russian normative

FS
Forward throw beam for area lighting

FS2
For symmetrical tunnel lighting and parking garages, ideal for catenary street lighting

FS3
Forward throw beam optimised for European tunnels, extremely efficient lighting with counter-beam method

B2 / B2-STP
For area lighting and applications demanding a wide oval beam pattern

CAT ★
Catenary street light beam optimised for EN13201 M-classes

CAT-B ★
Narrow catenary street light beam optimised for EN13201 M-classes and tilted poles

C / C-STP
For area and street lighting such as parks and pedestrian walkways

CY
For canopy lighting with batwing light distribution, suitable for symmetrical tunnel lighting

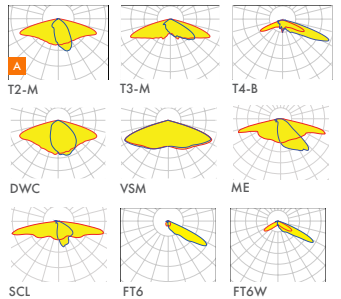
PATENTED

STRADA/SPORT-IP-24

Ingress protected lens array for flat 5050 size LEDs to boost energy efficiency.

- **Industry standard redefined** – same dimensions and screw holes as the 2X6 lens family
- **High performing** – excellent beam quality built on the STRADA legacy
- **Versatile** – Extreme efficiency when underdriving or extreme output at max power

Compatibility: Flat 5050 size LED packages



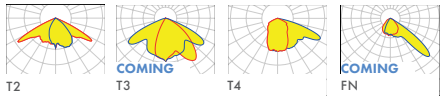
GERMAN INNOVATION AWARD '25 WINNER

PATENT PENDING

STRADA-2X2R

Highly efficient and innovative low glare reflector design for outdoor lighting

Compatibility: Flat 5050 size LED packages

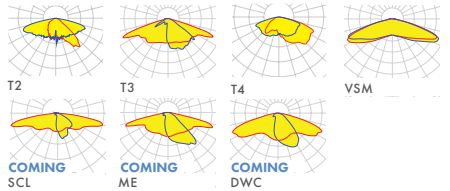


PATENTED

STRADA-2X3

50 x 50 mm lens family in 2X3 format for street and area lighting applications

Compatibility: Flat 5050 size LED packages



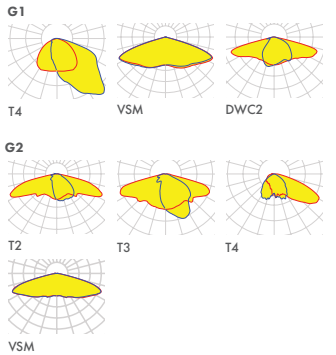
STELLA

Ø90 mm ingress protected silicone lenses.

Compatibility:

G1:
- T4 and DWC2, up to 23 mm LES size.
- VSM up to 30 mm LES size.
- Optimised for 23 mm LES size.

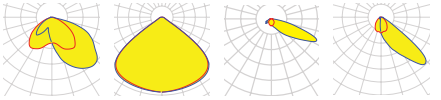
G2:
- Compatible with up to 30 mm LES size.
- Same footprint as with original STELLA, but with more space inside for Zhaga compliant COB connectors.
- 3rd party connectors available from B+W, BJB, TE and IDEAL.



JENNY

35 x 35 mm single lenses and 8X1 arrays made from silicone.

Compatibility: Up to 7070 size LED packages.



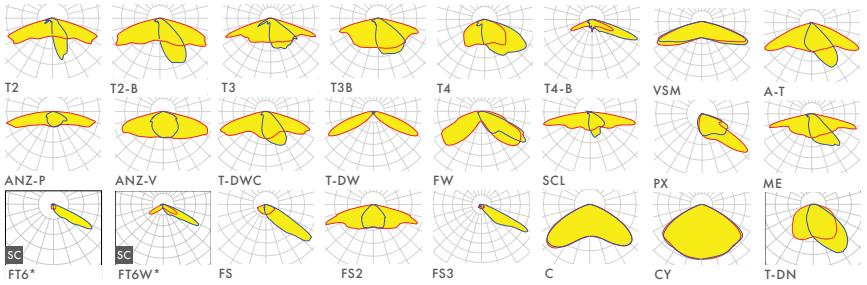
STRADA/SPORT

The most versatile modular product families especially designed for street and sports lighting.

PATENTED

SQ
- 25 x 25 mm

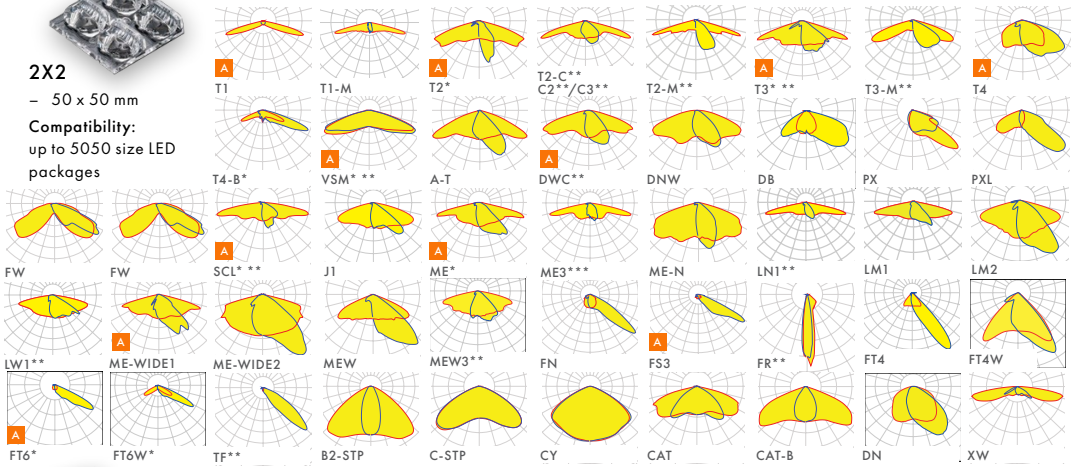
Compatibility: up to 7070 size LED packages



*only for flat 7070 size LEDs, size: 30 x 30 mm

2X2
- 50 x 50 mm

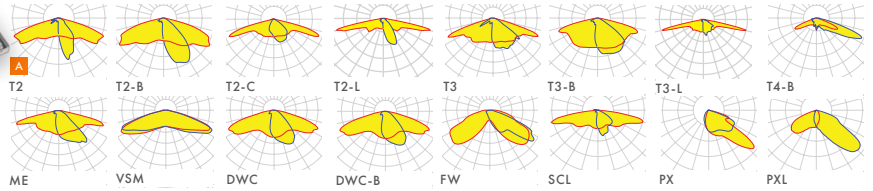
Compatibility: up to 5050 size LED packages



* variant available for CSP LEDs ** variant available for flat 5050 size LED packages ***variant only for flat 5050 size LEDs

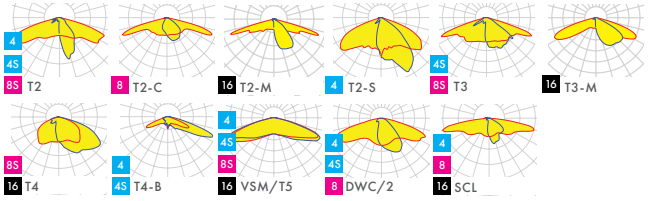
IP-2X6
- 173 x 71.4 mm
- ingress protected

Compatibility: up to 5050 size LED packages



MX/S
- 90 x 90 mm
- ingress protected

Compatibility:
- MX: up to 7070 size LED packages
- MXS: also for up to 9 mm COBs
- 8MX/S: for flat 5050 size LED packages
- 16MX: for CSP LEDs



Number of lenses in an array: 4 8 16 Versions in silicone: S S

Compatible with SOLDER-CLIP-2 installation: SC Available in AMBER: A

STRADELLA

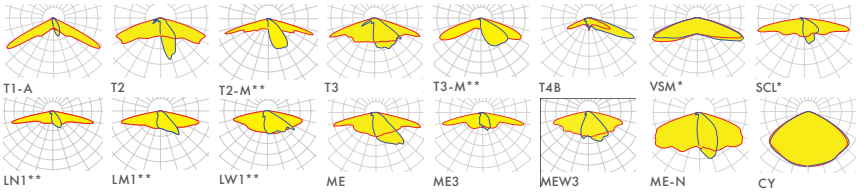
Cost-efficient product family of single lenses and dense lens arrays.

PATENTED

Compatibility: All STRADELLA versions: For up to 3535 size mid- and high-power LEDs.

SINGLE
- 14 x 14 mm

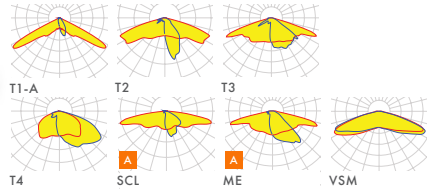
8
- 50 x 50 mm



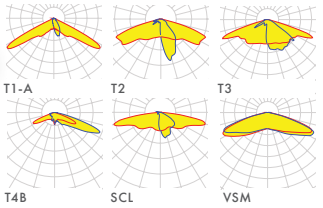
* plus variant for CSP LEDs ** variant only for CSP LEDs

IP-16
- 100 x 60 mm
- ingress protected

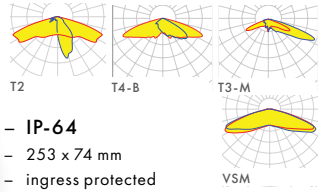
16
- 50 x 50 mm



IP-28
- 100 x 100 mm
- ingress protected



IP-64
- 253 x 74 mm
- ingress protected



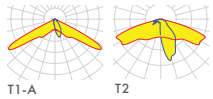
SITARA

Cost-efficient product family of single lenses and 2X2 lens arrays with ingress protection.

PATENTED

Compatibility: Optimised for high-power 5050 size LED packages.

SINGLE
- 14 x 14 mm



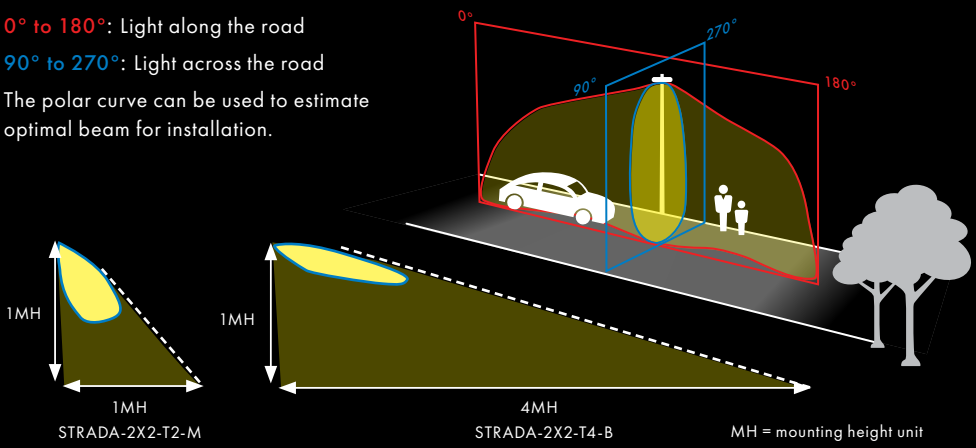
2X2
- 50 x 50 mm
- ingress protected

How to read polar curves

0° to 180°: Light along the road

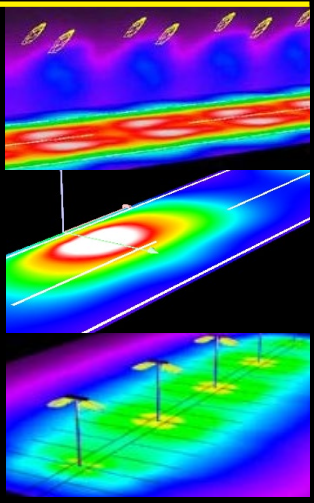
90° to 270°: Light across the road

The polar curve can be used to estimate optimal beam for installation.



Technical support

- Simulations to show optic performance in real applications
- Guides and tips for installations
- Thermal analysis for luminaire designs



Contact our tech support experts:

Global
tech.support@ledil.com

North America
tech.support.us@ledil.com

LEDiL

www.ledil.com

Ledil Oy
(Headquarters)
Joensuunkatu 7
FI-24100 SALO
Finland

Ledil Inc.
228 West Page
Street Suite D
Sycamore IL 60178
USA

Ledil Optics Technology (Shenzhen) Ltd.
#405, Block B, ShenZhen Casic Motor Building, No.7
LangShan #2 Road, Hi-Tech Ind. Park(N.), Nanshan
District, Shenzhen, 518057
P.R.China