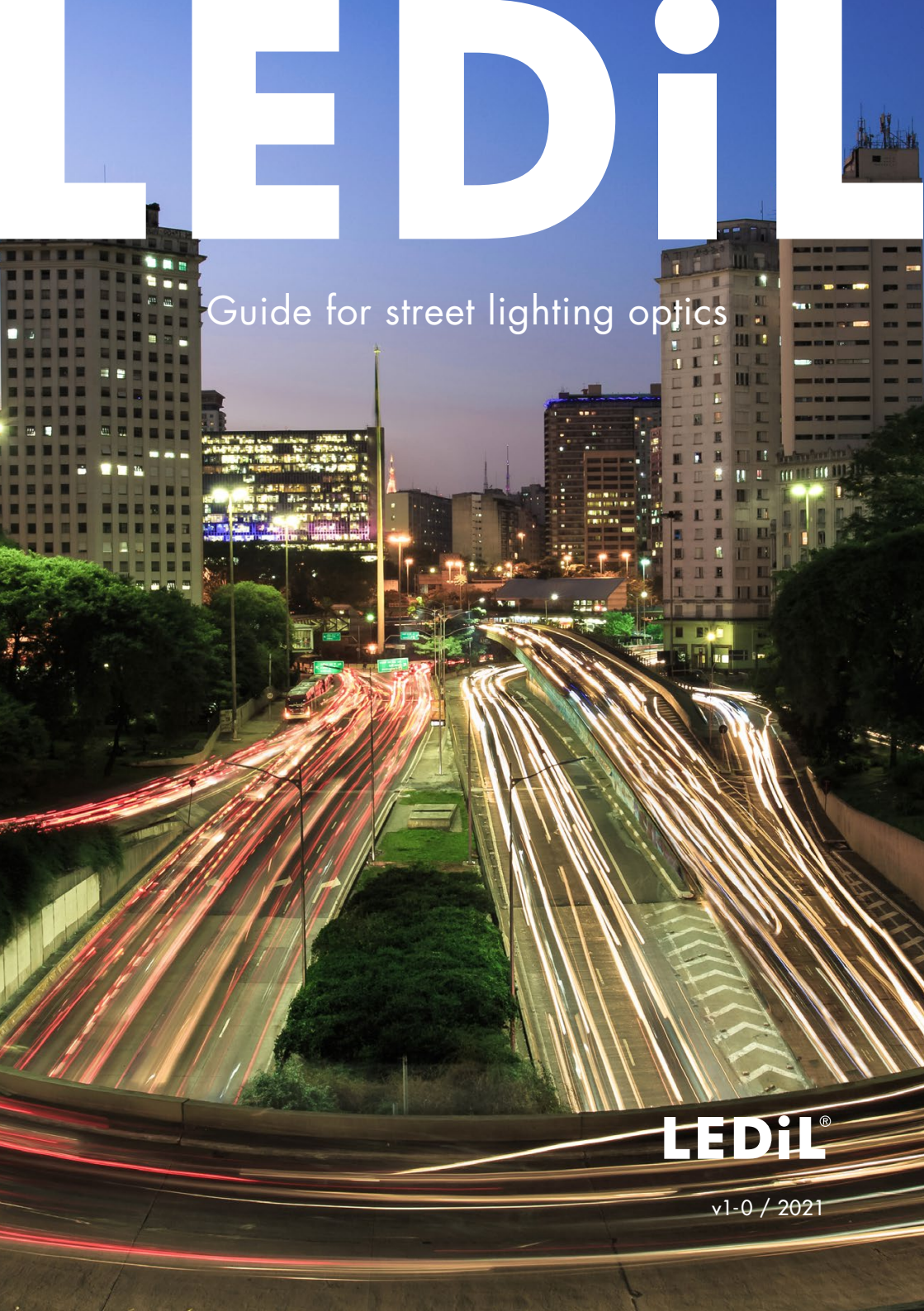
LEDiL

Guide for street lighting optics



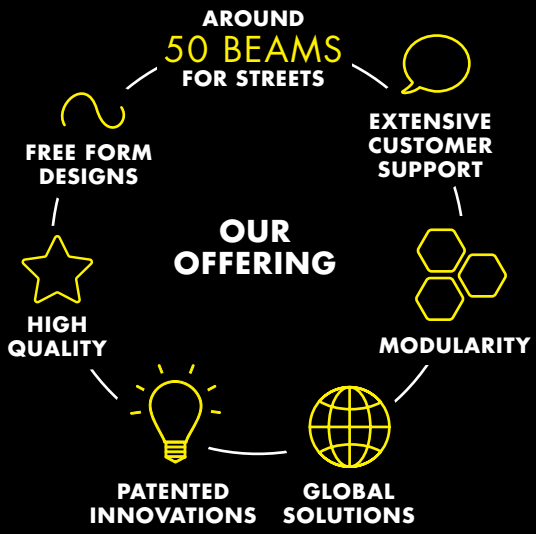
LEDiL®

v1-0 / 2021

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.

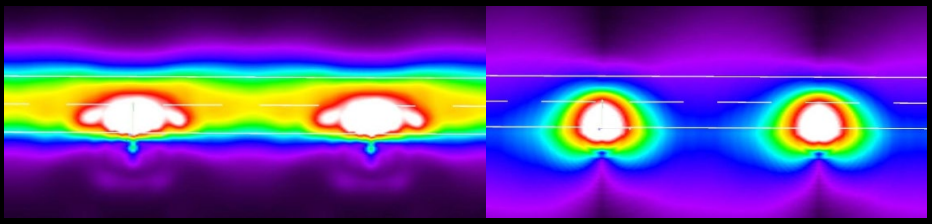


MAKE OUR OPTICS THE HEART OF YOUR LUMINAIRE TO **OPTIMIZE COST, EFFICACY AND LIGHT DISTRIBUTION WITH GREAT RESULTS**

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



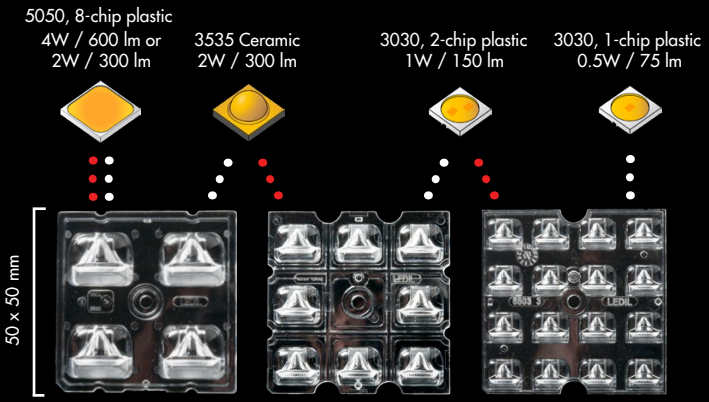
LEDiL LENS Average: 18 lx
Uniformity (uO): 0.58

COMPETITOR LENS Average: 10 lx
Uniformity (uO): 0.34

FREEDOM OF DESIGN

Allows easy and flexible cost and efficacy optimization

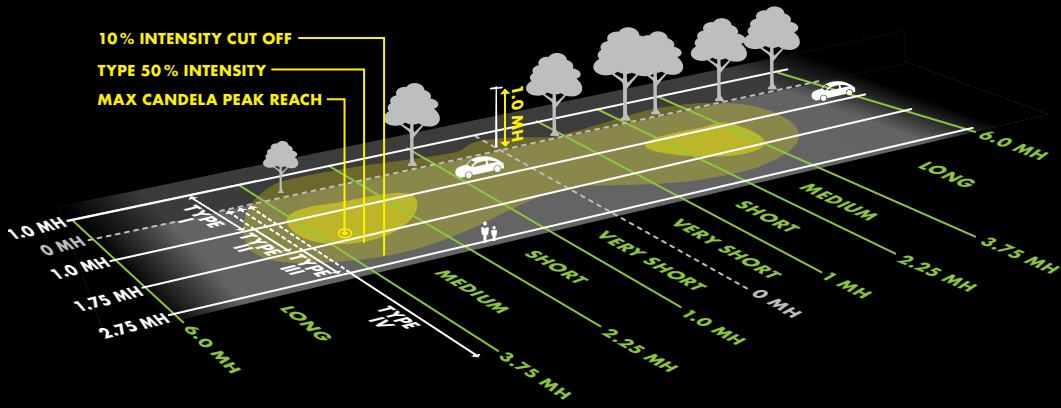
- TYPICAL USAGE
  - ~1200 lm output @ 8W / lens array
  - Needs typical thermal design to remain efficient
- HIGH DENSITY USAGE
  - ~2400 lm output at 16W / lens array
  - Needs excellent thermal design to remain efficient



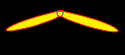
● robustness / ● efficacy (lm/w)

IESNA TYPE

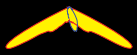
IESNA Type is defined by position of highest candela intensity. IESNA Type classification is established by measuring where the bulk of the pattern falls on the grid



BEAMS FOR STREET LIGHTING



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)

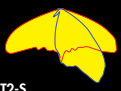
T2-B
IESNA Type II, minimized house side backlight

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)

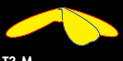


T2-S
IESNA Type II (short)

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
IESNA Type V (square)

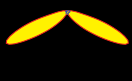
SCL
Type II/III (long), ideal for pedestrian paths and residential roads

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

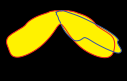
DCW-C/DWC2
Universal road lighting (Typ. IESNA Type III Medium)

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

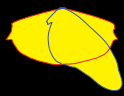


FW
Wide light distribution, residential streets, staggered pole setup

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

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 ★
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

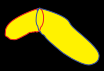
LW1 ★
For EN13201 M-class requirements where road width > the pole height

ANZ-P
Pedestrian 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 optimized 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 optimized 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 optimized for EN13201 M-classes

CAT-B ★
Narrow catenary street light beam optimized 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

★ for luminance based road standards

STRADELLA

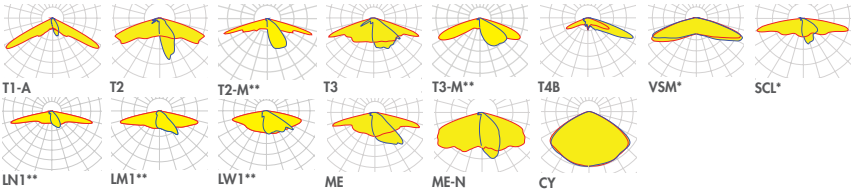
Cost-efficient product family of single lenses and dense lens arrays

PATENTED

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

SINGLE
• 14 x 14 mm

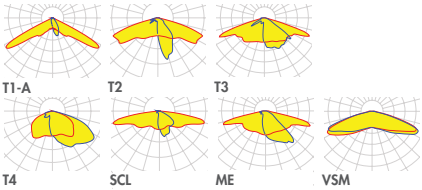
8
• 50 x 50 mm



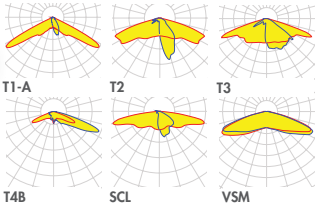
* plus variant for CSP LEDs ** variant only for CSP LEDs

IP-16
• 100 x 60 mm
• ingress protected

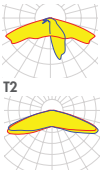
16
• 50 x 50 mm



IP-28
• 100 x 100 mm
• ingress protected



IP-64
• 253 x 74 mm
• ingress protected



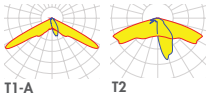
SITARA

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

PATENTED

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

SINGLE
• 14 x 14 mm



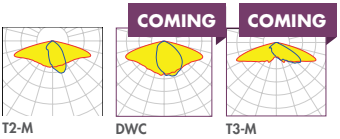
2X2
• 50 x 50 mm
• ingress protected

STRADA-IP-24

Boosts your luminaire efficiency and output

- Industry standard redefined – same dimensions and screw holes as the 2X6 lens family
- Energy efficient – high lm/W optimised to perform with low power LEDs
- Uniform lighting – excellent beam quality built on the STRADA legacy

Compatibility: Optimized for flat high power 5050 size LED packages such as: LUMILEDS LUXEON 5050 square, OSRAM DURIS S8, CREE J/JR5050, NICHIA 48x series



STELLA

Ø90 mm ingress protected silicone lenses

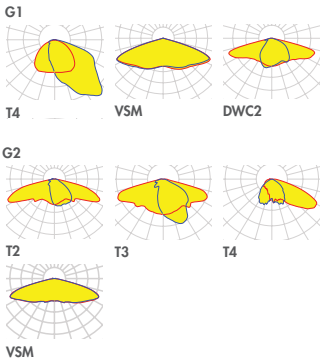
Compatibility:

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

G2: Optimized for 23 mm LES size. Compatible with up to 30 mm LES size.

Same footprint as with original STELLA, but with more space inside for Zhaga compliant COB connectors

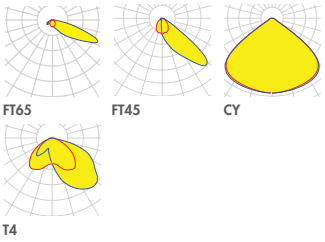
3rd party connectors available from: B+W, BJB, TE and Stucchi



JENNY

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

Compatibility: Up to 7070 size LED packages.



STRADA

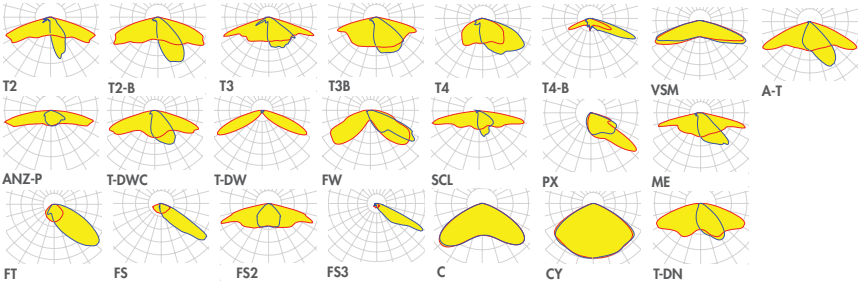
The most versatile modular product family
especially designed for street lighting

PATENTED

SQ

- 25 x 25 mm

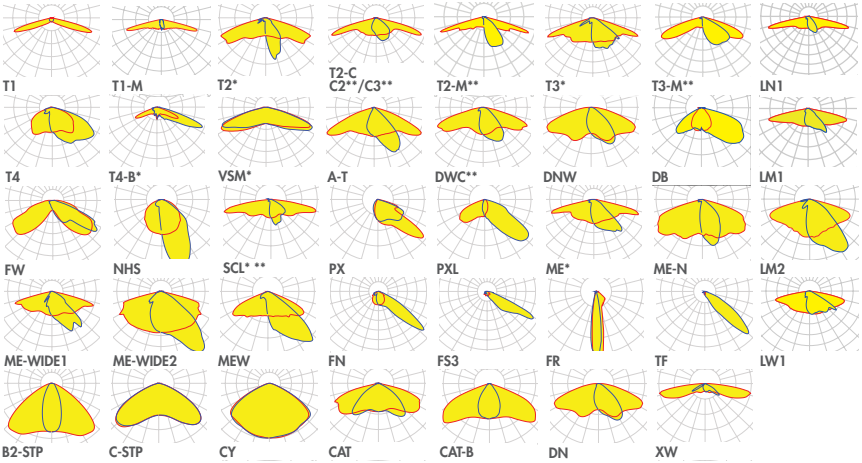
Compatibility:
up to 7070 size
LED packages



2X2

- 50 x 50 mm

Compatibility:
up to 5050 size
LED packages

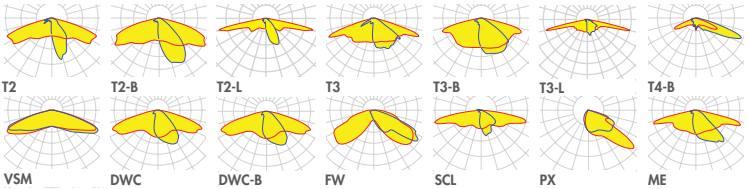


* variant available for CSP LEDs ** variant available for flat 5050 size LED packages

IP-2X6

- 173 x 71.4 mm
- ingress protected

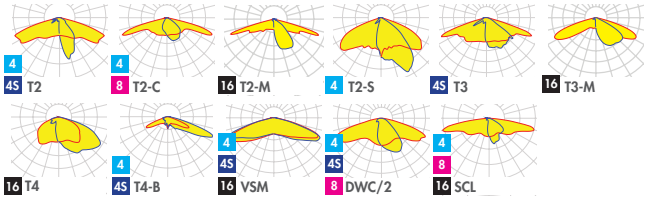
Compatibility:
up to 5050 size LED packages



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: for flat 5050 size LED packages
16MX: for CSP LEDs



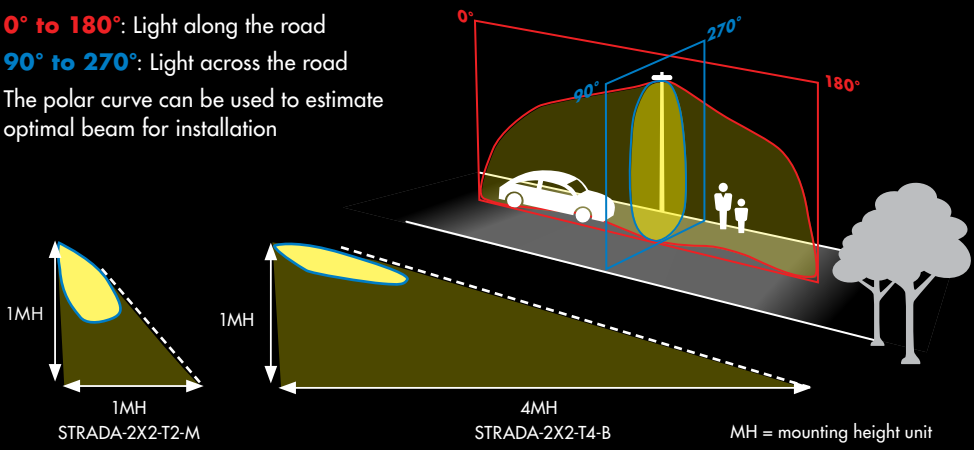
Number of lenses in an array: 4 8 16 Versions in silicone: S

HOW TO READ POLAR CURVES

0° to 180°: Light along the road

90° to 270°: Light across the road

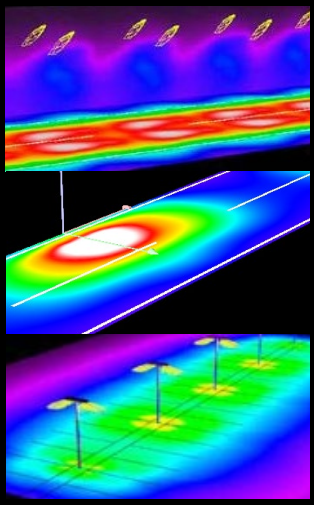
The polar curve can be used to estimate optimal beam for installation



TECHNICAL SUPPORT

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

FREE FOR ALL OUR CUSTOMERS



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