Guide to the LEDiL 2X2 lens modules
LEDiL STRADA and HB modules

LEDiL’s 2X2 modules are established industrial standard created by LEDiL. All modules feature same 50 x 50 mm footprint and positioning features making it easy for customers to modify luminaires for different applications.

Being original inventor of 2X2 modules, LEDiL offers widest range of different application optimized light distributions in the market. 2X2 modules are well maintained and future-proof solution - When choosing original LEDiL 2X2 optics you can rest assured that also your luminaires will stay up-to-date regardless of future LED developments.

You can find full product listing with ordering codes, the latest product information and LED compatibility at our website: www.ledil.com/2x2

STRADA-2X2

STRADA-2X2 modules contain four lenses in two rows, with standardized square-shaped 2” (50 mm) footprint and common LED pitch amongst the lenses.

STRADA-2X2-FN

STRADA-2X2-FN is an array of asymmetric lenses with a long narrow forward throwing beam and good cut-off. It is a good choice for flood lighting of large areas like sports fields.

STRADA-2X2-DN

STRADA-2X2-DN is a 2X2 array of asymmetric lenses suitable for area lighting. It has asymmetric forward tilted beam and wider light distribution than -FN version. This makes it ideal for applications with shorter illumination distances and wider area coverage.
STRADA-2X2-DWC
STRADA-2X2-DWC is designed for roads with longer pole distances. It can be used in street lighting setups where the pole distance is six times up to the pole height. STRADA-2X2-DWC has an asymmetric design, which often negates the need for tilting the lamp head. Also available as STRADA-SQ single lens.

STRADA-2X2-DNW
STRADA-2X2-DNW is designed for roads where the pole height and the road width are similar. STRADA-2X2-DNW has an asymmetric design, which often excludes the need for tilting the lamp head. Also available as STRADA-SQ single lens.

STRADA-2X2-PX
Asymmetric STRADA-2X2-PX is designed for illumination of pedestrian crossings according to the DIN 67 523 standard. Special attention has been put into making an optic with even illumination on the crossing area while avoiding excessive glare to roadway traffic.
STRADA-2X2-ME

STRADA-2X2-ME is the best in class. It is designed for European and Asian roads requiring good luminance performance. Special care has been taken in low glare (TI) and longitudinal uniformity. Asymmetric design removes the need of tilting the luminaire head. Typical ME4a installations are possible with the ratio of pole distance and height up to 5.5. STRADA-ME is designed to fulfill ME-classes on a roads where width is equal or less to the pole height. Also available as STRADA SQ single lens and silicone sealed STRADA-IP-2X6 module.

STRADA-2X2-ME-WIDE1

STRADA-2X2-ME-WIDE1 is designed for European and Asian roads requiring good luminance performance. Its modified optic structure from the regular -ME allows use on wider roads and higher poles. The same design is also suitable for illumination of pedestrian walkways under the pole. Asymmetric design removes the need of tilting the luminaire head. Typical ME4a installations are possible with the ratio of pole distance and height up to 4.5.

STRADA-2X2-ME-WIDE2

STRADA-2X2-ME-WIDE2 is designed especially for staggered pole setups. Asymmetric design removes the need of tilting the luminaire head. Typical ME4a installations are possible with the ratio of pole distance and height up to 4.5.
STRADA-2X2-T2
STRADA-2X2-T2 is classified as IESNA type II, optimised for a good mix between luminance and illuminance uniformity. It is also applicable to European S-class standard pedestrian lighting. A new innovative design allows the use of various LEDs while maintaining consistent results. Also available as STRADA-SQ single lens and silicone sealed STRADA-IP-2X6 module.

STRADA-2X2-T3
STRADA-2X2-T3 is classified as IESNA type III, with a great mix of luminance and illuminance uniformity. As a result of LEDiL’s patented TIR design, various LEDs can be used with consistent results. Also available as STRADA-SQ single lens and STRADA-IP-2X6 module.

STRADA-2X2-T4
With forward throwing beam STRADA-2X2-T4 is classified as IESNA type IV. Being best suited for area lighting, for example parking lots and yards. It is also an excellent choice for wider roads. STRADA-2X2-T4 provides consistent and predictable results with a range of different LEDs thanks to LEDiL’s patented TIR design. Also available as STRADA-SQ single lens.
STRADA-2X2-A-T

STRADA-2X2-A-T has asymmetrical Type II light distribution pattern. It is ideal for narrow roads or on high poles, fulfilling global street lighting requirements with ease and efficiency. STRADA-2X2-A-T has high luminance and illuminance performance and with excellent beam control and minimal glare. Also available as STRADA-SQ single lens.

STRADA-2X2-C-STP

STRADA-2X2-C-STP is designed for area and street lighting applications such as park lights and pedestrian walkways. It is also suitable for catenary luminaires.

STRADA-2X2-B2-STP

STRADA-2X2-B2-STP is designed for area lighting applications, but is also suitable for applications demanding a moderately wide oval beam pattern.
**STRADA-2X2-XW**

STRADA-2X2-XW provides uniform light with height distance ratio of 1:11 and 5° tilt. With extra wide beam it is especially good for security lighting and wider area coverage applications.

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**STRADA-2X2-NHS**

STRADA-2X2-NHS is an array of asymmetric lenses suitable for urban lighting. The special optical design minimizes light falling on the house side. This makes it particularly suitable for wall-pack and area lighting applications like for example park lights.

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**STRADA-2X2-TF**

Asymmetric STRADA-2X2-TF is designed especially for tunnel lighting applications. It’s strongly directed counter beam produces higher cd/m² efficacy with less lumen, and considerably improves visibility for the driver.
STRADA-2X2-VSM

STRADA-2X2-VSM is classified as IESNA Type V, with great luminance uniformity. It features symmetrical and wide square-shaped beam, which can be used from street lighting applications to parking lot lights.

STRADA-2X2-CAT

STRADA-2X2-CAT features wide oval beam designed for catenary luminaires especially in ME class. It provides uniform light with low glare and excellent cutoff. The module can also be rotated 90 degrees to illuminate extremely wide boulevards with closer installation distance. Besides street lighting, it is also suitable for tunnel and garage lighting applications.

STRADA-2X2-CY

STRADA-2X2-CY is designed for illumination of canopy areas in petrol stations and other low bay applications. Beam pattern is specifically designed to provide good and uniform horizontal light while providing enough vertical illumination.
HIGH BAY

LEDiL’s 2X2 HIGH BAY lenses are designed for DLC compliant high bay applications where the mounting height of the lighting fixtures is usually over ten meters. In addition, HB lenses can be used in other applications, such as indoor architectural and general lighting. There are different lenses for different lighting situations and mounting heights; generally, the wider the beam, the lower the luminaire can be mounted. Please check LEDiL application notes and datasheets for more detailed information, for example the LEDs applicable to each lens.

HB-2X2-O

Designed to be used in high bay applications in narrow spaces, for example aisles between shelves. It has an oval-shaped beam with excellent cut-off. The module is easily assembled and sealable, which excludes the need for an glass cover.

HB-2X2-RS

HB-2X2-RS is a high bay suitable spot lens with narrow 10 degrees light beam. It is ideal for high spaces like ice hockey arenas and stadiums.

HB-2X2-M

With 25 degrees rounded beam and excellent cut-off, HB-2X2-M has features that makes it stand out in the high bay fields. The standard-size module is quick to assemble and easily sealable, so no glass cover is needed over the lenses.
HB-2X2-RW

HB-2X2-RW has a wide 51 degrees rounded beam with excellent cut-off. Its light pattern goes between the HB-2X2-M and HB-2X2-WW, and can be used in both high and low bay applications. The module is easily assembled and sealable, so there is no need for an extra cover over the lenses.

HB-2X2-W

HB-2X2-W meets DLC high bay requirements. It has an optimal light distribution with a wide 53 degrees rectangular light pattern, low glare and excellent cut-off. The module is sealable, so no extra cover is needed over the efficient PMMA lenses. It is also available as a HB-5x1-W and HB-5x1-FLAT-W versions with the same light pattern.

HB-2X2-WW

HB-2X2-WW is an extra wide version of HB-2X2-W, with a rounded 62 degrees light pattern. Due to its design with low glare and excellent cut-off features it can be used in both high and low bay applications. The module is sealable, so no extra cover is needed. It is also available as HB-5x1-WW module and HB-IP-2X6-WW silicone module. Their light patterns are similar to that of HB-2X2-WW.
Installation of LEDiL modules

All LEDiL optical modules need to be installed properly in order to have product functioning as it’s designed. Modules are positioned with pins fitting into holes on the PCB. Both 2X6 and 2X2 modules should be fastened into heatsink with M3 screws tightened to 0,6 Nm.

**NOTE:** Use of the countersunk screws will break the lens, do not use other than LEDiL specified screws.

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### DIN 7985 / ISO 7045 / ISO 14583 TX

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Ingress protection of STRADA modules

STRADA-2X2 modules are designed to be sealed against environmental hazards with commonly available potting compounds. Sealant is applied with dispenser either manually or with automated XY-table. Notice that STRADA-IP, HB-IP and 2X2MX modules have integrated silicone gasket and therefore potting is not needed.

**To find out LEDiL recommended sealing compounds/adhesives, visit:**

http://www.ledil.com/recommended_materials

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Apply potting compound only outside the optical area. Lens is designed with barrier walls to keep the compound out of the lenses.