

LTwo[®]

light tube with optics



easy to install and service, but above all, it can be used for all purposes



reddot winner 2023

for LTwo®



for LTwo® and
Lumami® DESK



the ideal light

It was the idea of ideality that inspired us to develop a new lighting system. It should be simple, intuitive and usable everywhere, affordable for everyone and of high quality.

Inspired by the well-known form factor of the fluorescent tube and here especially the T5 tube, we have built up a new system. The first lamp/luminaire system in the world. Equipped with an optical module and 10 light directing optics, as well as 3 different covers, APL LTwo® offers more usable light than comparable tube luminaires, without disturbing light losses. All this from the same form factor, at only 16.4 mm – the diameter of a euro cent.

What are the advantages of a lamp/ luminaire system? Through simple but effective accessories, the light source already becomes a luminaire. A new, innovative and patented magnetic contact supports easy installation and also makes APL LTwo® interchangeable.

We offer a plug & play system solution for technically professional lighting, for almost any lighting application, which can be installed and/or integrated into materials and buildings without much training.

Easy to install and service, but above all, it can be used for all purposes.

**all purpose lighting!
the ideal light!**

disruptive



A modular, miniaturized light source-luminaire system



Disruptive performance: 1/10th of the size and weight of competing products



New innovative socket for easy installation



Maximum flexibility in material and building integration



Same or even better lighting results with optical precision and visual comfort



LTwo® is all about delivering the light you need and not the source

size 1:1



discreet disruptive

LTwo® is subtly revolutionary. It's seamless, from specification to installation. It's intuitive to understand, and easy to replace. It offers easy adaption and integration into all types of materials and building infrastructure, making sustainable lighting accessible and affordable for everyone.

invisible visibility

With LTwo®, the focus is on the quality of the lighting task. At the same time, the light source disappears into the architecture.

silently loud

LTwo® operates quietly in the background. Due to its miniature size its power and performance is not immediately noticeable, but it will make a lasting impact on your lighting design.

tiny versatility

Despite LTwo®'s tiny form factor in a miniature housing of 16mm diameter only, it offers endless lighting possibilities. Optically 13 variable photometry possibilities from spotlights to double asymmetric batwing structures enable professional lighting for offices, hotels, museums, or any other application you can imagine.

easy integration

LTwo® is designed for easy and seamless integration into spaces, structures and furniture. Custom solutions offer a myriad of lighting possibilities.

plug & play

LTwo® is like a lego of luminaires which can click, connect and swivel in any direction. It creates a myriad of layout possibilities from Landlord and Tenant space requirements.

award winning

LTwo® is already the star of the show for Innovation for the Red Dot 2023 awards, 'Innovative Products' and the Iconic Awards 2023 Lighting category.

the world's first lamp-luminaire system

Miniaturized D 16,4mm

13 quality optics

Easy to install

Low weight 180gr/m

For all purposes

CRI 90+

140mm – 1400mm

250 – 5,600 lm

all purpose

maximum flexibility to make spaces tangible

- Office
- Shops
- Museums
- Hospitality
- Corridors
- Staircases
- Living Spaces
- Entrance Halls
- Classrooms
- Restaurants+Bars
- Airports
- Meeting rooms
- Hotels
- Library
- Hospitals
- Shelf
- Do it yourself
- Material Integration
- Building Integration
- many more.

The limit is your imagination.



modular
for offices



integrated
in public spaces



flexible
for museums and galleries



material and building integration

Thanks to the easy-to-mount accessories and the high degree of material and building integration, LTwo® can also be easily integrated into furniture of any kind or even directly into the architecture of a room.



professional lighting becomes plug & play

With LTwo®, professional lighting becomes a plug & play solution for everyone. It is no longer the sole preserve of the luminaire industry to produce professional lighting solutions; with LTwo®, everybody can do it himself in the twinkling of an eye.

more Integrative

Standardized and miniaturized light directing illuminant with innovative lampholder concept(s) for easy adaptation and integration into all types of materials and/or building infrastructure using commonly available installation materials.

hassle free

Easy and intuitive for the craftsman/installer to understand, apply, specify/configure, order, store, install and replace.

more eco friendly

Minimal use of materials (embodied carbon) in production and building integration (static intervention) and contemporary energy efficiency (operational carbon).

diverse

Can be used in almost all lighting applications from decorative to technically sophisticated general lighting.

disruptive

Turn the rules of the established lighting market around. Allow „building“ OEM's to easily integrate the LTwo® into their systems with a minimal number of SKU's. Move luminaire construction to the construction-site with largely lowskilled personnel.

advantageous

Unique benefits for all stakeholders. Creates value and revenue streams.

more favorable

Make professional lighting more affordable for everyone.

LTwo® in numbers

$3 \times 2 \times 5 \times 6 \times 13$
= 2340 different solutions

2 operation modes

cc

cv

3 power levels

12w/m (cv)

20w/m (cv)

25w/m (cc)

2 colors

black

white

5 color temperatures

2700

3000

3500

4000

5000

6 lengths

140

280

560

840

1120

1400

13 optics

10°hb

13°

25°

40°

60°

90° - coming soon

oval

bwn

bww

ww

opal

diffuse

clear

features and benefits

Cross section at the size of a euro cent (16,4mm), like a T5 tube

48V Constant Voltage or Constant Current (600mA) fixture in lengths of 140mm, 280mm, 560mm, 840mm, 1120mm, 1400mm

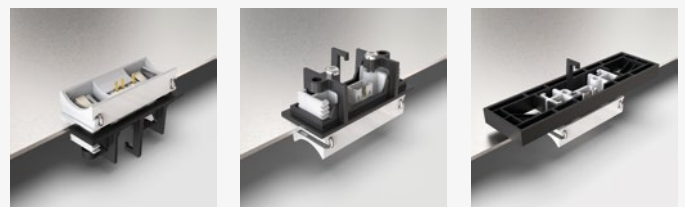
Rigid PCB board with 8 CSP LEDs per 140 mm and 16 CSP LEDs per 280 mm step for high efficiency

Color temperatures of 2700K, 3000K, 3500K, 4000K in CRI>90 and 5000K in CRI>80. Lumen output of max. 3000 lm/m



additional mounting accessories

For easy building or material integration on sheetmetal, wood, plaster board, plastering or surface mounting, on a flush mounted box or a flexible on-site customizable track system.





Snap-in connector for tool-free mounting with additional accessories. Screw holes for further mounting options

Coded magnetic luminaire holder for safe operation at 48V DC or in Constant Current mode (600mA). Safe operation of fixture in either mounting position, no risk of mis-polarity. Works for monochromatic or tunable white light

3 phase plug connector or terminal block for ease of assembly

Interlocking springs for additional safety in case of earthquakes

Fixture can be swiveled in 5° steps +/-20°. Dent for fixation in position

Aluminium profile for ideal heat dissipation at rated power.
 48V CV : 20W/m
 CC (600mA) : 25W/m

13 different high-quality optics from the always same form factor of 16.4mm diameter. 10°HB, 13°, 25°, 40°, 60°, 90°, Batwing wide, Batwing narrow, Oval (15°x40°), Wallwasher, Clear, Diffuse, Opal (Lambertian). Office optics meet DIN EN 12464-1 for good glare control and high visual comfort



change your LTwo® light source as easily as a light bulb

Illuminate your space with brilliance using our modern LED light source, seamlessly blending cutting-edge technology with the ease of handling you love from Edison light bulbs. Experience the future of lighting as our LTwo® products boasts a variety of integrated optics, ensuring a radiance that enhances any environment. Effortlessly transition to energy-efficient brilliance with simple installation, delivering the perfect blend of functionality and style. Embrace the convenience of modernity while enjoying the ease of classic Edison bulbs. Upgrade your lighting effortlessly – it's time to redefine your space with our state-of-the-art LED innovation.



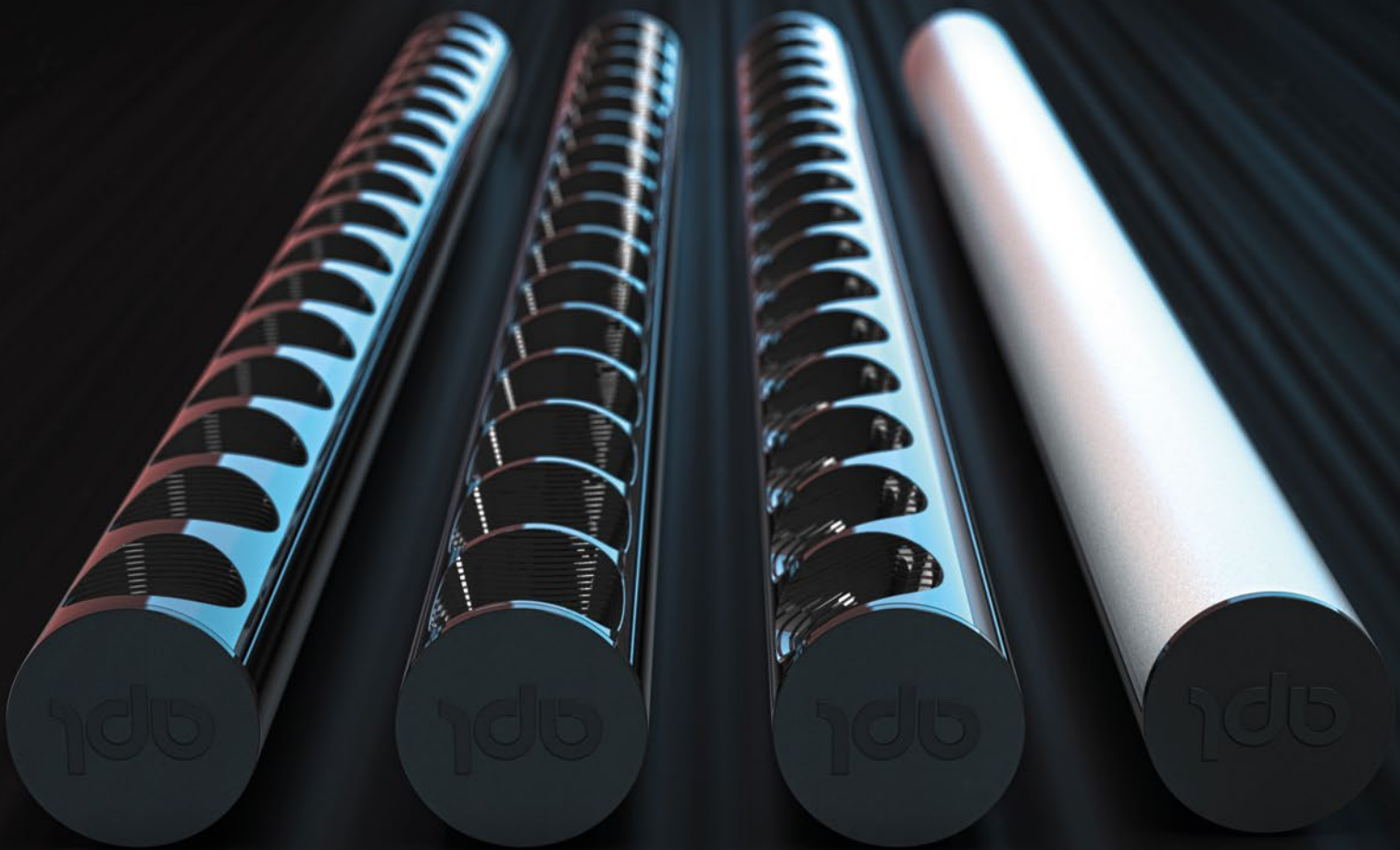
Plug & play installation
of LTwo® light source



Innovative socket allows
quick change of any
LTwo®



your style, your LTwo®



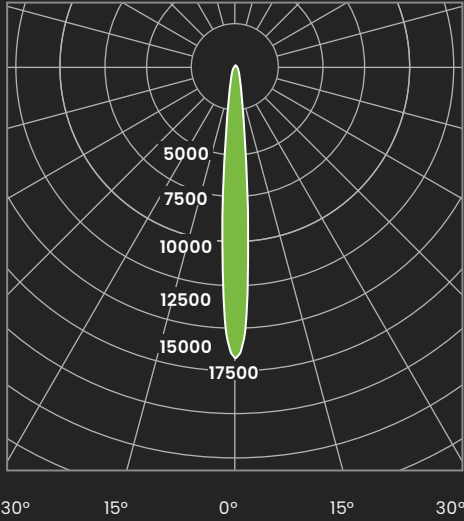
LTwo® comes in your favorite color.
Available not only in noble white,
but also in glossy deep black.

optics range & quality

13 high quality precision optics from the same form factor and socket system, in 18 power levels, deliver the maximum flexibility for light planning and building integration.

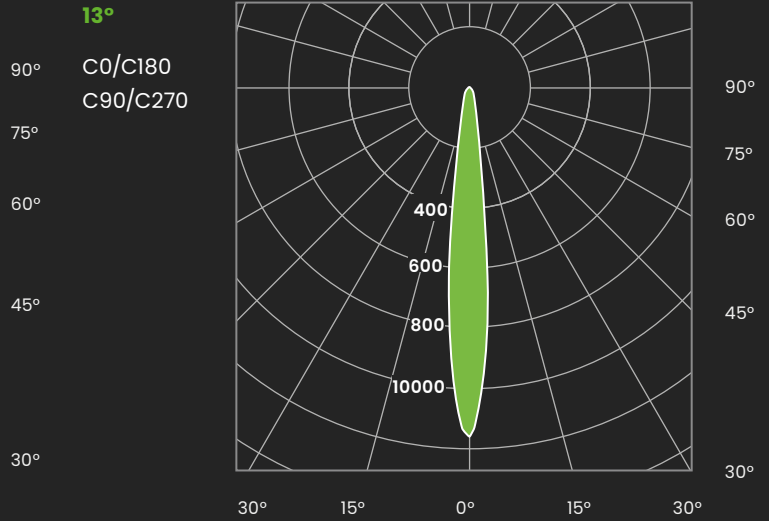
10°HB – narrow spot

C0/C180
C90/C270



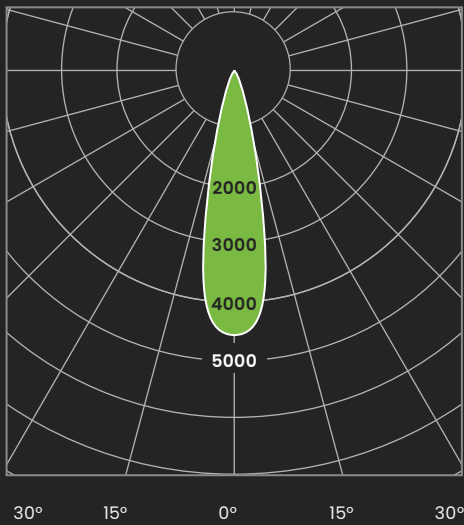
13°

C0/C180
C90/C270



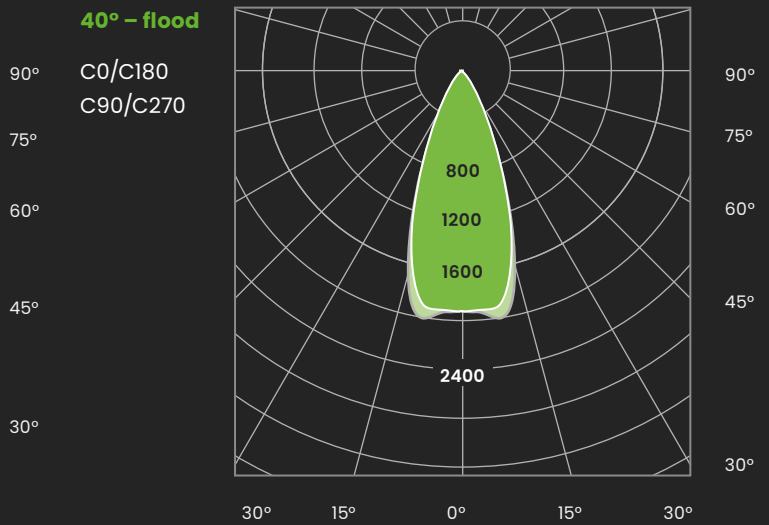
25° – narrow flood

C0/C180
C90/C270



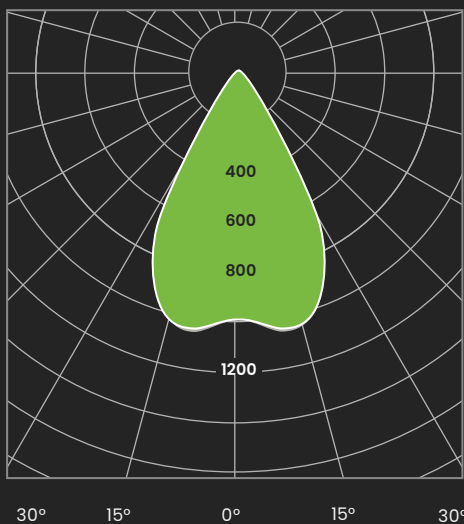
40° – flood

C0/C180
C90/C270



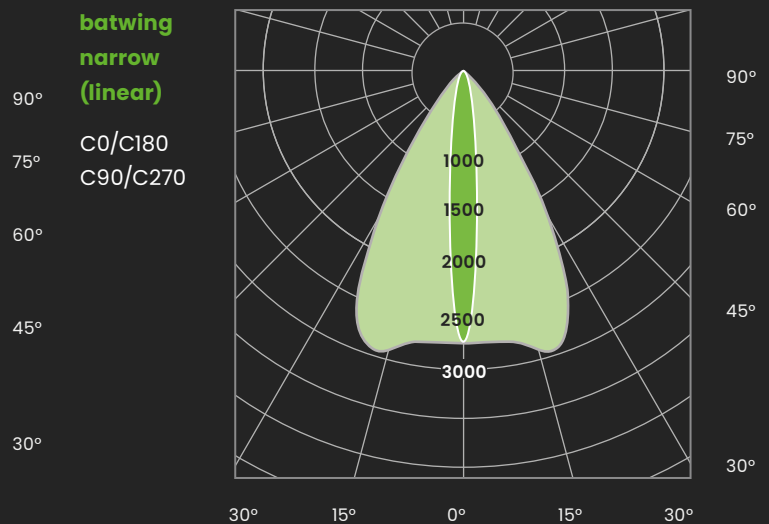
60° – wide flood

C0/C180
C90/C270



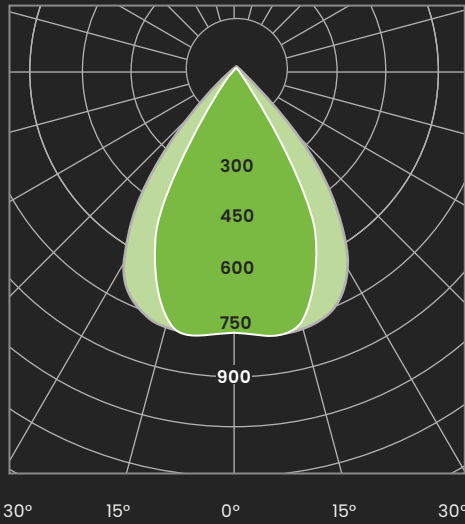
batwing narrow (linear)

C0/C180
C90/C270



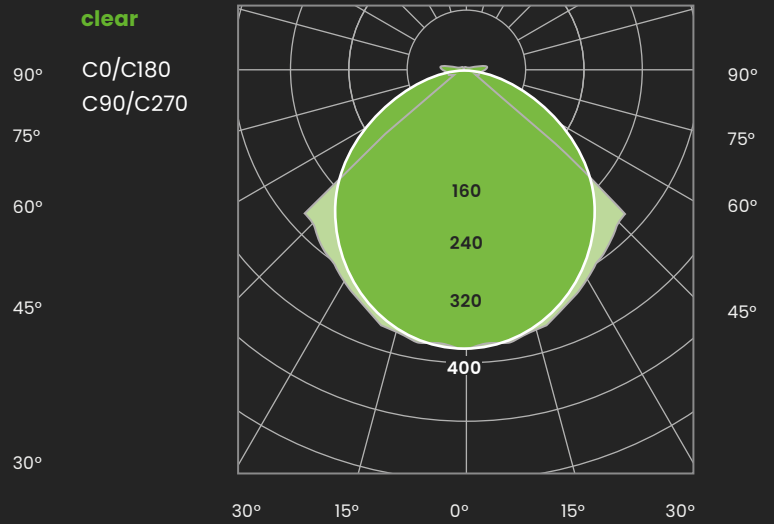
batwing wide

C0/C180
C90/C270



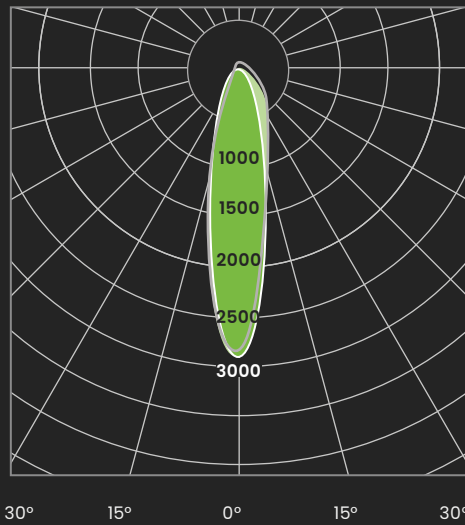
clear

C0/C180
C90/C270



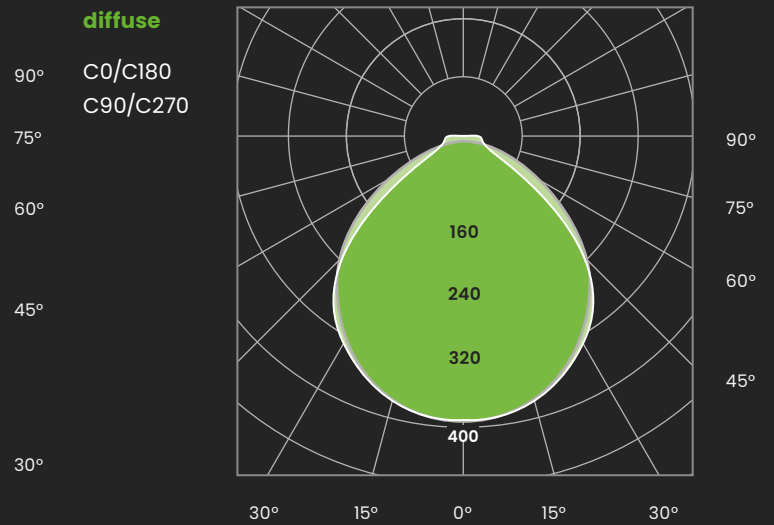
wallwash

C0/C180
C90/C270



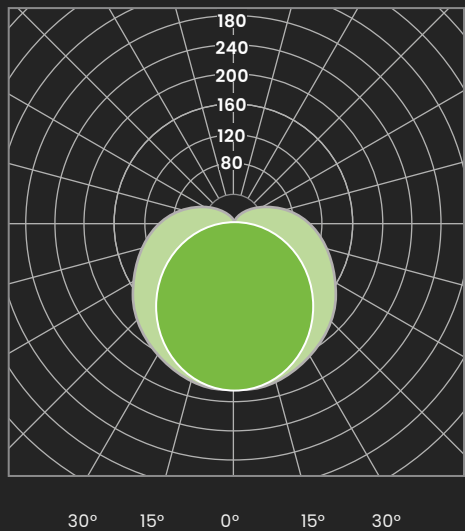
diffuse

C0/C180
C90/C270



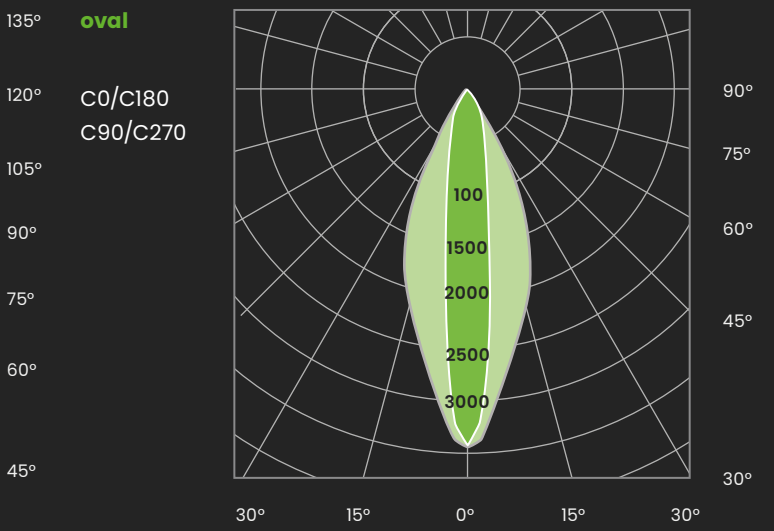
opal – lambertian

C0/C180
C90/C270



oval

C0/C180
C90/C270



LTwo®

Portfolio

constant voltage
and constant current





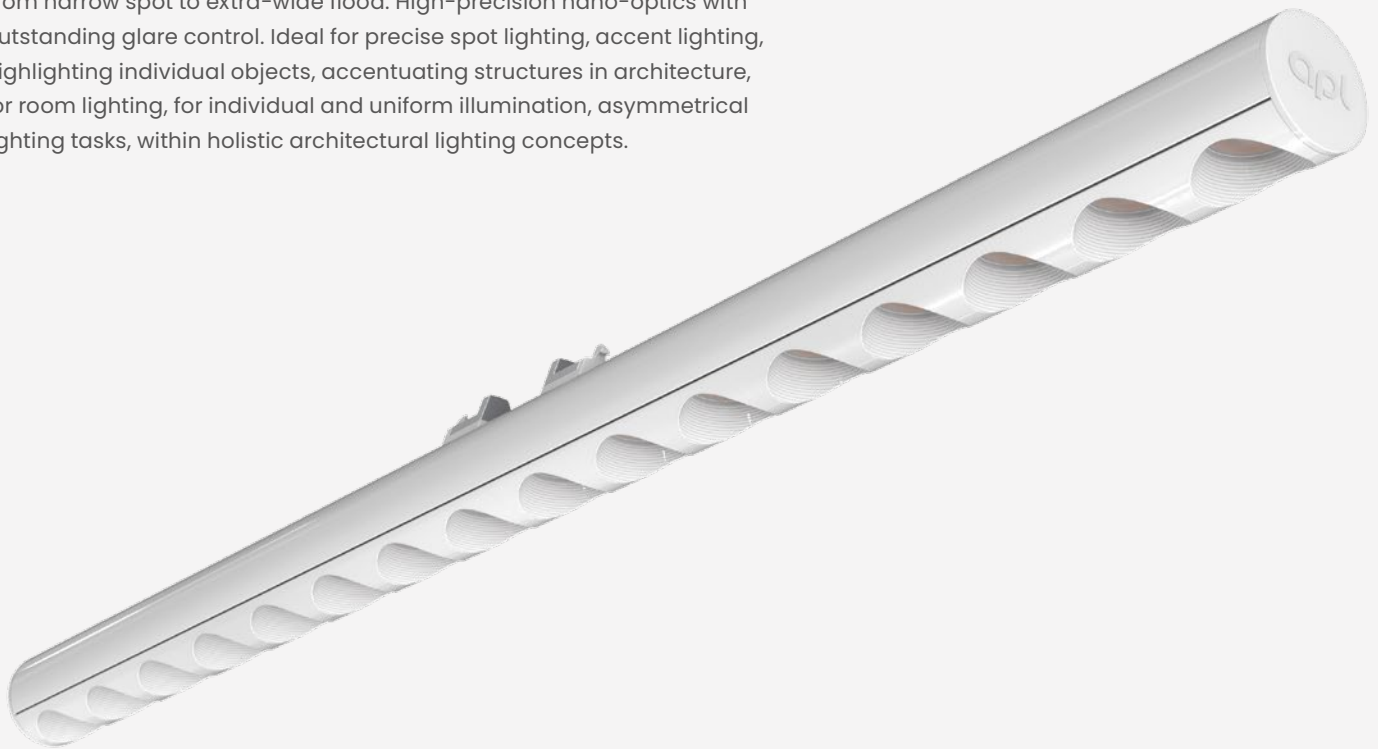
**have a look
at the portfolio
on our website!**

LTwo®

with optics

10°hb, 13°, 25°, 40°, oval, batwing narrow (bwn)

From narrow spot to extra-wide flood. High-precision nano-optics with outstanding glare control. Ideal for precise spot lighting, accent lighting, highlighting individual objects, accentuating structures in architecture, for room lighting, for individual and uniform illumination, asymmetrical lighting tasks, within holistic architectural lighting concepts.



general information

- optical efficiency
 - 10° HB (black ca. 79%, white ca. 83%)
 - 13° (black ca. 76%, white ca. 81%)
 - 25° (black ca. 78%, white ca. 83%)
 - 40° (black ca. 75%, white ca. 83%)
 - Oval (black ca. 82%, white ca. 80%)
 - BWN (black ca. 71%, white ca. 82%)
- 16.4 mm diameter
- 2700K, 3000K, 3500K, 4000K, 5000K (CRI >90)
- available in black (RAL9005) and white (RAL9016)

constant voltage (48V)

- 12W/m and 20W/m
- up to 3600 lumen (1402mm @5000K)
- 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (PWM)

constant current (600mA)

- up to 4300 lumen (1402mm @5000K)
- 142mm, 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (linear)

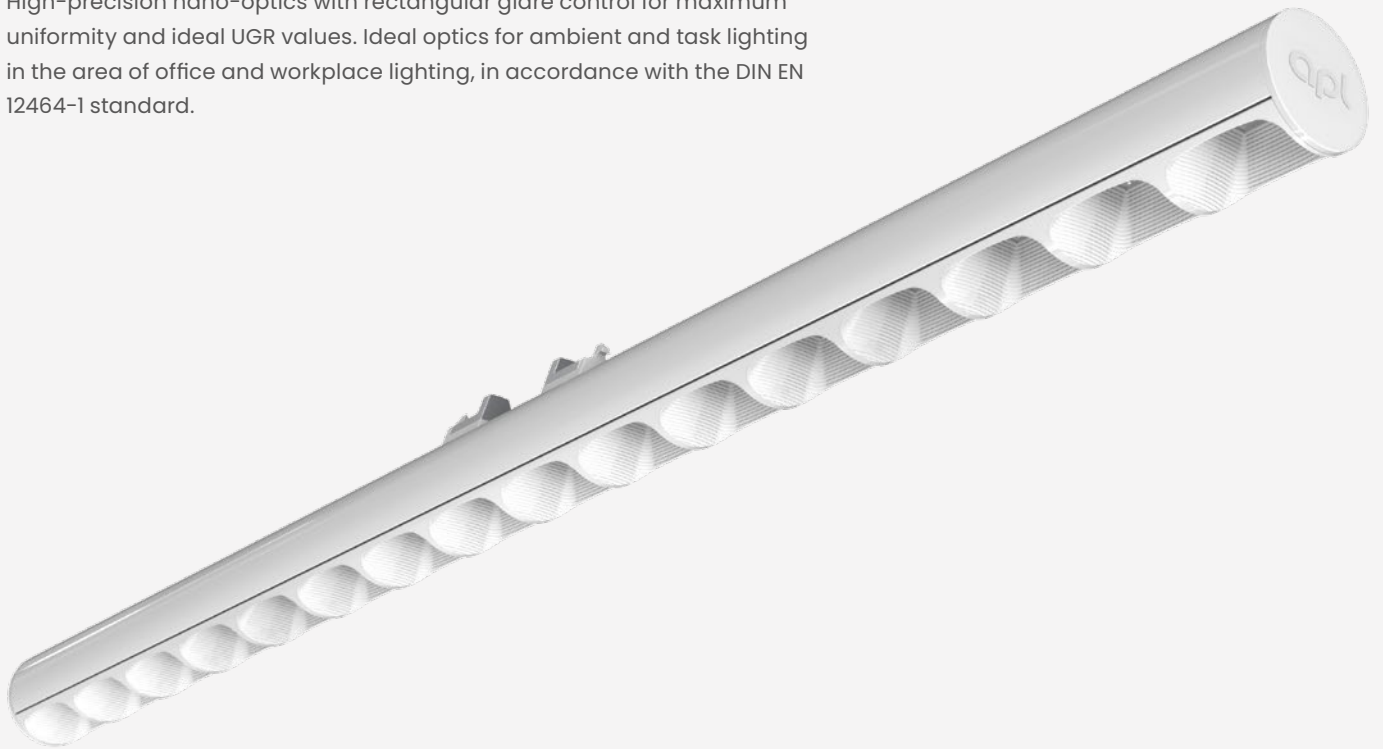
In addition, the lamp can still be tilted by +/- 20 degrees (in 5-degree increments) when installed. This ensures additional lighting comfort through individual alignment.

LTwo®

with optics

60° office, batwing wide (bww)

High-precision nano-optics with rectangular glare control for maximum uniformity and ideal UGR values. Ideal optics for ambient and task lighting in the area of office and workplace lighting, in accordance with the DIN EN 12464-1 standard.



general information

- optical efficiency
 - 60° black ca. 75%, white ca. 82%
 - BWW black ca. 59%, white ca. 76%
- 16.4 mm diameter
- 2700K, 3000K, 3500K, 4000K (CRI >90), 5000K (CRI >80)
- available in black (RAL9005) and white (RAL9016)

constant voltage (48V)

- 12W/m and 20W/m
- UGR <16
- up to 3500 lumen (1402mm @5000K)
- 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (PWM)

constant current (600mA)

- UGR <16
- up to 4200 lumen (1402mm @5000K)
- 142mm, 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (linear)

In addition, the lamp can still be tilted by +/- 20 degrees (in 5-degree increments) when installed. This ensures additional lighting comfort through individual alignment.

LTwo[®]

with wallwasher

High-precision wallwash optics from the smallest form factor for outstanding vertical illumination. Ideal for vertical wall illumination within holistic architectural lighting concepts.



general information

- optical efficiency
 - WW black ca. 68%, white ca. 71%
- 16.4 mm diameter
- 2700K, 3000K, 3500K, 4000K (CRI >90), 5000K (CRI >80)
- available in black (RAL9005) and white (RAL9016)

constant voltage (48V)

- 12W/m and 20W/m
- up to 3000 lumen (1402mm @5000K)
- 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (PWM)

constant current (600mA)

- constant current (600mA)
- up to 3700 lumen (1402mm @5000K)
- 142mm, 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (linear)

In addition, the lamp can still be tilted by +/- 20 degrees (in 5-degree increments) when installed. This ensures additional lighting comfort through individual alignment.

LTwo® with cover

clear, diffuse, opal

High-quality PMMA covers for absolutely homogeneous light lines, particularly uniform illumination or especially high luminous efficacy. Ideal for optimal and soft general and decorative lighting, efficient general lighting with high uniformity or high luminous efficacy.



general information

- optical efficiency
 - clear black ca. 83%, white ca. 93%
 - diffuse black ca. 82%, white ca. 93%
 - opal black ca. 60%, white ca. 77%
- 16.4 mm diameter
- 2700K, 3000K, 3500K, 4000K (CRI >90), 5000K (CRI >80)
- available in black (RAL9005) and white (RAL9016)

constant voltage (48V)

- 12W/m and 20W/m
- up to 4100 lumen (1402mm @5000K)
- 142mm, 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (PWM)

constant current (600mA)

- up to 5200 lumen (1402mm @5000K)
- 142mm, 282mm, 562mm, 842mm, 1122mm, 1402mm
- dimmable (linear)

In addition, the lamp can still be tilted by +/- 20 degrees (in 5-degree increments) when installed. This ensures additional lighting comfort through individual alignment.

optical losses

optical light losses

Optics	Black	White
10°HB	79%	83%
13°	76%	81%
25°	78%	83%
40°	75%	83%
60°	75%	82%
Batwing wide	59%	76%
Batwing narrow	71%	82%
Wallwash	68%	71%
Oval (15°x40°)	80%	82%
Opal	60%	77%
Diffuse	82%	93%
Clear	83%	93%
90°	Coming soon	Coming soon

performance data

constant voltage

LTwo® 12W/m lumen output per length and cct

All optics - 10°HB, 13°, 25°, 40°, 60°, 90°, Oval, BWN, BWW, WW

Watt CRI/CCT	3.4 W 280 mm	6.9 W 560 mm	10.8 W 840 mm	13.7 W 1120 mm	17.1 W 1400 mm	Efficiency lm/W
927	415	830	1245	1660	2075	121.2
930	450	900	1350	1800	2250	131.4
935	428	855	1283	1710	2138	124.8
940	450	900	1350	1800	2250	131.4
850	538	1075	1613	2150	2688	156.9

LTwo® 20W/m lumen output per length and cct

All optics - 10°HB, 13°, 25°, 40°, 60°, 90°, Oval, BWN, BWW, WW

Watt CRI/CCT	6.0 W 280 mm	11.9 W 560 mm	17.9 W 840 mm	23.9 W 1120 mm	29.8 W 1400 mm	Efficiency lm/W
927	660	1320	1980	2640	3300	110.6
930	714	1428	2142	2856	3570	119.7
935	680	1360	2040	2720	3400	114.0
940	710	1420	2130	2840	3550	119.0
850	853	1705	2558	3410	4263	142.9

LTwo® 12W/m lumen output per length and cct Opal, Diffuse, Clear

Watt CRI/CCT	1.8 W 140 mm	3.5 W 280 mm	7.0 W 560 mm	10.5 W 840 mm	14.0 W 1120 mm	17.5 W 1400 mm	Efficiency lm/W
927	239	478	955	1433	1910	2388	136.4
930	248	495	990	1485	1980	2475	141.4
935	256	513	1025	1538	2050	2563	146.4
940	264	528	1055	1583	2110	2638	150.7
850	269	538	1075	1613	2150	2688	153.6

LTwo® 20W/m lumen output per length and cct Opal, Diffuse, Clear

Watt CRI/CCT	2.9 W 140 mm	5.9 W 280 mm	11.7 W 560 mm	17.6 W 840 mm	23.4 W 1120 mm	29.3 W 1400 mm	Efficiency lm/W
927	393	785	1570	2355	3140	3925	134.2
930	406	813	1625	2438	3250	4063	138.9
935	420	840	1680	2520	3360	4200	143.6
940	434	868	1735	2603	3470	4338	148.3
850	440	880	1760	2640	3520	4400	150.4

performance data

constant current

LTwo® 25W/m @600mA lumen output per length and cct All optics - 10°HB, 13°, 25°, 40°, 60°, 90°, Oval, BWN, BWW, WW

Watt CRI/CCT	3.4 W 140 mm	6.8 W 280 mm	13.7 W 560 mm	20.8 W 840 mm	27.3 W 1120 mm	34.1 W 1400 mm	Efficiency lm/W
927	399	798	1595	2393	3190	3988	116.8
930	429	858	1715	2573	3430	4288	125.6
935	410	820	1640	2460	3280	4100	120.1
940	429	858	1715	2573	3430	4288	125.6
850	515	1030	2060	3090	4120	5150	150.9

LTwo® 25W/m @600mA lumen output per length and cct Opal, Diffuse, Clear

Watt CRI/CCT	3.3 W 140 mm	6.6 W 280 mm	13.2 W 560 mm	19.8 W 840 mm	26.4 W 1120 mm	33.0 W 1400 mm	Efficiency lm/W
927	498	995	1990	2985	3980	4975	150.8
930	514	1028	2055	3083	4110	5138	155.7
935	533	1065	2130	3195	4260	5325	161.4
940	550	1100	2200	3300	4400	5500	166.7
850	559	1118	2235	3353	4470	5588	169.3



LTwo® for all purposes



accessories



necessary accessories



four LTwo® magnetic luminaire holder

- PIT-block 3-pole
- JST-socket
 - Constant Current
 - Constant Voltage 48V



3-pole cable set with JST-connector

- for LTwo® magnetic luminaire holder
- Constant Voltage



3-pole cable set with JST-connector

- for LTwo® magnetic luminaire holder
- Constant Current

mounting accessories



rear mounting bracket to screw

- for screwing
- for LTwo® magnetic luminaire holder



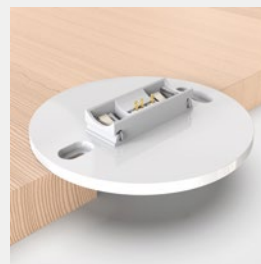
rear mounting bracket to snap in

- to snap in
- for LTwo® magnetic luminaire holder



rectangular mounting bracket

- for LTwo® magnetic luminaire holder



round mounting bracket

- for LTwo® magnetic luminaire holder



housing with internal thread

- for LTwo® magnetic luminaire holder



flush-box mounting bracket

- for LTwo® magnetic luminaire holder



90° angle adapter

- for LTwo® magnetic luminaire holder



30° angle adapter (museum angle)

- for LTwo® magnetic luminaire holder



use cases

LTWO[®]

The task of lighting design is to design light in such a way that rooms can be experienced according to their use. Where do I want the light? Where should it come from? Which tools can I use? LTWO[®] makes the connection.

Modular for offices. Integrated into public spaces. Flexible for museums and galleries. For direct, indirect or e.g. also vertical lighting. Can be used as a pendant luminaire, ceiling luminaire or wall luminaire, for example, thanks to simple and repeatedly interchangeable accessories. Or integrated directly into almost all materials or into the building structure.

LTWO[®] is a movable item. It can easily be moved from one room to another and used in all applications. It's interchangeability and the mounting accessories makes it child's play to change and adapt the intention of a room again and again.

For more flexibility and a high degree of sustainability.

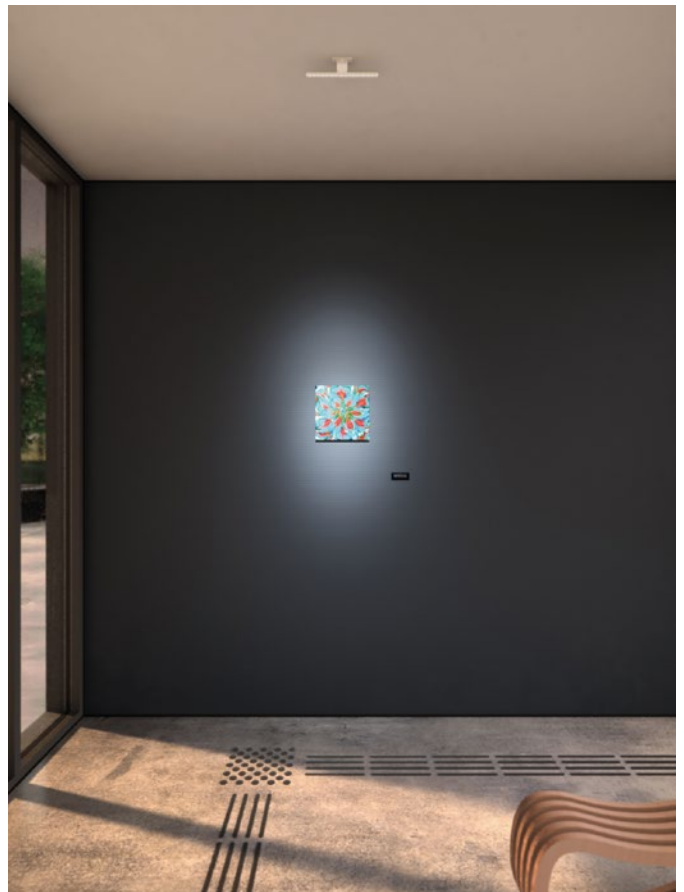


whatever your needs, LTwo® has got you



LTwo®, 13,7 Watt, 1527lm, Wallwash Optic

LTwo®-T5-CV-12-WW-1120-930-WW-MAG-IP20
with 30° angle adapter MH-T5-W2-1A (W-9016)



LTwo®, 6 Watt, 691lm, 13 Degree Optic

LTwo®-T5-CV-20-13-280-930-WW-MAG-IP20
with 30° angle adapter MH-T5-W2-1A (W-9016)

LTwo® provides you maximum flexibility and performance

A carefully selected luminaire is vital for illuminating art, as it can bring out the true colors and intricate details, offering viewers a richer and more immersive visual experience. Even more, proper lighting not only highlights the aesthetic aspects of artwork but also contributes to the overall atmosphere of the space, enhancing the ambiance and creating a more engaging environment. As well precision in lighting placement is essential to prevent glare and shadows, allowing the observer to appreciate the subtleties of brushstrokes and textures in the artwork. In this respect the exchangeable, plug and play ready LTwo® provides a maximum flexibility to choose the optimum beam angle and light quality from a pre-defined minimalistic outlet for the most immersive visual experience.



LTwo®, 13,7 Watt, 1785lm, 40 Degree Optic

LTwo®-T5-CV-12-40-1120-930-WW-MAG-IP20
with 30° angle adapter MH-T5-W2-1A (W-9016)



LTwo®, 6 Watt, 708lm, 25 Degree Optic

LTwo®-T5-CV-12-25-280-930-WW-MAG-IP20
with 30° angle adapter MH-T5-W2-1A (W-9016)

green

sustainability from cradle to cradle

In today's times it is not easy to speak about green products. Everyone does it. Everyone must do it. Many remain guilty of a proof. We will improve our products continuously and what we can confirm already today is the following:

highest optical
**task
efficiency**

up to
180 lm/w

90%
less material
and volume

state of the art technology

- LTwo® uses high efficiency LEDs from quality brands with a guaranteed lifetime of L80B10 >60.000h.
- The LTwo® light engines have an efficiency of 143 to 180 lm/W, depending on CRI (80 or 90) and operating mode (CV/CC).
- The optical modules have an efficiency of 59% to 93%, depending on the optics.
- The precision optics use the light more efficiently in every application. Therefore, the product is ideally tailored to meet and exceed green building standards in architecture and lighting design.

maximum attention to the responsible use of raw materials

- LTwo® uses about 90% less space and raw materials than comparable industry products. This conserves the scarce resources of our environment and reduces the overall carbon emissions from storage, packaging and transport.
- LTwo® consists of a small number of parts with recyclable materials. As it has no screws, it can be easily disassembled and added to the appropriate recycling circuit at the end of its life cycle:

Aluminium: 124 gr/m

Plastic: 49.5 gr/m

Electronic components 5.5 gr/m

Article no. 13404



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