Grafias

So many possibilities with each luminaire

LED

2016 / EN

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Grafias

RECESSED
SURFACED
SUSPENDED

A powerful and robust combination of quality lighting and excellent efficiency with a unique aesthetic style.

Until recently, high lumen output luminaires have been dependent on light sources that provide sufficient light, but insufficient light quality.

The past

For high-bay applications, high-pressure sodium and metal-halide have been the light source of choice thanks to their suitability for use at high wattages.

ST up to 100 lm/W, with CRI 25 and a lifetime of 24,000 hours
MT up to 70 lm/W, with CRI 70 and a lifetime of 12,000 hours

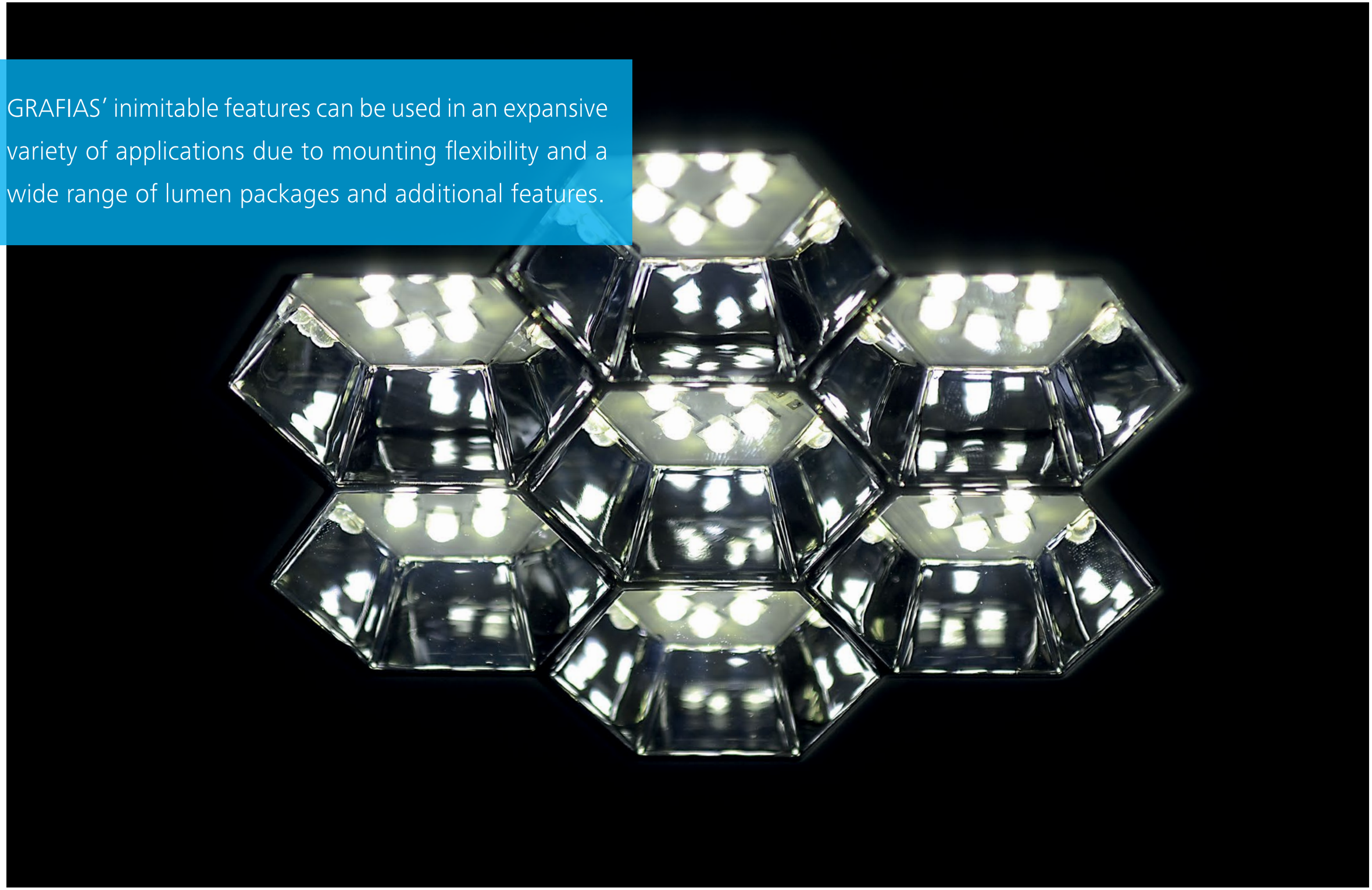
Now it is possible to have powerful illumination that is more efficient and longer-lasting as well as of sufficient quality to ensure high levels of long-term visual comfort.

The future

LEDs are suited to use in luminaires with high lumen outputs because of their modularity. They also offer improved lighting parameters.

LED
up to 123 lm/W

GRAFIAS’ inimitable features can be used in an expansive variety of applications due to mounting flexibility and a wide range of lumen packages and additional features.



Why LED

Many people still choose to install conventional luminaires despite the advancement of LED technology. So why exactly should we invest in LED?

- **LEDs are more effective.** They consume less energy to produce the same light, making them cost effective to run and eco-friendly. This is further enhanced by the fact that LEDs work for longer, approximately twice as long as an equivalent fluorescent light source. And that makes a big difference in the long run, saving time and money on light source changes in addition to the amount and cost of energy used.

- **LEDs are cleaner.** All light sources contain some amount of hazardous material. However, the amount contained in LEDs is negligible. The same cannot be said for many other types of light source as they often contain significant quantities of mercury and other substances. These substances are not only dangerous when released into the environment, but also detrimental to our health.

- **The light can be more easily controlled.** The light emitted from LEDs can be precisely controlled by optical systems designed specifically for LED. This means that light can be more evenly distributed, directed as needed, with reduced glare. Not only does this improve visual comfort, it further adds to the effectiveness of the overall lighting system.

- **LEDs offer better quality light.** High-quality LEDs offer excellent colour rendition properties, a wide range of colour temperature options, are fully controllable using switching and dimming, and can even emit physiologically beneficial light that benefits our health and wellbeing.

- **LEDs are infinitely controllable.** LEDs can be dimmed as much as you want with little effect on their lifetime. This is not the case for any other type of light source. What's more, LEDs can be digitally controlled in ways no other light source can, which offers almost inexhaustible possibilities for inclusion into comfortable-to-use and energy saving Lighting Management Systems.

- **Air conditioning systems can work less.** It is important that indoor spaces not be too hot so that occupants are comfortable and motivated. In large-area applications where many luminaires are switched on for extended periods of time, an immense amount of heat is emitted from conventional light sources. Subsequently, air conditioning costs in such spaces are very high. By using low-IR LED, the energy consumption of AC systems and associated costs can be greatly reduced.

ENERGY SAVING

ECO FRIENDLY

In our fight to protect the environment, reduce energy use, and minimise costs, it is clear that LED is the future of lighting.

With consistently increasing demand for energy and its environmental impact, we want to make choices that are not only financially but also ecologically sound. As powerful high-bay lighting consumes so much energy, it is of vital importance to pay attention to long-term luminaire performance. Making the step to install new LED lighting really can make a difference. Maybe more than you expect.

System efficacy

GRAFIAS luminaires offer exceptional efficacies. This is the result of combining the best LEDs with cleverly designed PCBs, selection of the most effective components, and the addition of high-performance optical systems.

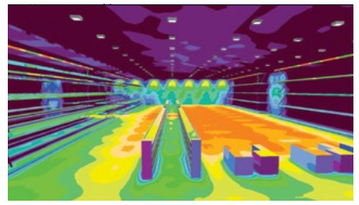
- GRAFIAS RECESSED up to 123 lm/W
- GRAFIAS SURFACED up to 123 lm/W
- GRAFIAS SUSPENDED up to 123 lm/W

Service lifetime

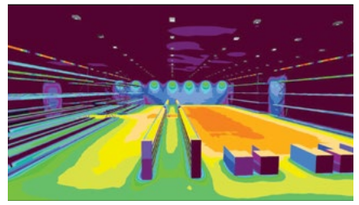
All GRAFIAS luminaires have a lifetime of 100,000 hours / L80. Based on 12 hours of operation per day, 7 days per week, this equates to almost 23 years of reliable service without the need to change a single light source. This can be further improved by the use of a Lighting Management System that allows for dimming and switching off as required, meaning that 100 % output is not used all the time and energy use reduced.

The real difference LED makes

PETRO SURFACED MT
200 W, 270 W, 15,200 lm, 56 lm/W



GRAFIAS SURFACED
140 W, 13,600 lm, 97 lm/W



System efficacy **▲ 73 %**
Energy consumption **▼ 48 %**

LED

ECO FRIENDLY

ENERGY SAVING

LIGHTING MANAGEMENT SYSTEM

Grafias

Most high-bay applications demand much of their lighting, and not only in terms of the illumination provided. GRAFIAS is designed to meet the needs of even the toughest environment, and does so effectively and efficiently.

RESILIENT AND LONGLASTING

GRAFIAS is built to last. All the materials chosen for its construction guarantee its ability to withstand whatever life throws at it, from extreme temperatures through bad weather to physical impact. A strong die cast aluminium body protects the components from the elements to ensure reliable operation and performance both indoors and outdoors.

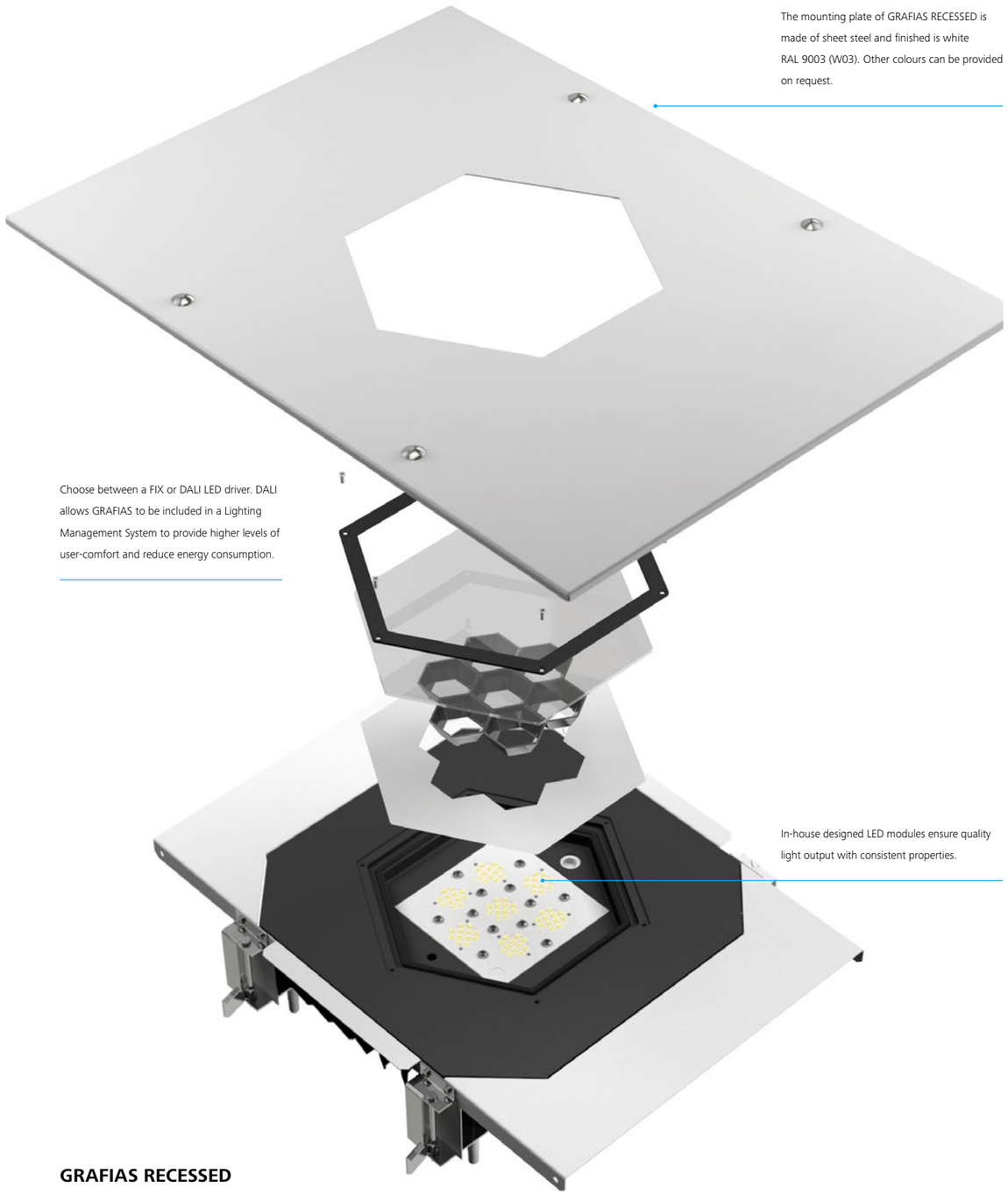
EFFECTIVE PASSIVE THERMAL MANAGEMENT

Almost the entire housing of GRAFIAS is a heat sink, which is in part responsible for the luminaire's unique styling. This makes it possible to provide very high lumen outputs without compromise on component performance and overall lifetime. Thanks to such an effective thermal management solution, GRAFIAS has a lifetime of up to 100,000 hours/L80.

MODULARITY

A special feature of GRAFIAS SUSPENDED is that it can be put together as multi-luminaire units. A specially designed frame allows for two or four luminaires to be placed together to provide very high levels of illumination (X1 up to 17,200 lm, X2 up to 34,400 lm, and X4 up to 68,800 lm). This is a great way to ensure high quality lighting for very high-bay applications, as well as to minimise electrical infrastructure.

Design and materials



The mounting plate of GRAFIAS RECESSED is made of sheet steel and finished is white RAL 9003 (W03). Other colours can be provided on request.

Choose between a FIX or DALI LED driver. DALI allows GRAFIAS to be included in a Lighting Management System to provide higher levels of user-comfort and reduce energy consumption.

In-house designed LED modules ensure quality light output with consistent properties.

GRAFIAS RECESSED

Designed to perform, no matter what life throws at it.

All variants have IP66, IK07, with SURFACED and X1 SUSPENDED variants also certified as ball-proof.

An additional reflector can be added externally to SURFACED and SUSPENDED variants to provide a more focused light distribution and reduce glare. Of course, if you add a reflector to the SURFACED or SUSPENDED X1 variants, they are no longer ball-proof.

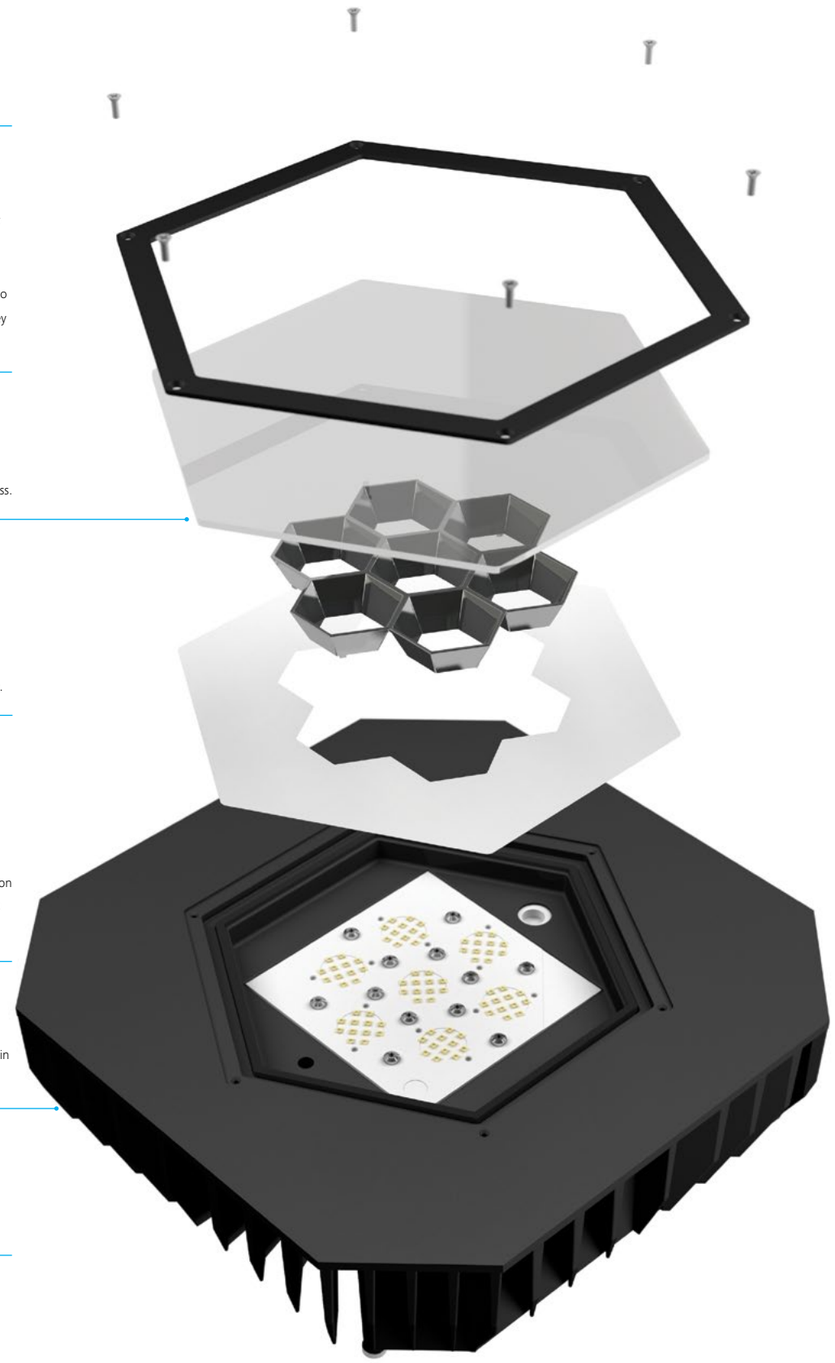
The cover is made of transparent hardened glass.

Polished evaporative coated polycarbonate reflectors are placed in a honeycomb configuration around several LED modules to provide a medium wide direct light distribution.

Suspension ropes of 1.5 m are used with standard SUSPENDED variants (to be ordered separately). Other lengths are available on request. Chain suspension is used in combination with a special mounting frame for X1 / X2 / X4 SUSPENDED variants.

The sturdy die cast aluminium body is finished in black (RAL 9005 (B05).

Some SUSPENDED variants can be equipped with a 3H emergency unit on request.



GRAFIAS SURFACED

Grafias Surfaced

Grafias variants

GRAFIAS is a powerful and highly versatile option for a wide range of applications.

GRAFIAS RECESSED

IP66 IK07

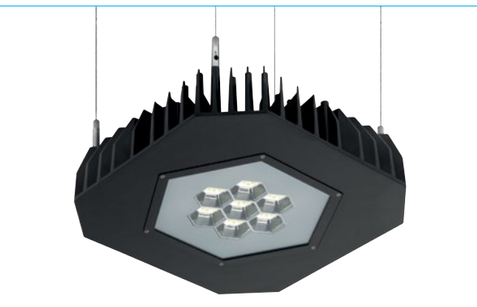
PV / PR

GRAFIAS SURFACED

IP66 IK07

GRAFIAS SUSPENDED / X1 / X2 / X4

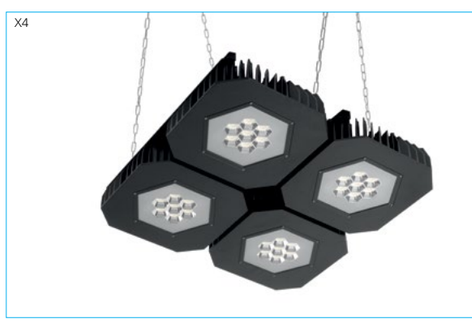
IP66 IK07 X1 ONLY



X1

X2

X4



Application

GRAFIAS SUSPENDED X1

GRAFIAS SUSPENDED X2

GRAFIAS SUSPENDED X4

SUSPENDED X1 / X2 / X4

Suitable for use in very high-bay applications where quality illumination is needed. It is possible to multiply the lumen output by combining two or four Grafias with a special frame suspension system equipped with various lengths of chain. Ideal for use in industrial and architectural settings, and for use in sports halls and arenas thanks to X1 being certified as ball-proof.

GRAFIAS SURFACED WITH 50° REFLECTOR

SURFACED 50°

Provide a narrower light distribution with reduced glare by opting for an additional external reflector. Ideal for use smaller spaces with high ceilings.

GRAFIAS SURFACED

SURFACED

Suitable for use in spaces with solid ceilings where high levels of quality illumination are needed. Easy to install directly on the ceiling and suitable for sports halls thanks to being ball-proof, and for indoor and outdoor industrial and architectural applications.

GRAFIAS RECESSED

RECESSED

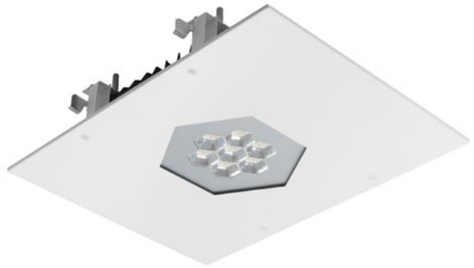
A discreetly styled option for spaces where high levels of quality illumination are needed without compromise on aesthetics. Ideal for use in stores and supermarkets with high ceilings, and for architectural use in large open spaces both indoors and outdoors.

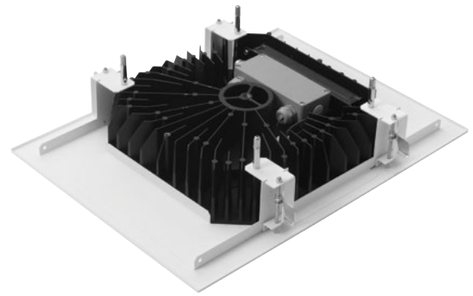
GRAFIAS SUSPENDED

SUSPENDED

Suitable for use in high-bay applications where quality illumination is needed. Select from various suspension rope lengths to bring the lighting closer to the area to be illuminated. Ideal for use in industrial and architectural settings.

Grafias Suspended



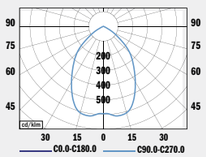


Grafias Recessed

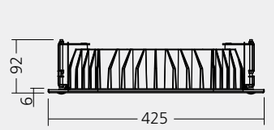
220-240V 50-60Hz | LED | CRI 65+ Ra | CRI 70+ Ra | CRI 80+ Ra | CCT 4000 K | CCT 5000 K | CCT 5700 K | ECG | ECG DALI | IP66 | IK07

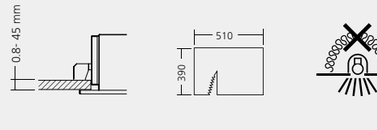
Mounting	Ceiling recessed (RCB)
Light source	LED
Optical system	Polished reflector (PRE)
Wiring	Electronic control gear FIX/DALI (ECG/EDA)
Materials	Housing: die-cast aluminium Reflector: evaporative coated PC Cover: transparent hardened glass Mounting plate: sheet steel
Surface finish	Mounting plate: white RAL 9003 (W03)
Accessories	Safety wires
Service lifetime	100,000 hours/L80
Ambient temperature	From -40 °C to +40 °C

GRAFIAS RECESSED
8800 lm 5000 K



LOR =100 %
lower flux fraction 100 %
upper flux fraction 0 %
UGR <28





TYPE	NET LUMEN OUTPUT (at Ta = 25 °C) [lm]	POWER CONSUMPTION [W]	SYSTEM EFFICACY [lm/W]	COLOUR RENDERING INDEX CRI [Ra]	CORRELATED COLOUR TEMPERATURE CCT [K]	BEAM ANGLE (C0-180, C90-270)	WEIGHT [kg]
GRAFIAS RCD	7200	99	73	80+	4000	70°, 77°	11.4
GRAFIAS RCD	8800	99	89	70+	5000	70°, 77°	11.4
GRAFIAS RCD	13,600	140	97	80+	4000	70°, 77°	11.4
GRAFIAS RCD	17,200	140	123	65+	5700	70°, 77°	11.4

Luminous flux tolerance +/- 10 %.

5 YEARS WARRANTY | MAINTENANCE FREE | ECO FRIENDLY | ENERGY SAVING | UV/IR | HEAT SINK | EEC A++/A+/A

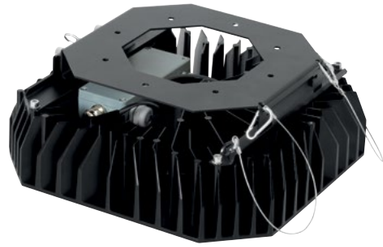
Grafias Surfaced

GRAFIAS SURFACED

POLISHED

LED

SURFACED WITH REF 50



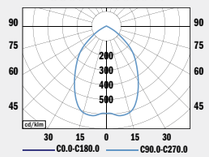
REF 50

Grafias Surfaced

220-240V 50-60Hz | LED | CRI 65+ Ra | CRI 70+ Ra | CRI 80+ Ra | CCT 4000 K | CCT 5000 K | CCT 5700 K | ECG | ECG DALI | IP 66 | IK 07

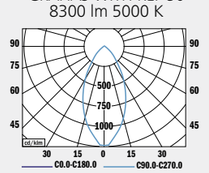
Mounting	Ceiling surfaced (SFD)
Light source	LED
Optical system	Polished reflector (PRE)
Wiring	Electronic control gear FIX/DALI (ECG/EDA)
Materials	Housing: die-cast aluminium Reflector: evaporative coated PC Cover: transparent hardened glass
Surface finish	Housing: black RAL 9005 (B05)
Accessories	Additional reflector with 50° beam angle
Service lifetime	100,000 hours/L80
Ambient temperature	From -40 °C to +40 °C

GRAFIAS SURFACED
8800 lm 5000 K



LOR =100 %
lower flux fraction 100 %
upper flux fraction 0 %
UGR <28

GRAFIAS WITH REF 50
8300 lm 5000 K



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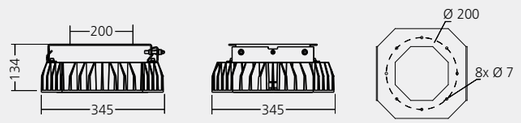
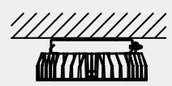
upper flux fraction 0 %
UGR <22





TYPE	NET LUMEN OUTPUT (at Ta = 25 °C) [lm]	POWER CONSUMPTION [W]	SYSTEM EFFICACY [lm/W]	COLOUR RENDERING INDEX CRI [Ra]	CORRELATED COLOUR TEMPERATURE CCT [K]	BEAM ANGLE (C0-180, C90-270)	WEIGHT [kg]
GRAFIAS SFD	7200	99	73	80+	4000	70°, 77°	9.0
GRAFIAS SFD	8800	99	89	70+	5000	70°, 77°	9.0
GRAFIAS SFD	13,600	140	97	80+	4000	70°, 77°	9.0
GRAFIAS SFD	17,200	140	123	65+	5700	70°, 77°	9.0
GRAFIAS SFD REF	6800	99	69	80+	4000	50°	9.2
GRAFIAS SFD REF	8300	99	84	70+	5000	50°	9.2
GRAFIAS SFD REF	12,800	140	91	80+	4000	50°	9.2
GRAFIAS SFD REF	16,200	140	116	65+	5700	50°	9.2

Luminous flux tolerance +/- 10 %.

5 YEARS WARRANTY | MAINTENANCE FREE | ECO FRIENDLY | ENERGY SAVING | UV/IR | HEAT SINK | EEC A++/A+/A

Grafias Suspended X2

GRAFIAS SUSPENDED

POLISHED

LED

Grafias Suspended

SUSPENDED

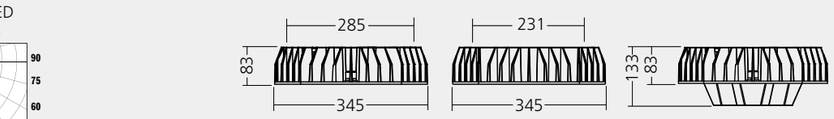
SUSPENDED X1 (BALL-PROOF VERSION)

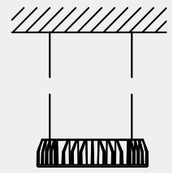
SUSPENDED X2

SUSPENDED X4

SUS 1.50 C0/045 SUSPENSION 45

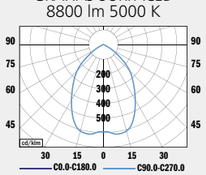
REF 50





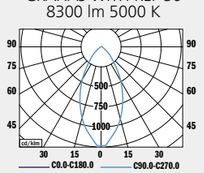
Mounting	Suspended (SSD)
Light source	LED
Optical system	Polished reflector (PRE)
Wiring	Electronic control gear FIX/DALI (ECG/EDA)
Materials	Housing: die-cast aluminium Reflector: evaporative coated PC Cover: transparent hardened glass Rope suspension
Surface finish	Housing: black RAL 9005 (B05)
Accessories	Additional reflector with 50° beam angle Rope suspension Chain suspension system: X1 – for 1 luminaire (ball-proof version) X2 – for 2 luminaires X4 – for 4 luminaires
Service lifetime	100,000 hours/L80
Ambient temperature	From -40 °C to +40 °C (from 0 °C with EM unit)

GRAFIAS SURFACED
8800 lm 5000 K



LOR =100 %
lower flux fraction 100 %
upper flux fraction 0 %
UGR <28

GRAFIAS WITH REF 50
8300 lm 5000 K



LOR =100 %
lower flux fraction 100 %
upper flux fraction 0 %
UGR <22

TYPE	NET LUMEN OUTPUT (at Ta = 25 °C)	POWER CONSUMPTION	SYSTEM EFFICACY	COLOUR RENDERING INDEX	CORRELATED COLOUR TEMPERATURE	BEAM ANGLE	EMERGENCY UNIT 3H	WEIGHT
	[lm]	[W]	[lm/W]	CRI [Ra]	CCT [K]	(C0-180, C90-270)	[lm]	[kg]
GRAFIAS SSD	7200	99	73	80+	4000	70°, 77°	–	7.8
GRAFIAS SSD	8800	99	89	70+	5000	70°, 77°	–	7.8
GRAFIAS SSD	13,600	140	97	80+	4000	70°, 77°	250	7.8
GRAFIAS SSD	17,200	140	123	65+	5700	70°, 77°	300	7.8
GRAFIAS SSD REF	6800	99	69	80+	4000	50°	–	8.0
GRAFIAS SSD REF	8300	99	84	70+	5000	50°	–	8.0
GRAFIAS SSD REF	12,800	140	91	80+	4000	50°	–	8.0
GRAFIAS SSD REF	16,200	140	116	65+	5700	50°	–	8.0

Luminous flux tolerance +/- 10 %.

5 YEARS WARRANTY · MAINTENANCE FREE · ECO FRIENDLY · ENERGY SAVING · UV/IR · HEAT SINK · EEC A++/A+/A

Grafias Recessed

OMS

Quality lighting developed and produced in Europe.

OMS is the developer and producer of industrial and state-of-the-art luminaires and comprehensive interior and exterior lighting solutions. Since our establishment back in 1995, we have risen to become one of the fastest growing lighting companies in Europe, operating in 122 countries around the globe.

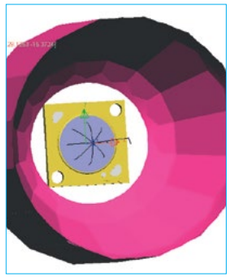
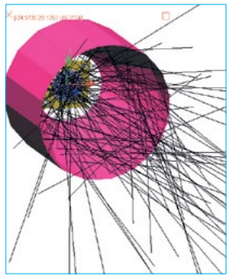
Established	1995
Number of employees	950
Export	98.5 %
Production surface area	93,500 m²

GRAFIAS

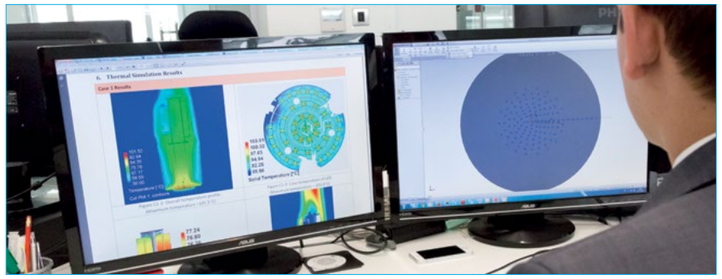
Innovation requires a different approach.

We have one of the best equipped R&D departments in Europe where you will find a team of highly qualified and experienced specialists. This allows us to develop products from concept to manufacture all under one roof.

OPTICAL DESIGN
Optimal luminaire performance is only achieved if effective and appropriate optical parts are selected and refined to meet the specific needs of each product. We have access to the latest development technologies as well as having vast practical experience and theoretical knowledge, all of which are applied to every product that passes through our hands.

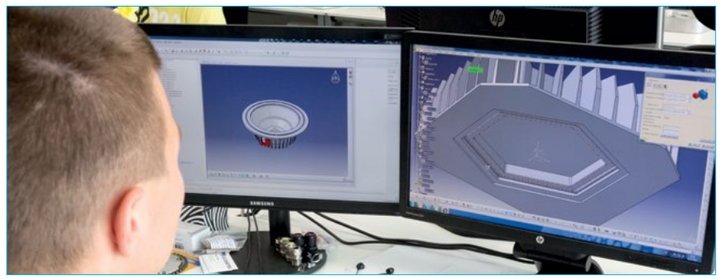




THERMAL DESIGN
The digitisation and miniturisation of technologies places increased emphasis on the use of optimal thermal management. We have extensive test facilities that allow us to characterise every product to ensure reliable performance. We are also active in research and the development of innovative concepts.



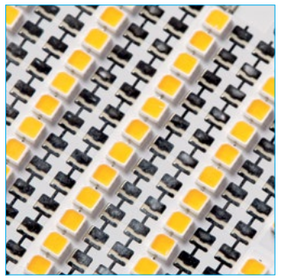
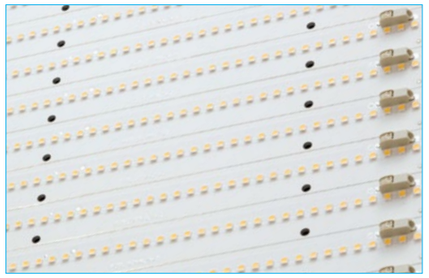
ELECTRONIC DESIGN
The boundaries of electronic design are consistently being broken by new technologies as well as by the innovative use of existing ones, highligthing the need for flawless development processes. We create advanced system level designs with all stages verified in-house, including DALI compatibility and long-term performance. In addition, we put a great deal of energy into the innovation of new products.


MECHNICAL ENGINEERING
We have more than 20 years of experience in the mechanical design of luminaires, their customisation, and the development of other mechanical appliances and precision tools such as optical measurement and electronic testing devices. Using the latest software, analysis methods and equipment, we can develop mechanical designs for anything from the simplest tools to complete mechanical solutions.

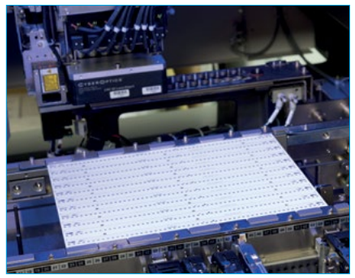


From concept to manufacture, under one roof.

Our superior manufacturing capabilities are the backbone of the company. For this reason, we view continual technological development as paramount and invest our energy in what matters most.

LED PRODUCT DEVELOPMENT
LED light sources offer a great many advantages over conventional ones because they are fundamentally different technologies. This means that the development of LED products requires a fundamentally different approach to their industrial, optical, electronic, thermal, and mechanical design.




LED PRODUCT MANUFACTURE
Our LED modules are designed by our own electrical engineers in close collaboration with the optical and thermal teams. This, in combination with fully automated PCB production, means our products meet the most rigorous design standards. All of our LED luminaires are assembled in a specialised ESP facility and thoroughly tested using precision equipment in line with stringent ISO 9001 technical standards.

METAL & PLASTICS PRODUCTION
We have been manufacturing luminaires for more than 20 years. That history stands as a firm foundaton for our current high-tech production facilities and processes. We use a wide range of machines that together offer us unbeatable production scalability and versatility.


SPECIAL REQUEST FACTORY
Our special request factory provides us with unrivalled flexibility. The machines allow us to make very small and precise parts with ease and at speed so that we can respond quickly to customer demand, produce rapid prototypes and customised solutions, and shorten the development time of new products.