



PROVOLITANS

Product catalogue

2022

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OUR VISION



PROVolitans believes in innovation with purpose. We have listened to the leading aquarium and zoo professionals for the last ten years, gathering unique insights which we have combined with an unparalleled depth of technical and engineering knowledge to create something truly remarkable.

Designing biotope lighting solutions is an extremely important facet in creating sustainable animal habitats. It's crucial to understand the intricate circumstances of each species' natural lighting requirements, based on where on our planet their geneological heritage is based and its importance to their well-being. Light is, after all, an integral part of life.

This sets **PROVolitans** apart from other suppliers of lighting in the industry. We do our due diligence and take the time to comprehend the full spectrum of our responsibility.

We design and assemble our solutions locally, from the luminaries to the control systems. We leave nothing to chance and carefully measure every detail. We do not import luminaries and simply put our logo on them.

All of this creates solutions that leaves professionals and visitors alike speechless, ultimately allowing for a higher quality that benefits everyone.



● ● ● ● **MADE**
● ● ● ● **IN**
● ● ● ● **FINLAND**





THE PROVOLITANS GUARANTEE



PROVolitans is the only global supplier of lighting for the zoo & aquarium market to offer a full five year international warranty. That includes everything from the luminaries to the control system.

We keep a constant stock of luminaries in case of emergency. After all, you wouldn't keep your animals in the dark, and you shouldn't be either.

We've never had to use the emergency units, but it gives you the peace of mind to spend your time on what matters, and is the most environmentally friendly approach.



A WORLD OF POSSIBILITIES

*Fully customizable technology
that adheres to the shape of your world*



Zoological habitats are truly dynamic biomes, and as such they are subject to change and necessary alterations.

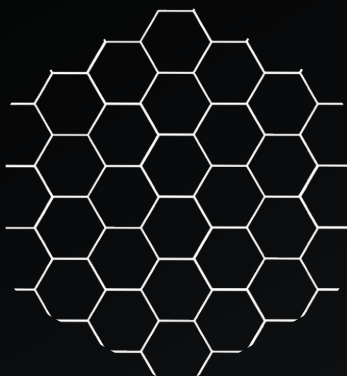
This is why we have taken the next step in the industry and will allow our industry partners to modify the light after the initial installation. Thinking and acting sustainably is the path to the future, and being able to get the most from your LSS equipment is key.

Modulating not only the color of the light, but exchanging the reflectors will allow for unprecedented possibilities in letting our equipment fit any change that your exhibits may need.

This means that the relevant technical staff can easily exchange glass lenses and reflectors in order to completely change the performance of a luminaire that may have served another purpose entirely, for years.

Considering that **PROVolitans'** technology has a proven track record of standing the test of time, with some of our installations having been running for over a decade, you are now able to get even more with **LeS**.

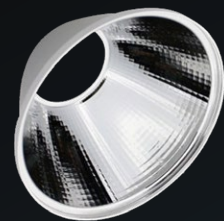
That is why **PROVolitans** is the only serious alternative for lighting solutions of world-class zoological exhibits.



Honeycombs & barn doors for the optimal visitor experience



Replaceable protection glass for easy service and spectrum adjustment



Replaceable reflectors that changes the beam angle

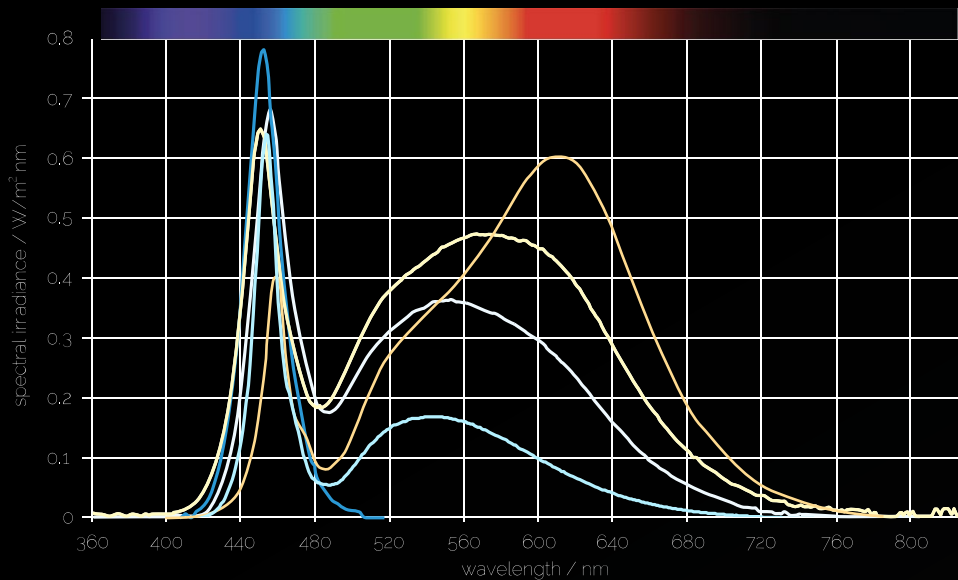
REAL FULL SPECTRUM LIGHT

Creating a truly full spectrum light, intricately controlled with the latest control system protocols, to faithfully recreate any natural lighting conditions. Because true light is white light.



One of the most important property of our **LeS** technology is its spectral qualities. It's one of the primary factors that sets us apart from all other actors on the market, who often rely on a constellation of different RGB diodes to create a spectrum; but nature knows better.

We have spent the last decade perfecting the most natural light spectrum possible, using from the needs of animals as our starting point.



PV24 warm white - 4000K

- accentuated red wavelengths, suitable to lush tropical exhibits that needs plenty of vibrant colors, such as reptile and amphibian habitats.



PV750 sunny white - 5000K

- a great choice for any natural lighting project or fresh water exhibit.



PV765 natural white - 6500K

- like tropical sunlight, one of our most popular option for tropical coral reef exhibits. Frequently used in habitats with a mediterranean theme.



PV10K crispy white - 10000K

- our most unique spectrum, created in close cooperation with established coral growers, delivers a crisp white light while achieving astonishing PAR levels.

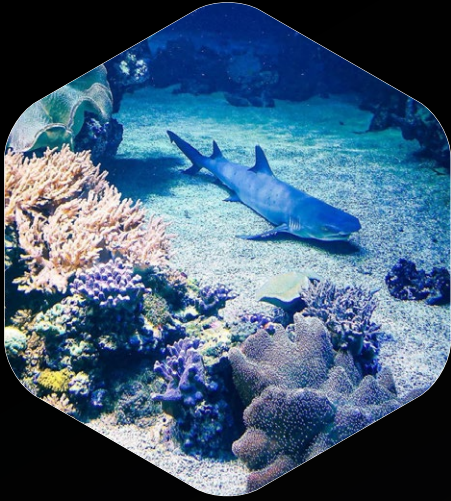


Ultima Blue

- simulates deep ocean, creating a mysterious ambiance and can be used together with the PV765 to create a sense of depth to any larger ocean exhibit.

CUSTOM SPECTRUMS

Some projects require new thinking, and that's we shine.



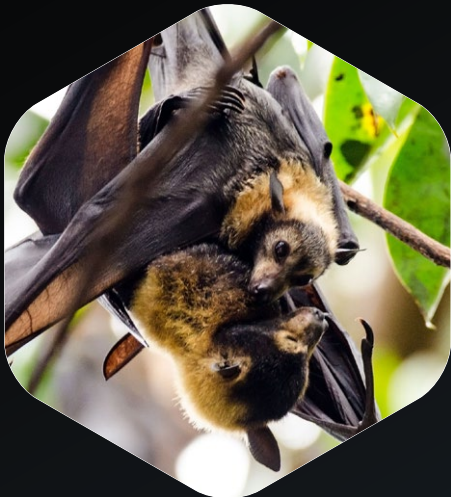
Combined PV10K + Ultima Blue spectrum

- unique habitats require a unique light, such as coral exhibits with black tip reef sharks



Horticulture grow light

- when you want to keep the light natural, but supply a noticeable boost to plant growth



Filtered non-actinic red

- can be used with light sensitive and night active animals and special twilight exhibits



APPLICATIONS

No matter the biotope, whether it's commercial, educational, research, or leisure-related, nobody does it better than us.

Aquariums is where PROVolitans was born, and where we are unmatched in the world.

From the most active coral reef exhibits to the deepest ocean tanks, we create dynamic experiences for any habitat. Our proprietary technology and restless creativity allows us to supply solutions that are unlike any other in the world.



The intensity and flawless full spectrum makes it exceptionally suitable for horticultural exhibits.

The compact nature and thermal properties of the LeS light has a significant effect on plant physiology, and the behavior patterns on the animals who live their lives in the shadow of their canopies. After all, heat and shadows is an integral to sunlight we're emulating.



A new and groundbreaking discovery is the effect of the LeS light on commercial crops in the growing industry of greenhouse farming.

The thermodynamic properties of our light and optical features replicates natural sunlight much more than LEDs, and allows for a far superior economic production of sustainably grown vegetables.



Recirculating aquaculture systems (RAS) is a rapidly developing method for sustainable fish farming.

Being able to intricately control the lighting conditions to accurately recreate natural lighting conditions is of crucial importance. Preventing diseases and abnormal behavior in the livestock affects the production and quality of the final product.





CONTROL SYSTEMS

We create our control systems with full understanding of its purpose. In cooperation with your technical staff, we design, manufacture, and program systems that are able to fit within any existing protocol systems.

Offering on-site commissioning simplifies the process in every way, from installation to maintenance and operational training to relevant personnel.

All control systems are fully covered by our international five year warranty.



To make PROVolitans luminaries universally controllable, we have created a proprietary control system that has unparalleled functionality out-of-the-box.

Whether you're looking to use DMX, DALI, Modbus, SCADA or 1-10V dimming, our fully custom solution fits any current facility controlling system protocols.

You simply tell us how your current system works, special addresses, desired cable lengths, and special IP requirements, and we make our solution fit your needs. Touch screens, staff training, and commissioning is also offered.

It shouldn't be more difficult, and with PROVolitans - it isn't.



CHOOSE LeS, SAVE MORE

With global energy prices fluctuating wildly, carefully choosing the most energy efficient light sources is more important than ever. LEDs have previously been perceived as the most viable option when replacing old discharge bulb technology.

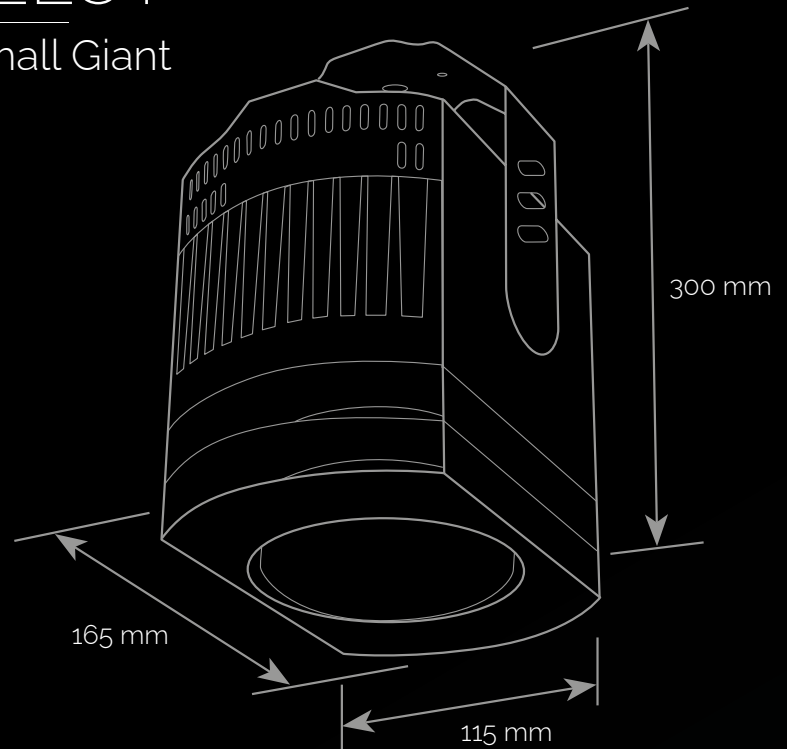
On average, our LeS light source technology is twice as efficient as LEDs. That means that the investment is paid back in full approximately one year after installation in typical exhibits compared to LED luminaries.

Being fit for purpose in harsh environments also allows for a much longer lifespan of the luminaries, meaning that the savings continue for years.



OCELOT

The small Giant



Technical info		40	80	120
Power	w	40	80	120
Luminous flux	lm	6 600	13 200	19 800
Luminaire efficiency	lm/w	165	165	165
Light source lifespan	hours	200 000	200 000	200 000
Luminaire control				
Luminaire reconnection	ms	0.075	0.075	0.075
Includes Sunlight timer/dimmer	%	0-100	0-100	0-100
Manual control on/off		Yes	Yes	Yes
DMX/Modbus/DALI/Scada/1-10V		Yes	Yes	Yes
Mechanical data				
Protection class		IP67	IP67	IP67
Ambient working temperature	°C	-42 ... +70	-42 ... +70	-42 ... +70
Warranty	years	5	5	5
Cleaning - allows pressurized water/air	max bar	2	2	2
Recyclable material	%	100	100	100
Weight	kg	4.0	4.0	4.0
Installation				
Roof, wall, track, cable suspension		Included	Included	Included
Power supply (electronic) class 2, MWHLG				
Luminaire current, 232 VAC	A	0.72	0.72	0.72
Efficiency	%	97.2	97.2	97.2
Voltage range / 50-60Hz	VAC	90 - 305	90 - 305	90 - 305
Power supply protection class		IP65 / IP67	IP65 / IP67	IP65 / IP67
Power supply distance from luminaire	m	0 - 30	0 - 30	0 - 30

The Ocelot does more with 120W than many LEDs do with twice that wattage.

Its subtle form factor allows for countless applications and the powerful optics means it can be installed anywhere. By far our most popular luminaire model, and it never ceases to amaze.

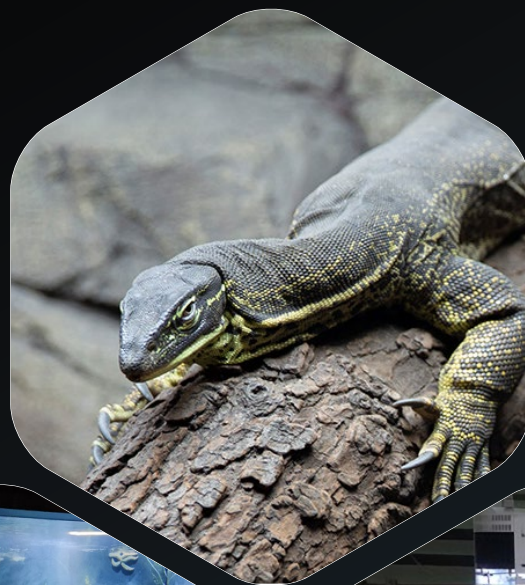


Examples

Anything is possible with the Ocelot, whether you are contemplating replacing your old 400W HQI luminaires, upgrading from conventional LED units that may not have been able to cope with the harsh environments above your exhibits, or if you're looking to create an entirely new and exciting light environment.

Variations of the Ocelot can also be used for the most creative applications, delivering a unique experiences.

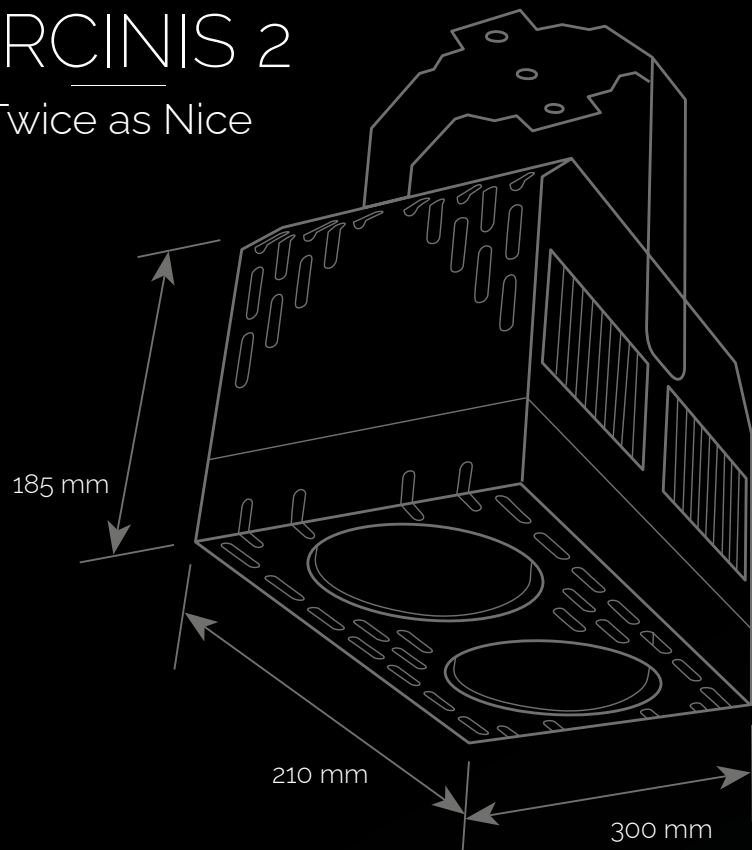
- Mounted in underwater casings at a famous Belgian Zoo's outdoor Sea Lion exhibit, custom luminaire casing cast in concrete, to ensure longest possible lifetime of the product.
- Illuminating the Bahrain Aquarium, at 25m above the exhibit floor, equipped with extremely narrow optics and recessed into the ceiling with honeycombs for an optimal visitor experience and lowest possible power consumption.
- Aimed towards the ceiling of an exhibit housing African Penguins, creating a unique indirect light that is as animal-centric as possible, eliminating all shadows.



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ORCINIS 2

Twice as Nice



Technical info		Orcinis 2
Power	w	240
Luminous flux	lm	39 600
Luminaire efficiency	lm/w	165
Light source lifespan	hours	200 000
Luminaire control		
Luminaire reconnection	ms	0.075
Includes Sunlight timer/dimmer	%	0-100
Manual control on/off		Yes
DMX/Modbus/DALI/Scada/1-10V		Yes
Mechanical data		
Protection class		IP67
Ambient working temperature	°C	-42 ... +70
Warranty	years	5
Cleaning - allows pressurized water/air	max bar	2
Recyclable material	%	100
Weight	kg	5.9 - 7.6
Installation		
Roof, wall, track, cable suspension		Included
Power supply (electronic) class 2, MW/HLG		
Luminaire current, 232 VAC	A	0.72
Efficiency	%	97.2
Voltage range / 50-60Hz	VAC	90 - 305
Power supply protection class		IP65 / IP67
Power supply distance from luminaire	m	0 - 30

The Orcinis 2 is the bigger brother of the Ocelot, and optimal when the light level requirements are higher, or that the light requirements calls for a combination of light sources.



It delivers approximately the same amount of light as a 500W LED, and is optimal for replacing 600W HQI luminaries.

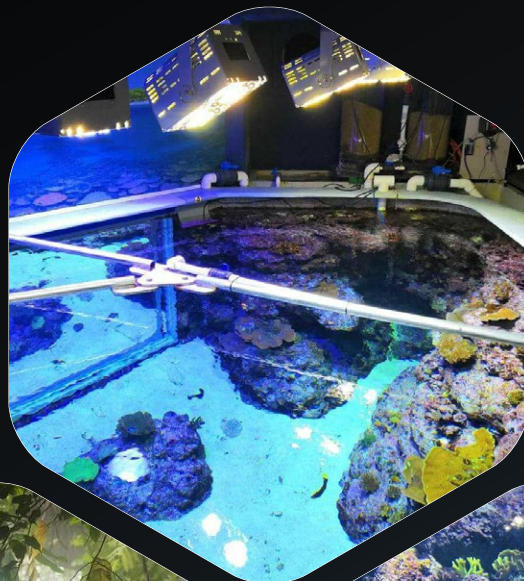


Examples

Orcinis 2 has proven time and time again that HQI luminaries are not all they seem. Using half of their consumption, equipped with sophisticated optics, we're able to light any exhibit with ease with this luminaire model.

Combining light sources is also a popular alternative when you want to create a habitat that is as dynamic as the species within.

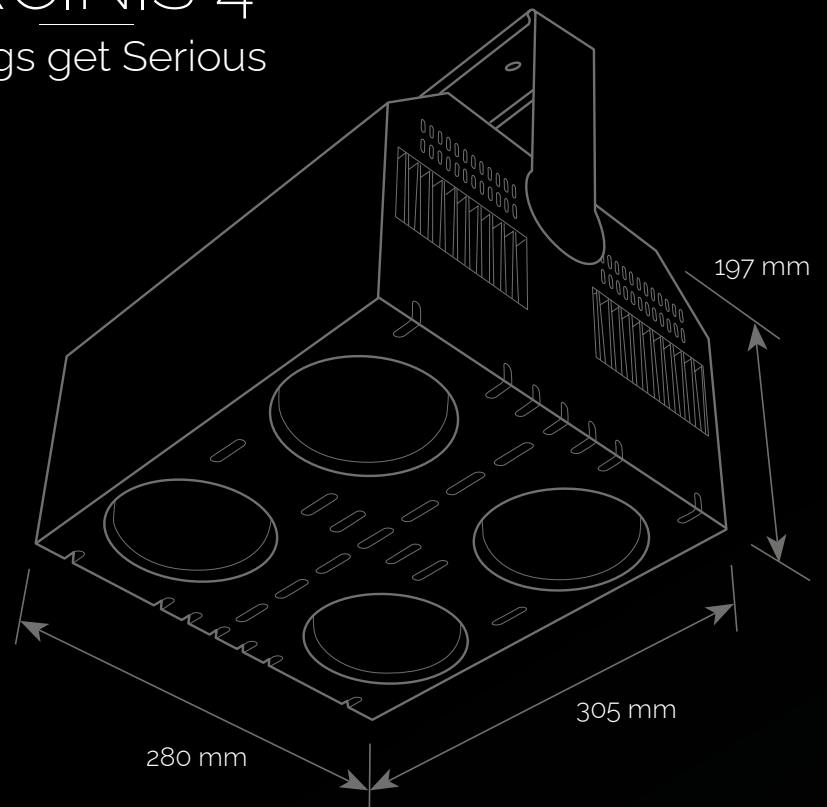
- Lighting exquisite coral exhibits, easily delivering higher PAR levels than 1000W HQIs mounted directly to a truss, with light sources with a long track record of fantastic coral growth.
- Creating a deep ocean environment with ultima blue and white light sources controlled by a system that dynamically changes throughout the day in a walk-through aquarium.
- Illuminating massive indoor winter gardens, with a mounting height of over 15m. to be featured in a new Botanical Garden in Tblisi, Georgia.





ORCINIS 4

Things get Serious



Technical info		Orcinis 4
Power	w	480
Luminous flux	lm	79 200
Luminarie efficiency	lm/w	165
Light source lifespan	hours	200 000
Luminarie control		
Luminarie reconnection	ms	0.075
Includes Sunlight timer/dimmer	%	0-100
Manual control on/off		Yes
DMX/Modbus/DALI/Scada/1-10V		Yes
Mechanical data		
Protection class		IP67
Ambient working temperature	°C	-42 ... +70
Warranty	years	5
Cleaning - allows pressurized water/air	max bar	2
Recyclable material	%	100
Weight	kg	11.6
Installation		
Roof, wall, track, cable suspension		Included
Power supply (electronic) class 2, MWHLG		
Luminarie current, 232 VAC	A	0.72
Efficiency	%	97.2
Voltage range / 50-60Hz	VAC	90 - 305
Power supply protection class		IP65 / IP67
Power supply distance from luminarie	m	0 - 30

The Orcinis 4 delivers a serious amount of light, and is recommended only for the deepest ocean tanks, lushest rain forests, and most demanding coral reef exhibits.

It can also be equipped with varying reflectors, which could supply exhibits with broad light and simultaneously sunbeam-like effects.

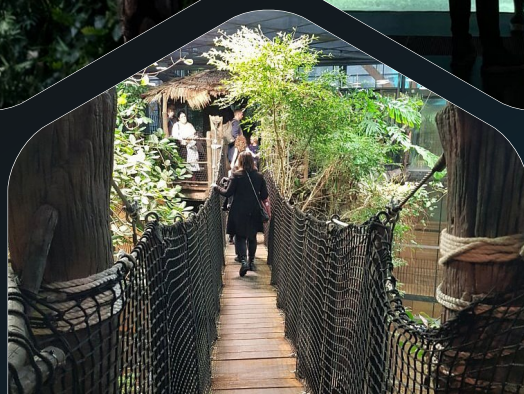


Examples

The Orcinis 4 is our go-to option for any ocean tank or large botanical biome where the light levels need to be high and mounting options are limited.

Where we need to really make the light count, we reach for the Orcinis 4 and it never disappoints.

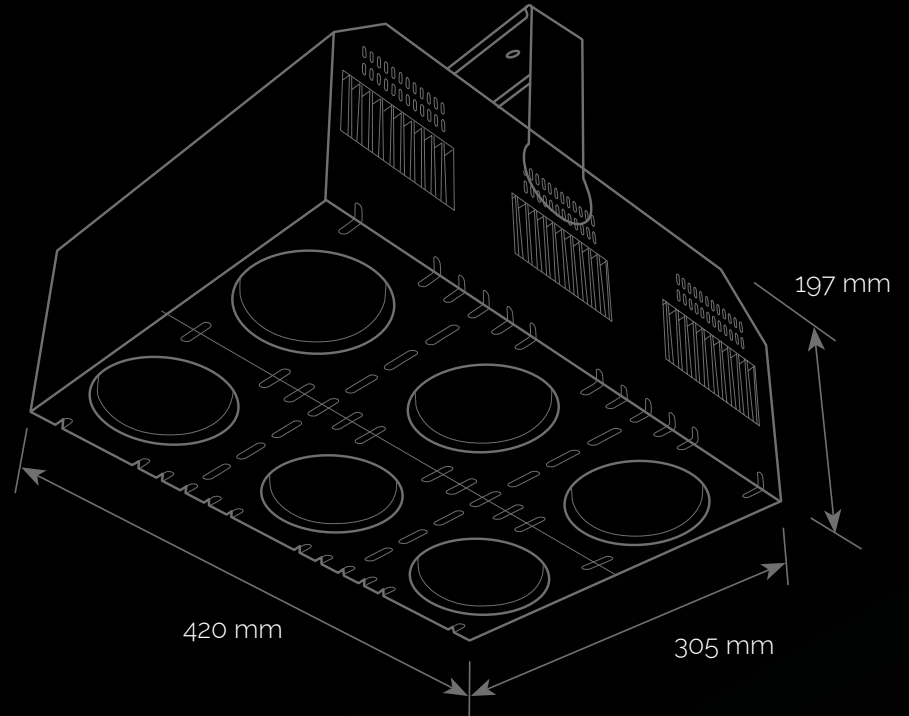
- Lighting expansive coral exhibits, delivering higher PAR levels than 1200W HQIs. mounted 3m above the water surface onto the service walkway with included arm bracket.
- Mounted above a lush rain forest exhibit, outperforming 1000W HPS luminaries easily withstanding the 60C+ temperatures in the summer, a key feature request from end client along with the highest possible growth potential for the many plants housed in their glasshouse.





ORCINIS 6

Imagine the Impossible



Technical info		Orcinis 6
Power	w	720
Luminous flux	lm	118 800
Luminaire efficiency	lm/w	165
Light source lifespan	hours	200 000
Luminaire control		
Luminaire reconnection	ms	0.075
Includes Sunlight timer/dimmer	%	0-100
Manual control on/off		Yes
DMX/Modbus/DALI/Scada/1-10V		Yes
Mechanical data		
Protection class		IP67
Ambient working temperature	°C	-42 ... +70
Warranty	years	5
Cleaning - allows pressurized water/air	max bar	2
Recyclable material	%	100
Weight	kg	17.4
Installation		
Roof, wall, track, cable suspension		Included
Power supply (electronic) class 2, MWHLG		
Luminaire current, 232 VAC	A	0.72
Efficiency	%	97.2
Voltage range / 50-60Hz	VAC	90 - 305
Power supply protection class		IP65 / IP67
Power supply distance from luminaire	m	0 - 30

The powerful Orcinis 6 luminarie, the very best there is. When you absolutely, positively got to light up every square inch of your exhibit, accept no substitutes.

We recommend that you are certain you truly need the amount of light this delivers. Curators and aquarists beware.



Examples

Admittedly, we haven't run into too many cases where this amount of light would be required.

We carefully design solutions that take optics and mounting versatility to make sure that you get the most amount of light for your money, but if you're willing to challenge us, then we are willing to convince you that PROVolitans is simply the best.

- Lighting a large portion of an expansive indoor rain forest exhibit, ceiling height of over 30m and 95% humidity, installed in 2018 and still going strong
- Your new oceanarium exhibit, wherever the demands are at their highest the Orcinis 6 is possibly the brightest zoological luminarie in the world, second only to the sun.





金宝宝
Jīn Bǎobǎo
"Lumi"
20.9.2014

18

We also design and build special, entirely customized luminaries to demanding, architectural spaces, where the highest quality biotope lighting is needed.



Ähtäri Zoo

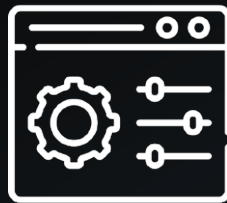


Definitely one of our most demanding, and exciting, projects is the Ähtäri Zoo snow panda habitat. Months of consultation from leading international experts, with a true dedication to creating a natural light environment that facilitate to the delicate hormonal cycles of the species. Initially LEDs were ruled out, but we were quick to prove that **LeS** does what LED's cant.

The facility is currently participating in an international breeding research project.



Custom, dynamic light for the main habitat, and the back area



Control systems designed with easy operation and maintenance in mind



The dynamic lighting mimics the diurnal cycle of the Sichuan region



SEA LIFE Helsinki

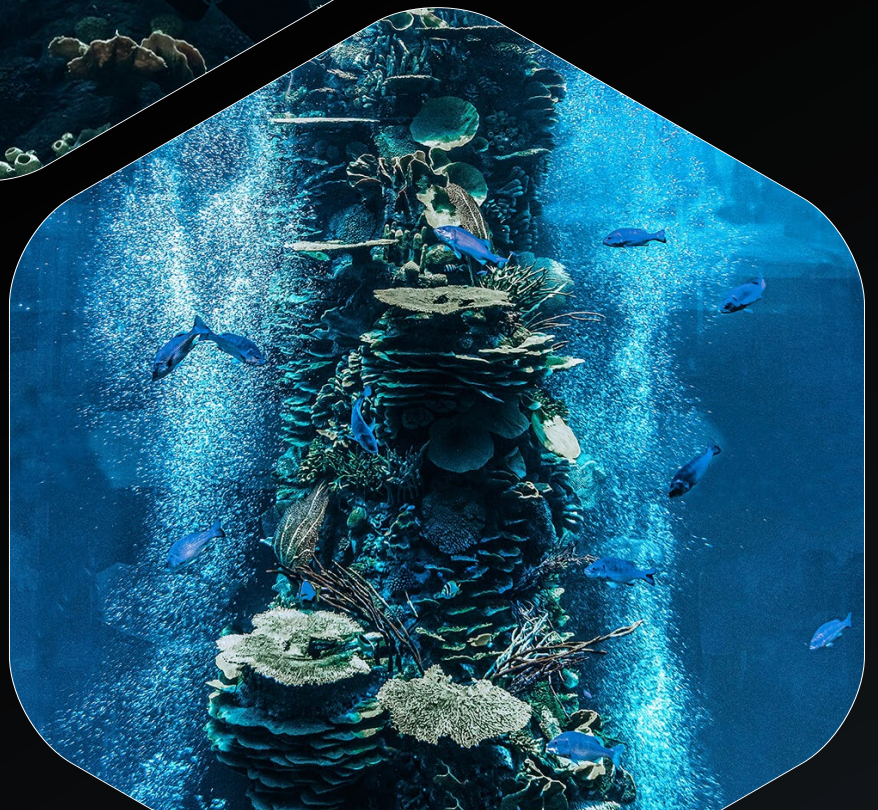
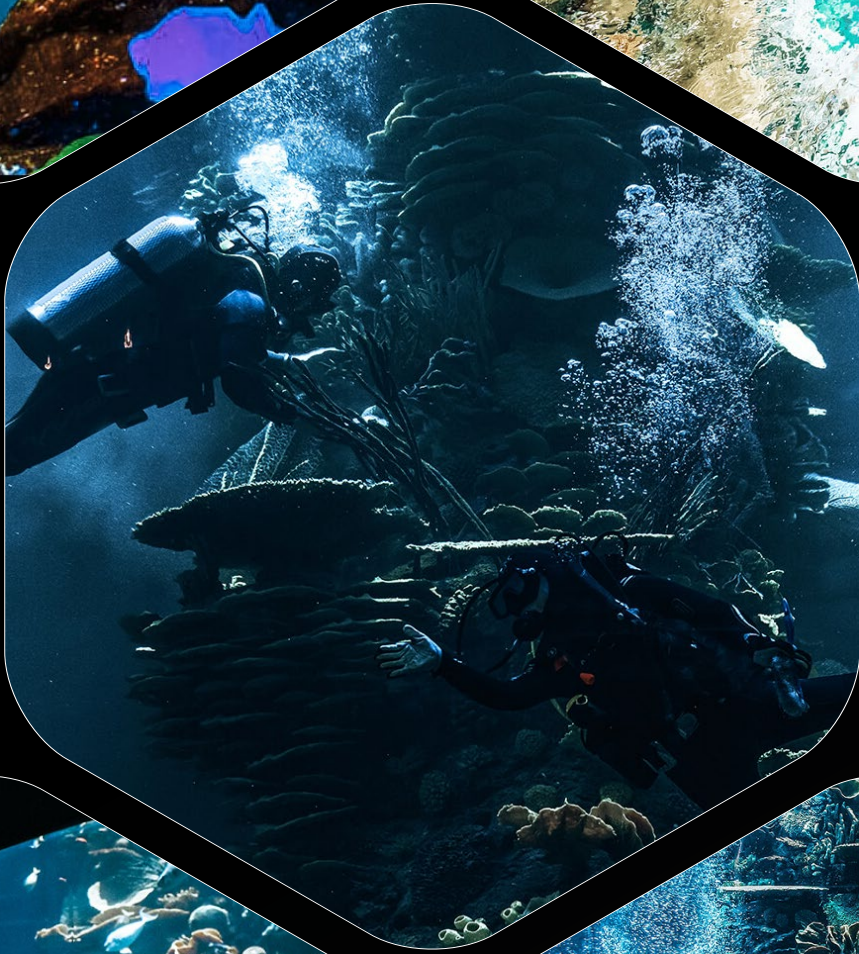


Our cooperation with SL Helsinki started in 2012, and has stood the test of time. The crowning achievement of our partnership with this landmark facility is their beautiful ocean tank, where we achieved approximately 90% savings compared to the lighting we replaced. Now, the vast majority of their exhibits are lit by **PROVolitans**.



Lighting for their shark exhibit and fresh water species.







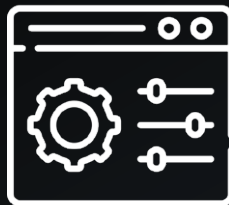
Bahrain Aquarium



The largest cylinder tank in the MENA region, the Bahrain Aquarium is a true engineering marvel. We designed an exceptionally energy efficient lighting solution, fitted with honeycomb rasters, and customized central power cabinets to this project - in close cooperation with ELSS Engineering.



34pcs Ocelot that light up the huge 700 000 l exhibit easily



Centralized power cabinets designed for easy operation.



Specialized optical design that allow for amazing water column penetration



Havets Hus

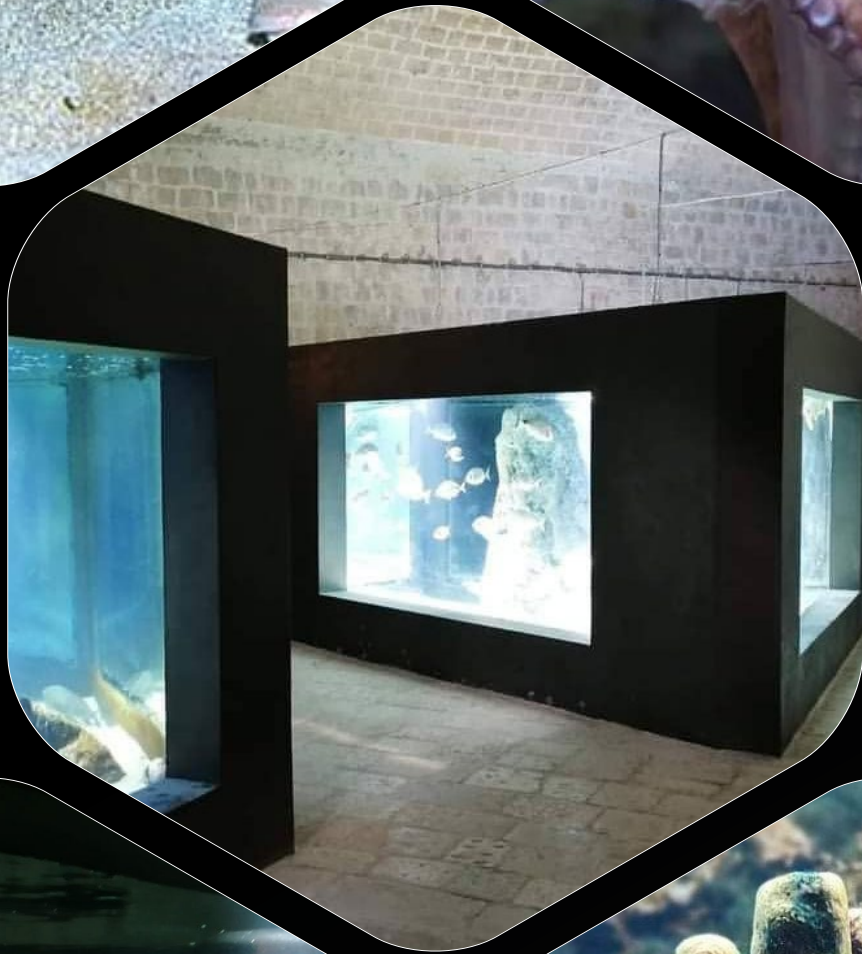


Almost the entire collection of exhibits at the Havets Hus aquarium has been equipped with Ocelot luminaries. Carefully selected color spectrums for the native species' demands, the requirements for luminaries with extremely low maintenance, and being suitable for tight service spaces made PROVolitans the natural choice.



Each exhibit designed individually, based on their unique theming







Dubrovnik Aquarium



The Dubrovnik Aquarium underwent a complete renovation and opened in the summer of 2022. Making sure to select suppliers with a proven track record and the best technology has been critical - and for the lighting, there was no other option than **PROVolitans**. Tailored cable lengths made it easy to implement the luminaries within the calculated placement plan.



Equipped a multitude of exhibits, mostly with a Mediterranean theme



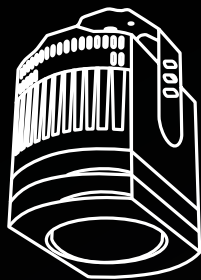
Tailored cable length for easy installation



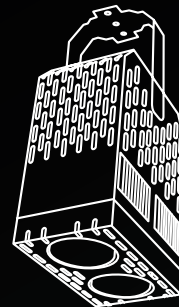
Toronto Zoo



The horticultural staff of the Toronto Zoo were completely blown away by the performance of the LeS technology. Not only did the plants respond quickly to their initial testing in the pavilion exhibit, but the animals living underneath the canopy have been positively impacted.

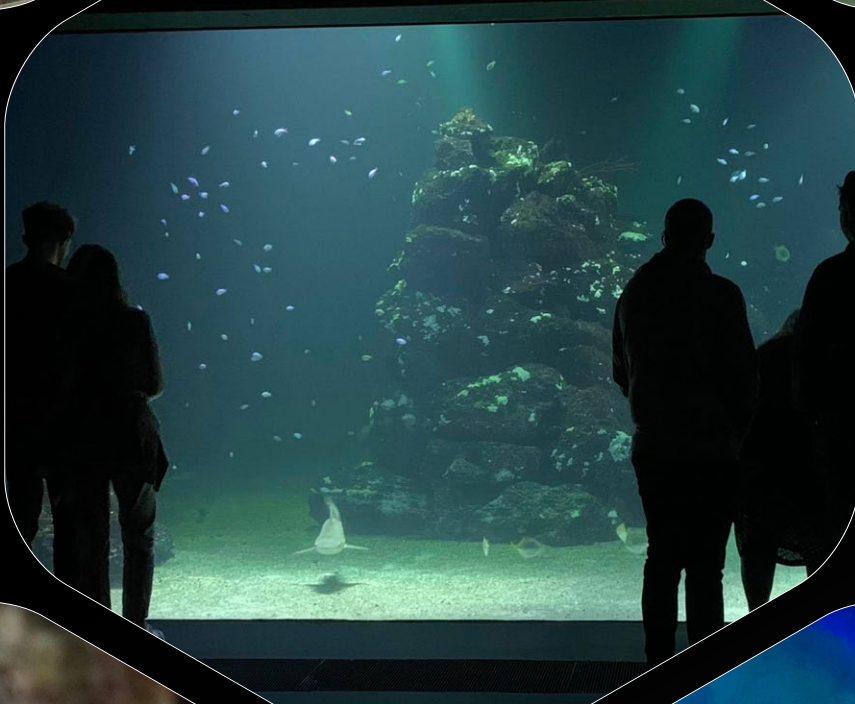


Ocelot installed in several pavilions



Orcinis 240 installed in pavilions with higher ceilings and back rooms



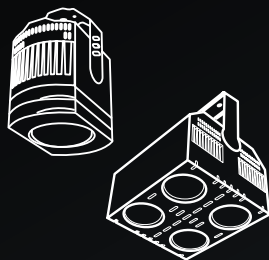




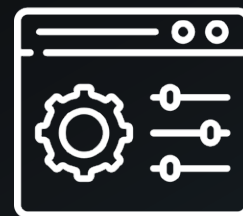
Universeum



As one of the greatest science centres in Scandinavia, Universeum has been a trusted member of the family since 2012. From the Indian ocean tank, to the sting ray reef, and expansive rain forest they are fully aware that you get more with LeS in any biotope you desire.



Large ocean exhibits,
indoor rain forests, and
touch pool with rays



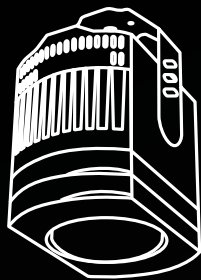
Control systems with easy
operation and future
expansions in mind



Baltic Sea Science Center



The Baltic Sea Science Center was designed with **PROVolitans** in mind from the start, taking full advantage of our stunning optical performance, creating impressive displays with expressive glitter lines and pillars of light that accentuate the drama and mystery of the Baltic Sea.

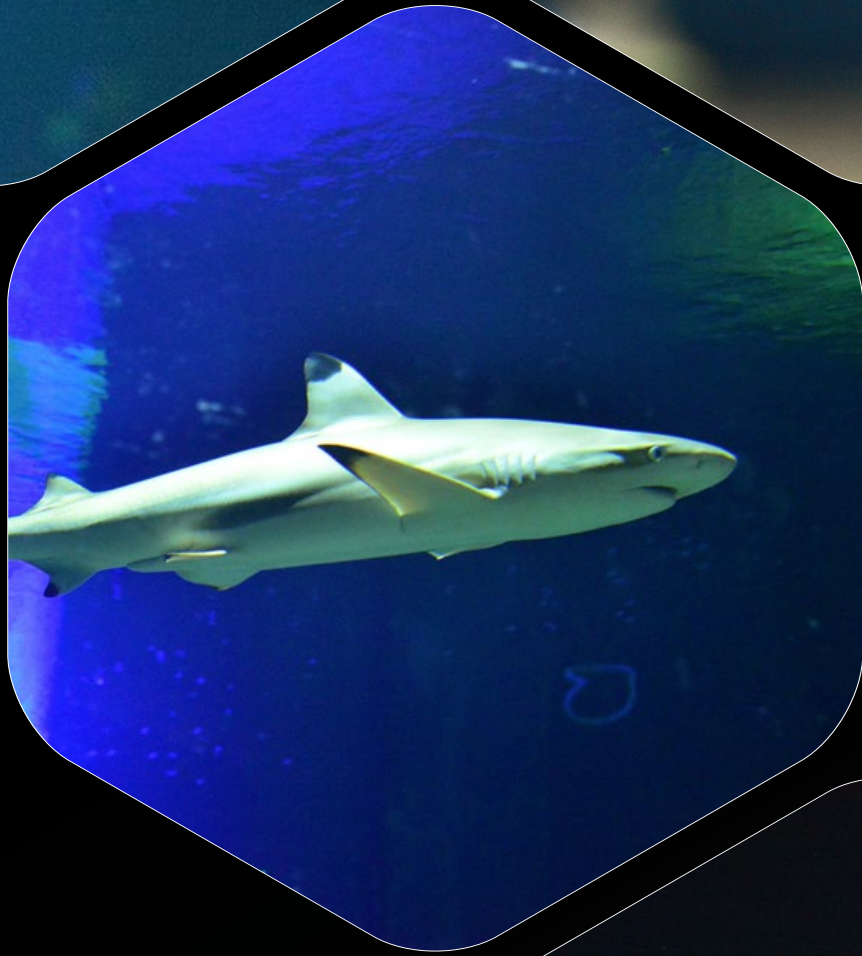
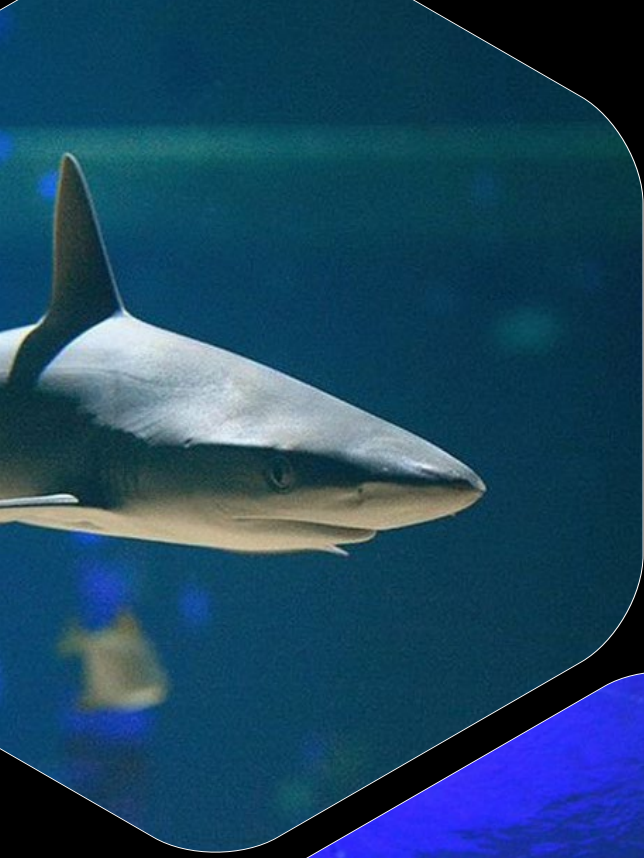


All exhibits with one
luminaire supplier



Tailored cable length
and driver cabinets
for easy installation







Budapest Zoo



PROVolitans was requested in 2018 to supply lighting solutions for the new shark nursery that was being opened at the Budapest Zoo. It resulted in an exhibit that is as visually powerful as it is energy efficient - the lighting consuming approximately 50% less than if it were to be lit by standard LEDs.



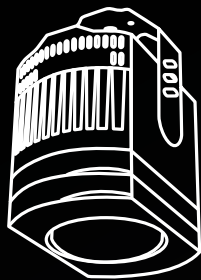
Ocelot units mounted
for the shark nursery
and back room



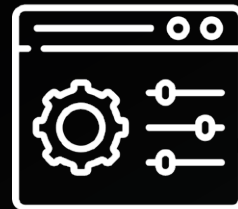
Malmö Aquarium



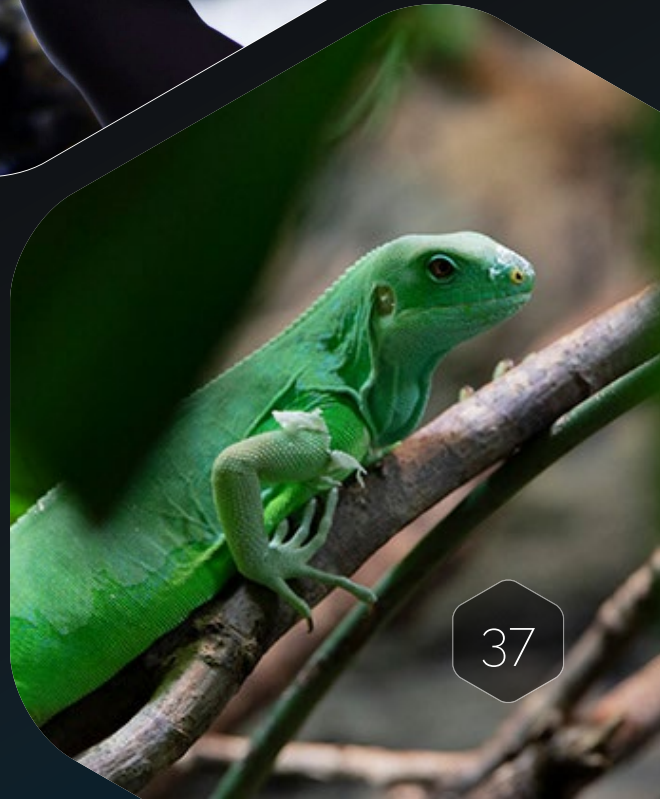
PROVolitans was included early in the renovation design of the Malmö Aquarium in 2014, posed with an array of difficulties, from limitations in technical space, to the need for lighting solutions to over fifty different biomes - with hundreds of animal species. It has been operational for over eight years.

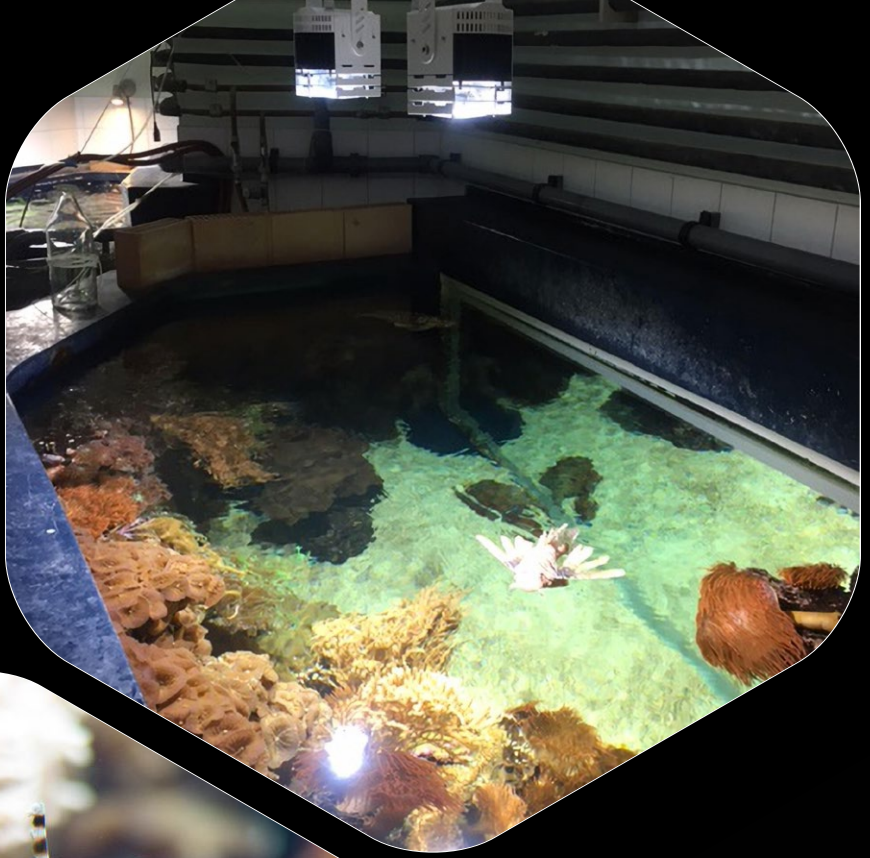


All exhibits illuminated, from terrariums, to the tropical coral tank



Control systems designed with easy operation and maintenance in mind.







Zoo Basel



Achieving the perfect white light is a challenge that was posed to us by the aquarium curator of the Basel Zoo. All too often, LEDs shift between a cold blueish hue, and a white that introduces too much green in the water column. Needless to say, our full spectrum solutions hit the mark perfectly.



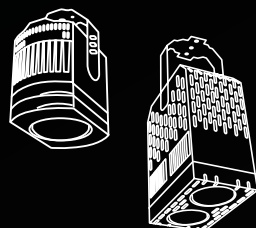
Lighting of several exhibits, including the lovely coral tank



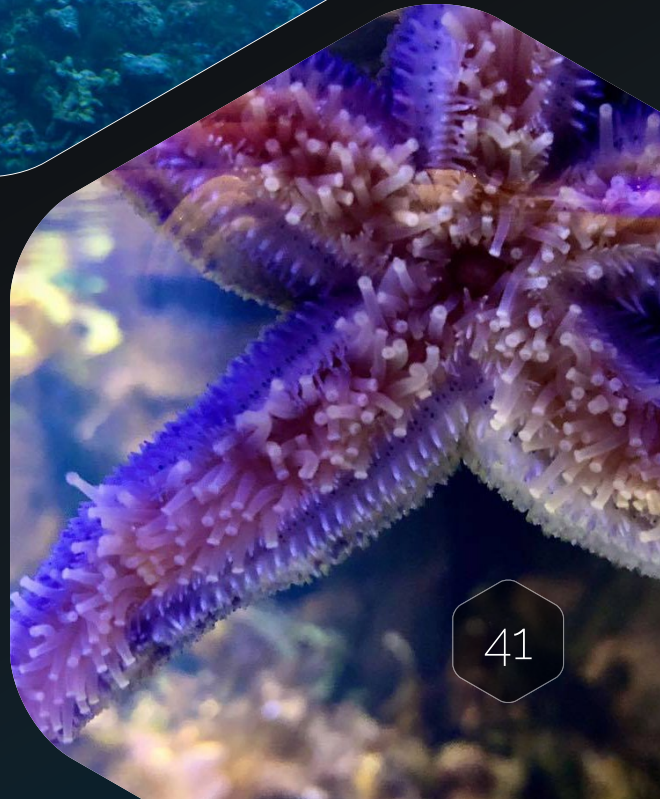
Haga Ocean



The marvelous butterfly house & aquarium in Stockholm has been a loyal partner to PROVolitans for years, relying on us to supply breathtaking lighting to their many exhibits that serves as an educational hub for the children of the Swedish capital since 2012.



Lighting all exhibits,
including the blacktip
reef shark exhibit



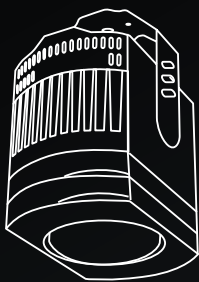




Bergianska Botanical Garden



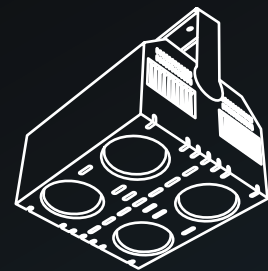
Finding a suitable replacement for the old and inefficient light sources had been a long process. That is, until they found **PROVolitans**. Where dozens of LEDs had failed in the hot, extremely humid biomes, LeS shone brighter, and is now the only light sources they need in the future.



Lighting the many
grow tables
and multiple biomes



Used with combined
light sources for
demanding species



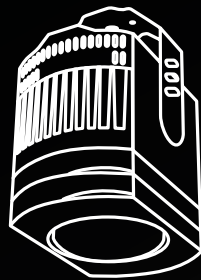
Lighting the humid
tropical section with
high ceiling



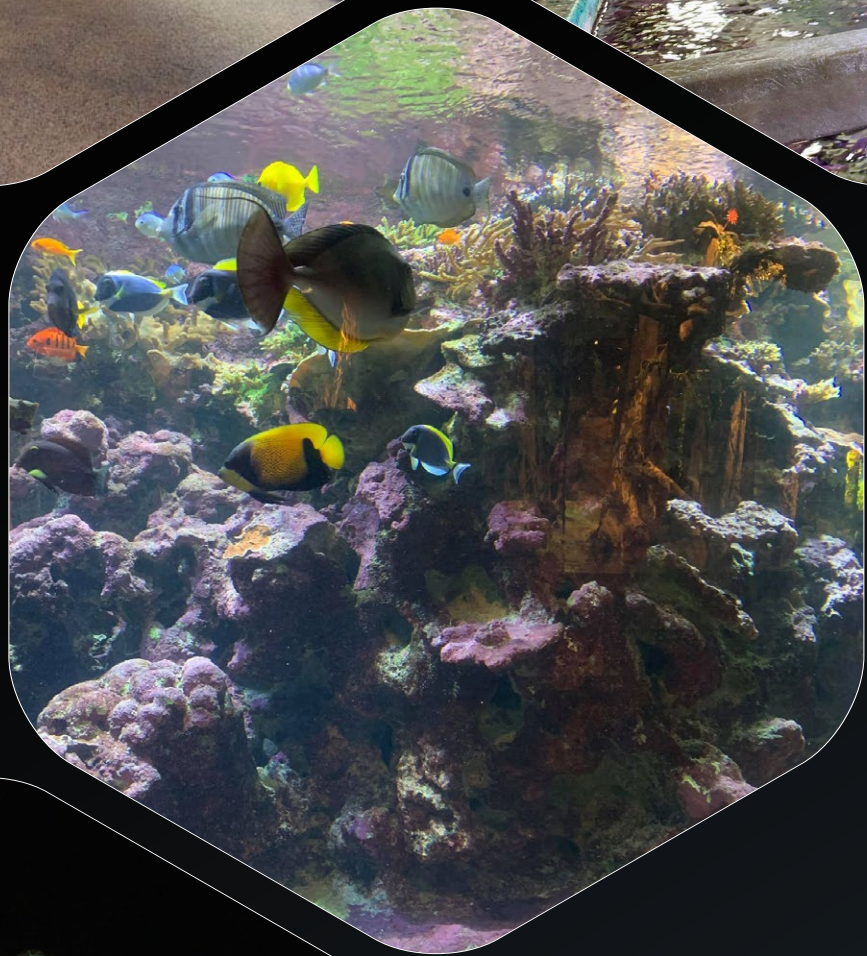
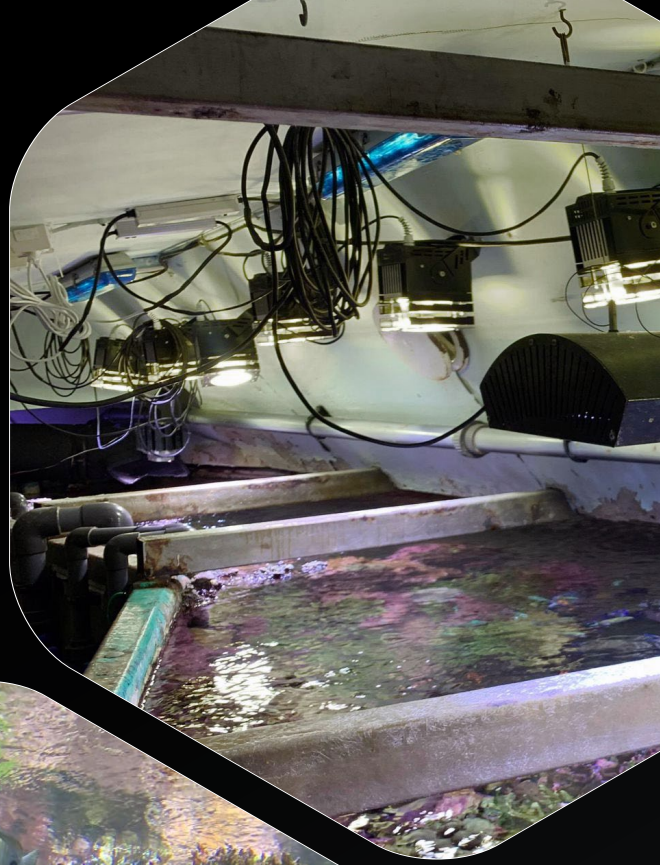
Skansen Aquarium



The aquarium at Skansen is one of the first partners who believed in **PROVolitans** and our mission to raise the quality of zoological lighting, back in 2010. Their first installation from the same year is still operational today, and we are continually asked to provide solutions as their facility evolves and expands.



Lighting coral exhibits, vivarium, and paludarium







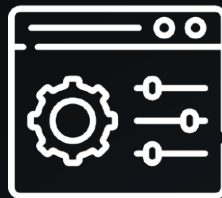
Paragraph Hotel & Resort



The Paragraph Hotel & Resort project is the one where our technological skills became obvious to the team at **ELSS Engineering**, by supplying luminaries, designing an intricate control system that created a dynamic visitor experience, and even commissioning and staff training to fully operate it.



Lighting the 430 m³ walk-through aquarium in the lobby of the hotel



Control systems designed with easy operation and maintenance in mind



Specialized design with different light sources and dynamic control system



Corals



PROVolitans has a proven track record of boosting coral growth since 2010. The spectacular full spectrum lighting produces PAR levels more efficiently than any LED in the world. Vibrant colours are accentuated, and animal behaviour around the corals are more natural, creating a healthy biotope.

Corals is where **PROVolitans** started, with the limitations of making it a viable hobby forcing us to use our engineering skills to reconsider the norms and come up with new ideas. Ever since, we have spent considerable time designing our light source spectrums to fit the many needs of coral species that are found all over the world, working with leading experts who have told us the truth of what they need.

It's the primary reason we created the **LeS** light source, and it has blown away every aquarist who has held it over an exhibit and lowered their PAR meters below the water level and seen it for themselves.





PROVolitans Ltd.
Biotope lighting since 2009

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