



# SeaWorld

## Case Study

### The Brightest Solutions

# Description

We are delighted to introduce one of our most significant projects to date: the illumination of SeaWorld Yas Island, Abu Dhabi, the world's largest indoor marine life theme park. With **6,251 SunLite LEDs**, we have illuminated **183,000 m<sup>2</sup> (1,969,795.61 sq ft)**, creating a stunning environment for over **100 animal** experiences and presentations. This achievement was made possible by our SunLite LED, a product specifically designed for this installation and developed in collaboration with marine biologists. The Coemar technical team customized both the firmware and hardware to ensure that the light beam generated does not disturb the animals.

The SunLite LED provides lighting with a **CRI** greater than **98** and variable white LEDs (ranging from **2,700K** to **6,500K**), closely mimicking natural sunlight and simulating various times of the day. Extensive research was conducted on the quality of the LED, specifically developed for this product, including the frequency tailored precisely for this purpose. This projector boasts an **IK10 & IP65 ratings**, ensuring durability even in high humidity environments, despite being installed indoors. It is DMX controllable, offering perfect flexibility and usability. Available with various optics that modify the light beam (ultra narrow, narrow, medium, wide and ultra wide). It is also available an accessory such as the honeycomb.

Thanks to these innovations and the simulated sunlight, the animals that live in the park, including tropical fish and rays, dolphins, tropical birds, flamingos, mammals, and more, **thrive without distress**.

# SeaWorld Map

## ABU DHABI OCEAN

- S-E-A ENROLLMENT**
- THE MANGROVES**  
Touch pools with sharks, rays, and invertebrates.
- THE ARABIAN GULF**  
Dugong and sea turtle habitat.
- SEA SNAKES HABITAT**
- AL NAHAM THEATER**  
Pearl diving shows
- SOUK AL-SHEEF**  
Flagship store and package pick-up collection point
- HALAWIYAT FATEMA**  
Candy shop
- SEA PIXELS**  
Photo collection
- DUKKAN AL-TAWASH**  
Pearls, jewelry and photo collection
- MATBAKH UMMI**  
Cuisine: Arabic  
Service: Buffet
- LUGAIMA**  
Cuisine: Fried dough and sweets  
Service: Grab & go
- DALLAT AL BAHAR**  
Cuisine: Coffee shop  
Service: Grab & go
- SEAFARERS JUGGLERS**

## ONE OCEAN

- ANIMAL CARE CENTER**  
Get the up-close and personal experience of how we care for our animals on a daily basis.
- ONE EPIC OCEAN**
- FROZEN TREATS**  
Cuisine: Ice cream  
Service: Grab & go
- EXPLORER HQ**  
Sign up and check in

## ROCKY POINT

- SEA LION AND SEAL HABITAT**
- FEED THE SEA LION**
- ROCKY POINT AMPITHEATER**
- PRETZEL POINT**  
Cuisine: Pretzels  
Service: Grab & go

## MICROOCEAN

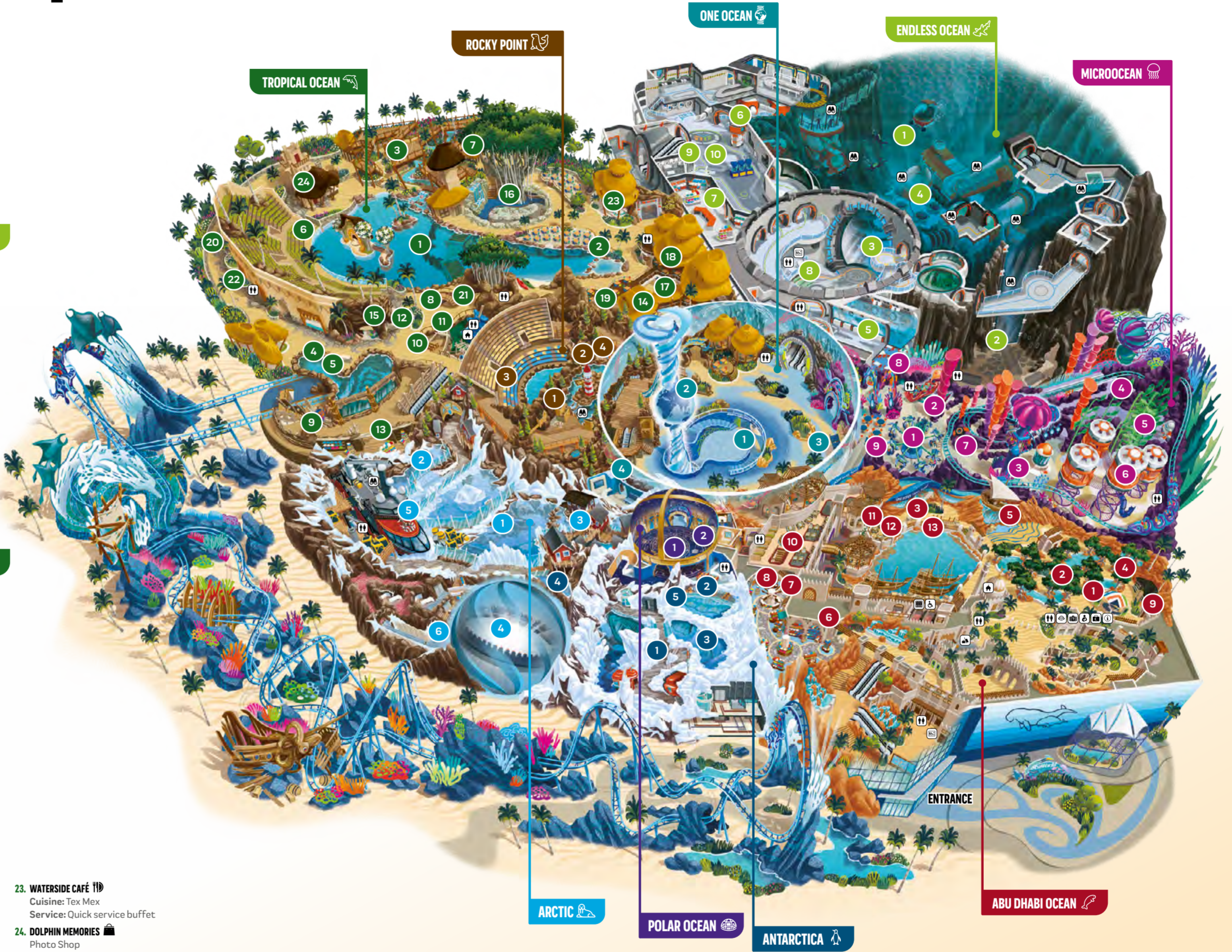
- TURTLE TWIST**
- OCTOZOOM**
- JELLY PLUNGE**
- EEL RACER**
- KELP CLIMB**
- EXPLORER'S SEA BASE**
- KRILL DUDE**
- JELLIES**  
Kids' apparel and toys
- BITSY BITES**  
Cuisine: Fast food  
Service: Quick

## ENDLESS OCEAN

- ENDLESS OCEAN AQUARIUM**  
The world's largest multi-species marine life aquarium.
- ENDLESS VISTA**  
20m vertical viewing window
- OCEAN POD**
- OCEAN SHELF**
- THE SWIRL**
- LAUNCH BAY**
- LAUNCH BAY SUPPLIES & CO.**  
Apparel and toys
- FATHOM 11**  
Cuisine: International  
Service: Fine Dining
- S-E-A SNACKS**  
Cuisine: Waffles and snacks  
Service: Grab & go
- S-E-A MAINTENANCE CREW**  
Pipe Organ Band

## TROPICAL OCEAN

- DOLPHIN HABITAT**
- FLAMINGO POINT**  
Flamingo habitat
- THE RAINFOREST**  
Tropical bird habitat
- RAY REEF**  
Ray habitat
- FEED THE RAYS**
- TROPICAL AMPITHEATER**
- MACAW HABITAT**
- CORAL HABITAT**
- MANTA COASTER**
- MIDWAY GAMES**
- SHIPWRECK COVE**
- CANOPY CLIMBERS**
- SUNKEN TREASURES**  
Toys and ride photo collection
- FLAMINGO POINT**  
Tropical apparel and toys
- HAMAD'S HIDEAWAY**  
Dolphin apparel and toys
- CENOTE CAFÉ**  
Cuisine: Gourmet burgers  
Service: Quick
- SPICE ISLAND**  
Cuisine: Pan Asian  
Service: Buffet
- BAY VIEW CAFÉ**  
Cuisine: Deli & ice cream  
Service: Quick
- PRETZEL POINT**  
Cuisine: Pretzels  
Service: Grab & go
- PRETZEL POINT**  
Cuisine: Snacks  
Service: Grab & go
- LOST COVE TREATS SNACKS**  
Cuisine: Snacks  
Service: Grab & go
- WASI'S MARKET**  
Cuisine: Sweet snacks  
Service: Grab & go



- WATERSIDE CAFÉ**  
Cuisine: Tex Mex  
Service: Quick service buffet
- DOLPHIN MEMORIES**  
Photo Shop

## POLAR OCEAN

- THE ARMILLARY**  
Portal to Arctic and Antarctica
- THE ARMILLARY COLLECTION**  
High-end jewelry, art and collectables

## ARCTIC

- WALRUS HABITAT**
- SEA OTTER HABITAT**
- PUFFIN HABITAT**
- HYPERSPHERE 360°**
- R/V AHMAD IBN MAJID**
- ARCTIC TRADING POST**  
Apparel, confectionary, sweet and savoury snacks

## ANTARCTICA

- PENGUIN HABITAT**
- UMBERTO'S**  
Cuisine: Italian  
Service: Buffet
- THE CATCH**  
Cuisine: Fish & Chips  
Service: Quick
- POLAR PIER**  
Coldwear and toys
- PENGUIN PLAY**

### LEGEND

- Shopping
- SeaWorld Expeditions
- Animal Presentations
- Extra Charge
- Dining
- Interactive Experiences & Rides
- Live Characters & Performances
- Play Area

### SERVICES

- Restrooms
- Luggage Storage
- Quiet Room
- Guest Services
- Wheelchair & Stroller Rental
- Mother's Lounge
- First Aid
- Viewing Area
- Elevator
- Prayer Room
- Lost & Found
- Lockers

# Theme Parks



## SeaWorld

Location	Abu Dhabi, UAE
Products	SunLite LED



# Theme Parks



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Our technicians on-site during the installation & construction works

# Theme Parks



## SeaWorld

Location	Abu Dhabi, UAE
Products	SunLite LED

# Theme Parks

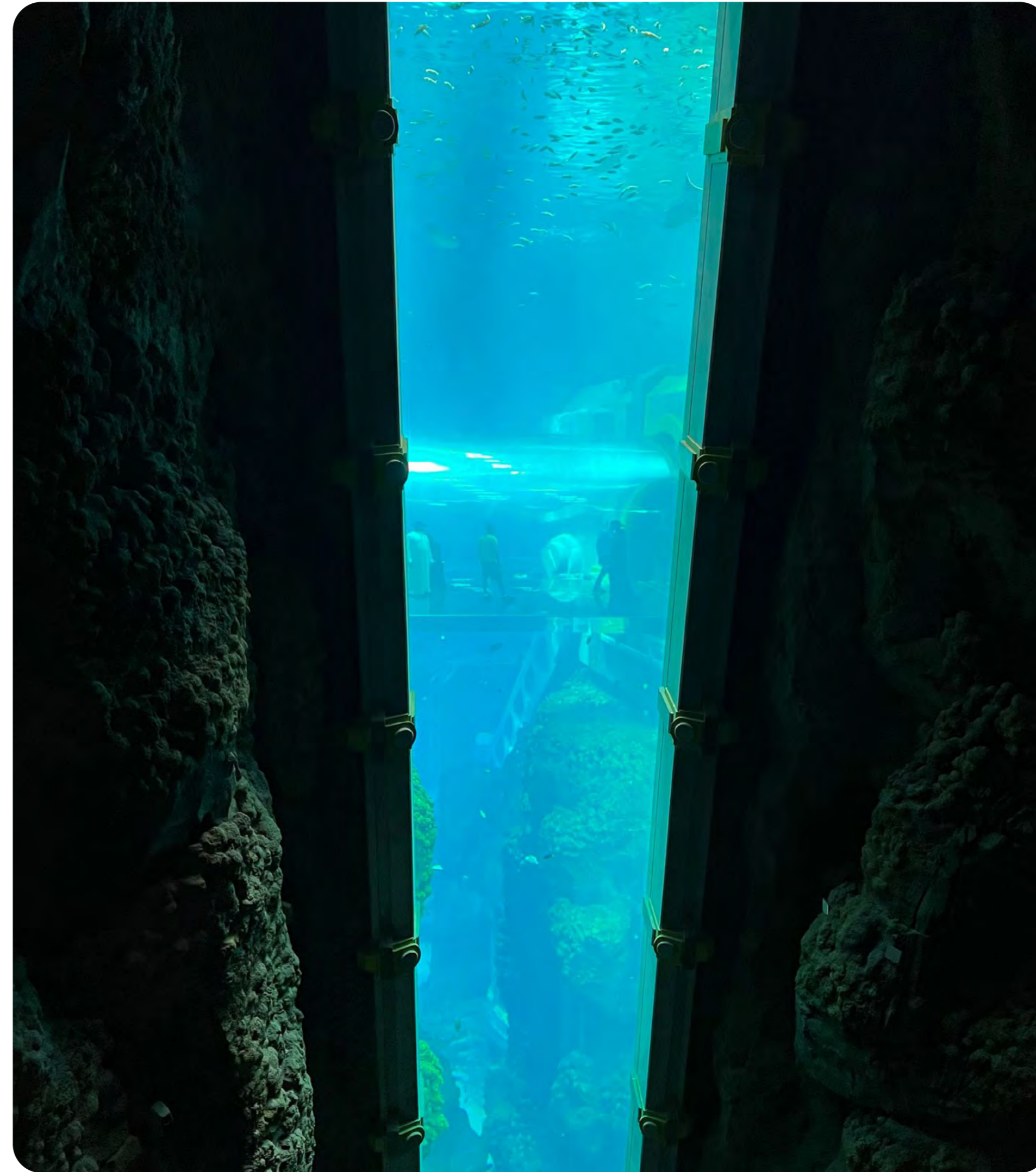
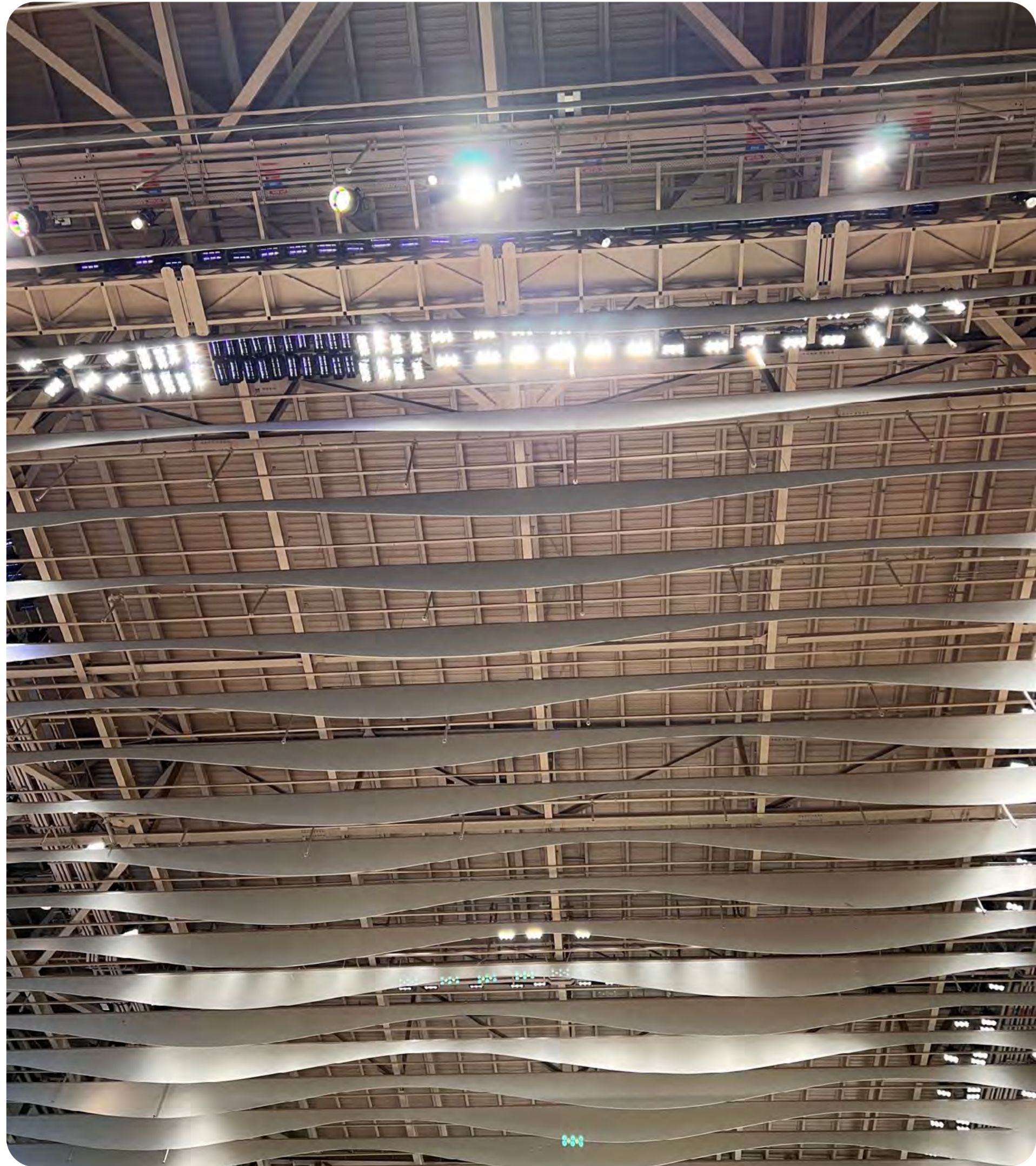


## SeaWorld

Location	Abu Dhabi, UAE
Products	SunLite LED



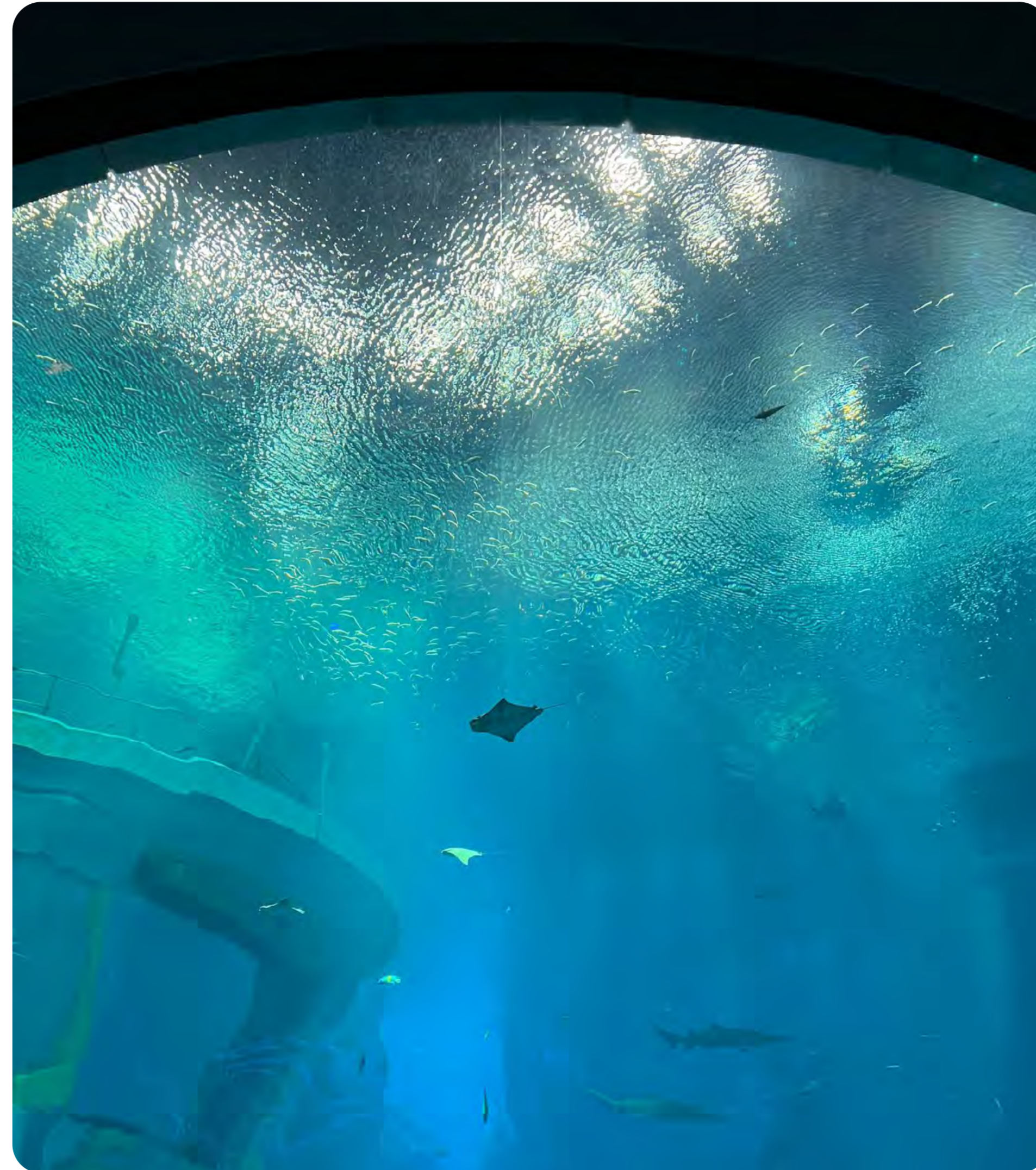
# Theme Parks



## SeaWorld

Location	Abu Dhabi, UAE
Products	SunLite LED

# Theme Parks

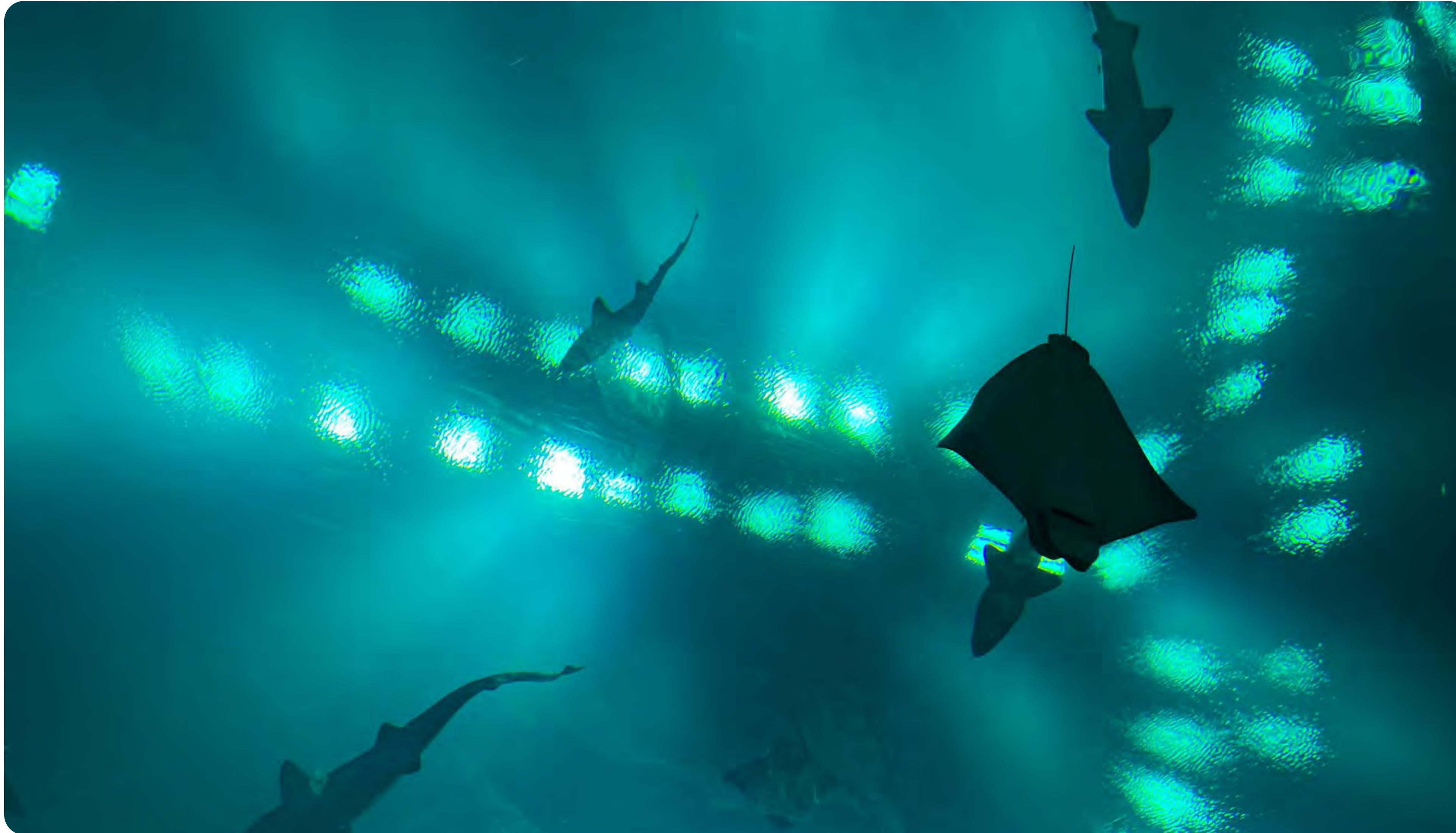


## SeaWorld

Location Abu Dhabi, UAE

Products SunLite LED

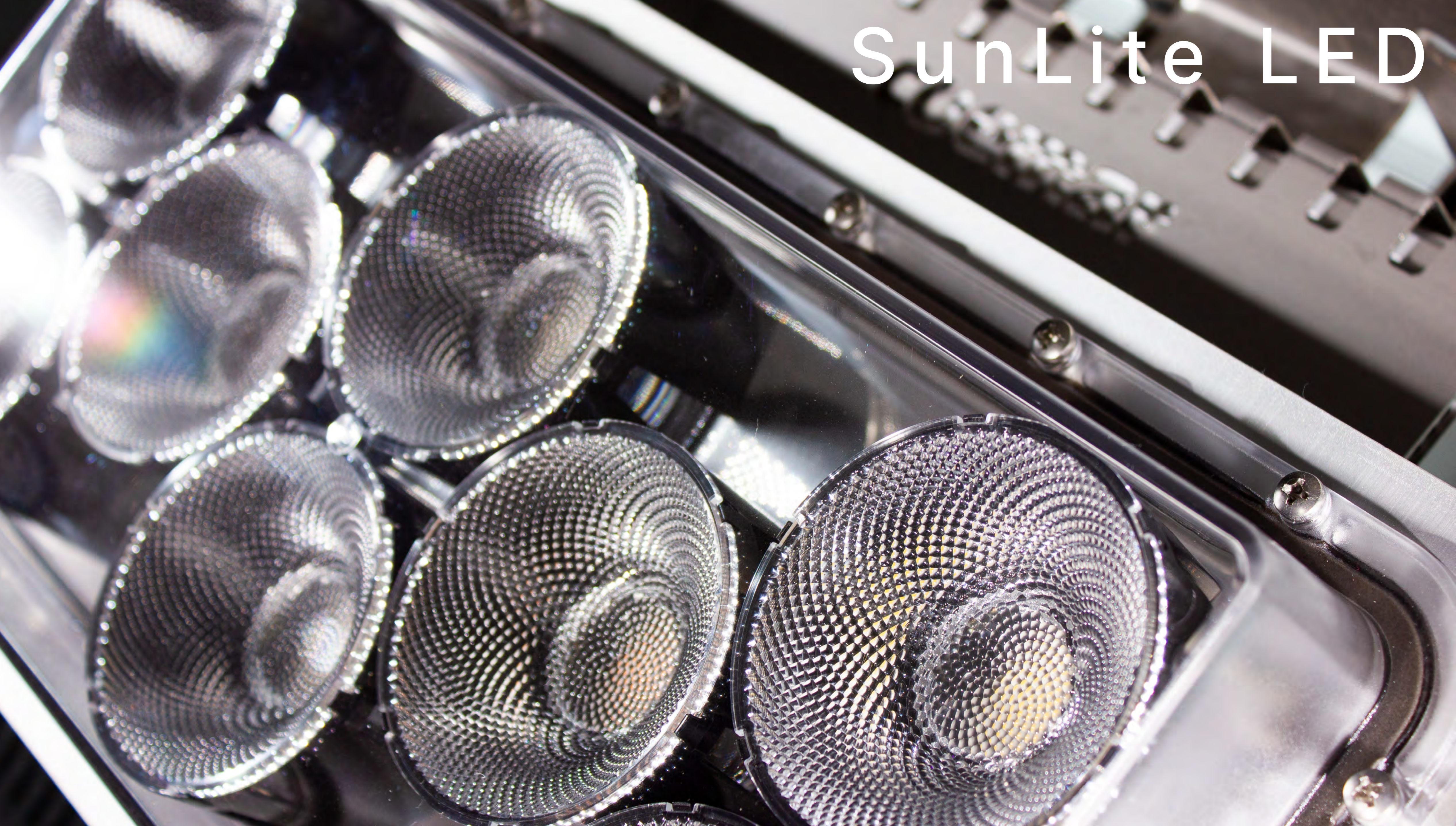
# Theme Parks



## SeaWorld

Location	Abu Dhabi, UAE
Products	SunLite LED

SunLite LED



# Datasheet



## Introducing

● **SunLite LED** is the Coemar family of products specifically developed and designed around the specifications of Miral & SeaWorld for the, world first entirely indoor, SeaWorld Abu Dhabi and recognises the stringent requirements dictated for ensuring animal welfare. This product is suitable for use as work-light in **theaters**, as **industrial lighting** as well as small/medium **sports fields**.

SunLite LED is a very bright, tunable fixture thanks to its truly high quality LED source, developed to specifically deliver a genuine and realistic sunlike spectrum with extremely high color rendition across the entire CCT range. Its air convection cooled design allows a **superior cooling** to reduce and dissipate the heat rapidly.

This ensures an excellent performance without prejudice for the lifespan of the LED source. The finishing of the housing is ideal for harsh climate conditions and highly **corrosive ambient** with a high **IP65** as well as an up to **IK10** rating. The SunLite LED may be hung to project downwards or sideways.

## Key Features

- VariWhite LEDs
- Fixed White LEDs
- CRI > 98, TLCI 100
- 2.700 K - 6.500 K (VariWhite version)
- 3.200 K or 5.600 K (Fixed White version)
- IP65 - IK10
- Interchangeable lenses: Ultra Narrow 12°, Narrow 21°, Medium 25°, Wide 34°, Ultra Wide 54°, Mega Wide 65°
- Passive cooling and fan-free
- Custom color on request (optional)
- CE Compliant
- RoHS Directive
- IK10 rating
- Conforms to EN 62722-2-1 (Particular requirements for LED luminaires performance)

## General

● LED Source	VariWhite, Tungsten or Daylight (8 Bridgelux COB LEDs Thrive Series)
● CCT Range	<ul style="list-style-type: none"> <li>● 2.700 K → 6.500 K (VariWhite version)</li> <li>● 3.200 (Tungsten version) or 5.600 K (Daylight version)</li> </ul>
● Color Rendition Average	CRI > 98, TLCI 100
● Light efficiency (VariWhite version)	Narrow: 20.212 lm, 89 lm/W Medium: 18.798 lm, 83 lm/W Wide: 19.036 lm, 85 lm/W Ultra Wide: 17.696 lm, 79 lm/W
● Dimming	8 or 16 bit, 5 selectable curves: Exponential, Logarithmic, Linear, Halo and Standard
● Dimming Smooth Selection	Fast, Slow and Very Slow
● Strobe	Synchronized, random or pulse electronic strobe
● Lens	Ultra Narrow 12°, Narrow 21°, Medium 25°, Wide 34°, Ultra Wide 54°, Mega Wide 65° (each value of degrees refers to 1/2 peak angle)
● L80 Rating (hours to 80% output)	50.000 Hours

## Electrical

● Voltage Input	100-277 V, 50-60 Hz, auto-sensing
● Power Consumption	225 W @ Full, 1.0 A at 230 V, 2.0 A at 115 V
● Power Connection	0.3 m (1,18 in) integral power supply cable with bare ends
● Data Connection	In and Out DMX 5 pin locking XLR connectors

## Thermal

● Ambient Operating Temperature	-40°C - +40°C (-40°F - 104°F)
● Cooling	Passive cooling and fan-free

## Control

● Protocols	DMX-512, RDM (Remote Device Management), Wireless (optional by LumenRadio)
● RDM configuratons	Yes
● DMX Channels	5 / 2 / 1 / Sunrise mode / Raw mode (VariWhite version) 5 / 1 (Fixed White version)
● Firmware upgrade	Through DMX with RDM Upgrade USB interface (code AC10011A001)

## Physical

● Yoke	Single yoke suitable for safe hanging
● Materials	Heatsink: Extruded hard anodized aluminum, Electronic box: Die-Casting aluminum with Anti-Corrosion treatment for marine ambient and electrostatic powder-coated, Frontal Cover: PC (Polycarbonate)
● Gasket Material	Polyurethane foam
● Hardware Material	Stainless steel AISI304
● Lens Material	PMMA Polymethyl methacrylate
● Weight	10.5 Kg / 23.14 lbs
● Height	116 mm / 4.56 in - With brackets: 306 mm / 12.04 in
● Width	410 mm / 16.14 in
● IP/IK Rating	IP65 - IK10
● Color options	Silver or Black (standard), custom color on request (optional)

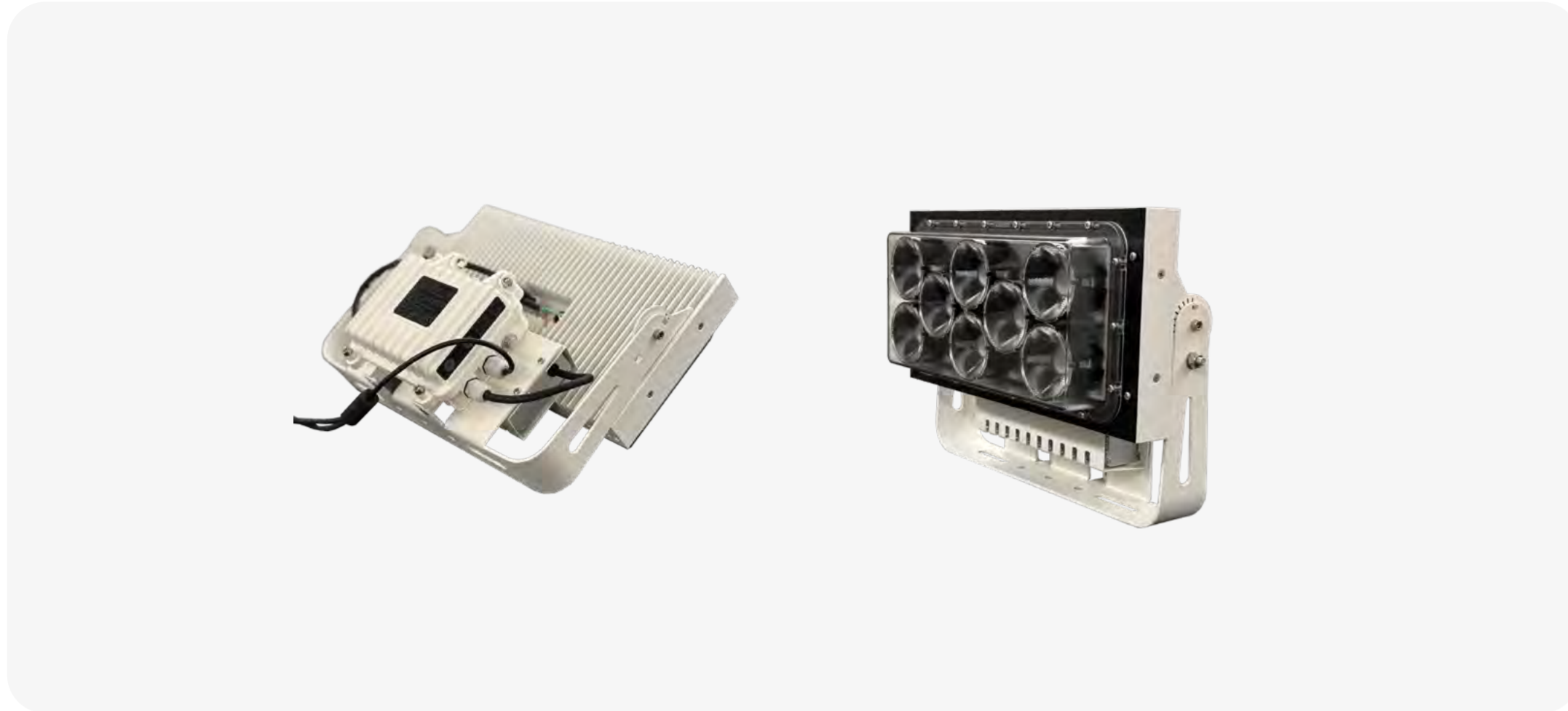
## General accessories

RCN72	Power Junction Connector for AC
RCN 73	DMX Signal Junction Connector
RME 34/2	DMX Signal Connector XLR5 Female (OUT)
RME 35/2	DMX Signal Connector XLR5 Male (IN)
RME 641/1	CEE 16A Power AC Plug
O336.045	Honeycomb

## SunLite LED VariWhite Version

F073G001H	Narrow Lenses, Black
F073G001I	Medium Lenses, Black
F073G001L	Wide Lenses, Black
F073G001O	Ultra Wide Lenses, Black
F073G101H	Narrow Lenses, Silver
F073G101I	Medium Lenses, Silver
F073G101L	Wide Lenses, Silver
F073G101O	Ultra Wide Lenses, Silver

# Datasheet



SunLite LED white body (optional)

## DMX Charts - VW version

### 5 Channels

- 01 → Master Dimmer
- 02 → Dimmer Fine
- 03 → White Tone
- 04 → Strobe Effect
- 05 → Special Functions

### 2 Channels

- 01 → Master Dimmer
- 02 → White Tone

### 1 Channel

- 01 → Master Dimer

### Sunrise mode

- 01 → Master Dimmer
- 02 → Dimmer Fine
- 03 → Proportional CCT
- 04 → Step CCT
- 05 → Special Functions

### Raw mode

- 01 → Warm White LED
- 02 → Warm White LED Fine
- 03 → Cold White LED
- 04 → Cold White LED Fine

## DMX Charts - T/D version

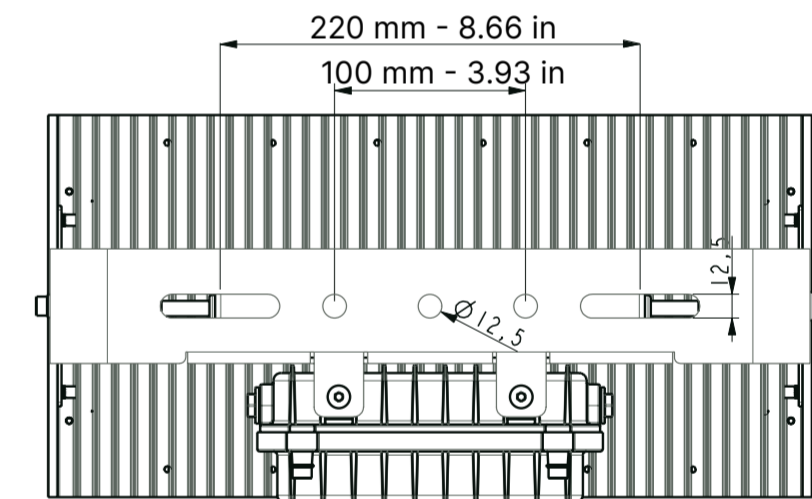
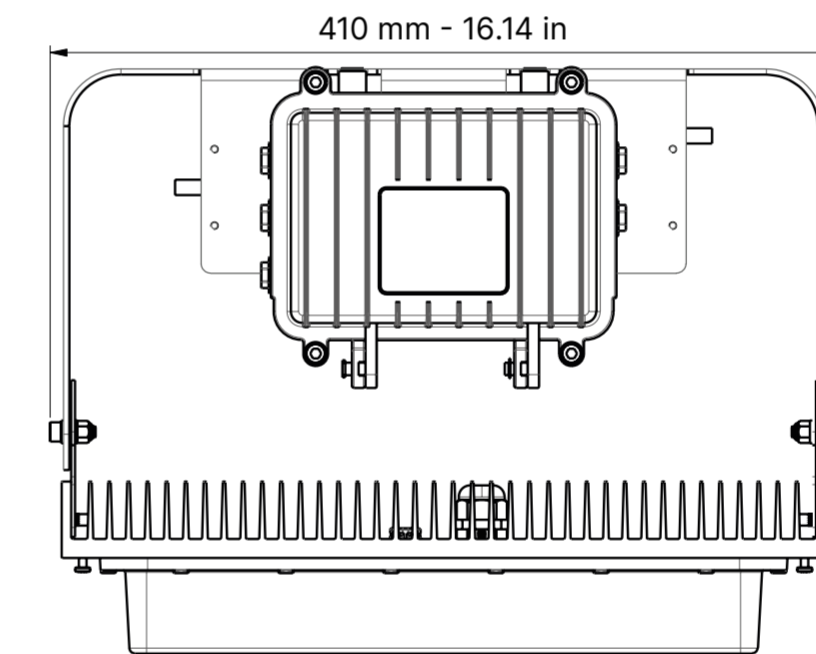
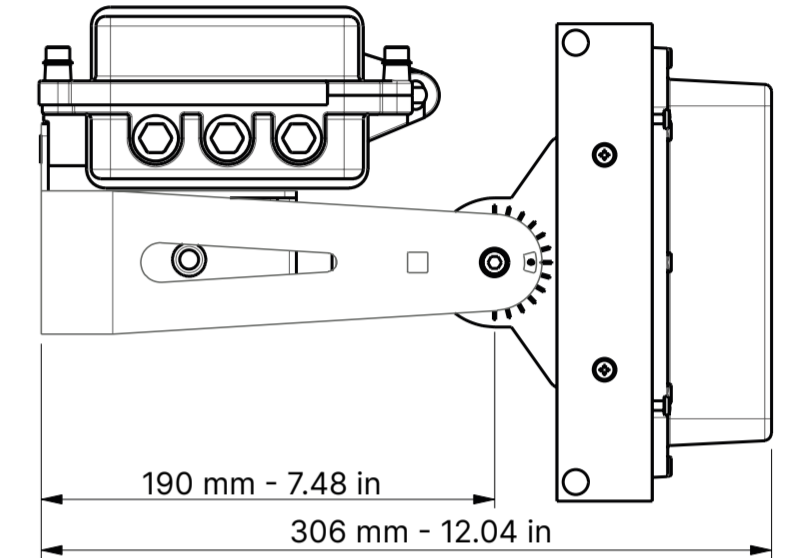
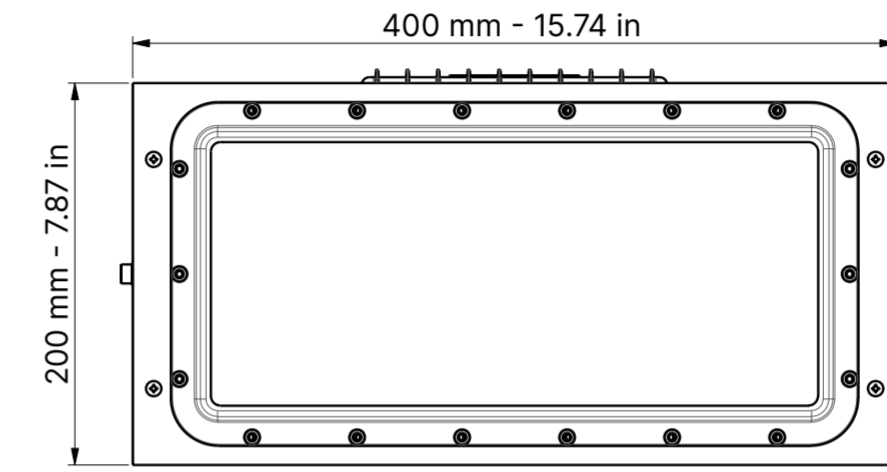
### 5 Channels

- 01 → Master Dimmer
- 02 → Spare Channel
- 03 → Dimmer Fine
- 04 → Strobe
- 05 → Special Functions

### 1 Channel

- 01 → Master Dimmer

## Drawing Size



# Datasheet

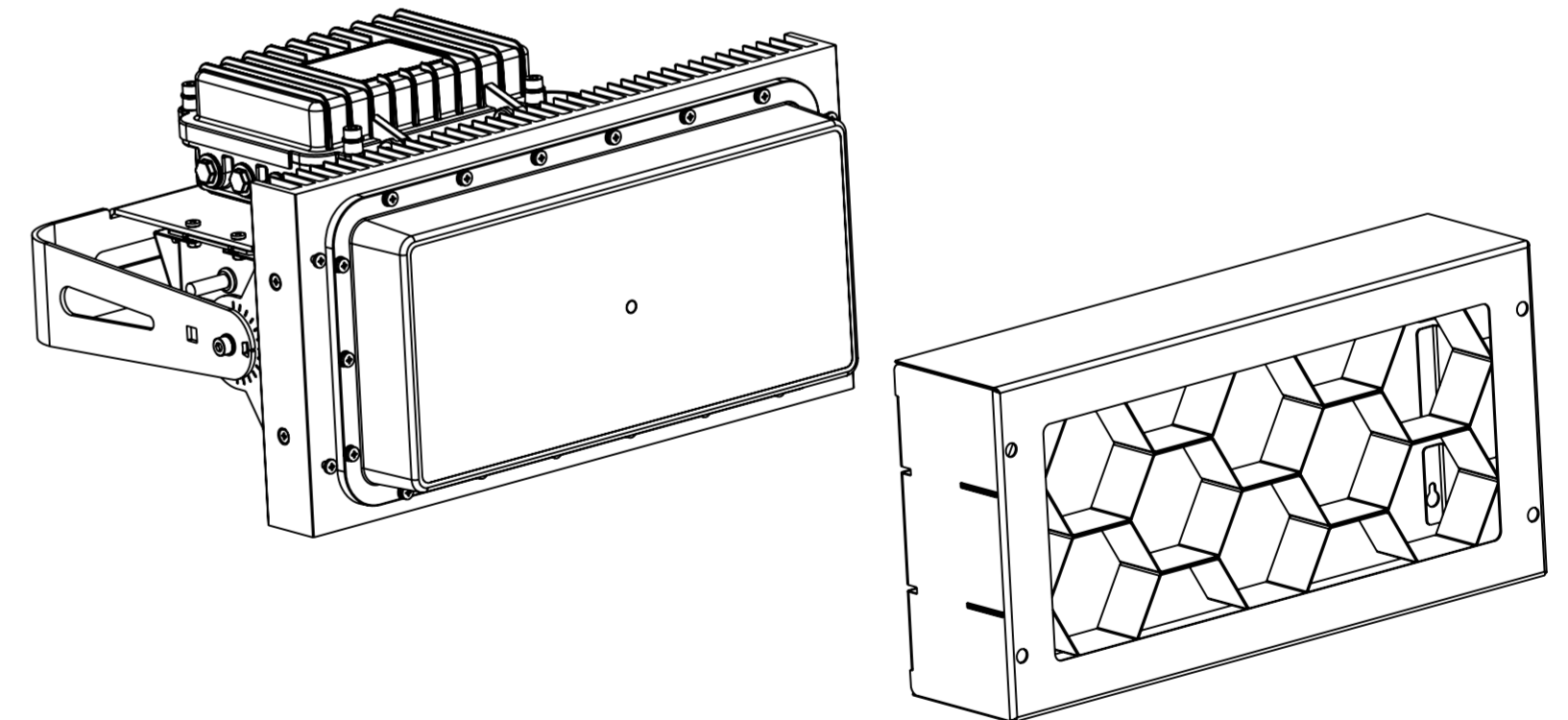
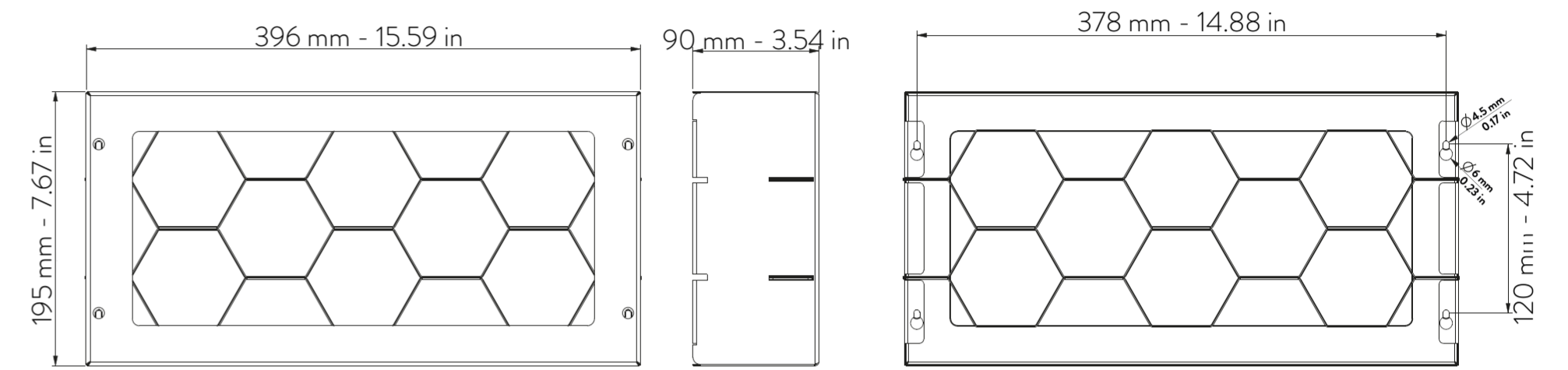


## Honeycomb

### Physical

● Materials	Stainless steel AISI304 Body
● Length	396 mm / 15.59 in
● Weight	1.6 kg / 3.53 lbs
● Height	195 mm / 7.67 in
● Width	90 mm / 3.54 in
● Color options	Matt Black
● Safety Accessories	Stainless steel AISI304 Safety chain

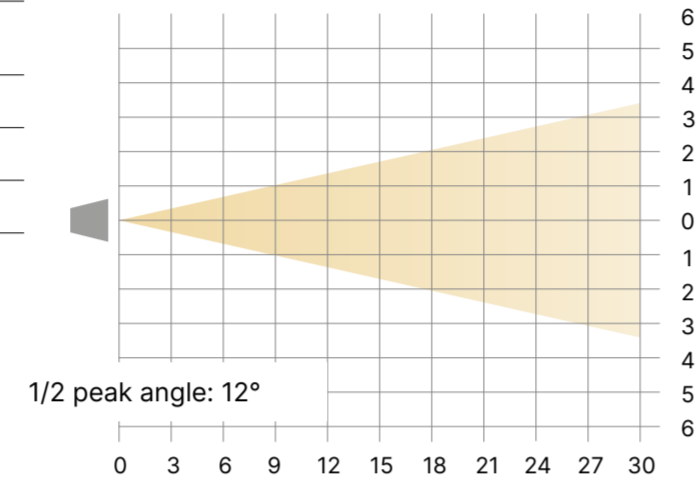
### Drawing Size



# Photometrical Data

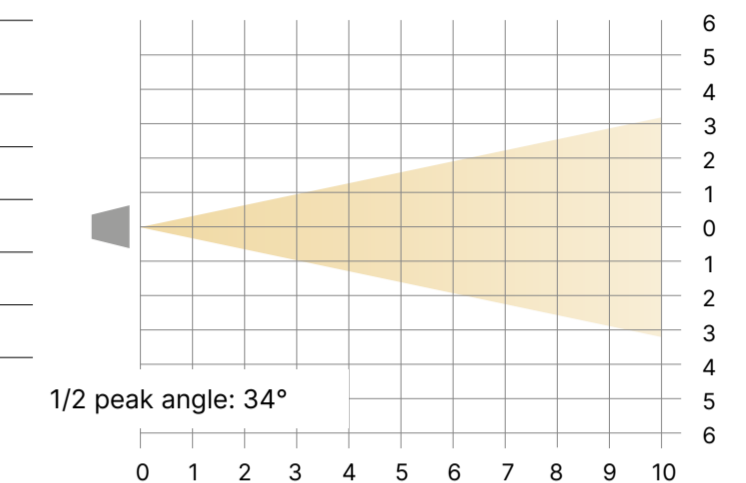
Optic: Ultra Narrow Beam - 1/2 Peak Angle 12°

Distance(m)		3	6	9	12	15	18	21	24	27	30
lux	<b>FULL</b>	24.182	6.046	2.687	1.511	967	672	494	678	299	242
<b>1/2 P.A. 12° Ø (m)</b>		0,63	1,26	1,89	2,52	3,15	3,78	4,41	5,05	5,68	6,31



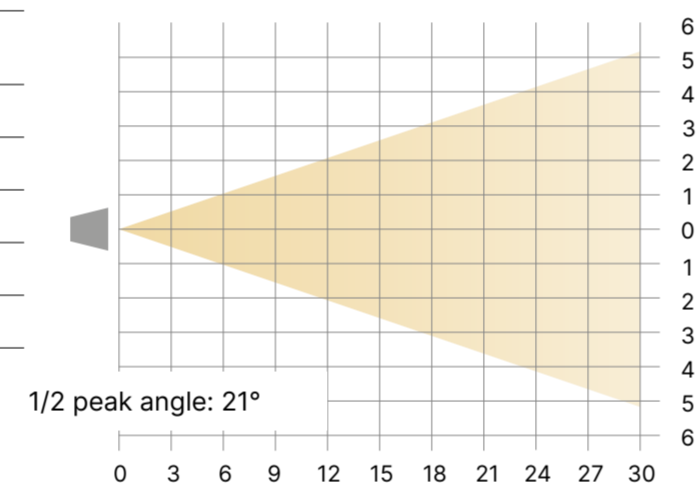
Optic: Wide Beam - 1/2 Peak Angle 34°

Distance(m)		1	2	3	4	5	6	7	8	9	10
lux	<b>2.700K</b>	11322	2831	1258	708	453	315	231	177	140	113
	<b>6.500K</b>	42228	10557	4692	2639	1689	1173	862	660	521	422
	<b>FULL</b>	52722	13181	5858	3295	2109	1465	1076	824	651	527
<b>1/2 P.A. 34° Ø (m)</b>		0.61	1.22	1.83	2.45	3.06	3.67	4.28	4.89	5.50	6.11



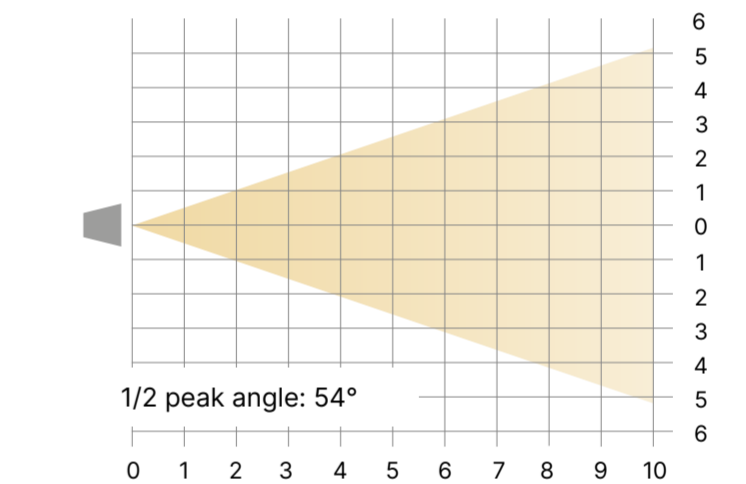
Optic: Narrow Beam - 1/2 Peak Angle 21°

Distance(m)		3	6	9	12	15	18	21	24	27	30
lux	<b>2.700K</b>	3.198	800	355	200	128	89	65	50	39	32
	<b>6.500K</b>	11.440	2.860	1.271	715	458	318	233	233	141	114
	<b>FULL</b>	14.355	3.589	1.595	897	574	399	293	293	177	144
<b>1/2 P.A. 21° Ø (m)</b>		1,11	2,22	3,34	3,45	5,56	6,67	7,78	8,90	10,01	11,12



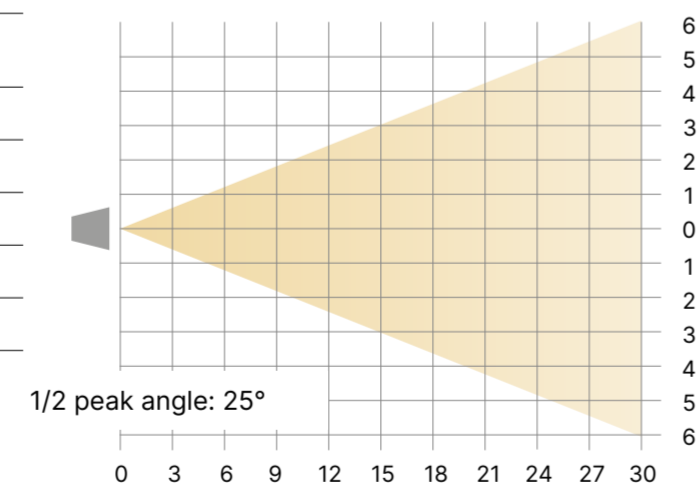
Optic: Ultra Wide Beam - 1/2 Peak Angle 54°

Distance (m)		1	2	3	4	5	6	7	8	9	10
lux	<b>2.700K</b>	4608	1152	512	288	184	128	94	72	57	46
	<b>6.500K</b>	16983	4246	1887	1061	679	472	347	265	210	170
	<b>FULL</b>	21537	5384	2393	1346	861	598	440	37	266	215
<b>1/2 P.A. 54° Ø (m)</b>		1.02	2.04	3.06	4.08	5.10	6.11	7.13	8.15	9.17	10.19



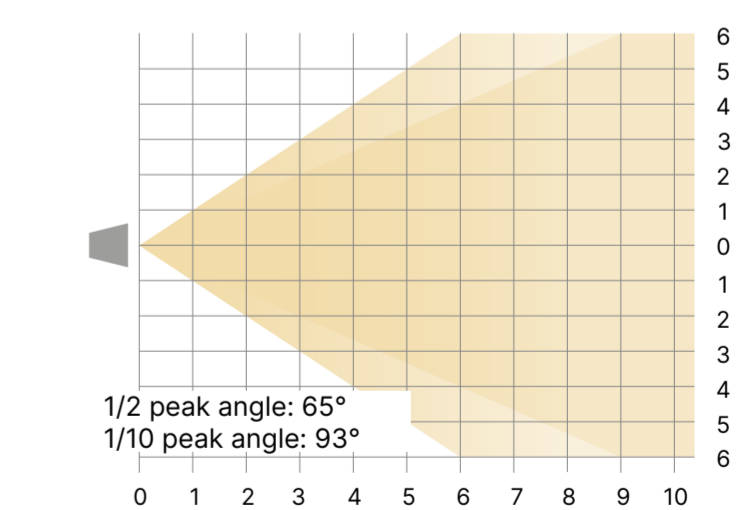
Optic: Medium Beam - 1/2 Peak Angle 25°

Distance(m)		3	6	9	12	15	18	21	24	27	30
lux	<b>2.700K</b>	2.035	509	226	127	81	57	42	32	25	20
	<b>6.500K</b>	7.364	1.841	818	460	295	205	150	115	91	74
	<b>FULL</b>	9.283	2.321	1.031	580	371	258	189	145	115	93
<b>1/2 P.A. 25° Ø (m)</b>		1,33	2,66	3,99	5,32	6,65	7,98	9,31	10,64	11,97	13,30



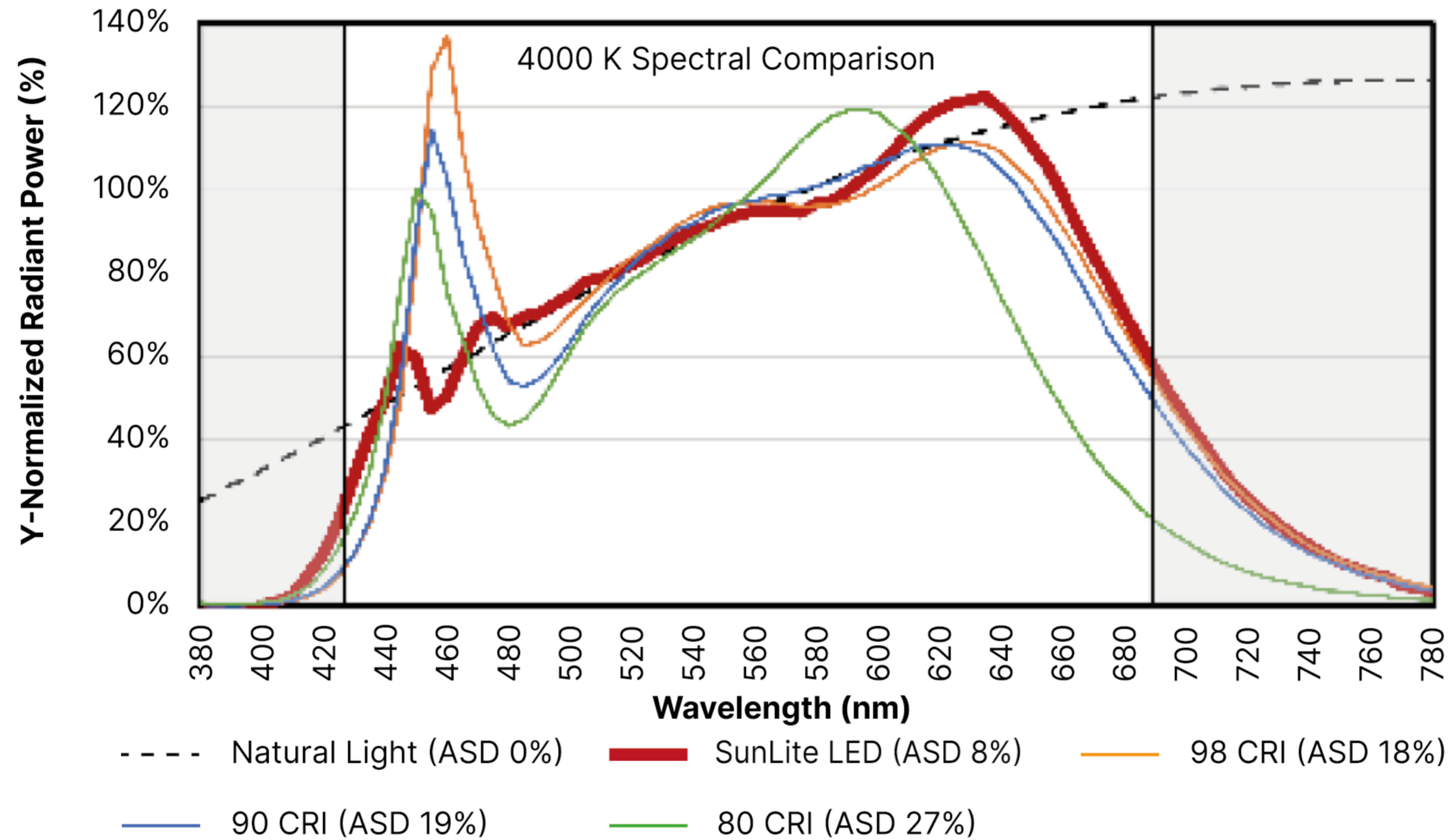
Optic: Mega Wide Beam - 1/2 Peak Angle 65°

Distance (m)		1	2	3	4	5	6	7	8	9	10
lux	<b>3.200 K</b>	3834	959	426	240	153	107	78	60	47	38
	<b>5.600 K</b>	10486	2622	1165	655	419	291	214	164	129	105
<b>1/2 P.A. Ø (m)</b>		1.27	2.55	3.82	5.10	6.37	7.64	8.92	10.19	11.47	12.74
<b>1/10 P.A. Ø (m)</b>		2.11	4.22	6.32	8.43	10.54	12.65	14.75	16.86	18.97	21.08





# SPD COMPARISON



Comparison between the light output of our **SunLite LED** and alternative products.

As shown in the table, the light produced by our SunLite LED closely mimics natural sunlight, making it ideal for the proper maintenance and **well-being of marine life**. With a **CRI** greater than **98** and variable white LEDs (ranging from **2,700K** to **6,500K**), closely mimicking sunlight cycle and simulating various times of the day.

# Contact Us

Coemar Lighting S.r.l.

Via Carpenedolo, 90  
46043, Castiglione delle Stiviere (MN) – Italy

P. +39 0376 1514412  
M1. info@coemar.com  
M2. service@coemar.com  
W. coemar.com

P.iva – C.f. 02415330204

