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WIFI TUNABLE



The first truly “intelligent” circadian wireless lighting system.

WIFI

CIRCADIAN

FLEXIBLE

LARGE
RANGE

Wireless lamps, fixtures & controllers which are able to intelligently deliver the right light at the right time through circadian programs.

Interact with apps, wireless switches or through the cloud in order to optimize your environment intelligently.

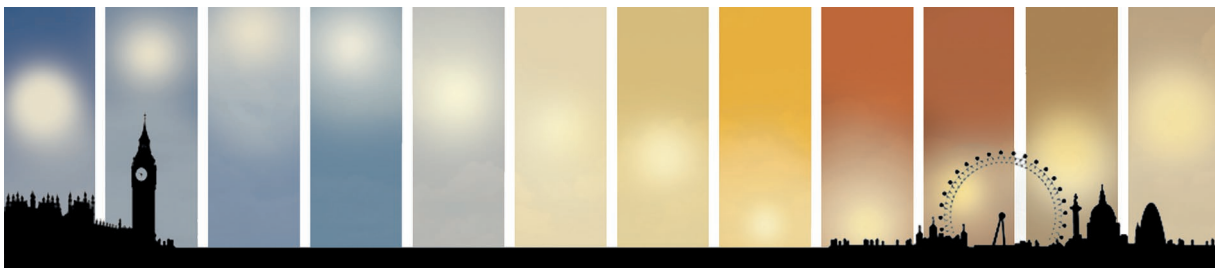
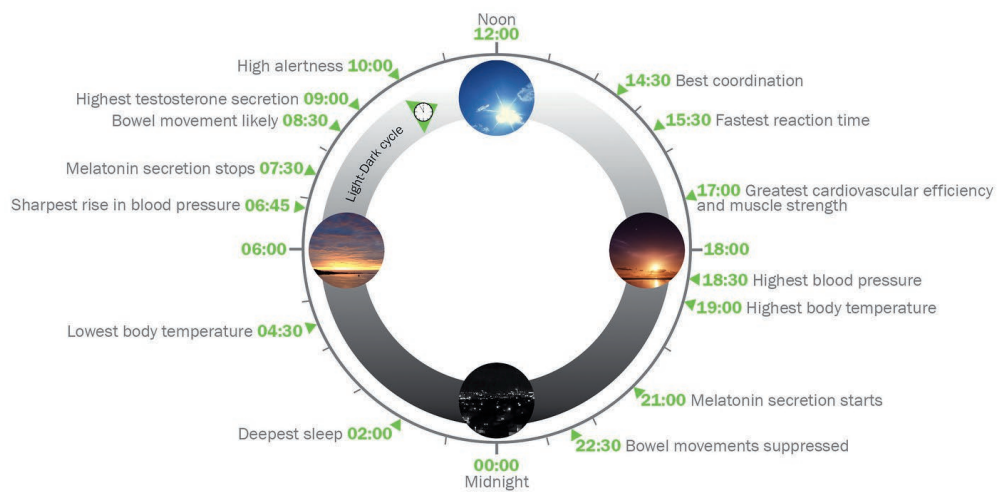
Communicate with your tablet or smartphone over a lighting server with your bulbs, downlighters, ceiling tiles or light ribbons.

The sensor provides behavioural and environmental data needed to let all your devices deliver the right light at the right time, save energy and automate your environment.

Updated: April 2015



Circadian Light



The circadian rhythm includes the physical, mental and behavioral changes present in living organisms, including humans, taking place in a period of about 24 hours.

It is our biological clock that drives our circadian rhythm. Circadian rhythms in our body are established by natural factors but are also affected by environmental signals.

Light is the most important factor that will manage our internal clock, on or off.

Stress sensitivity, concentration, drowsiness, hormones, appetite and body temperature issues are highly dependent on the circadian rhythm.

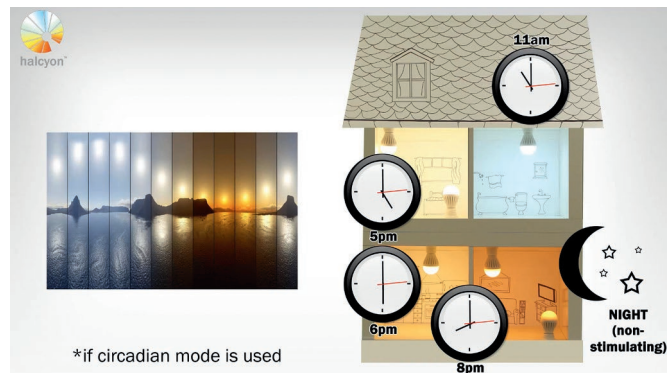
Circadian rhythms are important for our sleep patterns. Our 'master clock' or SCN, regulates the production of melatonin. Melatonin is the hormone that makes us sleepy. If there is less light, the 'master clock' signals to our brain to create more melatonin which allows us to be sleepy.

That is why light is a considerable aspect of a well thought through lighting plan.

Circadian Light cont.

The natural, daily course of daylight affects our peak moments.

The intelligent lighting systems do not only support the properties we need to function properly, they even promote them.



Did you know that we are not so alert any more in the late morning? Our coordination does not peak till the early afternoon? And that we achieve an optimal response level around 4 pm? Employees work more comfortable and more alert thanks to a tuned light level on specific moments thanks to the right light color.

An office worker, benefits from a more blue, bright light at the start of the working day or after lunch and around 16:00, during the well-known weak period. But just before lunch and at the end of the working day, a calmer, more warmer light provides us a more pleasant feeling. This will allow us to enjoy a calm and relaxed lunch or enjoyable evening.

Also in the industrial and in the healthcare sector it is clearly noticeable what the circadian rhythm can influence. Dementia patients have a substantial benefit from a committed lighting. They sleep better and are calmer and more cheerful during the day. But also the staff work more concentrated and more pleasant, especially during night shifts.

In the industry the most common conclusion is : "people work more fluent and flawless ".

By tapping into the lighting control, taking into account these facts, there is not only a huge potential to save energy but also the working atmosphere and the production level is being optimized.

The preservation of the biological rhythm between night and day is very important to maintaining our health and well being.

Our increasing lack of daylight and the growing presence of blue-rich light at night (of screens and other sources) are possible reasons which are at the basis of a disturbed metabolism, lower immunity, poor cognitive performance and even negative genetic influence.

The financial cost of circadian desynchronization, decreased productivity and increased industrial accidents caused by fatigue, as well as the relationship between reduced melatonin levels and increased cancer risk was examined. The benefits of daylighting and "circadian custom lighting" which emulates or complementary to the natural cycles of day and night has been studied. In addition, we studied the changes in the color quality and the direction in which the sun light waves evolve during the course of the day.

Our operating methods are designed to constructively contribute to a solution of the circadian lighting problems. These provide not only adaptations to the adjustable color solutions by variation of the color temperature but also through the spectral distribution.

This with significantly lower levels from blue to red (circadian or photopic) when warmer light (about 2700 K) is supplied and this in comparison to competitive LED systems.

Advantages



Smarter : Using sensors so the system knows if you need light and how much light you need



Compatible : Set preferences or manually control by using any browser on your PC, phone or tablet. You can still use a light switch on/off.



Energy Saving : Save more than standard LEDs by automatically dimming/turning off unneeded lights and reporting your energy use.



On Your Time : Schedule to save energy, wake you up, and personalize your home.



Scenes : Paint your world with light - when you want it & how you want it.



Circadian : Your body clock or circadian rhythm is driven by light. Emulating changing daylight for a healthier, happier you.



Multi User : Intuitive for all ages. Limited high level features to selected users only.



Whole Home : Not dependent on your being present. Intelligence is at the lighting server so your family can continue to enjoy the benefits.



Better Light : You and your world appear natural in any of the white colors. High quality patented, color mix LED, with no annoying flicker.



Fun : Design party or gaming scenes or using a full rainbow of colours.



Secure : Advanced, patented security protects your system yet is simple & quick to install.

Lighting Server

The Lighting Server is the brain that delivers the intelligence to your lighting system.

The server provides the control and monitoring connectivity for all light fittings, sensors, switches and other supporting devices.

The server communicates to each IPV6 addressable device through a 6LoWPAN mesh network using a 2.4 GHz radio. (802.15.4).



It collates in real time the behavioral, environmental and energy data gathered from the sensors and devices in the system. It uses its internal clock and the data to automatically control the light & plugs within the rules that have been setup by the user or from our standard profiles. The system can connect (by cable) to a standard wifi router to enable your existing wifi devices to interface with the system for setup, manual control and to view the monitoring data. The server comes preinstalled with our lighting API, help files and a web style interface that can be accessed using a web browser on a phone, tablet or PC.

ARM A9 processor 600 Mhz
64 bRAM
2GB NAND
120 BogoMips
RTC
120mm x 101mm x 95mm

Weight 158g
12Vdc 1.0 A
Power : 12W
Range : 30m in free space

Sensor

The sensor provides behavioural and environmental data needed to let all your devices deliver the right light at the right time, save energy and automate your environment.

A sensor is required for each room that you would like to be able to automate your lights.

One sensor provides data within a range of up to 7 m.



PIR presence sensor
Ambient temperature sensor
Light level sensor
2.4 GHz radio 802.15.4
Cable length : 1x0.2m & 1x1.0 m
54mm x 45mm x 81mm

Weight 42 g
5Vdc < 100mA (regulated)
Range : 7m
Optional on battery (2xAA)

Tunable bulb

WIFI TUNABLE BULBS which can give you the right light at the right time.

The lamps can be controlled by the lighting sensors, your switches or any smart device.

They can also run on a circadian setting to automatically give you the right light, in the right place, at the right time. Each individual lamp is a node, each one acting as a repeater and extending the range of the mesh network.



Traditional lamp design
 1800-7000 K tuneable + RGB color mix
 Lumen output : 700 lm
 Dimensions : 108 mm x 62 mm
 Weight : 158gr
 85-260 Vac 60mA 50/60Hz
 Power : 11W
 Edison screw (E27) or Bayonet (B22) fitting
 2.4 GHz radio 802.15.4

Ceilingstar adjustable compact downlighter

Compact IP and fire rated downlighter with optimized circadian options and 20° tilt adjustment.

- Diffuse "non LED" appearance
- IP 65 for use in wet areas
- 30 & 60 minute fire rated
- 55 mm ultra low void depth
- Excellent efficiency of up to 93 lm/cW
- High quality aluminum bezel in different finishing



C-Star	Circadian BLE 700	Circadian Plus BLE 700
Dimensions	dia 102 mm - height 63 mm	
Cutout	dia 89 mm	
Input voltage	24 V DC	
System Power	13 W	12.8 W
Color temperature	2700 K - 6500 K	1800 K - 7000 K & RGB
Lumen output	755 lm	794 lm
Color rendering index	Ra >80	
Beam angle	87°	
Lifespan L70%	50 000 h	
Weight	370 gr	

Ceilingstar compact downlighter

Compact IP and fire rated downlighter with optimized circadian options.

- Diffuse “non LED” appearance
- IP 65 for use in wet areas
- 30 & 60 minute fire rated
- 55mm ultra low void depth
- Excellent efficiency of up to 95 lm/cW
- High quality aluminium bezel in different finishing
- Lifespan L70% = 50 000 hours
- Different models available

TTs : Thin Trim Slim

TT : Thin Trim

DL : Darklight

TL : Trimless Diffuse

ED : Efficient Design

IC : Insulated Ceiling

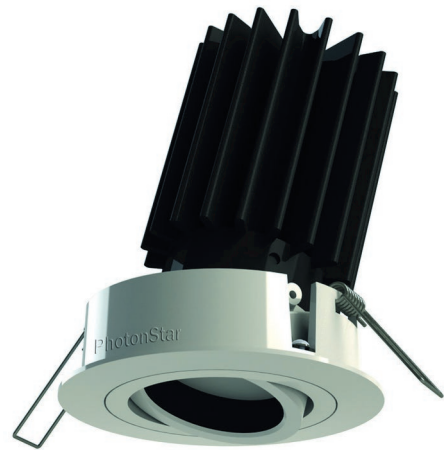


C-Star	Circadian BLE7 00	Circadian Plus w RGB BLE 700
Dimensions TTs	85 x 60 mm - cutout 75 mm	
Dimensions TT	110 x 58 mm - cutout 75 mm	
Dimensions DL	86 x 60 mm - cutout 75 mm	
Dimensions ED	102 x 55 mm - cutout 75 mm	
Dimensions IC	160 x 45 mm - cutout 75 mm	
Dimensions TL	150 x 119 mm - cutout 80 mm	
Input voltage	24 V DC	
System Power	13 W (@6500 K)	12.8 W (@6500 K)
Color temperature	2700 K - 6500 K	1800 K - 7000 K & RGB
Lumen output	675 lm	709 lm
Color rendering index	Ra >80	
Beam angle	87°	
Lifespan L70%	50 000 h	
Weight	370 gr	

Cryos Architectural downlighter

Architectural module based compact downlights with optimized circadian options.

- Lifespan L70 = 50 000 h
- High quality aluminium bezel in different finishing
- Different types available
 - FD : Fixed Darklight
 - PC : IP54 Clear
 - PD : IP54 Diffuse
 - PK : IP54 Darklight
 - A1 : Adjustable
 - AD : Adjustable darklight
 - WW : Wall-wash



CRYOS CLE	CLE 1500 Circadian Plus
Dimensions	95 x 151 mm - cutout 85 mm
Power	24.3 W
Luminous intensity	1389 Lm (@ 6500 K)
Input voltage	48 V DC
Color temperature	1800 K - 7000 K & RGB
Beam angle	28° & 38°
Color rendering index	Ra > 80

Nemesis Low glare downlighter

Low glare, module based downlights with circadian options.

- Lifespan L70 = 50 000 h
- Low Glare high performance specular reflector UGR 19
- Excellent efficiency up to 96 lm/cW
- Different finishing available
 - LG : Low Glare
 - RC : Clear Drop Ring
 - RD : Diffuse Drop Ring
 - DE : Drop Disc Centre



NEMESIS	SCP 2500 Circadian	SCP 2000 Circadian PLUS
Dimensions	183 dia x 111 height - inner length 267 mm - cutout 160 mm	
Power	26 W	30.4 W
Luminous intensity	2435 Lm (@ 6500 K)	1798 Lm (@6500 K)
Input voltage	48 V DC	
Color temperature	2700 K - 6500 K	1800 K - 7000 K & RGB
Beam angle	60°	
Color rendering index	Ra > 80	

Luxloops

Family of suspended, wall & ceiling fitting.
Distinctive LED fittings with optimized circadian options.

- High performance polycarbonate diffusor for uniform distribution & low glare - UGR 19
- Microwave sensors and emergency options.
- Enclosed low maintenance fitting
- Lumen efficiency tailored for New Building & Retrofit applications
- Spectrum optimized for Circadian
- Efficiency of up to 100 Lm/cW

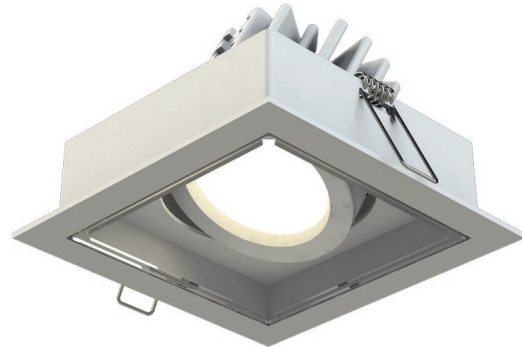


LUXLOOP	PANEL		SURFACE		SUSPENDED	
	Circadian	CircadianPLUS	Circadian	CircadianPLUS	Circadian	CircadianPLUS
Power	34 W	38 W	34 W	38 W	34 W	38 W
Luminous intensity	3138 Lm	3697 Lm	3138 Lm	3697 Lm	3138 Lm	3697 Lm
Size	596x584x80mm		dia 505mm x 75mm		dia 505 mm x 75 mm cable 590mm+	
Weight	4 kg		2.5 kg		2.8 kg	
Input voltage	AC 85~165/ 165 ~265 V					
Beam angle	120°					
Color temperature	2700K-6500 K for Circadian		1800K-7000K & RGB for CircadianPLUS			
Color rendering index	Ra >80					

Cordelia fixtures

Compact recessed adjustable fixtures.

- Fully adjustable, 360° turn & 30° tilt
- Single and multiway configuration
- IP44 versions available
- Excellent efficiency of up to 93 lm/cW
- Lifespan L70% = 50 000 hours
- Different finishing available

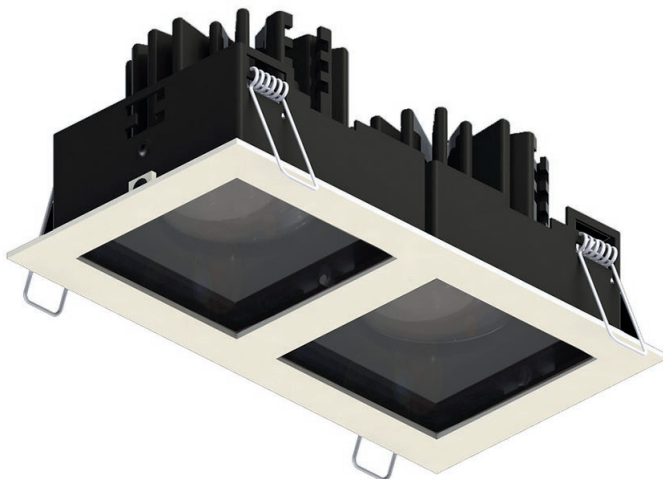
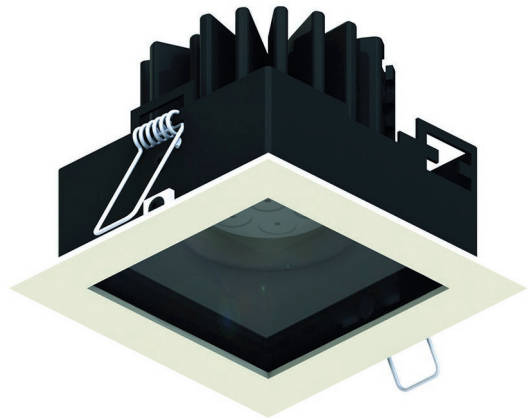


Cordelia	Circadian BLE7 00	Circadian Plus w RGB BLE 700	
Dimensions Single	122 x 122 x 83 mm - cutout 110 x 110 mm		
Dimensions Double	210 x 122 x 83 mm - cutout 190 x 110 mm		
Weight	Single 0.65 kg	Double 1.3 kg	
Input voltage	24 V DC		
System Power	13 W (@6500 K)	per light engine	12.8 W (@6500 K)
Color temperature	2700 K - 6500 K		1800 K - 7000 K & RGB
Lumen output	755 lm	per light engine	794 lm
Color rendering index	Ra >80		
Beam angle	87°		
Lifespan L70%	50 000 h		

Vespertine downlighters

Value range of recessed square downlight.

- Single plane 20° tilt adjustment
- Double version has independant tilt feature
- IP44 versions available
- Excellent efficiency of up to 94 lm/cW
- Lifespan L70% = 50 000 hours
- Different finishing available

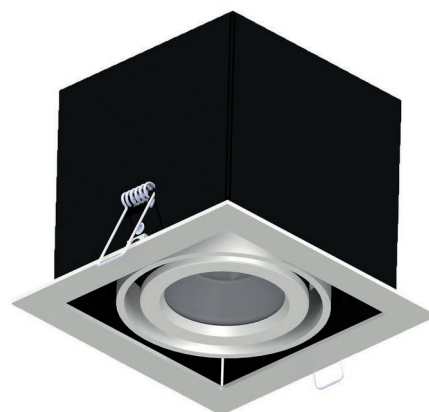


Vespertine adjustable	Circadian BLE 700	Circadian Plus w RGB BLE 700	
Dimensions Single	100 x 100 x 73 mm - cutout 85 x 85 mm		
Dimensions Double	187 x 187 x 68 mm - cutout 175 x 85 mm		
Weight	Single 0.5 kg		Double 1 kg
System Power	13 W (@6500 K)	per light engine	12.8 W (@6500 K)
Color temperature	2700 K - 6500 K		1800 K - 7000 K & RGB
Lumen output	755 lm	per light engine	794 lm
Color rendering index	Ra >80		
Beam angle	87°		
Lifespan L70%	50 000 h		

Cordus downlighters

Recessed Gimbal fixture.

- Square and rectangular trim recessed fixture with adjustable gimbal, 34° tilt
- Single or multiway configurations 1 to 4
- Excellent efficiency of up to 93 lm/cW
- Lifespan L70% = 50 000 hours
- Different finishing available



Cordus Gimbal	Circadian BLE 700	Circadian Plus w RGB BLE 700
Dimensions Single	125 x 125 x 101 mm - cutout 110 x 110 mm	
Dimensions Double	235 x 125 x 101 mm - cutout 215 x 110 mm	
Dimensions Triple	345 x 125 x 101 mm - cutout 330 x 112 mm	
Dimensions Quatro	235 x 235 x 101 mm - cutout 220 x 220 mm	
Weight	single 0.75kg - double 1.5 kg - triple 2.3 kg - quatro : 3 kg	
System Power	13 W (@6500 K)	per light engine 12.8 W (@6500 K)
Color temperature	2700 K - 6500 K	1800 K - 7000 K & RGB
Lumen output	755 lm	per light engine 794 lm
Color rendering index	Ra >80	
Beam angle	87°	
Lifespan L70%	50 000 h	

Recessed Round Gimbal fixture.

- Round single and twin trim gimbal fixture with 28° tilt
- Single or double configurations
- Excellent efficiency of up to 93 lm/cW
- Lifespan L70% = 50 000 hours
- Different finishing available



Cordus Gimbal	Circadian BLE 700	Circadian Plus w RGB BLE 700
Dimensions Single	125 x 125 x 79 mm - cutout 105 mm	
Dimensions Double	229 x 125 x 79 mm - cutout 207 x 105 mm	
Weight	single 0.65kg - double 1.3 kg	
System Power	13 W (@6500 K)	per light engine 12.8 W (@6500 K)
Color temperature	2700 K - 6500 K	1800 K - 7000 K & RGB
Lumen output	755 lm	per light engine 794 lm
Color rendering index	Ra >80	
Beam angle	87°	
Lifespan L70%	50 000 h	

Cordus downlighters cont.

Trimless Recessed Gimbal fixture.

- Plaster-in trimless fixture with adjustable recess depth with adjustable gimball, 34° tilt
- Suitable for wet-skim or dry lined ceilings
- Single or multiway configurations 1 to 4
- Excellent efficiency of up to 93 lm/cW
- Lifespan L70% = 50 000 hours
- Different finishing available

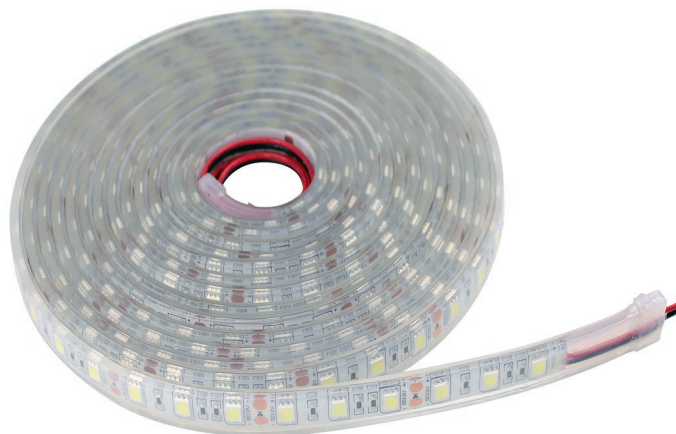


Cordus Gimbal	Circadian BLE 700	Circadian Plus w RGB BLE 700
Dimensions Single	cutout 105 x 105 mm	
Dimensions Double	cutout 207 x 105 mm	
Dimensions Triple	cutout 310 x 105 mm	
Dimensions Quatro	cutout 219 x 219 mm	
Weight	single 0.75kg - double 1.5 kg - triple 2.3 kg - quatro : 3 kg	
System Power	13 W (@6500 K)	per light engine 12.8 W (@6500 K)
Color temperature	2700 K - 6500 K	1800 K - 7000 K & RGB
Lumen output	755 lm	per light engine 794 lm
Color rendering index	Ra >80	
Beam angle	87°	
Lifespan L70%	50 000 h	

Strip

Flexible linear light tape.

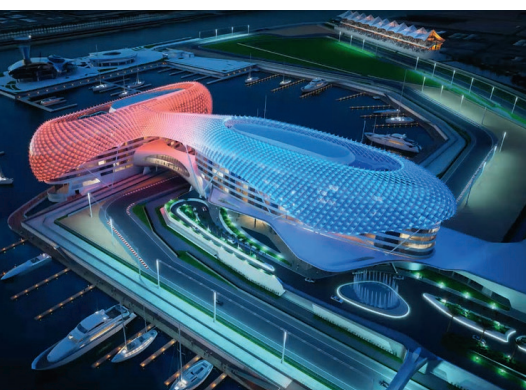
- Standard IP 30
IP 67 ingress protection available
- Beam angle : 120°



DOODAD	300 RGB	630 Circadian	630 Fixed
Max CircW	11.28 W per 1m/channel	14.64 W per 1m/channel	11.76 W per 1m/channel
Source lumens	300 lm/m	630 lm/m	630 lm/m
Input voltage	24 VDC		
Color temperature	RGB colour mix	2700 K - 6500 K	3000 K or 6500 K
Color rendering index	Ra > 80		
Beam angle	120 °		

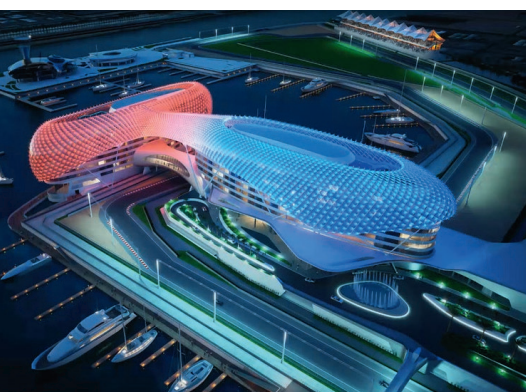
TUNEABLE WIFI

REFERENCE	TYPE	MODEL	COLOR	RGB	WATT
600-0001	SERVER				
600-0002	SENSOR				
600-0003	WALL PLUG				
600-0004	GESTURE SWITCH				
600-0100	E27 BULB		1700-7000 K	RGB	11 W
600-0101	CEILINGSTAR	Thin Trim Slim	2700-6500 K		13 W
600-0102	CEILINGSTAR	Thin Trim	2700-6500 K		13 W
600-0103	CEILINGSTAR	Dark Light	2700-6500 K		13 W
600-0104	CEILINGSTAR	Trimless Diffuse	2700-6500 K		13 W
600-0105	CEILINGSTAR	Efficient Design	2700-6500 K		13 W
600-0106	CEILINGSTAR	Insulated Ceiling	2700-6500 K		13 W
600-0107	CEILINGSTAR	Thin Trim Slim	1800-7000 K	RGB	12.8 W
600-0108	CEILINGSTAR	Thin Trim	1800-7000 K	RGB	12.8 W
600-0109	CEILINGSTAR	Dark Light	1800-7000 K	RGB	12.8 W
600-0110	CEILINGSTAR	Trimless Diffuse	1800-7000 K	RGB	12.8 W
600-0111	CEILINGSTAR	Efficient Design	1800-7000 K	RGB	12.8 W
600-0112	CEILINGSTAR	Insulated Ceiling	1800-7000 K	RGB	12.8 W
600-0113	CEILINGSTAR	Adjustable	2700-6500 K		13 W
600-0114	CEILINGSTAR	Adjustable	1800-7000 K	RGB	12.8 W
600-0120	CRYOS	Fixed Dark Light	1800-7000 K	RGB	24.3 W
600-0121	CRYOS	Clear	1800-7000 K	RGB	24.3 W
600-0122	CRYOS	Diffuse	1800-7000 K	RGB	24.3 W
600-0123	CRYOS	Darklight	1800-7000 K	RGB	24.3 W
600-0024	CRYOS	Adjustable	1800-7000 K	RGB	24.3 W
600-0025	CRYOS	Adjustable Darklight	1800-7000 K	RGB	24.3 W
600-0026	CRYOS	Wall-Wash	1800-7000 K	RGB	24.3 W



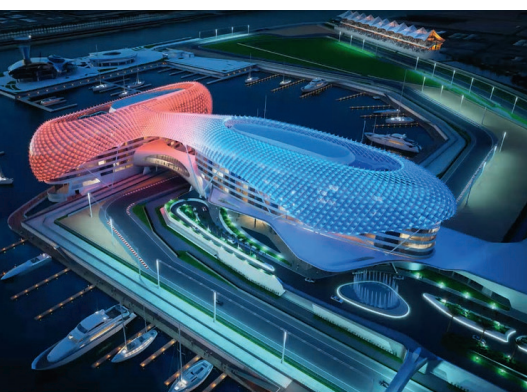
TUNABLE WIFI

REFERENCE	TYPE	MODEL	COLOR	RGB	WATT
600-0150	NEMESIS	Low Glare	2700-6500 K		26 W
600-0151	NEMESIS	Clear Drop Ring	2700-6500 K		26 W
600-0152	NEMESIS	Diffuse Drop Ring	2700-6500 K		26 W
600-0153	NEMESIS	Drop Ring Centre	2700-6500 K		26 W
600-0154	NEMESIS	Low Glare	1800-7000 K	RGB	30.4 W
600-0155	NEMESIS	Clear Drop Ring	1800-7000 K	RGB	30.4 W
600-0156	NEMESIS	Diffuse Drop Ring	1800-7000 K	RGB	30.4 W
600-0157	NEMESIS	Dro pRing Centre	1800-7000 K	RGB	30.4 W
600-0200	LUXLOOP	Panel	2700-6500 K		34 W
600-0201	LUXLOOP	Panel	1800-7000 K	RGB	38 W
600-0202	LUXLOOP	Surface	2700-6500 K		34 W
600-0203	LUXLOOP	Surface	1800-7000 K	RGB	38 W
600-0204	LUXLOOP	Suspended	2700-6500 K		24 W
600-0205	LUXLOOP	Suspended	1800-7000 K	RGB	38 W
600-0250	CORDELIA	Single	2700-6500 K		13 W
600-0251	CORDELIA	Double	2700-6500 K		26 W
600-0252	CORDELIA	Single	1800-7000 K	RGB	12.8 W
600-0253	CORDELIA	Double	1800-7000 K	RGB	25.6 W
600-0300	VESPERTINE	Single	2700-6500 K		13 W
600-0301	VESPERTINE	Single	1800-7000 K	RGB	12.8 W
600-0312	VESPRETINE	Double	2700-6500 K		26 W
600-0313	VESPERTINE	Double	1800-7000 K	RGB	25.6 W
600-0350	CORDUS	Gimbal Single	2700-6500 K		13 W
600-0351	CORDUS	Gimbal Double	2700-6500 K		26 W
600-0352	CORDUS	Gimbal Triple	2700-6500 K		39 W
600-0353	CORDUS	Gimbal Quatro	2700-6500 K		52 W
600-0354	CORDUS	Gimbal Single	1800-7000 K	RGB	12.8 W
600-0355	CORDUS	Gimbal Double	1800-7000 K	RGB	25.6 W
600-0356	CORDUS	Gimbal Triple	1800-7000 K	RGB	38.4 W
600-0357	CORDUS	Gimbal Quatro	1800-7000 K	RGB	51.2 W



TUNABLE WIFI

REFERENCE	TYPE	MODEL	COLOR	RGB	WATT
600-0358	CORDUS ROUND	Gimbal Single	2700-6500 K		13 W
600-0359	CORDUS ROUND	Gimbal Double	2700-6500 K		26 W
600-0360	CORDUS ROUND	Gimbal Single	1800-7000 K	RGB	12.8 W
600-0361	CORDUS ROUND	Gimbal Double	1800-7000 K	RGB	25.6 W
600-0362	CORDUS TRIMLESS	Gimbal Single	2700-6500 K		13 W
600-0363	CORDUS TRIMLESS	Gimbal Double	2700-6500 K		26 W
600-0364	CORDUS TRIMLESS	Gimbal Triple	2700-6500 K		39 W
600-0365	CORDUS TRIMLESS	Gimbal Quatro	2700-6500 K		52 W
600-0366	CORDUS TRIMLESS	Gimbal Single	1800-7000 K	RGB	12.8 W
600-0367	CORDUS TRIMLESS	Gimbal Double	1800-7000 K	RGB	25.6 W
600-0368	CORDUS TRIMLESS	Gimbal Triple	1800-7000 K	RGB	38.4 W
600-0369	CORDUS TRIMLESS	Gimbal Quatro	1800-7000 K	RGB	51.2 W
600-0400	DOODAD	Strip		RGB	11.28 W
600-0401	DOODAD	Strip	2700-6500 K		14.64 W
600-0402	DOODAD	Strip	3000 K		11.76 W
600-0403	DOODAD	Strip	6500 K		11.76 W
600-0404	DOODAD	Strip IP67		RGB	11.28 W
600-0405	DOODAD	Strip IP67	2700-6500 K		14.64 W
600-0406	DOODAD	Strip IP67	3000 K		11.76 W
600-0407	DOODAD	Strip IP67	6500 K		11.76 W



TUNABLE WIFI - ACCESSORIES

REFERENCE	TYPE	MODEL	COLOR	RGB	WATT
900-0300	DRIVER	Non Dimmable IP20			20 W
900-0301	DRIVER	Non Dimmable IP20			75 W
900-0302	DRIVER	Non Dimmable IP67			80 W
900-0303	DRIVER	Non Dimmable IP67			120 W
900-0304	DRIVER	Non Dimmable IP67			240 W
900-0305	DRIVER	Dimmable IP67			80 W
900-0306	DRIVER	Dimmable IP67			120 W
900-0307	DRIVER	Dimmable IP67			240 W
900-0310	CONNECTOR	Driver - Tape	Fixed Colours		
900-0311	CONNECTOR	Driver -Tape	RGB Colours		
900-0312	TERMINATOR	Ribbon			
900-0313	CONNECTOR IP67	Driver - Tape	Fixed Colours		
900-0314	CONNECTOR IP67	Driver - Tape	RGB Colours		
900-0315	TERMINATOR IP67	Ribbon			

