



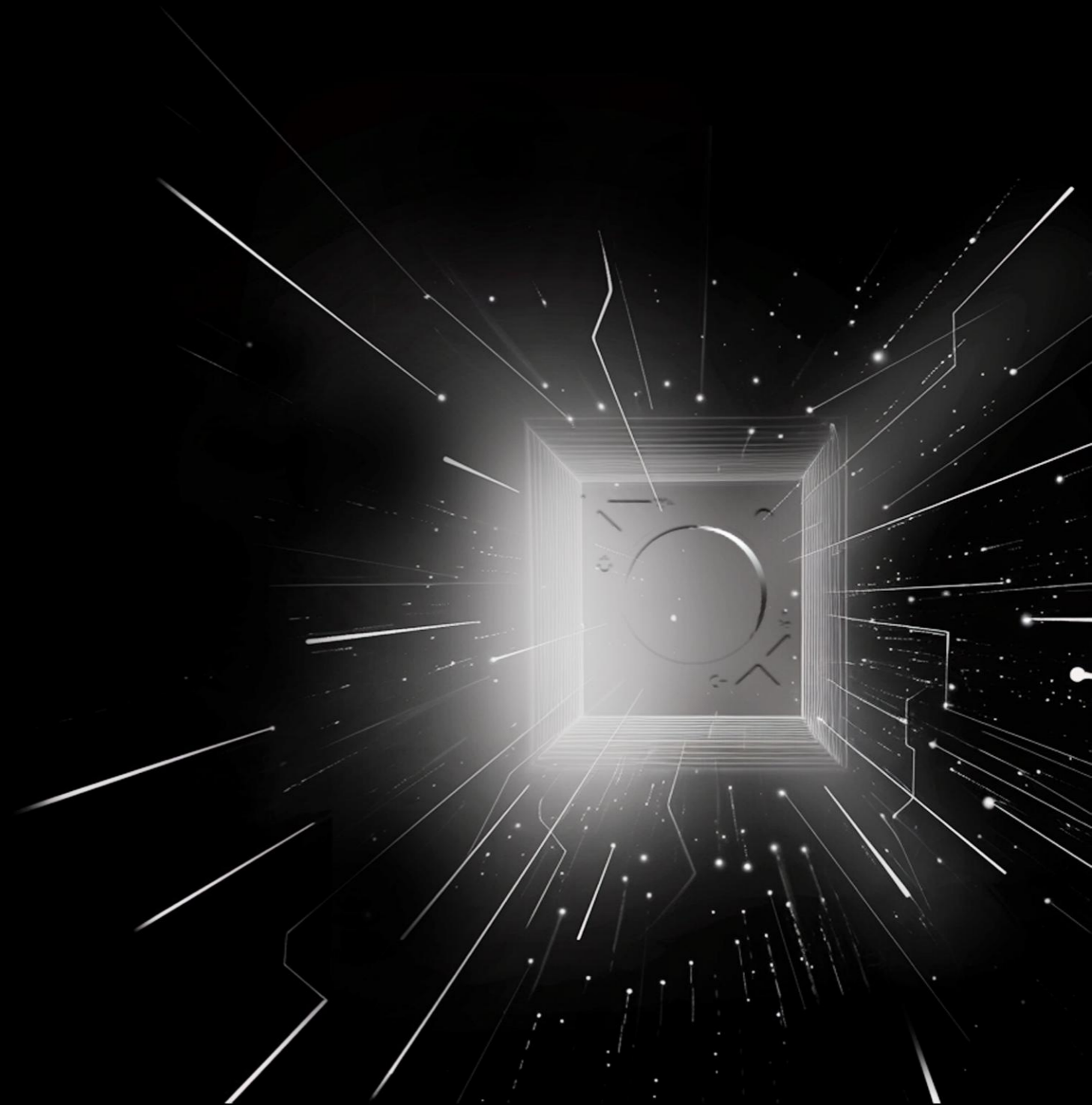
EVERCORE OPTOELECTRONIC TECHNOLOGY INTERNATIONAL Co., Ltd.



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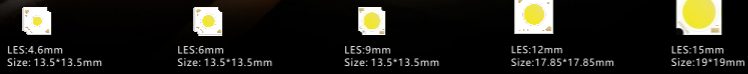
www.led-cob.com
www.evercorecob.com



Light · Inspiring Innovation.....

Single Color COB

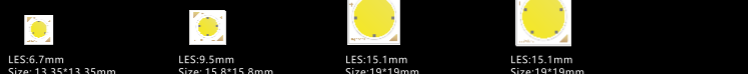
High Efficiency Series
Standard Edition



High Efficiency Series
Ultimate Edition



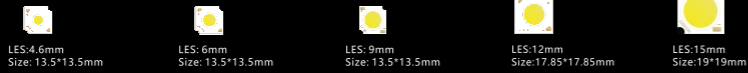
High Efficiency Series
Constant Voltage



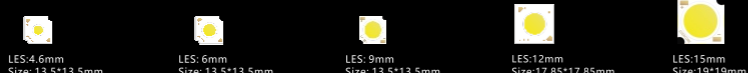
High Efficiency Series
High Density



Full Spectrum Series
Standard Edition



Full Spectrum Series
Ultimate Edition

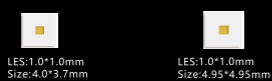


Single Color SMD

High-power Ceramic
SMD Series
3535



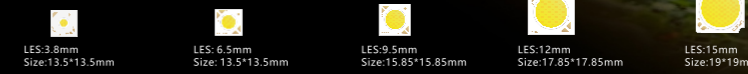
High-power Ceramic
SMD Series
4040/5050



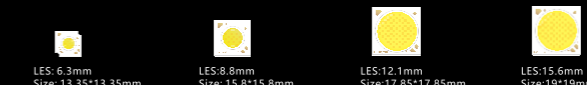
Multiple color COB

CCT Tunable Series

CCT Tunable COB Series



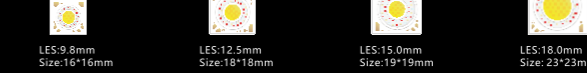
CCT Tunable Series
Constant Voltage COB



CCT Tunable Series
Dim to Warm COB



RGBCW Series
COB



RGBCW Series
Module



Multiple color SMD

High-power Ceramic
SMD Series
3535/5060



High-power Ceramic
SMD Series
5050





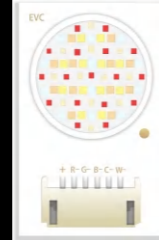
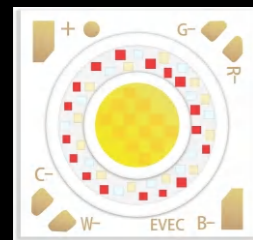
Company Profile

Company Name: Foshan Evercore Optoelectronic Technology Co, Ltd.
 Headquarters: Foshan, Guangdong Province
 Production Base: Longyan, Fujian Province
 R & D platform: Evercore & Sun Yat-sen University Chip and photoelectric integration joint laboratory

Established: **2010** Registered capital: **11,000,000** Patents: **100+**

Market Focus

Product focus: Photoelectric integrated module COB
 Market area: Commercial Lighting & Special Lighting



Patent Overview

Multiple Structure LED Chips
 Integrated Packaging technology patent

Multiple wavelengths Full spectrum
 COB Packaging technology patent

LED Integrated Light Source
 Modular Technology patent

Thermal isolation phosphor
 coating technology patent

Light source module
 technology patent

CSC Chip-Scale phosphor
 coating technology



Quality System

ISO9001:201 Quality Management System
 IES LM-80 Certification
 EN62471 Certification



2010

Evercore Founded
Focused on
the commercial lighting COB market
The 1st one to invent White LED color matching
and lighting mixing System

2019

Awarded as
"Specialization, refinement, novelty,
and innovation" Enterprise

2014

Awarded as
"The national High-tech Enterprise"

2021

Awarded as the
"Guangdong Province Intellectual
Property Demonstration Enterprise"
European invention patent of
RGBCW COB authorized

2024

The Second Prize of
Hebei Provincial Science
and Technology Progress Award
The Second Prize of
Guangdong Provincial Science
and Technology Progress Award

2012

Set up the Joint Laboratory of Chip
and Optoelectronic Integration
with Sun Yat-sen University.

2016

The 1st in China to have a patent
for the full-spectrum technology

2020

Fujian Intelligent Production
Base Completed
The world's 1st intelligent
RGBCW COB launched

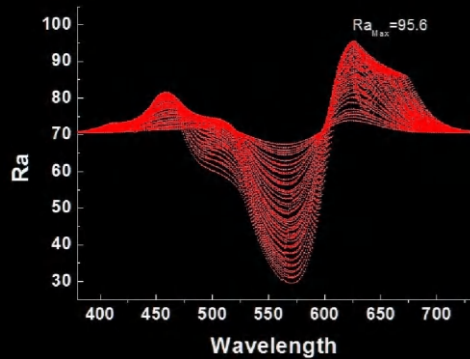
2022

Cooperated with
Jilin University for HCL R&D
The Top Prize in the
National Disruptive Innovation
Competition

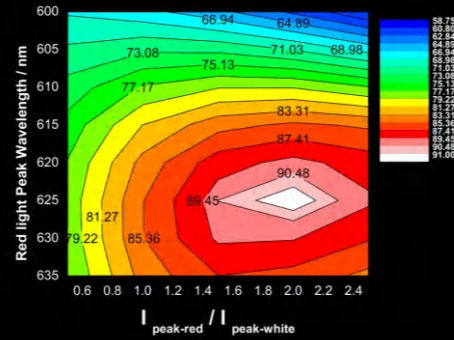
Focus · Deposit · Innovation

Core technologies

LED light and color mixing software system



More than 90,000 spectral configurations can be simulated, enabling mass manufacturing of unique spectral customization to satisfy the saturation and fidelity application of specific and targeted objects and space scenes.



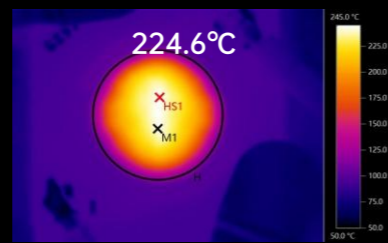
Simulate the white light effect after mixing according to the parameters of blue chip and phosphor, greatly reducing the sample customization cycle, while solving the problem of light color difference between different materials.

Thermal isolation phosphor coating technology

Conventional COB process



When the COB light source is working, both the phosphor and the silica gel will absorb a part of the blue light and convert it into heat. In addition, the heat capacity and thermal conductivity of the silica gel are relatively low, resulting in a sharp rise in the temperature of the fluorescent glue.



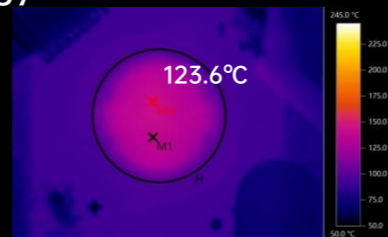
50% ↓

Heat dissipation performance can be improved

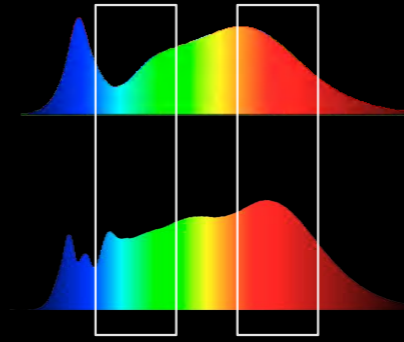
Thermal isolation phosphor coating technology



Adopting the centrifugal sedimentation method to reduce the thickness of the phosphor layer in the fluorescent glue, effectively solving the heat dissipation problem of the phosphor. The heat dissipation performance can be improved by 50%. Meanwhile, compared with the natural sedimentation process, it can save five times the time.



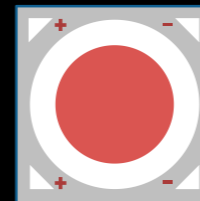
Full spectrum technology



- Excited by multiple- wavelengths blue LED chip, matched with phosphor, under the premise of completely no UV light, to simulate the full spectrum of halogen lamp effect, more fitting the solar spectrum.
- It makes up for the lack of color performance from blue to green in traditional COB products, and can truly show the purity of the light color system represented by indigo blue and the natural purity of white.
- Supplementing the 650nm long red light and 480nm long blue light band can promote the secretion of dopamine in the retina in the field of human health, which promote the improvement of scleral elasticity, and inhibit the abnormal growth of the eye axis.

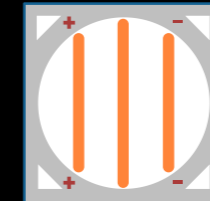
CSC chip-level phosphor coating technology

Take into account the three-dimensional balance of light effect, light spot and power density and massproduction of process technology



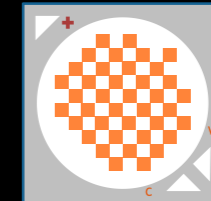
Circular chip Array

Bad light spot effect, eliminated from the market.



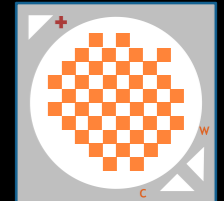
Strip chip Array

High efficiency but with average light spot effect , lower power density.



Flip chip Mosaic Array

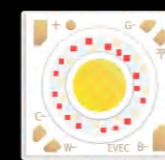
Lower efficiency but with good light spot effect and higher power density.



Wire bond Mosaic Array

Higher efficiency with good light spot effect and higher power density.

Multi-color chip integration & light mixing technology

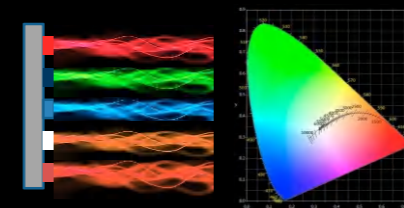


Wire Bonding



Flip-chip Bonding

- Representing the highest level of integration technology in the COB industry
- It adopts multiple types of chips with hybrid integration processes
- Including wire bonding and flip-chip bonding technology



- With proprietary R&D, it incorporates a multi-channel mixed-light fitting algorithm
- Precisely output RGBCW current for each channel based on customers color requirements
- Achieving full-color gamut dimming and color tuning

Application focus

General Lighting



High-end commercial lighting



Commercial supermarket lighting



High-end store lighting



IOT human centric lighting

Special lighting



Automotive lighting



Portable lighting



Plant lighting



Marine lighting

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High Efficiency Series

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CCT Tunable Series

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High power Ceramic SMD

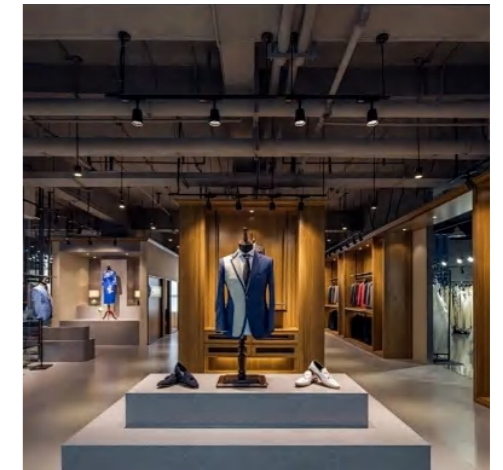
Single color SMD	26
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Product Features:

- 1、Complied with ANSI standard, LM-80 certified
- 2、CRI > 80 or 90
- 3、Light efficiency: 150lm/W, 165lm/W、175lm/W(@3000K 80Ra)
- 4、Work with isolated driver with a voltage range of 36V to 38V, compatible with international standard sizes.
- 5、SDCM<2, high light color consistency

Applications:

Widely used for hotel clubs, museums, clothing brand stores, chain supermarkets and high-end home lighting and other places



High efficiency Series










Standard Edition /Ultimate Edition/High Density Edition /Constant Voltage Edition/

High efficiency COB-Y Series 150lm/W

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CRI (Ra)	Efficiency @3000K (lm/W)	Lumen (lm)
	1201-Y	Φ6	5	130	200	36	≥80	142	664
	1202-Y	Φ6	7	200	400	36	≥90	120	561
	1203-Y	Φ9	12	350	600	36	≥80	142	1022
	1204-Y	Φ9	15	400	800	36	≥90	120	864
	1205-Y	Φ15	20	550	1000	36	≥80	145	1827
	1206-Y	Φ15	25	700	1200	36	≥90	123	1549
	1206-Y	Φ15	20	550	1000	36	≥80	145	2088
	1208-Y	Φ15	35	950	1600	36	≥90	123	1771
	1206-Y	Φ14	25	700	1200	36	≥80	150	2970
	1207-Y	Φ14	30	800	1400	36	≥90	130	2574
	1206-Y	Φ14	25	700	1200	36	≥80	150	3780
	1208-Y	Φ14	35	950	1600	36	≥90	129	3250
	1206-Y	Φ14	25	700	1200	36	≥80	150	5130
	1208-Y	Φ14	35	950	1600	36	≥90	129	4411
	1206-Y	Φ14	25	700	1200	36	≥80	150	3780
	1207-Y	Φ14	30	800	1400	36	≥90	128	3225
	1206-Y	Φ14	25	700	1200	36	≥80	150	4320
	1208-Y	Φ14	35	950	1600	36	≥90	128	3686
	1206-Y	Φ14	25	700	1200	36	≥80	150	5130
	1208-Y	Φ14	35	950	1600	36	≥90	127	4343

High efficiency Series-Standard Edition

High efficiency COB-K Series 165lm/W

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CRI (Ra)	Efficiency @3000K (lm/W)	Lumen (lm)
	1201-K	Φ6	3	90	230	36	≥80	161	521
							≥90	137	443
	1202-K	Φ6	6	180	460	36	≥80	161	1043
							≥90	137	887
	1203-K	Φ9	9	270	690	36	≥80	161	1564
							≥90	137	1331
	1204-K	Φ9	12	360	920	36	≥80	161	2086
							≥90	137	1775
	1205-K	Φ15	15	450	1150	36	≥80	165	2673
							≥90	140	2268
	1206-K	Φ15	18	540	1380	36	≥80	166	3227
							≥90	141	2741
	1208-K	Φ15	24	720	1840	36	≥80	166	4302
							≥90	141	3654
	1210-K	Φ15	30	900	2300	36	≥80	162	5248
							≥90	138	4471
	1311-K	Φ15	24	600	2530	36	≥80	175	3780
							≥90	150	3240

High efficiency COB-S Series 175lm/W

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CRI (Ra)	Efficiency @3000K (lm/W)	Lumen (lm)
	1202-S	Φ6	6	180	460	36	≥80	170	1101
							≥90	144	933
	1204-S	Φ9	12	360	920	36	≥80	170	2203
							≥90	144	1866
	1206-S	Φ15	18	540	1380	36	≥80	175	3402
							≥90	149	2896
	1208-S	Φ15	24	720	1840	36	≥80	175	4536
							≥90	149	3862
	1210-S	Φ15	30	900	2300	36	≥80	170	5508
							≥90	144	4665
	1214-S	Φ19	42	1260	3220	36	≥80	175	7938
							≥90	149	6758

High efficiency Series- Ultimate Edition

Product Features:








- 1、Complied with ANSI standard, LM-80 certified
- 2、CRI > 90
- 3、Light efficiency: 200lm/W(@3000K 90Ra)
- 4、Work with isolated driver with a voltage range of 36V to 38V, compatible with international standard sizes.
- 5、SDCM <2, high light color consistency

Applications:

Widely used for hotel clubs, museums, clothing brand stores, chain supermarkets and high-end home lighting and other places



K90 Series 200lm/W

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)	Lumen (lm)
	1202-K90	Φ6	4	120	300	36	2700	≥90	173	692
							3000		182	728
							4000		191	764
	1204-K90	Φ9	8	240	600	36	2700	≥90	173	1384
							3000		182	1456
							4000		191	1528
	1205-K90	Φ9	10	300	750	36	2700	≥90	173	1730
							3000		182	1820
							4000		191	1910
	1209-K90	Φ12	18	480	1350	36	2700	≥90	176	3168
							3000		185	3330
							4000		194	3492
	1208-K90	Φ15	16	480	1200	36	2700	≥90	176	2816
							3000		185	2960
							4000		194	3104
	1210-K90	Φ15	20	600	1500	36	2700	≥90	176	3520
							3000		185	3700
							4000		194	3880
	1313-K90	Φ15	28	780	1950	36	2700	≥90	176	4928
							3000		185	5180
							4000		194	5432

High efficiency Series-High Density COB

Product Features:

- 1、Complied with ANSI standard, LM-80 certified
- 2、CRI > 90
- 3、Ultra high power density, high central light intensity
- 4、Ultra-small substrate size, enabling small angle optical distribution with in 10°
- 5、SDCM <2, high light color consistency

Applications:

Widely used for hotel clubs, museums, clothing brand stores, chain supermarkets and high-end home lighting and other places



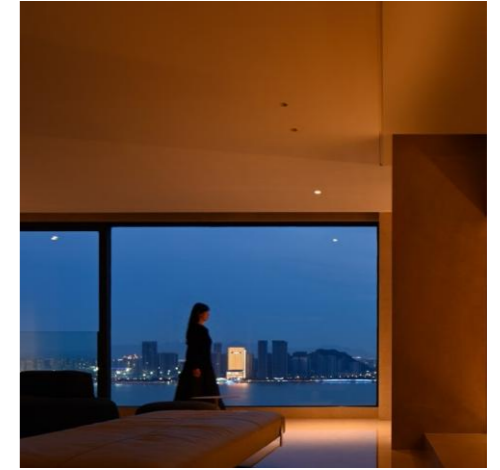
High efficiency Series-Constant Voltage COB

Product Features:

- 1、Complied with ANSI standard, LM-80 certified
- 2、CRI > 90
- 3、Light efficiency: 130lm/W(@3000K 90Ra)
- 4、Constant voltage input, automatic constant current, a single power supply to drive multiple sets of parallel lamps
- 5、SDCM <2, high light color consistency

Applications:

Widely used for hotel clubs, museums, clothing brand stores, chain supermarkets and high-end home lighting and other places



HD Series

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)	Lumen (lm)
	1201-HD	φ3.5	4	120	200	36	3000	≥90	92	397
							4000	≥90	96	414
							5700	≥90	96	414
	1202-HD	φ4.6	9	250	350	36	3000	≥90	92	828
							4000	≥90	96	864
							5700	≥90	96	864
	1204-HD	φ6	15	400	750	36	3000	≥90	105	1512
							4000	≥90	115	1656
							5700	≥90	115	1656
	1206-HD	φ8	25	700	1050	36	3000	≥90	110	2772
							4000	≥90	120	3024
							5700	≥90	120	3024
	1208-HD	φ9	30	800	1440	36	3000	≥90	110	3168
							4000	≥90	120	3456
							5700	≥90	120	3456

HC Series

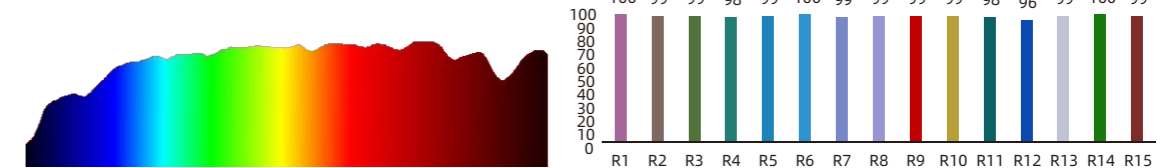
Product Picture	Model Number	LES (mm)	Power (W)	TyP Voltage (V)	Max Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)	Lumen (lm)
	0704-7WHC	Φ6	7	24	27	2700	≥90	105	735
						3000	≥90	110	770
						4000	≥90	115	805
	0704-9WHC	Φ6	9	24	27	2700	≥90	100	900
						3000	≥90	105	945
						4000	≥90	110	990
	0707-HC	Φ9	12	24	27	2700	≥90	115	1380
						3000	≥90	120	1440
						4000	≥90	125	1500
	0708-HC	Φ9	15	24	27	2700	≥90	115	1725
						3000	≥90	120	1800
						4000	≥90	125	1875
	1506-HC	Φ15	18	48	54	2700	≥90	120	2160
						3000	≥90	125	2250
						4000	≥90	130	2340
	1508-HC	Φ15	24	48	54	2700	≥90	120	2880
						3000	≥90	125	3000
						4000	≥90	130	3120
	1510-HC	Φ15	30	48	54	2700	≥90	120	3600
						3000	≥90	125	3750
						4000	≥90	130	3900

Concept and Definition of Full Spectrum COB

- Excited by multi-wavelength blue LED chips, matching with phosphor, under the premise of completely no UV light, to simulate the full spectrum effect of halogen lamp, more fitting the solar spectrum;
- Achieve spectral saturation transition from blue light to yellow light, reducing the probability of green light spillover, more close to natural white light, good for a smoother full spectrum application;
- Supplementing for the lack of color performance from blue to green in traditional COB products can truly show the purity of the light color system represented by indigo blue and the natural purity of white.

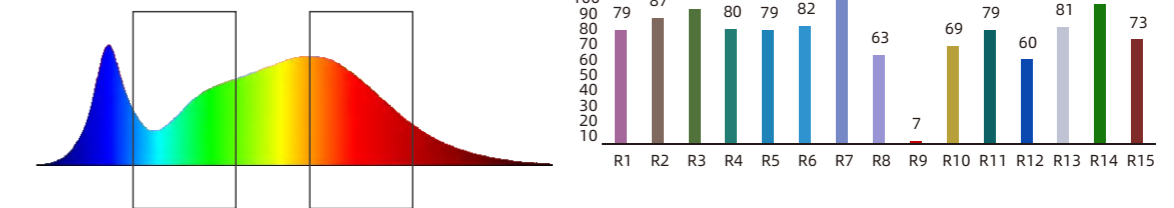
Sun

Rf = 100
Rg = 100



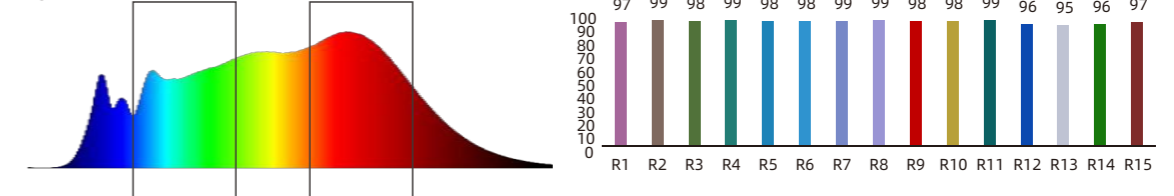
LED Standard LED

Rf = 81
Rg = 95



Evercore Full Spectrum COB

Rf = 96
Rg = 102

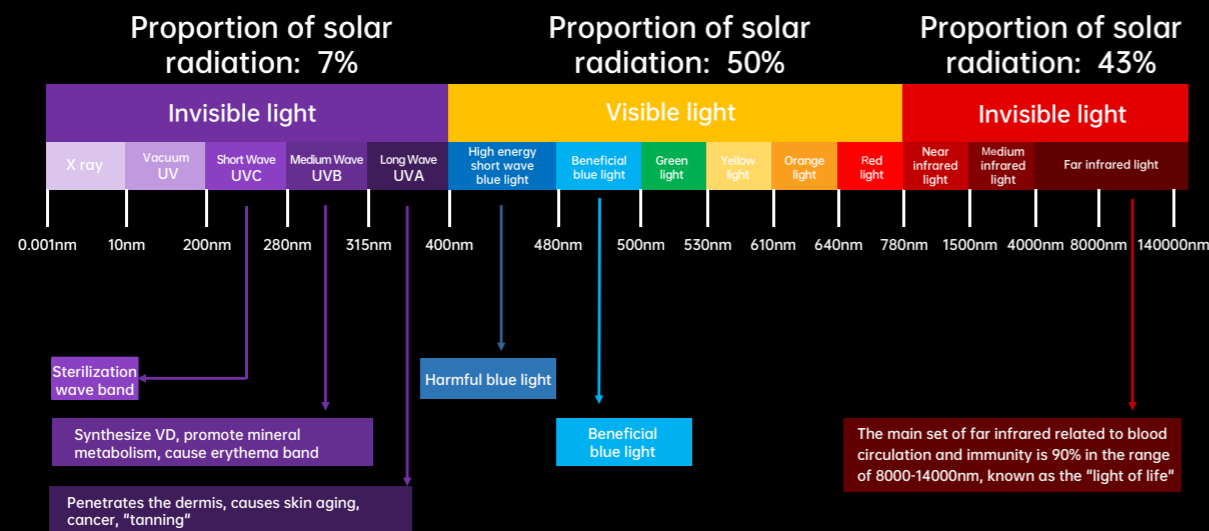


Full spectrum Series

Standard/Ultimate Edition

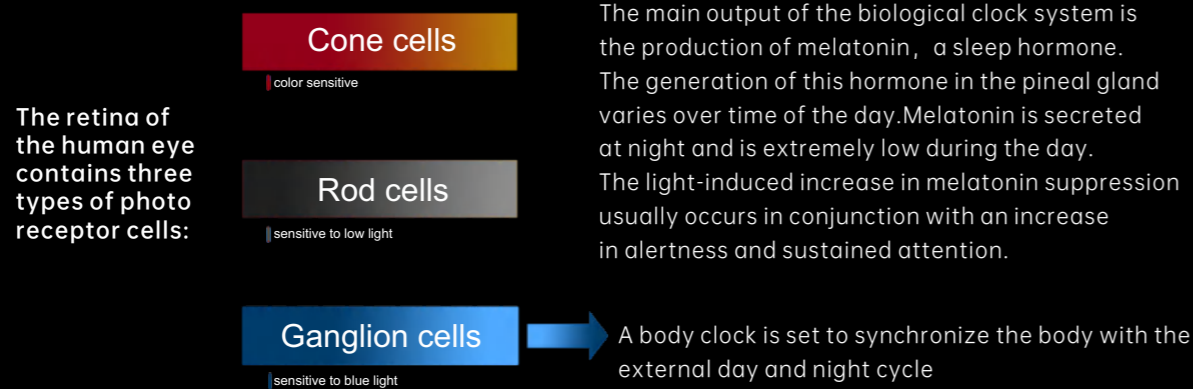
Human health

Wavelength classification



Light is an important factor for human health

Daylight is the most important "Giver of time" that controls human circadian rhythms. Light is an important factor for human health. The cold white wavelength in light will inhibit the secretion of melatonin.

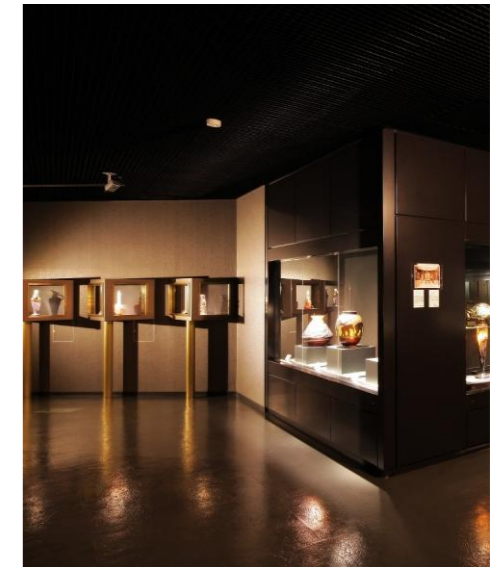


All living creatures have an "internal clock" called a circadian rhythm, so using the right light at the right time can affect everything from a person's sleep to how we feel and perform. That's why human centric lighting (HCL) is beneficial for schools, healthcare facilities, offices and industrial buildings.

Full Spectrum COB-Standard Edition

Product Features:

1. LM-80 certified. Using simulated solar spectrum formula, the most advanced international color evaluation system standard.
2. CRI > 97
Rf:96
Rg:100
3. Light efficiency:105lm/W
4. Low blue light (Blue light peak value <0.3)
5. Excited by multi-wavelength blue LED chips to supplement the 650nm long red light and 480nm long blue light band more truly restore the color of the objects
6. SDCM<2, high light color consistency



Applications:

Widely used for high-end hotels, boutique museums, and high-end home lighting and other places

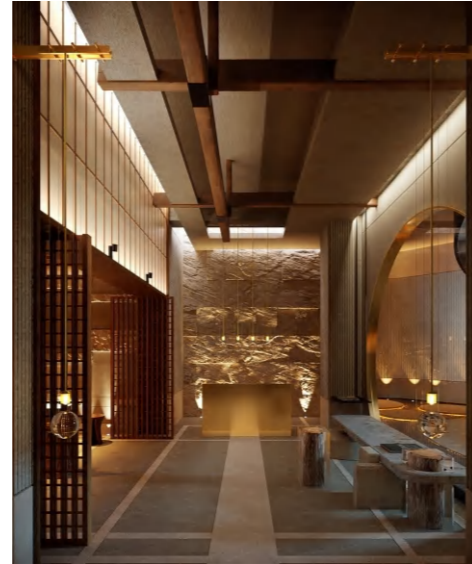
G4 Series

Product Picture	Model Number	LES (mm)	Power (W)	Typ Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)	Lumen (lm)
	1202-G4	Φ4	6	180	360	36	2700	97	95	570
							3000		100	600
							4000		105	630
	1203-G4	Φ6	9	270	540	36	2700	97	95	855
							3000		100	900
							4000		105	945
	1204-G4	Φ6	12	360	720	36	2700	97	95	1140
							3000		100	1200
							4000		105	1260
	1205-G4	Φ9	15	450	900	36	2700	97	95	1140
							3000		100	1200
							4000		105	1260
	1206-G4	Φ9	18	540	1080	36	2700	97	95	1425
							3000		100	1500
							4000		105	1575
	1208-G4	Φ15	24	720	1440	36	2700	97	100	1800
							3000		105	1890
							4000		110	1980
	1210-G4	Φ15	30	900	1800	36	2700	97	100	2400
							3000		105	2520
							4000		110	2640

Full spectrum COB- Ultimate Edition

Product Features:

- 1、 LM-80 certified. Using simulated solar spectrum formula, comply with the most advanced international color evaluation system standard.
- 2、 CRI > 97
Rf:96
Rg:100
- 3、 Light efficiency:120lm/W
- 4、 Low blue light (Blue light peak value <0.3)
- 5、 Excited by multi-wavelength blue LED chips to supplement the 650nm long red light and 480nm long blue light band more truly restore the color of the objects
- 6、 SDCM<2, high light color consistency

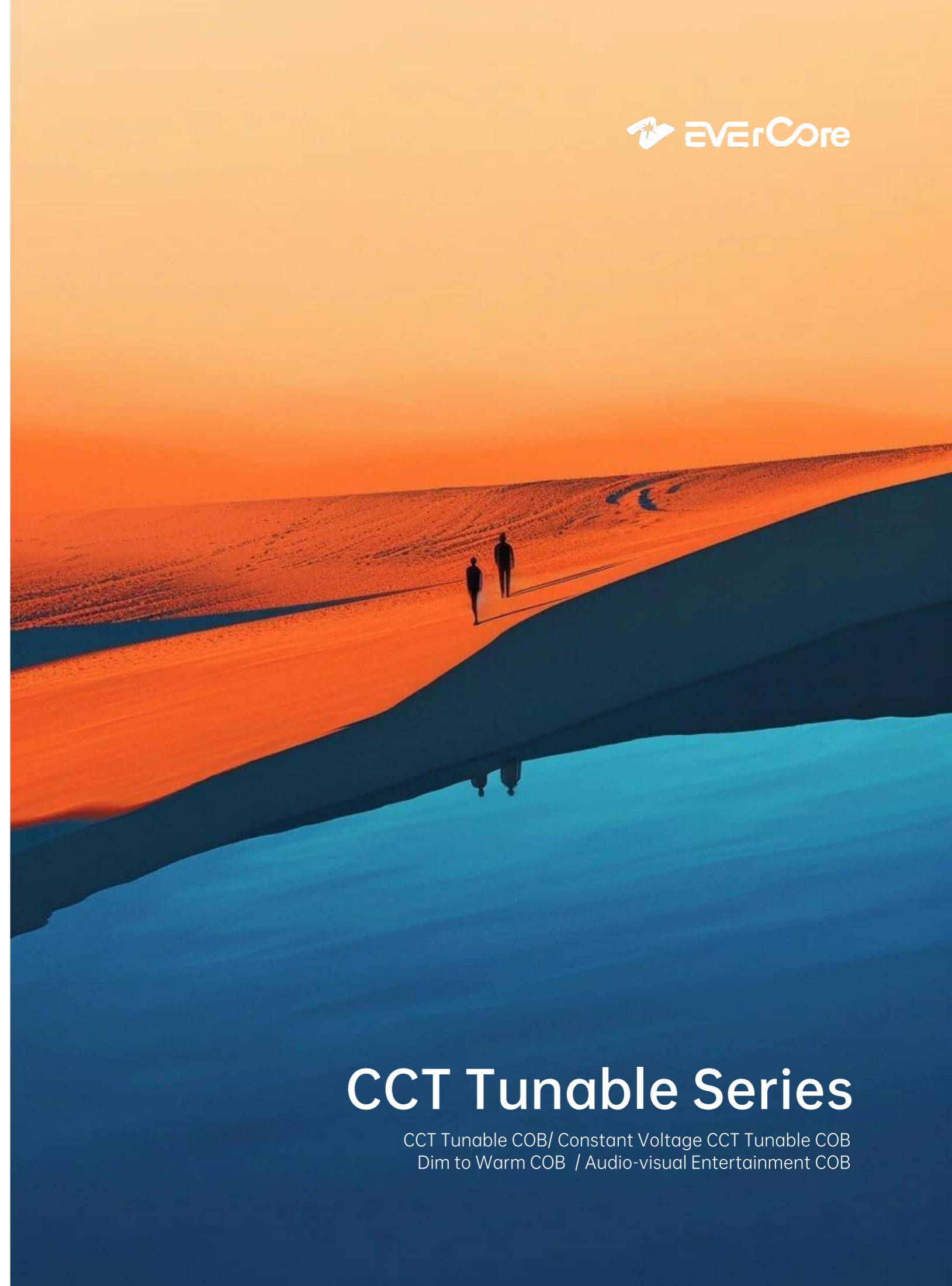


Applications:

Widely used for high-end hotels, boutique museums, and high-end home lighting and other places

SG4 Series

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)	Lumen (lm)
	1202-SG4	Φ6	6	180	460	36	2700	97	110	660
							3000		115	690
							4000		120	720
	1203-SG4	Φ9	9	270	690	36	2700	97	110	990
							3000		115	1035
							4000		120	1080
	1204-SG4	Φ9	12	360	920	36	2700	97	110	1320
							3000		115	1380
							4000		120	1440
	1206-SG4	Φ15	18	540	1380	36	2700	97	115	2070
							3000		120	2160
							4000		125	2250
	1208-SG4	Φ15	24	720	1840	36	2700	97	115	2760
							3000		120	2880
							4000		125	3000
	1210-SG4	Φ15	30	900	2300	36	2700	97	115	3450
							3000		120	3600
							4000		125	3750



CCT Tunable Series

CCT Tunable COB/ Constant Voltage CCT Tunable COB
Dim to Warm COB / Audio-visual Entertainment COB

CCT Tunable Series

Color Temperature Application Comparison



Different color temperatures have different visual effects on illuminated objects, since each display item varies in material and hue, it requires a matched color temperature to highlight its optimal visual presentation.



3000K



3500K



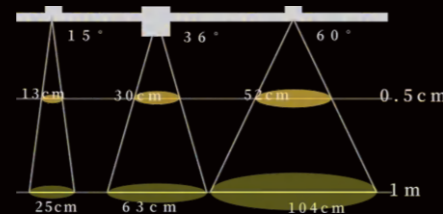
4000K

Beam Focusing

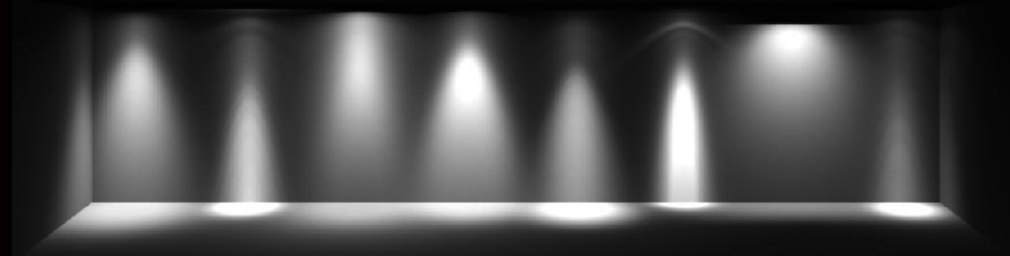
In beam focusing applications, the corresponding beam angle ranges are typically defined as:

- Narrow beam: <math>< 20^\circ</math>
- Medium beam: $20^\circ - 40^\circ$
- Wide beam: $> 40^\circ$

Whether illuminated exhibits or ambient spaces, different beam performances create different application characteristics



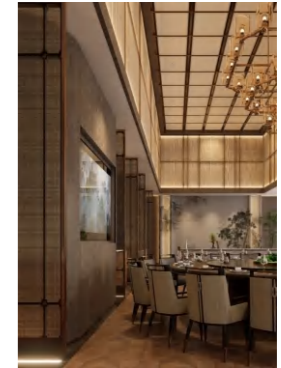
Task lighting Accent lighting Ambient lighting Task lighting Accent lighting Accent lighting Ambient lighting Accent lighting



CCT Tunable Series - CCT Tunable COB Standard Edition

Product Features:

1. LM-80 certified
2. CCT Tunable range options: 2700-6000K;1800-4000K;2700-4000K;2700-5000K
3. $R_a > 80/90/95$
4. Light efficiency: 135lm/W
5. Uniform distribution, color spot perfectly fitting along BBL
6. Smooth light brightness and color temperature adjustment
7. Power ranging from 4W-80W. Best choice for intelligent lighting



Applications:

Widely used for high-end hotels, smart homes, high-end commercial space and other places

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)
	0205-7E	Φ3.8	6	400	500	16	2700	≥80	80
			6	400	500	16	6000	≥80	98
			6	400	500	16	2700	≥90	70
			6	400	500	16	6000	≥90	85
			6	400	500	16	6000	≥95	60
	1202-7E	Φ6	6	160	200	36	2700	≥80	120
			6	160	200	36	6000	≥80	135
			6	160	200	36	2700	≥90	105
			6	160	200	36	6000	≥90	120
			6	160	200	36	6000	≥95	90
	1204-7E	Φ9	12	320	400	36	2700	≥80	120
			12	320	400	36	6000	≥80	135
			12	320	400	36	2700	≥90	105
			12	320	400	36	6000	≥90	120
			12	320	400	36	6000	≥95	90
	1206-7E	Φ13	18	480	600	36	2700	≥80	120
			18	480	600	36	6000	≥80	135
			18	480	600	36	2700	≥90	105
			18	480	600	36	6000	≥90	120
			18	480	600	36	6000	≥95	90
	1208-7E	Φ15	24	640	800	36	2700	≥80	120
			24	640	800	36	6000	≥80	135
			24	640	800	36	2700	≥90	105
			24	640	800	36	6000	≥90	120
			24	640	800	36	6000	≥95	90
	1212-7E	Φ15	36	960	1200	36	2700	≥80	120
			36	960	1200	36	6000	≥80	135
			36	960	1200	36	2700	≥90	105
			36	960	1200	36	6000	≥90	120
			36	960	1200	36	6000	≥95	90

CCT Tunable Series- CCT Tunable COB Ultimate Edition

Product Features:

- 1、LM-80 certified
- 2、CCT Tunable range options: 2700-6000K;1800-4000K;2700-4000K;2700-5000K
- 3、Ra > 80/90/95
- 4、Light efficiency: 145lm/W
- 5、Uniform distribution, color spot perfectly fitting along BBL
- 6、Smooth light brightness and color temperature adjustment
- 7、Power ranging from 4W-80W. Best choice for intelligent lighting



Applications:

Widely used for high-end hotels, smart homes, high-end commercial space and other places

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)
	1202-7	Φ6	6	160	400	36	2700	≥80	125
			6	160	400	36	6000	≥80	145
			6	160	400	36	2700	≥90	110
			6	160	400	36	6000	≥90	130
			6	160	400	36	2700	≥95	95
			6	160	400	36	6000	≥95	110
	1204-7	Φ9	12	320	800	36	2700	≥80	125
			12	320	800	36	6000	≥80	145
			12	320	800	36	2700	≥90	110
			12	320	800	36	6000	≥90	130
			12	320	800	36	2700	≥95	95
	1206-7	Φ13	18	480	1200	36	2700	≥80	130
			18	480	1200	36	6000	≥80	150
			18	480	1200	36	2700	≥90	115
			18	480	1200	36	6000	≥90	135
			18	480	1200	36	2700	≥95	100
	1208-7	Φ15	24	640	1600	36	2700	≥80	125
			24	640	1600	36	6000	≥80	145
			24	640	1600	36	2700	≥90	110
			24	640	1600	36	6000	≥90	130
			24	640	1600	36	2700	≥95	95
	1212-7	Φ15	36	960	2400	36	2700	≥80	120
			36	960	2400	36	6000	≥80	140
			36	960	2400	36	2700	≥90	105
			36	960	2400	36	6000	≥90	125
			36	960	2400	36	2700	≥95	90
	1812-7	Φ21	54	1440	3600	36	2700	≥80	130
			54	1440	3600	36	6000	≥80	150
			54	1440	3600	36	2700	≥90	115
			54	1440	3600	36	6000	≥90	135
			54	1440	3600	36	2700	≥95	100

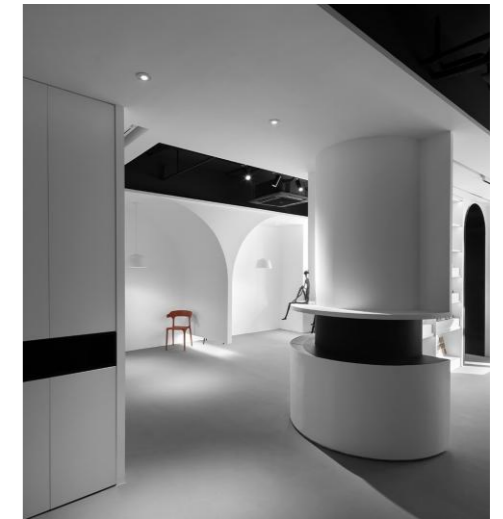
CCT Tunable Series-Constant Voltage CCT Tunable COB

Product Features:

- 1、LM-80 certified
- 2、CCT tunable range from 2700K to 6000K
- 3、CRI > 90
- 4、Light efficiency: 120lm/W
- 5、Uniform distribution, color spot perfectly along BBL
- 6、24/48V constant voltage input, automatic constant current
- 7、Power ranging from 7W-30W, best choice for intelligent lighting

Applications:

Widely used for high-end hotels, smart homes, high-end commercial space and other places



HK Series

Product Picture	Model Number	LES (mm)	Power (W)	TyP Voltage (V)	Max Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)
	0702-HK	Φ6	7	24	27	2700	≥90	80
			7	24	27	6000	≥90	98
	0704-HK	Φ9	12	24	27	2700	≥90	86
			12	24	27	6000	≥90	102
	0708-HK	Φ12	20	24	27	2700	≥90	95
			20	24	27	6000	≥90	110
	1505-HK	Φ15	24	48	54	2700	≥90	95
			24	48	54	6000	≥90	110
	1507-HK	Φ15	30	48	54	2700	≥90	95
			30	48	54	6000	≥90	110

CCT Tunable Series- Audio-visual Entertainment lighting COB

Product Features:

- 1、CCT tunable range: 2700-7000K;2500-7900K
- 2、CRI > 90
- 3、Light efficiency: 120lm/W
- 4、Uniform distribution, color spot perfectly fitting along BBL
- 5、Smooth light brightness and color temperature adjustment
- 6、Power ranging from 60W-300W.
Best choice for audio-visual Entertainment lighting



Applications:

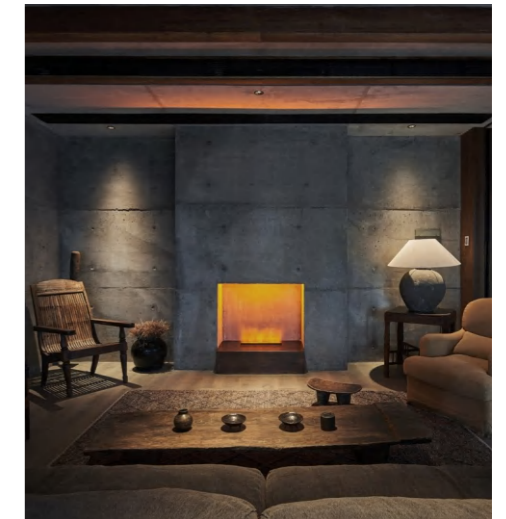
Widely used for audio-visual Entertainment COB

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	CCT (K)	CRI (Ra)	Voltage (V)	Efficiency (lm/W)
	SK2824-2112 J60WLTS-YV3	Φ22	60	1600	2000	2700	≥95	36	85
			60	1600	2000	7000	≥95	36	105
	SK2824-2112 J100WLTS-KV4	Φ22	100	2600	3000	2700	≥95	36	75
			100	2600	3000	7000	≥95	36	95
	SK7059-5624 J300WKTS-KV3BP	Φ56	300	4250	4500	2500	≥95	72	95
			300	4250	4500	7900	≥95	72	125
	PT7560-1200W -LTS	Φ60	600	8500	9000	2700	≥95	72	95
			600	8500	9000	7000	≥95	72	125

CCT Tunable Series- Dim to Warm COB

Product Features:

- 1、All series are LM-80 certified
- 2、CCT tunable range :1800-3000K;2200-4000K;1800-5000K
- 3、CRI > 90
- 4、Light efficiency: 150lm/W
- 5、Halogen-like Color Temperature Adjustment Curve
- 6、Power ranging from 10W-20W. Best choice for intelligent lighting



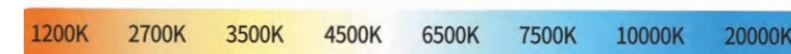
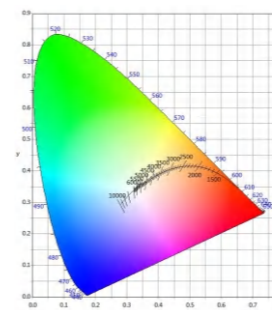
Applications:

Widely used for high-end hotels, smart homes, high-end commercial space and other places

Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)
	0604-DK	Φ6	6	30-350	400	18	2200-4000	≥90	125
			6	30-350	400	18	1800-3000	≥90	110
	1203-DK	Φ9	10	30-300	350	36	2200-4000	≥90	120
			10	30-300	350	36	1800-3000	≥90	110
	1206-DK	Φ14	20	60-600	700	36	2200-4000	≥90	120
			20	60-600	700	36	1800-3000	≥90	110
	0607-SKK	Φ8.5	0.3	20	100	14	1800	≥90	105
			6	300	400	18	2700	≥90	110
	1205-FKK	Φ12	6	300	400	18	3000	≥90	115
			2.6	90	180	30	1800	≥90	90
	1209-FKK	Φ15	6	180	400	36	2700	≥90	140
			6	180	400	36	5000	≥90	150
	1214-FKK	Φ17.8	3	100	200	30	1800	≥90	90
			18	500	800	36	2700	≥90	130
	1214-FKK	Φ17.8	18	500	800	36	5000	≥90	140
			6	200	400	30	1800	≥90	75
	1214-FKK	Φ17.8	30	800	1200	36	2700	≥90	125
			30	800	1200	36	5000	≥90	135

Concept and definition of RGBCW COB

- CCT tunable range of white light : 1000K -- 20000K
- Color point fitting along BBL
- Covering the applications of all colors and lights required for both visual and non-visual purposes in nature
- Intelligent lighting and RGB colorful light are integrated to achieve multifunctional applications such as general lighting , entertainment lighting, human centric lighting, plant supplementary lighting, and chromotherapy etc.



Characteristics of the RGBCW COB Product Series



RGBCW Series

RGBCW COB/ RGBCW DOB

Applications



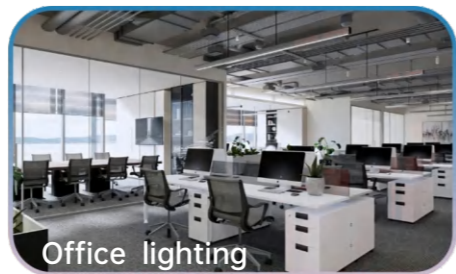
Home lighting



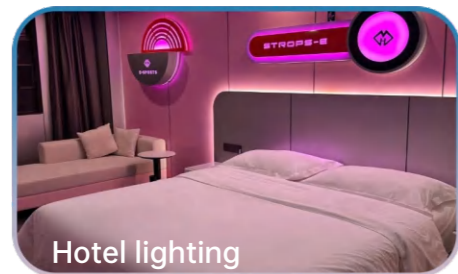
Chain Store lighting



Underground lighting



Office lighting



Hotel lighting



Postpartum care lighting



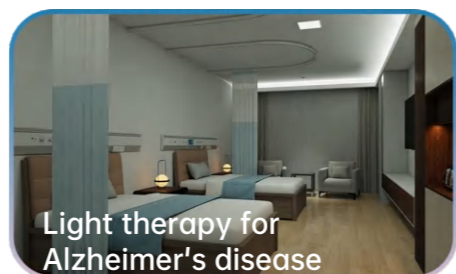
Wellness and physiotherapy lighting



Light therapy for depression



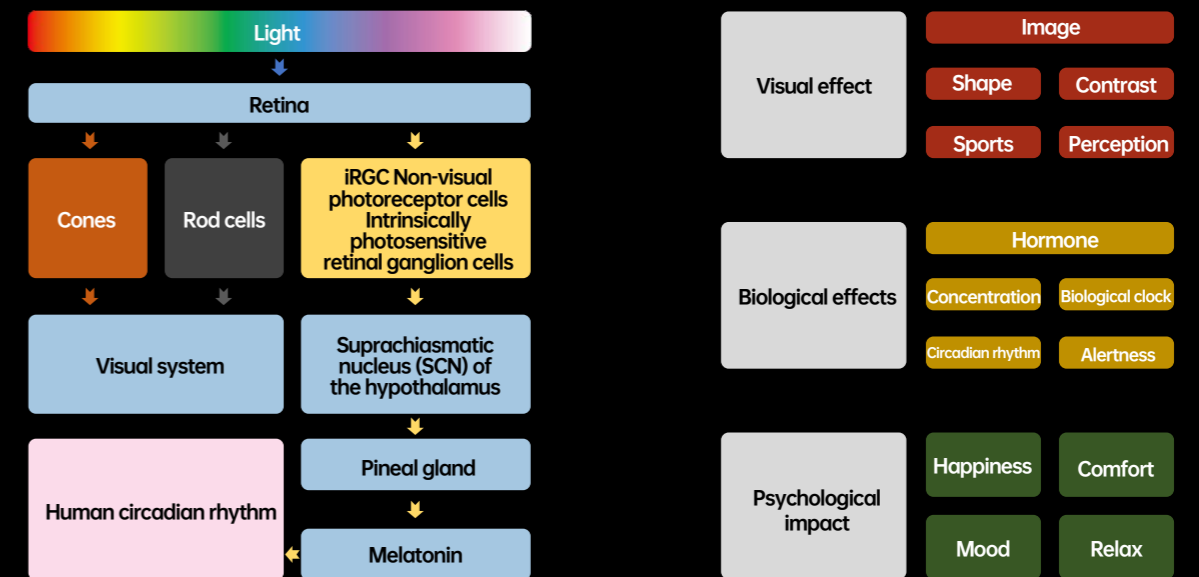
Light therapy for autism



Light therapy for Alzheimer's disease

RGBCW Series

The application value of light and color



*ipRGC affects human rhythm and regulates biological clock.

Connection between color and human emotions



Vision is the 1st sense of people, and color has the greatest impact on vision. Color affects people's emotions, while emotions dominate behaviors. Color can affect human brain waves.

- Brain waves respond to **Red** as alertness, **Blue** as relaxation, and **Yellow** as warning .
- **Pink** is relaxing and soothing
- Monotonous colors, especially **Dark green**, can easily cause hallucinations and delusions to patients in mental hospitals



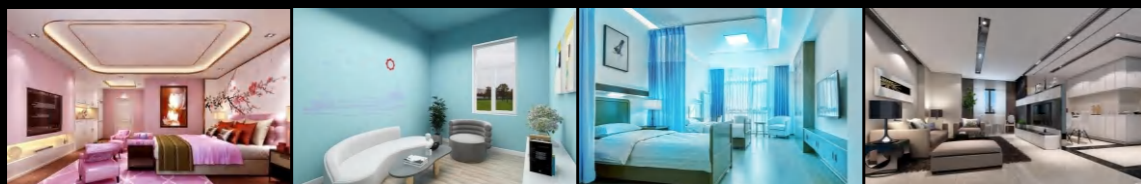
The Value of Phototherapy

There are already a lot of scientific experimental evidences indicating that lighting has a significant impact on the physical and mental health of medical staff and patients, such as: lighting affects sleep onset time, quality and duration, emotions (such as pleasure, relaxation, restlessness, tension and fear, etc.), and mental disorders such as depression.

- Studies show that human fear is not related to the brain, but determined by the hypothalamus of mammals. Depression and autism are actually excessive stress responses of the limbic system of the brain.
- Health problems related to emotions and stress, can be tackled by phototherapy methods.
- Human Centric Lighting (HCL) adjusts illuminance, color temperature and color according to the physiological rhythm of the human body to effectively adjust human functions and emotions, thereby having a healing effect on patients and various specific mental diseases.



Human-Centric Health Lighting Application Solutions Reference



Postpartum care center Psychological Counseling Room Health & Wellness Spa Residential Living Room

RGBCW Series

Product Features:

- 1、 CCT tunable range: 1000-20000K
- 2、 Color point fitting along BBL
- 3、 CRI > 90
- 4、 Covering the applications of all colors and lights required for both visual and non-visual purposes in nature
- 5、 Adapted with Bluetooth, Zigbee, PLC and other intelligent control (on-off switch, remote control, IPAD/ mobile phone).

Applications:

Widely used for High-end smart homes, spaces for light therapy-assisted applications (psychological counseling rooms, confinement centers, psychotherapy rooms, health care and physiotherapy centers, etc.), high-end commercial boutique spaces and other places.

RGBCW LED

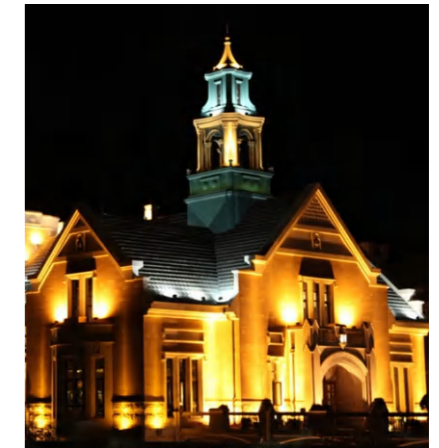
Product Picture	Model Number	LES (mm)	Power (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)
	NCW1611A-30W-LSH-P	Φ9	4	160	200	24	R	/	/
			7	280	400	24	G	/	/
			7	280	400	24	B	/	/
			7	280	400	24	C:6000	≥90	115
			7	280	400	24	W:2700	≥90	100
	NCW1814B-60W-LSH-P	Φ12	12	320	400	36	R	/	/
			12	320	400	36	G	/	/
			12	320	400	36	B	/	/
			12	320	400	36	C:6000	≥90	110
			12	320	400	36	W:2700	≥90	95
	NCW1916B-50W-LSH-P	Φ14	6	160	200	36	R	/	/
			12	320	400	36	G	/	/
			12	320	400	36	B	/	/
			12	320	400	36	C:6000	≥90	110
			12	320	400	36	W:2700	≥90	95
	NCW2320B-100W-LSH-P	Φ18	12	320	400	36	R	/	/
			12	320	400	36	G	/	/
			25	700	900	36	C:6000	≥90	115
			25	700	900	36	W:2700	≥90	100
			12	320	400	36	B	/	/
	DCW1913A-30W-LSH	Φ13	4	160	200	24	R	/	/
			7	280	400	24	G	/	/
			7	280	400	24	B	/	/
			7	280	400	24	C:6000	≥90	95
			7	280	400	24	W:2700	≥90	75
	DCW1916B-60W-LSH	Φ16	12	320	400	36	R	/	/
			12	320	400	36	G	/	/
			12	320	400	36	B	/	/
			12	320	400	36	C:6000	≥90	95
			12	320	400	36	W:2700	≥90	75
	PX3838RGBW 2W25P01	Φ3.15	0.3	120	180	3	R	/	/
			0.3	120	180	3	G	/	/
			0.3	120	180	3	B	/	/
			0.3	120	180	3	W: 2500	≥70	116
			0.3	120	180	3			

RGBCW DOB

Product Picture	Model Number	LES (mm)	Power (W)	Control	Frequency (mA)	Voltage AC (V)	CCT (K)	CRI (Ra)	Efficiency (lm/W)
	SLEM7214A-RG BCW-50WH-E/A	Φ12	8	Blue tooth Mesh	50/60	200~240 / 110~130	R	/	/
			8				G	/	/
			8				B	/	/
			14				C:6000	≥90	105
			14				W:2700	≥90	90

Product Features:

- 1、LM-80 certified
- 2、CRI > 60/70/80/90
- 3、Light efficiency: 150lm/W
- 4、With ceramic thermo-electric separation and eutectic packaging technology to achieve lower thermal resistance, good stability and good air-tightness
- 5、Specially customized high-efficiency chip and high reflection and transmission material
- 6、60deg,90deg,120deg beam angle are available (only for 3535 ceramic SMD product)
- 7、Power range 1W ,6W and 8W for 3535 SMD, 10W and 20W for 4040/5050 SMD



Applications:

Widely used for
 Indoor: Home lighting
 Outdoor: Urban landscape lighting and outdoor portable lighting.

High-power Ceramic SMD Series-Single-color SMD

Product Picture	Model Number	Power (W)	Power MAX (W)	TyP Current (mA)	Max Current (mA)	Voltage (V)	CRI (Ra)	CCT (K)	Efficiency (lm/W)
	CX353511EW*S01-PC	1	3	350	1000	3.2	≥95	2700-6500	70-130
	CX353511EW*H01-PC	1	3	350	1000	3.2	≥90	2700-6500	80-130
	CX353511EW*G01-PC	1	3	350	1000	3.2	≥80	2700-6500	90-150
	CX353511EW*P01-PC	1	3	350	1000	3.2	≥70	2700-6500	100-160
	CX353511FW*S01-PC	1	3	350	1000	3.2	≥95	2700-6500	90-140
	CX353511FW*H01-PC	1	5	350	1500	3.2	≥90	2700-6500	110-160
	CX353511FW*G01-PC	1	5	350	1500	3.2	≥80	2700-6500	120-180
	CX353511FW*P01-PC	1	5	350	1500	3.2	≥70	2700-6500	130-200
	CX353522DW**H01-P	6	10	1050	1600	6.0	≥90	2700-6500	480-600
	CX353522DW**S01-P	6	10	1050	1600	6.0	≥95	2700-6500	400-500
	CX353514EW**H01-P	8	12	700	1000	12.0	≥90	2700-6500	500-620
	CX353514EW**S01-P	8	12	700	1000	12.0	≥95	2700-6500	420-520
	CX404011GW60001	10	10	3000	3000	3.8	≥60	6000-6500	600-700
	CX404011HW60001	20	20	5000	5000	3.8	≥60	6000-6500	1000-1200
	CX505011GW60001	10	10	3000	3000	4.0	≥60	6000-6500	600-700
	CX505011HW60001	20	20	6000	6000	4.0	≥60	6000-6500	1000-1200

High-power Ceramic SMD Series

Single color SMD/Multi-color SMD

High-power Ceramic SMD Series-Multi-color SMD

Product Features:

1. LM-80 certified
2. With ceramic thermo-electric separation and eutectic packaging technology to achieve lower thermal resistance, good stability and good air-tightness
3. Specially customized high-efficiency chip and high reflection and transmission material
4. 60deg,90deg,120deg beam angle are available (only for 3535 ceramic SMD product)
5. Two options for 5060, 15W and 40W.



Applications:

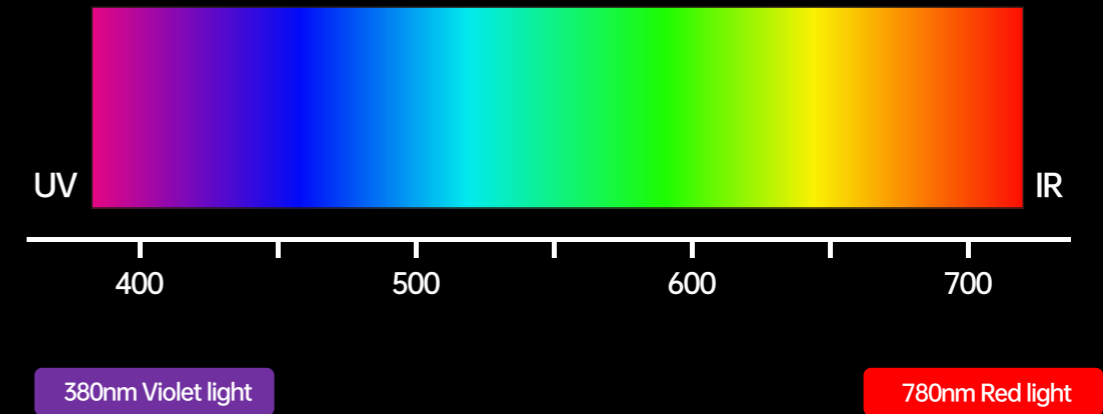
Widely used for
 Indoor: Home ambient lighting.
 Outdoor: Urban landscape lighting and stage lighting.

High-power Ceramic SMD Series-Multi-color SMD

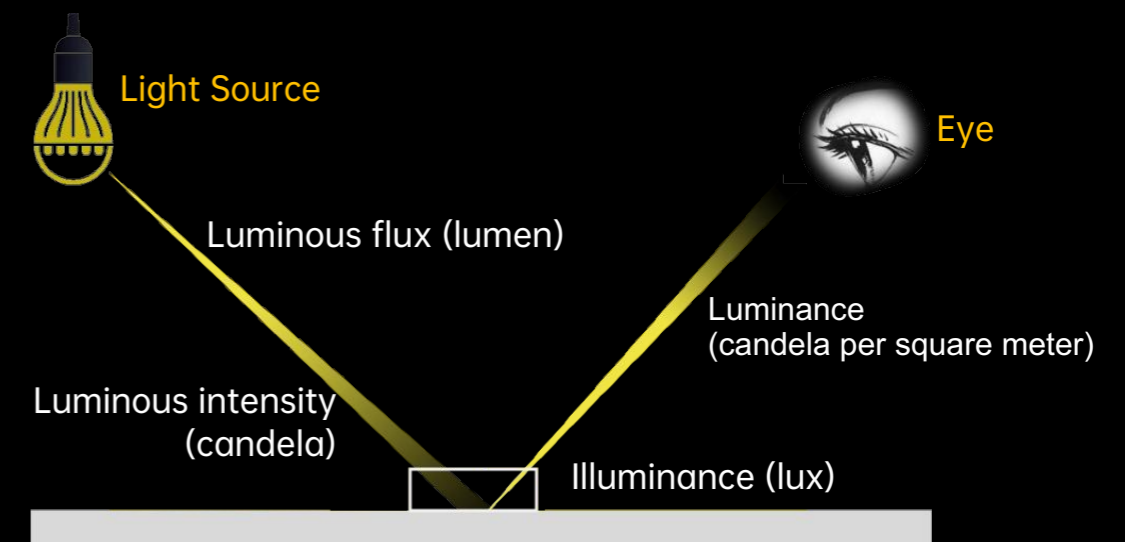
Product Picture	Model Number	Power (W)	Power MAX (W)	Typ Current (mA)	Max Current (mA)	Voltage (V)	CCT/Dominant wavelength (K)	CRI (Ra)	Efficiency (lm/W)
	CX353522BWLSH01-B	2	3	350	500	6	2700	≥90	150
		2	3	350	500	6	6000	≥90	200
	CX353522BWLSS01-B	2	3	350	500	6	2700	≥95	140
		2	3	350	500	6	6000	≥95	160
	CX3535RGBW4W*G01	4	6	350	400	2.3	620-630	/	30-50
		4	6	350	400	3.2	520-530	/	90-110
		4	6	350	400	3.2	460-470	/	20-30
		4	6	350	400	3.2	3000/4000	≥80	80-100
	CX5060RGBW15W60001	10	15	700	1200	2.4	620-630	/	60-80
		10	15	700	1200	3.3	520-530	/	150-170
		10	15	700	1200	3.3	460-470	/	40-60
		10	15	700	1200	3.3	6000	≥60	200-220
	CX5060RGBW40W60001	15	40	1000	2500	2.6	620-630	/	100-120
		15	40	1000	2500	3.6	520-530	/	230-250
		15	40	1000	2500	3.6	450-455	/	40-60
		15	40	1000	2500	3.6	6000	≥60	260-280
	CX5050RGBCW3WLSH01-B	0.3	0.5	150	200	2.3	620-630	/	10-20
		0.5	0.6	150	200	3.2	520-530	/	40-50
		0.5	0.6	150	200	3.2	450-460	/	0-10
		0.5	1.2	150	200	3.2	2700	≥90	40-50
		0.5	1.2	150	200	3.2	6000	≥90	50-60

Composition of light spectrum

- Wavelength of visible light ranges from 380nm-780nm
- Color range is from violet to red.



Units and Measurements in Lighting



Luminous Flux

Definition: The sum of the amount of light emitted by a luminous body per second.

Unit: Lumen(lm)

Symbol: Φ

Luminous efficiency

Definition: The amount of light that a light source can emit per watt of electrical energy consumed

Unit:lumen per watt (lm/w)

Remark: The luminous efficacy of a

lighting system is usually lower than that of the light source.

$$\text{Efficiency} = \frac{\text{Luminous flux}}{\text{Power}}$$

Luminous intensity

Definition: The luminous flux emitted within a unit solid angle in a specific direction by a luminous body.

Unit: candela (cd)

Symbol :I

$$\text{Candela} = \frac{\text{Luminous flux}}{\text{Unit solid angle}}$$

Illuminance

Definition: The luminous flux of the luminous body irradiating on the unit area of the illuminated object.

Unit: lux

Symbol:E

$$\text{Lux} = \frac{\text{Lumen} * \text{Design coefficient}}{\text{Area}}$$

Luminance

Definition: The ratio of the luminous intensity of a light source in a certain direction to the area "seen" by the human eye.

Unit: candela per square meter (cd/m²)

Symbol: L

Contrast

Definition: The ratio of the luminance difference between the target and the background in the field of vision to the background luminance.

Symbol :C

Color temperature

Definition: Heating a standard black body, when the temperature rises to a certain level, its color begins to change gradually from deep red, to light red, to orange-yellow, to white, and then to blue. Utilize the characteristic of this change in light color, which is the absolute temperature of the black body at that time.

Unit: Kelvin scale (K)

Symbol :TC

Glare

Definition: A visual phenomenon in which an uncomfortable feeling is caused or the ability to observe bright parts or targets is reduced due to the inappropriate distribution or range of brightness in the field of vision, or the existence of extreme contrasts.

Unified Glare Rating

Definition: Psychometric measurement used by the International Commission on illumination (CIE) to measure the subjective response of discomfort caused to the human eye by the light emitted from lighting fixtures in an indoor visual environment.

Glare Index	Glare Standard Classification
10	Barely perceptible glare
16	Acceptable glare
19	Glare threshold
22	Discomfort glare
28	Unbearable glare