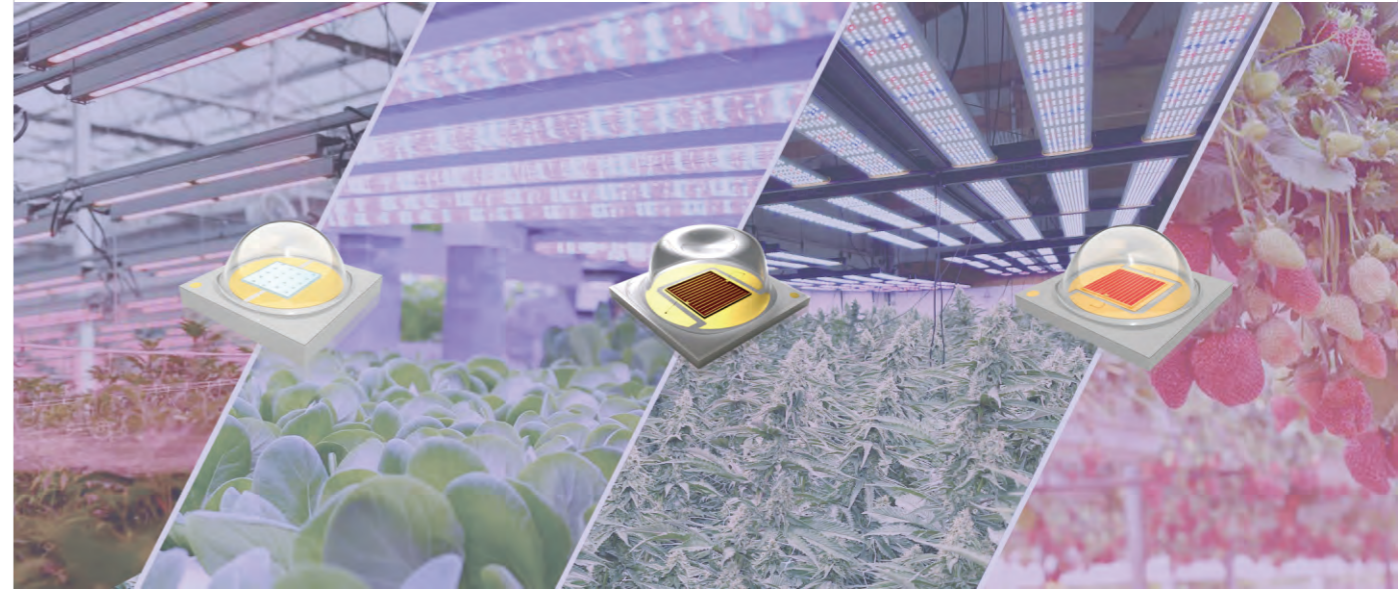


 **HIGH-TECH COMPANY**
Certificate number:GR201744008896



Horticultural LED | UV LED

Ledestar optoelectronics technology Co.,ltd

LED Magician of grow light | Higher Efficiency-Better solutions-More Yield

+86 135 27699 1330 +86 0769-2220 8080 www.ledestar.com

+1 626-354-3478 +86 0769-2220 8785 info@ledestar.com

Building NO.13,Guancheng Technopark,Dongguan,Guangdong, P.R.C



 **LEDESTAR**

COMPANY PROFILES

Ledestar, be honored as a LED magician of horticulture lighting, is a professional manufacturer specialized in SMD led(3030,3535, 2835, 5050, 5630, etc), which are widely used in horticulture lighting, UV curing, UV sterilization, commercial lighting, photography lighting, etc.

Established in 2008, Ledestar has been developed and completed a monthly production of more than one billion strictly quality controlled SMD LEDs, Built over 12000 square meters of workshop (including 8000 square meters of modern dust-free workshop) that are equipped with(116ea production lines, 310ea advanced automation equipment and more than 200 highly-skilled staffs. Ledestar has the quality certification by ISO9001 ISO14001 and the products have been certificated by RoHS, REACH, LM-80, EN62471, etc.

Ledestar, Guided by the concept of technology-leading and continuous innovation, Changed from the following technology to leading the technology, Dedicated to researching and designing under our technology center which is certificated by Engineering& Technology Center. The led spectrum and plant growing test lab has passed the CNAS audit.

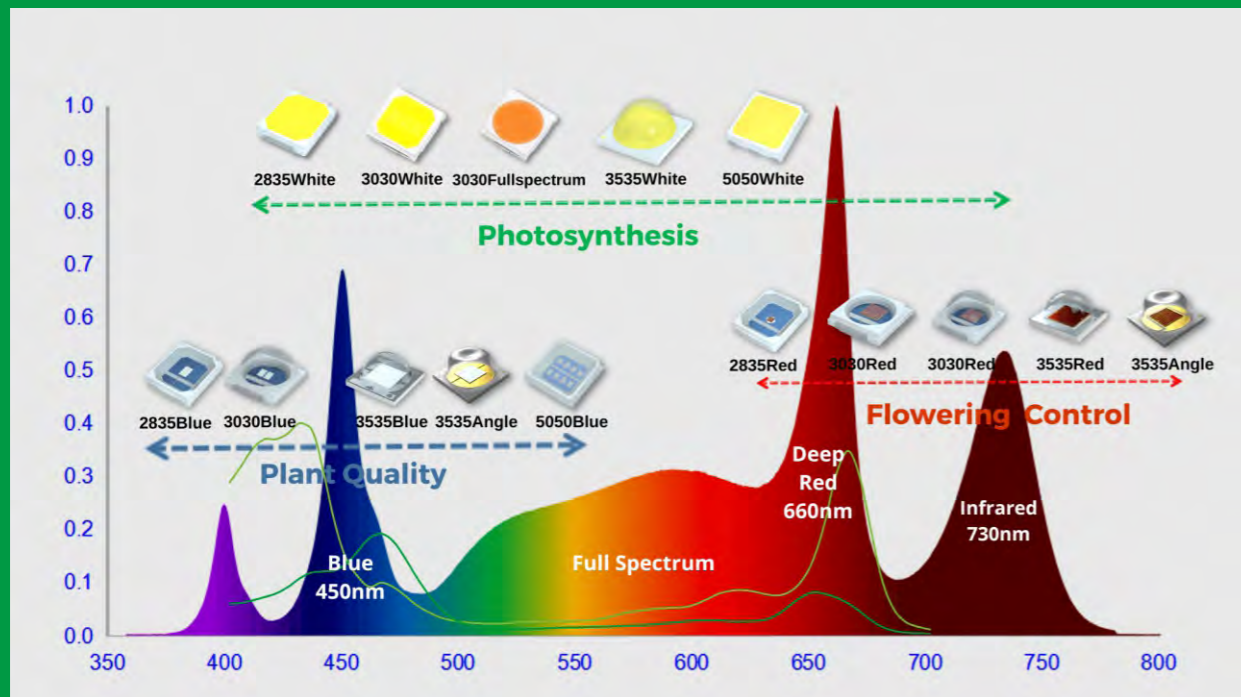
With a mission of providing ultimate services for the thriving and prosperous of customers , Ledestar has provided customers with leading service in cultivation consulting, led spectrum customization, LED spectrum solution and training, rapid delivery and a 7-year warranty.

Sincere service and win-win growth are the unremitting pursuits of Ledestar Optoelectronics.

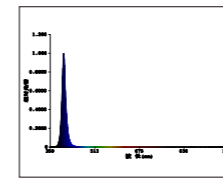




Horticultural Lighting LED

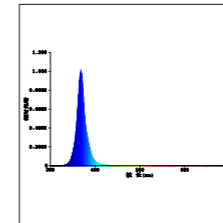


EFFECTS OF SPECTRA AND WAVELENGTHS



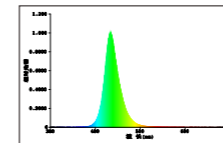
UV 280-420NM

1. Affect the plant's morphology due to the phototaxis of plants.
2. Promote cryptochrome of plants, change the color of leaves, flowers and fruits.
3. Promote Secondary metabolites of plants, change the Medicinal value and taste.



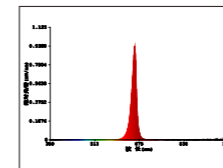
BLUE 420-500NM

1. Blue light plays a great role in the early stage of plant growth, helping plants to build developed roots.
2. Increase the strength of the trunk.
3. Promote Chlorophyll a and Chlorophyll b, help plants to synthesize protein and amino acids.
4. Appropriate blue light makes plants grow more symmetrical and healthier, and improves the quality of plant yield.



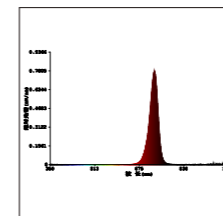
GREEN 500-570NM

1. Green light can penetrate the leaf canopy and increase the overall photosynthesis.
2. Adding green light can neutralize the pink violet light produced by red and blue light, Reducing visual light pollution.



DEEP RED 650-680NM

1. Main force of photosynthesis, and the effect of photosynthesis is better under blue light conditions.
2. Help plants to produce carbohydrates, which promotes plant growing taller and the leaves growing bigger.
3. In low light environment, red light has the highest photosynthesis efficiency of plants.



INFRARED 730-760NM

1. Convert the phytochrome Pfr and Pr, which control flowering phase of plants.
2. Combined with deep red 660nm, it can achieve dual-light gain benefits, which is much higher than the photosynthesis efficiency of 660nm alone.
3. Shading Effect (Emerson Effect). Plants feel that an object is blocking the light at a height if under the infrared light. They will work hard to grow taller.

KEY PARAMETERS

1. Photosynthetic photon flux (PPF)

Photosynthetic photon flux is abbreviated as PPF, The unit is: $\mu\text{mol/s}$ 【The number of photons is usually expressed in micromole (μmol). 1 μmol represents 6.023×10^{17} photons, and 1mol represents 6023×10^{23} photons.】
 (Note: It is equivalent to the concept of general lighting luminous flux.)

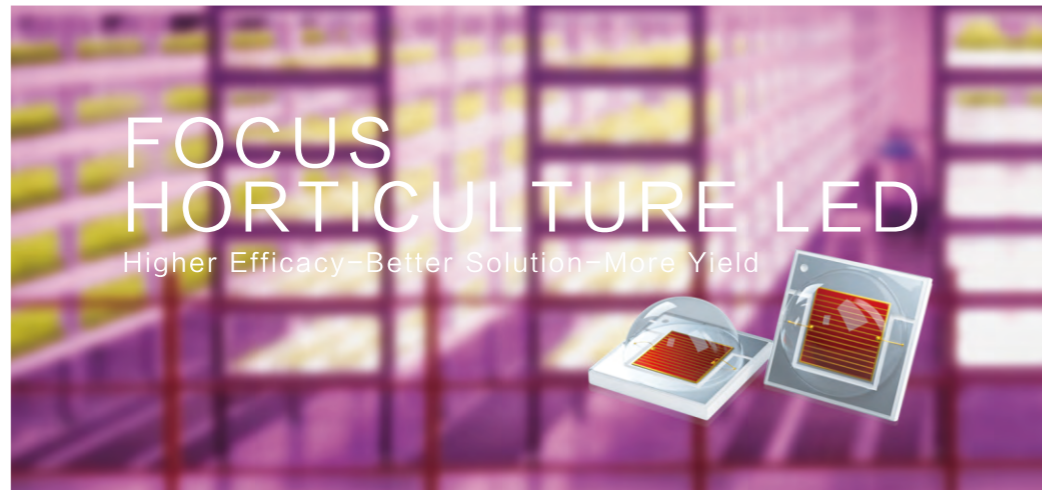
2. Photosynthetic photon flux efficiency (PPE)

Photosynthetic photon flux efficiency is abbreviated as PPE, The unit is $\mu\text{mol/s/w}$ or $\mu\text{mol/J}$
 Photosynthetic photon flux efficiency = Photosynthetic photon flux/power. ($\text{PPE} = \text{PPF}/\text{P}$)
 【Note: It is equivalent to the concept of luminous flux efficiency of general lighting .】

3. Photosynthetic photon flux density (PPFD)

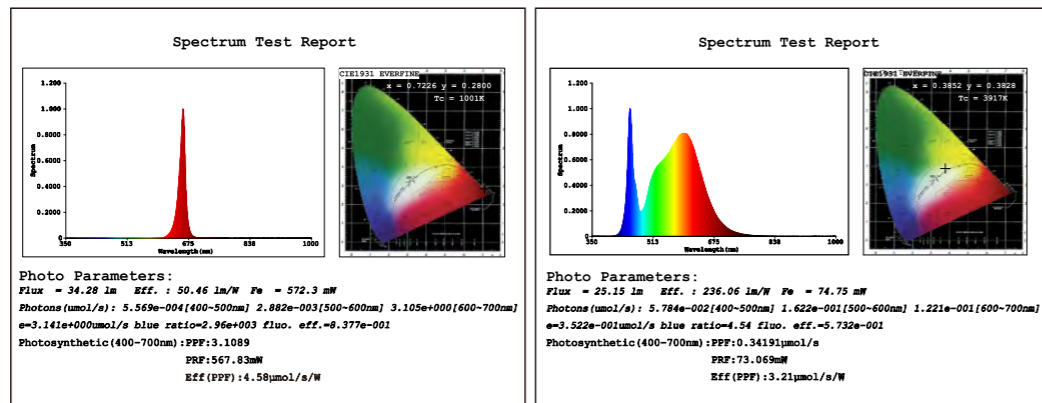
Photosynthetic Photon Flux Density is abbreviated as PPFD, The unit is $\mu\text{mol/m}^2/\text{s}$.
 PPFD is the number of photons radiated by the light source per square meter per second, which is the concept of density.
 (Note: It is equivalent to the concept of illuminance of general lighting .)

ADVANTAGES



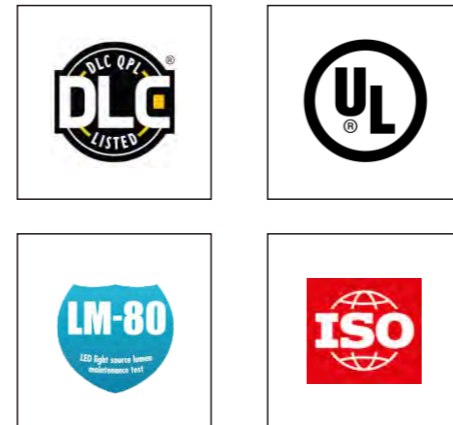
FOCUSING

- Focused on Horticulture LEDs R&D and manufacturing since 2012.
- Cooperating with more than 1000 horticulture lighting companies.



TOP PERFORMANCE

- Keep upgrading the industry-leading performance. PPF efficacy of single LED as 4.8 μmol/J at 350mA.
- Achieve led grow lighting with industry- leading PPE more than 3.6 μmol/J.



HIGH QUALITY

- ISO 9001, ISO 14001
- TS 16949 Quality control system
- LM-80(Q90>50K Hours)
- 7 year warranty
- UL Approval

RICH SPECIFICATIONS

- 38 kinds of wavelength are available range from UVC(265nm) to IR(950nm).
- 189 types of full spectrum, including customized full spectrum
- 0.2-10W, from mid-power to high- power LEDs, including SMD LED 3030,3535,5050,2835,6868 etc.
- Customization available.



UNIQUE SERVICE

- Supply professional cultivation LEDs design schemes based on different targets ,LEDs schemes can be supplied in one hour.
- Customize full spectrum as you need
- Customize and supply horticulture LED modules and PCBA.

HORTICULTURAL LED APPLICATION

CANNABIS GROW LIGHT



Board lighting



Bar lighting

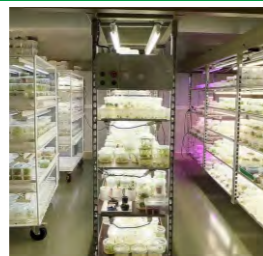


Top lighting

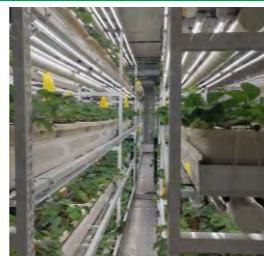
PLANT FACTORY



Plant factory

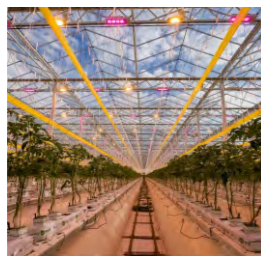


Tissue culture/Seeding culture



Vertical farm

GREEN HOUSE



Flowers

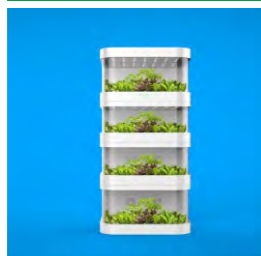


Vegetable

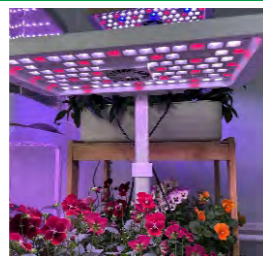


Fruits

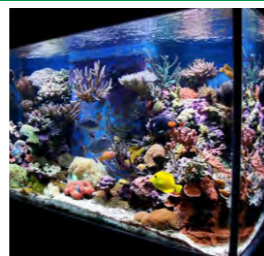
PLANT GROW APPLIANCE



Grow appliance

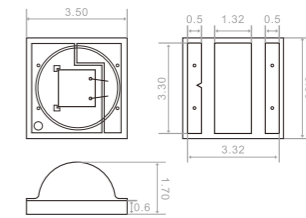
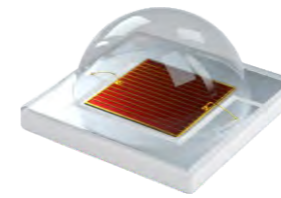


Plant table lamp



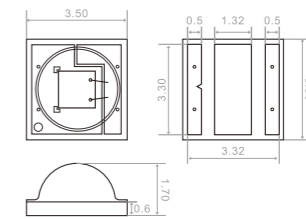
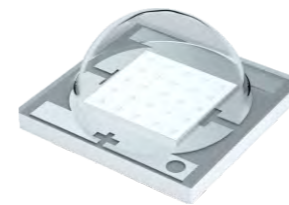
Aquatic grow light

3535 Red & Infrared



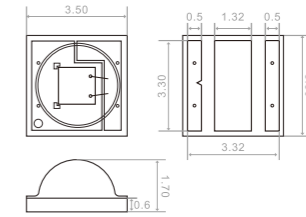
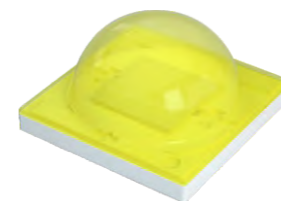
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-3535CLAR660	● Deep Red	1.8-2.4	350	655-665	28-30	3.4-3.6	4.7-4.9
LDR-3535CLAR660	● Deep Red	1.8-2.4	350	655-665	26-28	3.2-3.4	4.4-4.6
LDR-3535CLAR660	● Deep Red	1.8-2.4	350	655-665	24-26	3.0-3.2	4.2-4.4
LDR-3535CLAR660	● Deep Red	1.8-2.4	700	655-665	50-70	5.8-6.2	4.3-4.4
LDR-3535CLAR660	● Deep Red	1.8-2.4	700	655-665	60-80	5.5-5.8	4.1-4.3
LDR-3535CLAR730	● Infrared	1.8-2.4	350	730-745	250-280mW	—	—
LDR-3535CLAR730	● Infrared	1.8-2.4	700	730-745	500-700mW	—	—

3535 Blue & Violet



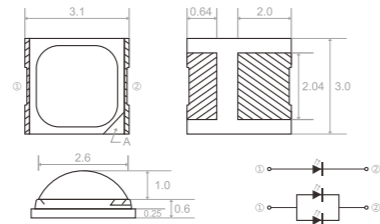
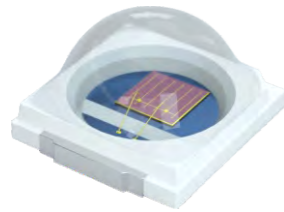
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-3535CLAB450	● Blue	3.0-3.6	350	450-460	25-30	2.8-3.2	3.0-3.2
LDR-3535CLAB450	● Blue	2.8-3.4	350	450-460	15-20	2.4-2.8	2.6-2.8
LDR-3535CLAB450	● Blue	2.8-3.4	350	450-460	10-15	2.0-2.4	1.8-2.2
LDR-3535CLAB450	● Blue	2.8-3.4	700	450-460	30-50	4.2-5.0	1.8-2.2
LDR-3535CLAV400	● Violet	3.0-3.6	350	395-405	400-450mW	—	—

3535 Full Spectrum



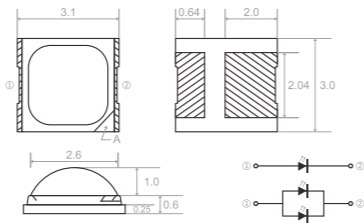
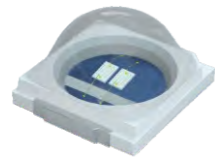
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-3535CLAFS27	○ White	2.8-3.4	350	3700-3900	160-180	2.8-3.0	2.6-3.0
LDR-3535CLAFS01	● Pink&Violet	2.8-3.4	350	—	35-45	1.3-1.5	1.3-1.5
LDR-3535CLAFS04	● Pink&Violet	2.8-3.4	350	—	65-75	1.5-1.7	1.4-1.6
LDR-3535CLAFS06	● Pink&Violet	2.8-3.4	350	—	75-85	1.5-1.7	1.4-1.6

3030 Red & Infrared



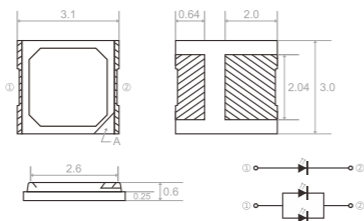
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-3030LTAR660	● Deep Red	1.8-2.4	300	655-665	20-25	2.6-3.0	3.8-4.4
LDR-3030LTAR660	● Deep Red	1.8-2.4	300	655-665	20-25	2.2-2.6	3.4-3.8
LDR-3030LTAR660	● Deep Red	1.8-2.4	300	655-665	20-25	1.8-2.2	2.8-3.2
LDR-3030LTAR660	● Deep Red	2.0-2.6	300	655-665	10-15	1.2-1.6	2.0-2.4
LDR-3030LTAF730	● Infrared	1.8-2.4	300	730-745	180-200mW	—	—
LDR-3030LTAF730	● Infrared	1.8-2.4	300	730-745	300-350mW	—	—

3030 Blue & Violet



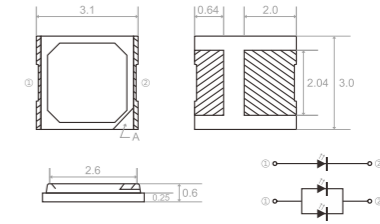
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-3030LTAB450	● Blue	2.8-3.4	300	450-460	17-22	2.2-2.4	2.3-2.5
LDR-3030LTAB450	● Blue	2.8-3.4	300	450-460	28-33	1.6-1.8	1.7-1.9
LDR-3030LTAB450	● Blue	2.8-3.4	300	450-460	15-20	1.7-1.9	1.8-2.0
LDR-3030LTAV400	● Violet	3.0-3.6	300	395-405	300-350nW	—	—
LDR-3030LTAV460	● Violet	3.0-3.6	300	400-410	430-480nW	—	—

3030 Full Spectrum



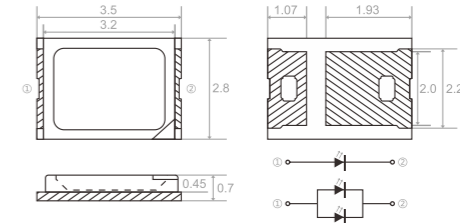
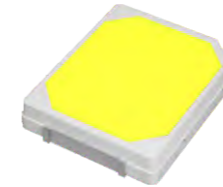
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-3030TTAFS27	○ Natural White	2.8-3.4	300	3700-3900	150-170	2.04-2.08	2.2-2.4
LDR-3030TTAFS04	● Pink&Violet	2.8-3.4	300	—	65-75	1.49-1.53	1.5-1.7
LDR-3030TTAFS06	● Pink&Violet	2.8-3.4	300	—	75-85	1.56-1.60	1.5-1.7
LDR-3030TTAFS01	● Pink&Violet	2.8-3.4	300	—	35-40	1.38-1.42	1.4-1.6

3030 High PPE Series



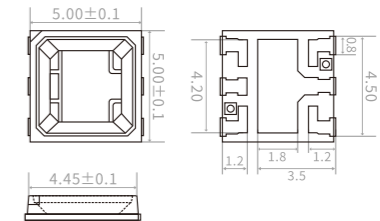
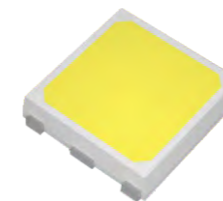
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-3030TTA3080	● Warm White	2.6-2.8	60	2800-3200	37-39	0.50-0.53	3.0-3.2
LDR-3030TTA4080	○ Natural White	2.6-2.8	60	3800-4200	39-41	0.53-0.56	3.1-3.3
LDR-3030TTA6580	○ White	2.6-2.8	60	6200-6800	39-41	0.53-0.56	3.2-3.4

2835 High PPE Series



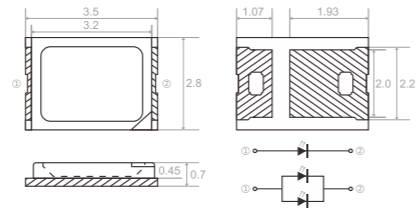
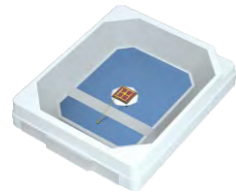
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-2835TAAFS27	○ Natural White	2.6-2.8	60	3700-3900	39-41	0.53-0.56	2.8-3.0
LDR-2835TAAFS27	○ Natural White	2.6-2.8	60	3700-3900	37-39	0.50-0.53	3.0-3.2
LDR-2835TAA3080	● Warm White	2.6-2.8	60	2800-3200	36-38	0.50-0.53	3.0-3.2
LDR-2835TAA4080	○ White	2.6-2.8	60	4800-5200	39-41	0.53-0.56	3.1-3.3
LDR-2835TAA6580	○ White	2.6-2.8	60	6200-6800	37-39	0.50-0.53	3.2-3.4

5050 High PPE Series



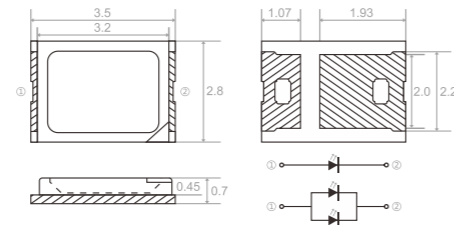
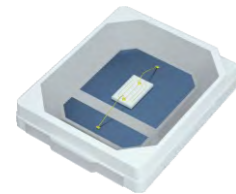
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-5054TWCA4080	○ White	5.5-6.0	200	6200-6800	200-240	2.8-3.2	2.8-3.2
LDR-5054TTAR660	● Deep Red	2.0-2.6	300	655-665	15-20	1.7-2.1	2.8-3.4
LDR-5054TTAR660	● Deep Red	1.8-2.4	300	655-665	10-15	1.2-1.4	1.8-2.0
LDR-5054TTAB450	● Blue	2.8-3.4	300	450-460	25-35	2.8-3.3	2.8-3.3

2835 Red & Infrared



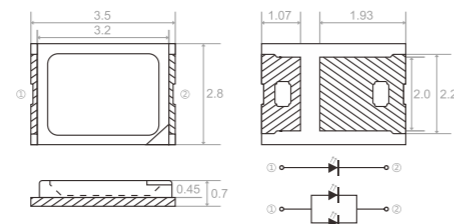
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-2835 TAAR660	● Deep Red	1.8-2.4	60	655-665	2-4	0.27-0.29	2.0-2.2
LDR-2835 TAAR660	● Deep Red	1.8-2.4	60	655-665	3-5	0.27-0.29	2.2-2.4
LDR-2835 TAAR660	● Deep Red	1.8-2.4	60	655-665	3-5	0.27-0.29	2.4-2.6
LDR-2835 TAAR660	● Deep Red	1.8-2.4	60	655-665	3-5	0.32-0.34	2.6-2.8
LDR-2835 TAAR660	● Deep Red	1.8-2.4	60	655-665	3-5	0.32-0.34	2.8-3.0
LDR-2835 TAAR660	● Deep Red	1.8-2.4	60	655-665	5-7	0.4-0.44	3.0-3.6
LDR-2835 TAAF730	● Infrared	1.8-2.4	60	730-745	35-45mW	—	—
LDR-2835 TAAF730	● Infrared	1.8-2.4	150	730-745	70-90mW	—	—

2835 Blue & Violet



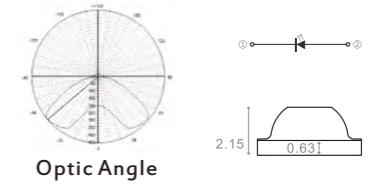
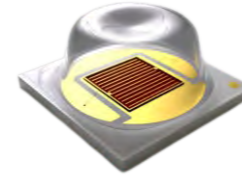
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-2835 TAAB450	● Blue	2.8-3.4	60	450-460	3-5	0.38-0.40	2.2-2.4
LDR-2835 TAAB450	● Blue	2.8-3.4	60	450-460	3-5	0.41-0.43	2.4-2.8
LDR-2835 TAAB450	● Blue	2.6-3.0	60	450-460	3-5	0.44-0.46	2.8-3.2
LDR-2835 TAAB450	● Blue	2.6-3.0	150	450-460	6-10	0.92-1.08	2.0-2.4
LDR-2835 TAAV400	● Violet	3.0-3.6	60	395-405	50-60mW	—	—

2835 Full Spectrum



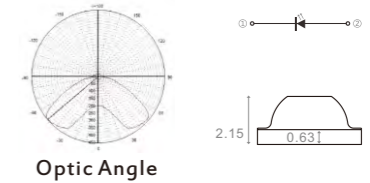
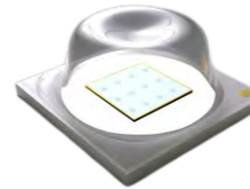
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	Luminous Flux (LM)	PPF (μmol/s)	PPE (μmol/J)
LDR-2835 TAAFS01	● Pink&Violet	2.8-3.4	60	—	5-7	0.27-0.29	1.5-1.7
LDR-2835 TAAFS04	● Pink&Violet	2.8-3.4	60	—	14-16	0.27-0.29	1.5-1.7
LDR-2835 TAAFS06	● Pink&Violet	2.8-3.4	60	—	14-16	0.32-0.34	1.8-2.0

3535 Angel Red



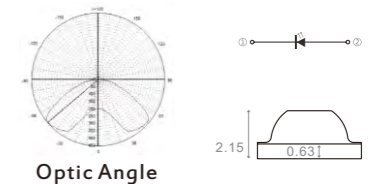
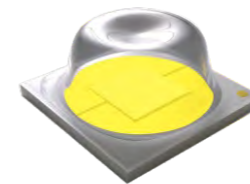
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	PPF (μmol/s)	PPE (μmol/J)
LDR-3535CLAR660	● Deep Red	2.0-2.2	700	650-670	5.8-6.2	3.9-4.2
LDR-3535CNAR660	● Deep Red	2.0-2.2	700	650-670	5.8-6.2	3.9-4.2

3535 Angel Blue



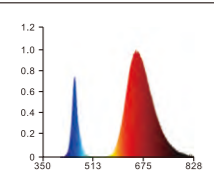
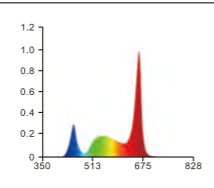
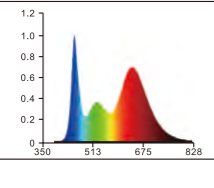
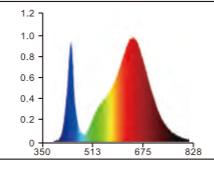
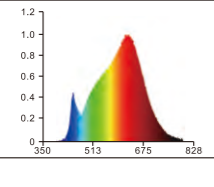
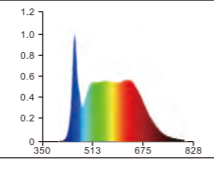
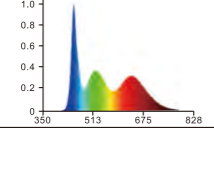
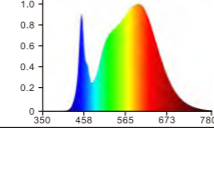
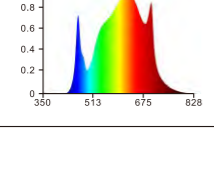
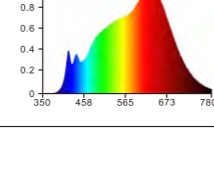
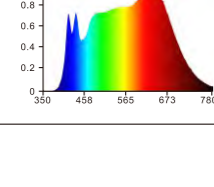
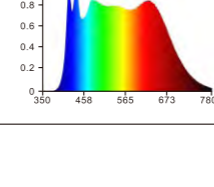
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	PPF (μmol/s)	PPE (μmol/J)
LDR-3535CLZV450	● Blue	2.8-3.2	700	450-460	5.8-6.2	2.8-3.2
LDR-3535CNZV450	● Blue	2.8-3.2	700	450-460	5.8-6.2	2.8-3.2

3535 Angel White



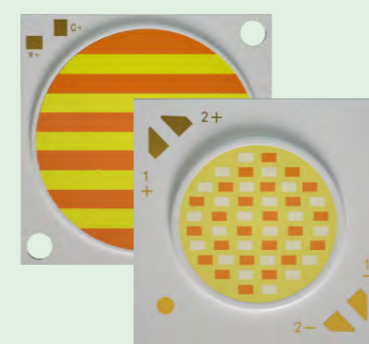
Product	Color	Forward Voltage (V)	Forward Current (mA)	CCT (K)/WLP (nm)	PPF (μmol/s)	PPE (μmol/J)
LDR-3535CLF3070	○ White	2.7-2.9	700	2800-3200k	4.8-5.2	2.4-2.8
LDR-3535CLF6570	○ White	2.7-2.9	700	6200-6800k	4.8-5.2	2.4-2.8

FULL SPECTRUM SERIES

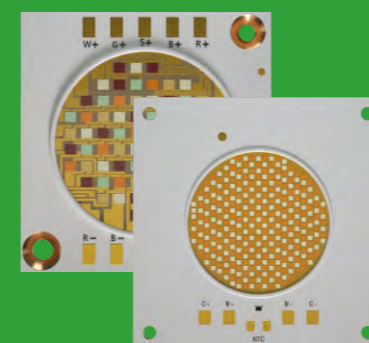
	<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 1#</td></tr> <tr><td>Light color</td><td>Pink-purple</td></tr> <tr><td>Voltage</td><td>3.0-3.4V</td></tr> <tr><td>Suitable plants</td><td>Leaf vegetables, flowers fruits, Universal supplementary light.</td></tr> </table>	Full spectrum name	LEDESTAR 1#	Light color	Pink-purple	Voltage	3.0-3.4V	Suitable plants	Leaf vegetables, flowers fruits, Universal supplementary light.		<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 2#</td></tr> <tr><td>Light color</td><td>Pure white</td></tr> <tr><td>Voltage</td><td>4.8-5.3V</td></tr> <tr><td>Suitable plants</td><td>Plant factory/ potted leaf vegetable, flower kind universal fill light.</td></tr> </table>	Full spectrum name	LEDESTAR 2#	Light color	Pure white	Voltage	4.8-5.3V	Suitable plants	Plant factory/ potted leaf vegetable, flower kind universal fill light.				
Full spectrum name	LEDESTAR 1#																						
Light color	Pink-purple																						
Voltage	3.0-3.4V																						
Suitable plants	Leaf vegetables, flowers fruits, Universal supplementary light.																						
Full spectrum name	LEDESTAR 2#																						
Light color	Pure white																						
Voltage	4.8-5.3V																						
Suitable plants	Plant factory/ potted leaf vegetable, flower kind universal fill light.																						
	<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 4#</td></tr> <tr><td>Light color</td><td>Pink-White</td></tr> <tr><td>Voltage</td><td>3.0-3.4V</td></tr> <tr><td>Suitable plants</td><td>Leaf vegetable, flower, fruit kind plant general purpose fill light.</td></tr> </table>	Full spectrum name	LEDESTAR 4#	Light color	Pink-White	Voltage	3.0-3.4V	Suitable plants	Leaf vegetable, flower, fruit kind plant general purpose fill light.		<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 6#</td></tr> <tr><td>Light color</td><td>Pink</td></tr> <tr><td>Voltage</td><td>3.0-3.4V</td></tr> <tr><td>Suitable plants</td><td>Flowers/ fruiting plants fill the light</td></tr> </table>	Full spectrum name	LEDESTAR 6#	Light color	Pink	Voltage	3.0-3.4V	Suitable plants	Flowers/ fruiting plants fill the light				
Full spectrum name	LEDESTAR 4#																						
Light color	Pink-White																						
Voltage	3.0-3.4V																						
Suitable plants	Leaf vegetable, flower, fruit kind plant general purpose fill light.																						
Full spectrum name	LEDESTAR 6#																						
Light color	Pink																						
Voltage	3.0-3.4V																						
Suitable plants	Flowers/ fruiting plants fill the light																						
	<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 7#</td></tr> <tr><td>Light color</td><td>Warm white</td></tr> <tr><td>Voltage</td><td>3.0-3.4V</td></tr> <tr><td>Suitable plants</td><td>Potted flowers/ fruit plants fill the light.</td></tr> </table>	Full spectrum name	LEDESTAR 7#	Light color	Warm white	Voltage	3.0-3.4V	Suitable plants	Potted flowers/ fruit plants fill the light.		<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 8#</td></tr> <tr><td>Light color</td><td>Pure white</td></tr> <tr><td>Voltage</td><td>3.0-3.4V</td></tr> <tr><td>Suitable plants</td><td>Plant wall, leaf kind plant fill light</td></tr> </table>	Full spectrum name	LEDESTAR 8#	Light color	Pure white	Voltage	3.0-3.4V	Suitable plants	Plant wall, leaf kind plant fill light				
Full spectrum name	LEDESTAR 7#																						
Light color	Warm white																						
Voltage	3.0-3.4V																						
Suitable plants	Potted flowers/ fruit plants fill the light.																						
Full spectrum name	LEDESTAR 8#																						
Light color	Pure white																						
Voltage	3.0-3.4V																						
Suitable plants	Plant wall, leaf kind plant fill light																						
	<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 10#</td></tr> <tr><td>Light color</td><td>Cold white</td></tr> <tr><td>Voltage</td><td>3.0-3.4V</td></tr> <tr><td>Suitable plants</td><td>Rhizomes/ leafy vegetables fill the light</td></tr> </table>	Full spectrum name	LEDESTAR 10#	Light color	Cold white	Voltage	3.0-3.4V	Suitable plants	Rhizomes/ leafy vegetables fill the light		<table border="1"> <tr><td>Full spectrum name</td><td>LEDESTAR 27#</td></tr> <tr><td>Light color</td><td>Neutral white</td></tr> <tr><td></td><td>slightly warmer light</td></tr> <tr><td>Voltage</td><td>2.6-3.0V</td></tr> <tr><td>Suitable plants</td><td>hemp</td></tr> </table>	Full spectrum name	LEDESTAR 27#	Light color	Neutral white		slightly warmer light	Voltage	2.6-3.0V	Suitable plants	hemp		
Full spectrum name	LEDESTAR 10#																						
Light color	Cold white																						
Voltage	3.0-3.4V																						
Suitable plants	Rhizomes/ leafy vegetables fill the light																						
Full spectrum name	LEDESTAR 27#																						
Light color	Neutral white																						
	slightly warmer light																						
Voltage	2.6-3.0V																						
Suitable plants	hemp																						
	<table border="1"> <tr><td>Full spectrum name</td><td>Hemp full spectrum 1A</td></tr> <tr><td>Light color</td><td>White</td></tr> <tr><td>Voltage</td><td>2.6-3.2V</td></tr> <tr><td></td><td>1.8-2.4V</td></tr> <tr><td>Suitable plants</td><td>marijuana</td></tr> </table>	Full spectrum name	Hemp full spectrum 1A	Light color	White	Voltage	2.6-3.2V		1.8-2.4V	Suitable plants	marijuana		<table border="1"> <tr><td>Full spectrum name</td><td>Sunlight Full spectrum 1</td></tr> <tr><td>Light color</td><td>warm white</td></tr> <tr><td>Voltage</td><td>2.8-3.2V</td></tr> <tr><td></td><td>5.5-6.5V</td></tr> <tr><td>Suitable plants</td><td>Potted flowers and fruit plants fill the light</td></tr> </table>	Full spectrum name	Sunlight Full spectrum 1	Light color	warm white	Voltage	2.8-3.2V		5.5-6.5V	Suitable plants	Potted flowers and fruit plants fill the light
Full spectrum name	Hemp full spectrum 1A																						
Light color	White																						
Voltage	2.6-3.2V																						
	1.8-2.4V																						
Suitable plants	marijuana																						
Full spectrum name	Sunlight Full spectrum 1																						
Light color	warm white																						
Voltage	2.8-3.2V																						
	5.5-6.5V																						
Suitable plants	Potted flowers and fruit plants fill the light																						
	<table border="1"> <tr><td>Full spectrum name</td><td>Sunlight Full spectrum 2</td></tr> <tr><td>Light color</td><td>natural white</td></tr> <tr><td>Voltage</td><td>2.8-3.2V</td></tr> <tr><td></td><td>5.5-6.5V</td></tr> <tr><td>Suitable plants</td><td>Universal plants supplement light</td></tr> </table>	Full spectrum name	Sunlight Full spectrum 2	Light color	natural white	Voltage	2.8-3.2V		5.5-6.5V	Suitable plants	Universal plants supplement light		<table border="1"> <tr><td>Full spectrum name</td><td>Sunlight Full spectrum 3</td></tr> <tr><td>Light color</td><td>cool white</td></tr> <tr><td>Voltage</td><td>2.8-3.2V</td></tr> <tr><td></td><td>5.5-6.5V</td></tr> <tr><td>Suitable plants</td><td>Plant wall, leaf plant fill light</td></tr> </table>	Full spectrum name	Sunlight Full spectrum 3	Light color	cool white	Voltage	2.8-3.2V		5.5-6.5V	Suitable plants	Plant wall, leaf plant fill light
Full spectrum name	Sunlight Full spectrum 2																						
Light color	natural white																						
Voltage	2.8-3.2V																						
	5.5-6.5V																						
Suitable plants	Universal plants supplement light																						
Full spectrum name	Sunlight Full spectrum 3																						
Light color	cool white																						
Voltage	2.8-3.2V																						
	5.5-6.5V																						
Suitable plants	Plant wall, leaf plant fill light																						



Full spectrum COB – a revolutionary stride in plant growth science. Engineered with a spectrum optimized for warmth, bolstered by remarkable efficiency and unwavering reliability.



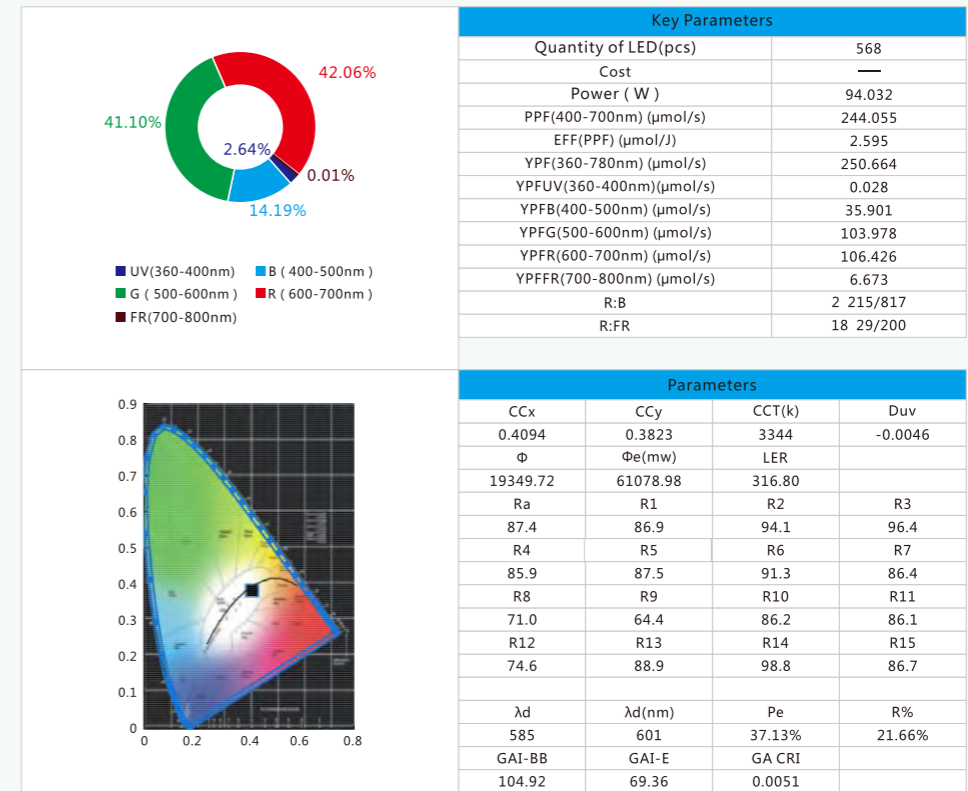
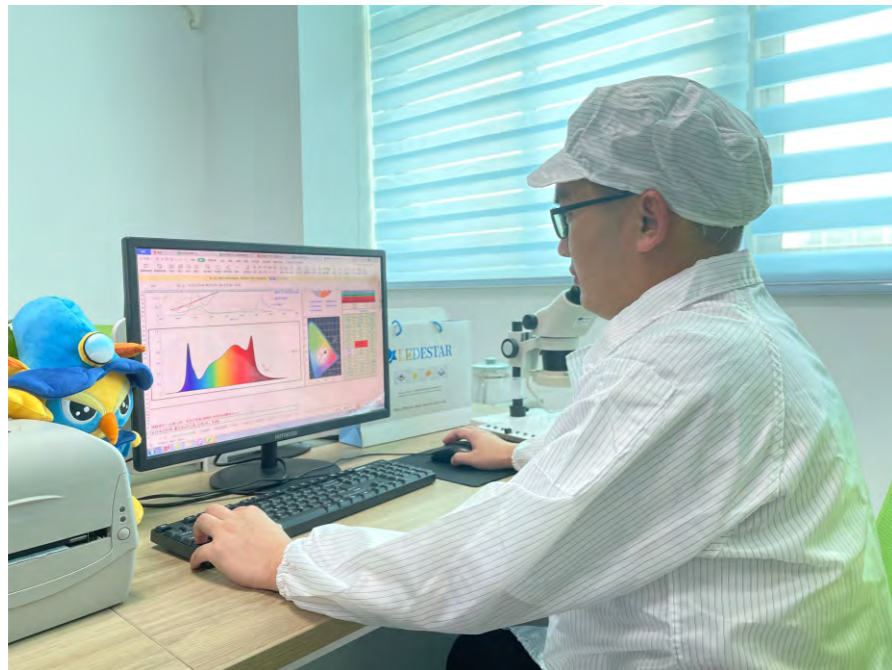
Bi-Color COB, with a color temperature range from 2700K to 6500K, adjustable to various spectrum. Offers diverse power options, consistent performance in both cool and warm states, excellent heat dissipation, high PPF.



RGBW COB, integrating the essential red at 660nm and blue at 450nm required for plant illumination. Encompasses a broader spectrum range to accommodate a wider array of wavelength.

PROFESSIONAL SERVICE

Professional spectrum design schemes

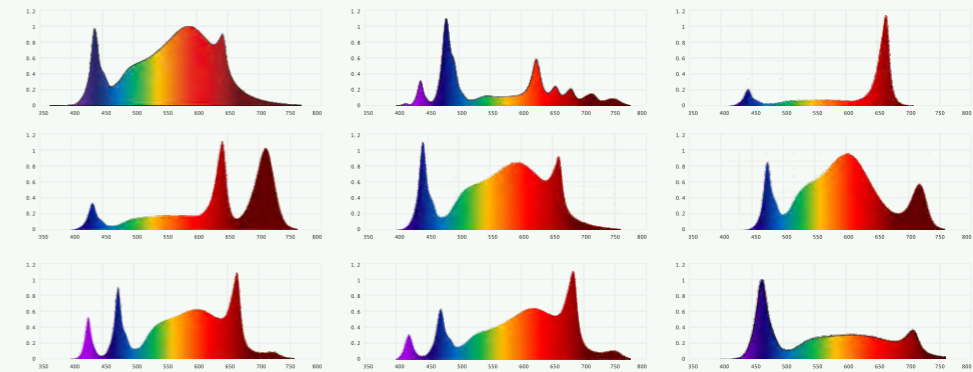


LED Spectra Cultivation Laboratory

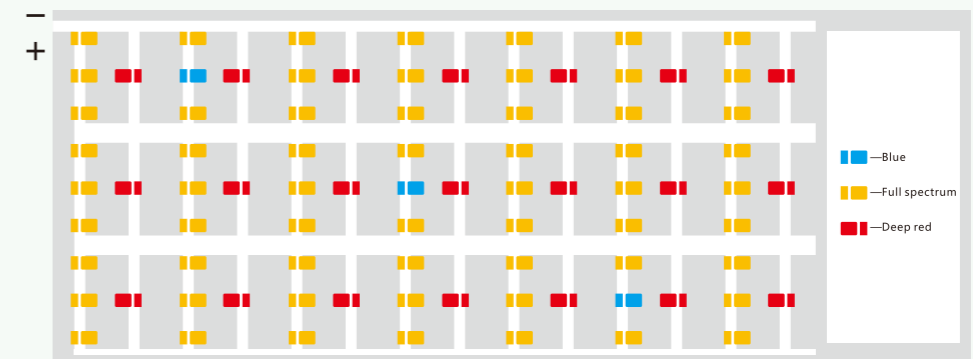


7 Years Focused on Horticultural lighting LED

- © Higher Efficiency, Better Solutions, More Yields
- © Created 2396 sets LED spectra design solutions
- © Customized 178 kinds full spectrums
- © Select Top Materials & Follow Strict QC system with 7 Year Warranty
- © Trusted by 1000+ clients in horticulture lighting



PCB DESIGN



UV LED

FEATURES OF UVC PURPLE LED PRODUCTS

Features of UVC

Size: it has the characteristics of small size, which is convenient for product structure design and small size for application.

Wavelength: with the characteristics of concentrated wavelength and narrow wave width, the light use efficiency is very high.

Solid state: solid state light source, not easy to damage in use, more convenient transportation.

Environmental protection: there are no pollutants in the whole production process, and there will be no secondary pollution after use.

Energy saving: the rated voltage and current are very low, the overall power is less than 1W, and the use process is very energy saving.

Support: ceramic base is adopted at the bottom to ensure the heat dissipation performance. The surface is sealed with quartz glass, and the light transmittance is up to 80%.

How it works: ultraviolet radiation destroys the structure of the bacteria's DNA (Deoxygenation and carbon accounting), leaving the bacteria dead or unable to reproduce, and killing bacteria. Belongs to the pure physical sterilization method, no secondary pollution, simple and convenient operation, easy to manage and realize automation and other advantages.

UV LED APPLICATION

UVA application

UVA is widely used and many of its applications are mature. Such as UV ink curing, Lure lamp, nail lamp, counterfeit detector, growth lamp, UV printing etc.



UVB application

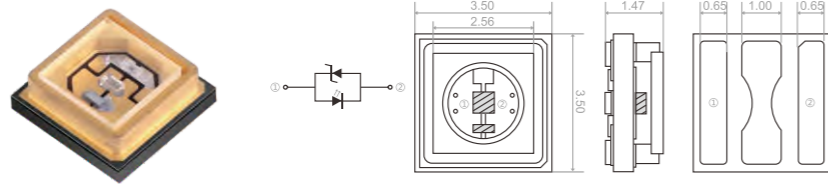
UVB is mainly used for special material identification and skin detection and treatment.



UVC application

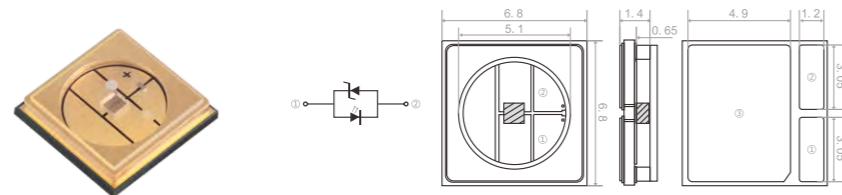
The main application is sterilization. LED UVC products for the sterilization have many advantages. It will be a big replacement market in the future.

3535 UVC+UVA



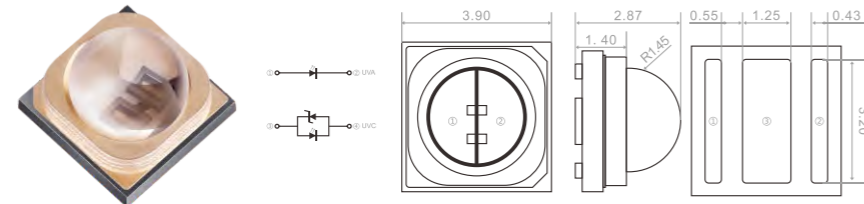
Product	Color	Forward Voltage (V)	Forward Current (mA)	Wavelength (nm)	Radiant Flux(mW)	Viewing Angle(°)
LDR-3535CNFV265	○UVC	5.0-8.0	40-100	260-270	4.0-15.0	120
LDR-3535CNFV275	○UVC	5.0-8.0	40-100	270-285	4.0-15.0	120
LDR-3535CNFV310	○UVB	5.0-8.0	40-100	305-315	8.0-20.0	120
LDR-3535CNFVCA0	○UVC	5.0-8.0	100	270-285	7.0-13.0	120
	●UVA	2.8-3.6	60	395-405	50-70	120

6868 UVB UVC



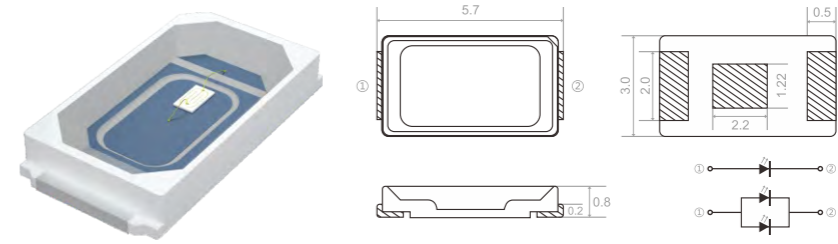
Product	Color	Forward Voltage (V)	Forward Current (mA)	Wavelength (nm)	Radiant Flux(mW)	Viewing Angle(°)
LDR-6868CNFV265	○UVC	5.0-8.0	100	260-270	4.0-7.0	120
LDR-6868CNFV275	●UVC	5.0-8.0	100	270-280	7.0-10.0	120
LDR-6868CNFV310	○UVB	5.0-8.0	100	305-315	4.0-7.0	120
LDR-6868CNFV265	●UVC	20-30	100	260-270	15-20	120
LDR-6868CNFV275	○UVC	20-30	100	270-280	25-35	120
LDR-6868CNFV310	●UVB	20-30	100	305-315	15-20	120

3939 UVC



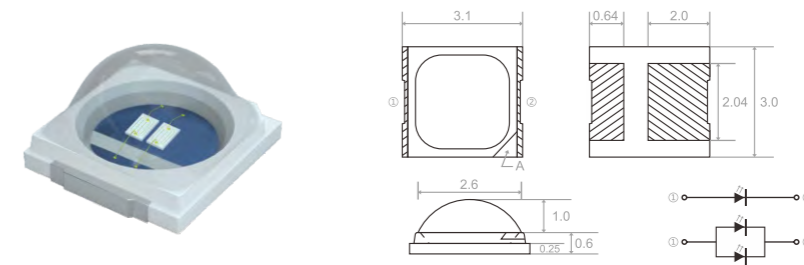
Product	Color	Forward Voltage (V)	Forward Current (mA)	Wavelength (nm)	Radiant Flux(mW)	Viewing Angle(°)
LDR-3939CNFV275	○UVC	5.0-8.0	100	265-285	9-12	70
LDR-3939CNFV275	●UVC	5.0-8.0	100	265-285	12-15	45

5730 UVA



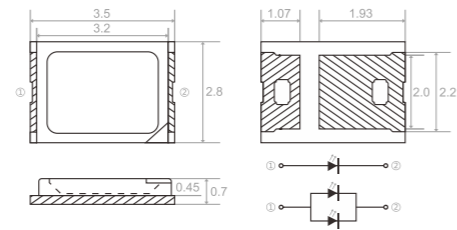
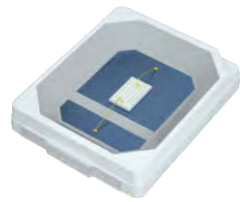
Product	Color	Forward Voltage (V)	Forward Current (mA)	WLP (nm)	Radiant Flux(mW)
LDR-5730TTAV365	○Blue&Violet	3.2-3.8	150	365-370	100-120
LDR-5730TTAV380	●Blue&Violet	3.2-3.8	150	380-385	80-120
LDR-5730TTAV390	●Blue&Violet	3.2-3.8	150	385-395	120-140
LDR-5730TTAV400	●Blue&Violet	3.2-3.8	150	395-405	140-160
LDR-5730TTAV410	●Blue&Violet	3.0-3.6	150	405-415	200-240
LDR-5730TTAV420	●Blue&Violet	3.0-3.6	150	415-425	100-120
LDR-5730TTAV430	●Blue&Violet	2.8-3.4	150	425-435	200-240
LDR-5730TTAV440	●Blue&Violet	2.8-3.4	150	435-445	200-240

3030 UVA



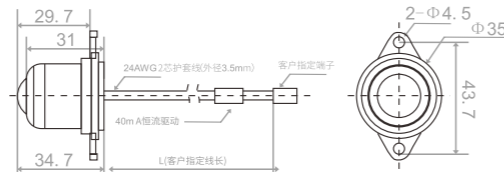
Product	Color	Forward Voltage (V)	Forward Current (mA)	WLP (nm)	Radiant Flux(mW)
LDR-3030LTAV365	○Blue&Violet	3.2-3.8	300	365-370	200-240
LDR-3030LTAV380	●Blue&Violet	3.2-3.8	300	380-385	150-200
LDR-3030LTAV390	●Blue&Violet	3.2-3.8	300	385-395	140-180
LDR-3030LTAV400	●Blue&Violet	3.2-3.8	300	395-405	300-350
LDR-3030LTAV410	●Blue&Violet	3.0-3.6	300	405-415	330-380
LDR-3030LTAV420	●Blue&Violet	3.0-3.6	300	415-425	350-400
LDR-3030LTAV430	●Blue&Violet	2.8-3.4	300	425-435	380-420
LDR-3030LTAV440	●Blue&Violet	2.8-3.4	300	435-445	470-520

2835 UVA



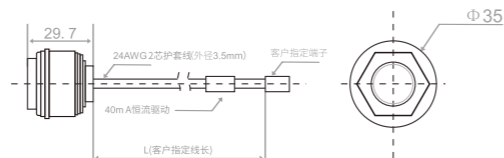
Product	Color	Forward Voltage (V)	Forward Current (mA)	WLP (nm)	Radiant Flux(mW)
LDR-2835TTAV365	○Blue&Violet	3.2-3.8	60	365-370	45-55
LDR-2835TTAV380	●Blue&Violet	3.2-3.8	60	380-385	25-35
LDR-2835TTAV390	●Blue&Violet	3.2-3.8	60	385-395	50-70
LDR-2835TTAV400	●Blue&Violet	3.2-3.8	60	395-405	50-70
LDR-2835TTAV410	●Blue&Violet	3.0-3.6	60	405-415	70-90
LDR-2835TTAV420	●Blue&Violet	3.0-3.6	60	415-425	40-60
LDR-2835TTAV430	●Blue&Violet	2.8-3.4	60	425-435	90-110
LDR-2835TTAV440	●Blue&Violet	2.8-3.4	60	435-445	90-110

UVC MODULE



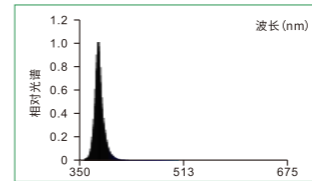
Product	Color	Forward Voltage (V)	Forward Current (mA)	WLP (nm)	Radiant Flux(mW)	Viewing Angle(°)
LDR-3535TUVCA-R265-M1	●OUVC	DC12	40-100	260-270	2.0-8.0	120
LDR-3535TUVCA-R275-M1	UVC	DC12	40-100	270-280	3.0-10.0	120

UVC MODULE



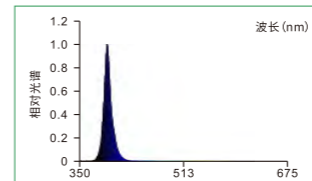
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LDR-3535TUVCA-R275-M1	UVC	DC12	40-100	270-280	3.0-10.0	120

FEATURES OF UVA UVB UVC



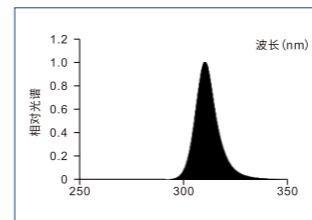
UVA wavelength 320-400nm

1. in line with the phototactic response curve of insects, can make insect trap lamp, mosquito kill lamp.
2. It is the central region of plant phototaxis, which can stimulate anthocyanin and be used in plant lamps.
3. Fluorescent agent can be identified under irradiation to make it glow, which is widely used for gem identification.
4. irradiation on the scorpion shell, will make it emit fluorescence, can be used for making scorpion lamp.
5. can stimulate photocatalyst, produce strong oxidation substances, play a role in sterilization and deodorization.
6. The beige and beige cloth under irradiation can be clearly identified.
7. Specific wavelength can be absorbed by the light initiator in UV adhesive, generating chemical reaction, and promoting the formation of UV adhesive curing in a few seconds, which can be used for UV curing lamp and nail lamp.



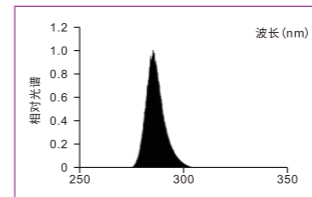
UVB wavelength 280-320nm

1. UVB ultraviolet has the effect of erythema on the human body, which can promote the metabolism of minerals and the formation of vitamin D in the body. It can be used for skin examination, and has significant effect on the treatment of psoriasis, vitiligo and other skin diseases, which belongs to pure physical therapy.
2. UVB can also detect and identify proteins, nucleotides, fluorescent drugs, fluorescent coatings, food additives and other special materials.

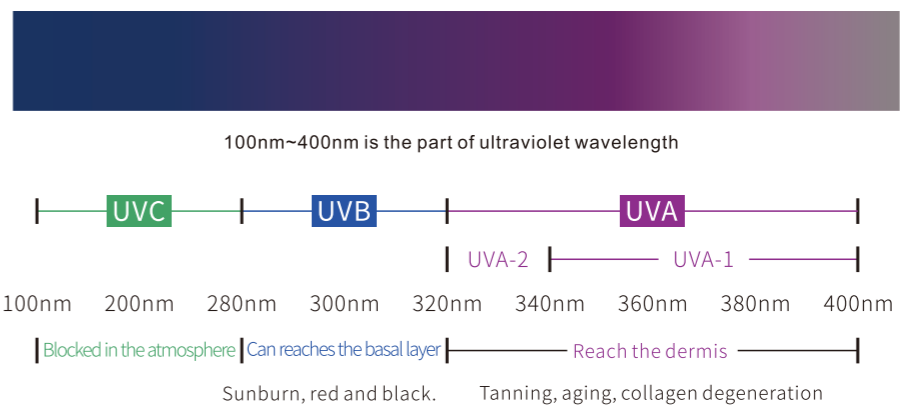


UVC wavelength 100-280nm

UVC can destroy the structure of the bacteria's DNA (deoxyribonucleic acid), making the bacteria immediately dead or unable to carry out DNA replication and reproduce, thus achieving the purpose of sterilization. Therefore, it is widely used in sterilization, air purification, water purification and other fields.



ULTRAVIOLET SPECTRUM



Modules

Elevate your lighting projects with our bespoke LED Module customization. Tailor light output, size, and color to your unique needs, ensuring perfect integration into any space. Our advanced technology guarantees energy-efficient, long-lasting brilliance, whether for horticulture lighting or uv lighting. Partner with us to bring your creative vision to light reliably and vibrantly.



LED Modules Customize

1. Tailored Brilliance: Unleash your vision with bespoke LED modules, perfectly customized to match your unique lighting requirements.
2. Enhanced Efficiency: Achieve energy savings and reduce environmental impact with our precision-engineered LED modules that deliver high luminous efficacy.
3. Reliability Guaranteed: Rely on our tried-and-tested LED modules for dependable performance and longevity, backed by our commitment to quality.

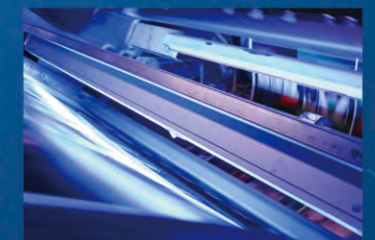
Application



Horticulture Lighting



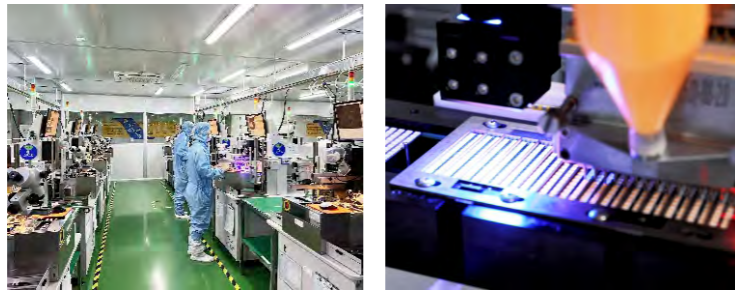
UV Disinfection



UV Curing

COMPANY SHOW

Intelligent & Automated Workshops



R&D Laboratory and Cultivation Laboratory



Exhibition Show



Dr. MJ Coco
CONSULTANT

Dr. MJ Coco

Ph.D from the University of California.

His academic research focuses on small scale food production and agricultural economics. He teaches in the California State University system and works as a consultant for commercial cannabis facilities across the United States.

For the last decade, Dr MJ Coco has shared his horticultural expertise with cannabis growers and has worked to bring a scientifically based understanding of soil-less horticulture to the cannabis community.

Dr MJ Coco has focused on testing and evaluating grow lights. He has developed a PAR testing protocol to generate the most useful information for growers. He created a popular grow light calculator to compare the performance of different fixtures and estimate their coverage area and harvest potential. He has published dozens of articles and test reports and his grow light videos have received over one million views on YouTube. Commercial and home cannabis growers consider him to be an authoritative expert on horticultural lighting.



Professor Liu

Professor and PhD, Department of Facility Agricultural Science and Engineering, College of Horticulture, South China Agricultural University.
 Director of Guangdong Modern Agriculture (Facility Horticulture) Science and Technology Innovation Center.
 Executive Director of the Facility Horticulture Branch of the Chinese Horticultural Society.
 Member of the Professional Committee of Facility Horticulture Engineering, Chinese Society of Agricultural Engineering.
 Vice Chairman of the Agricultural Lighting Professional Committee of the Electric Light Source Professional Committee of the Chinese Illuminating Society.



Professor Xu

Chief consultant of Ledestar.
 Director and senior engineer of Solid Light Source Research Institute. Participated in the compilation of national books and won the title of outstanding worker. Won the Provincial Science Progress Award.
 Engaged in the research and application of LED lighting and LED plant spectrum technology for many years.



Professor Zhao

Senior Agronomist.
 Senior Crop Plant Protection Officer.
 Deputy Director of Agricultural Lighting Professional Committee of China Illuminating Society.
 Secretary General of Shenzhen Facility Agriculture Industry Association.
 Chairman of Zhongshan Shanzai Agriculture and Forestry Technology Co., Ltd.
 Engaged in plant lighting research for ten years, the main research direction is indoor green plant planting technology and equipment, facility agricultural technology promotion and product development.



Dr. Xian

PhD in Physics, Sun Yat-sen University.
 PhD in Optical Engineering.
 Founder of i GrowLite Agricultural Technology Co., Ltd.

MEGAPHOTON



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UVZ

CUSTOMER

CERTIFICATION

