

Thousand Lights Lighting (Changzhou) Limited or THOUSLITE is a high-tech enterprise, focusing on **multi-channel LED lighting technology** and **light quality management**. THOUSLITE is a global LED-based standard lighting environment provider, and we are active in international technical conference and standardization societies.

THOUSLITE offers full range of multi-channel LED lighting products for lighting research, industrial color viewing assessment, and camera & sensor test. We also provide customization services. "36 hours fast response" is the policy we make to better serve customers.

Based on our tremendous technical experience, THOUSLITE are committed to provide customer excellent products, advanced solutions and professional service.

## LEDCube ANY SPD SIMULATOR



- High quality daylight simulator
- Blackbody locus simulator
- Any SPD match
- Dynamic lighting
- Fast & accurate feedback
- Flexible installation

### Thousand lights lighting (Changzhou) Limited (Sino - British Joint Venture)

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## What is LEDCube?

Based on our proprietary optimization algorithm and more than 10 carefully selected high power LEDs, THOUSLITE LEDCube can easily and accurately simulate any lighting environment having different Spectral Power Distribution (SPD). Currently, LEDCube is the best **commercialized spectral tunable lighting apparatus** in the world. The target applications include **lighting research, surface color visual assessment standard lighting, camera & sensor evaluation & calibration lighting**, such as daylight simulator, non-visual effect, large test chart illumination, color rendering, whiteness evaluation etc. In addition, LEDCube can create a **large standard lighting environment** for color visual assessment and camera sensor calibration.



## LEDCube Features

- **Reproducing high quality daylight illuminant**  
To reproduce any phase of daylight with highest quality on the market in terms of Color Rendering Index<sup>1</sup> (CRI) 99 and Metamerism Index<sup>2</sup> (MI) Grade A



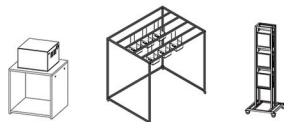
- **Blackbody locus simulator**  
To accurately produce a range of sources from tungsten to daylight varying Correlated Color Temperature (CCT) from 2000K to 20000K with user-defined CIE Ra and Duv
- **SPD match**  
To accurately reproduce any measured or imported SPD to record any light you want. It is easy to spread SPD files between different locations for light communication

- **Luminance adjustable**  
The light is dimmable while keeping the same light quality
- **Faster change between illuminants**  
Same illuminant properties during illuminant changes

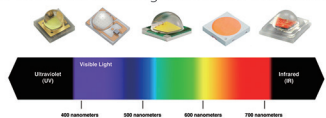
- **Single-channel control**  
Arbitrarily control the intensity of each channel in LEDCube to design any light wanted
- **Dynamic lighting**  
Programmable illuminant light sequence and interval.
- **Fast & accurate feedback**  
Maintain the same light quality, compensating for age and variable environments with external microspectrometer. It is much more consistent over conventional lighting

- **User-friendly software**  
Provide an easy and user-friendly software LEDNavigator-LC, and can be further customized
- **Flicker free**  
It provides a uniform and flicker free lighting environment

- **Longer life time and excellent long term stability**  
Much longer lifetime compared to fluorescent technology, and optimized heat management resulting in excellent long term stability
- **Flexible installation**  
Provide flexible installation methods for different applications, such as viewing cabinet, lifting, customized support etc



- **LED channel wavelength selection service**  
Provide LED channel wavelength selection service from UV, VIS to NIR



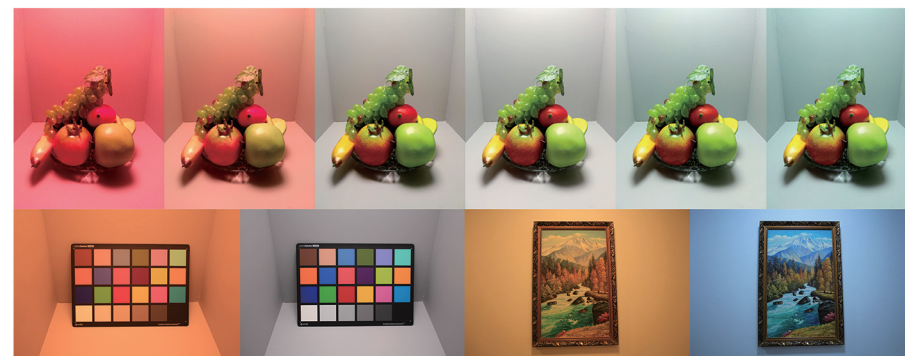
- **Wireless control**  
Up to 256 LEDCubes can be controlled separately or simultaneously via Zigbee technology, easy to build large standard lighting space



- **36 hours customer response**  
If customers report any problems or issues related to the products in working day, we will response in 36 hours for both domestic and international customers

1. CIE 13.3-1995, Method of Measuring and Specifying Colour Rendering Properties of Light Sources  
2. ISO 23603-2005 / CIE S 012/E, Standard method of assessing the spectral quality of daylight simulators for visual appraisal and measurement of colour

## Application of Scene



## Specifications

	LEDCube-11	LEDCube-C15	LEDCube-I14	LEDCube-IR
<b>LED channels</b>	11 channel	15 channel	14 channel	> 30 channel (by customization)
<b>Spectral range</b>	400-700nm	350-700nm	380-730nm	380-1050nm
<b>LED channel drive method</b>	Amplitude Modulation			
<b>Resolution</b>	10 bit (1024 steps dimmable for each channel)			
<b>Warm up time</b>	No			
<b>LED Lifetime</b>	>10,000 hours			
<b>Capacity</b>	80 light source in LEDCube hardware, unlimited in software			
<b>Predefined illuminants</b>	Standard daylight D65, D50		CIE Ra: 99, Mlvis: Grade A (<0.25)	
<b>Tunable range</b>	CCT: 2000~20000K, CIE Ra: 0~100, Duv: -0.02~+0.02			
<b>Max flux and illuminance</b>	1 light source D65: 1 meter 850lux; D50: 1 meter 1250lux Multiple light source can achieve higher intensity		1 light source D65: 1 meter: 900lux; D50: 1 meter 850lux Multiple light source can achieve higher intensity	
<b>Short-term stability</b>	D65 <±10K, D50 <±5K; Luminance <±0.5%			
<b>Long-term stability</b>	D65 <±25K, D50 <±15K; Luminance <±1.5%			
<b>Software instrument compatibility</b>	Konica Minolta CL500A & CS-2000, THOUSLITE FS & FS-VIS-IR Spectrometer Jeti Specbos 1211UV spectroradiometer			
<b>Electrical</b>	110/230V, 50/60Hz, 180W Maximum		110/230V, 50/60Hz, 360W Maximum	
<b>Operating ambient temperature</b>	0-30°C			
<b>Connection</b>	USB cable, wireless control, touch screen controller		USB cable	
<b>Dimensions(L/W/H) &amp; Weight</b>	300×300×210 mm, 270×270(emitting size), 7kg		700×300×210 mm, 670×270(emitting size), 18kg	
<b>Scope of delivery</b>	LEDCube light source, power cord, USB cable, wireless sender		LEDCube light source, power cord, USB cable	
<b>Supplementary accessories</b>	Ceiling installation kit, measurement device, 50×50×60cm Munsell N7 viewing cabinet, customized aluminium support, touch screen controller		Ceiling installation kit, measurement device, customized Munsell N7 viewing cabinet, customized aluminium support	
<b>Software (optional)</b>	Six modules in LEDNavigator: Blackbody locus simulator, SPD match, Feedback, Dynamic lighting, Single channel control, Single LEDCube control; SDK available on request			