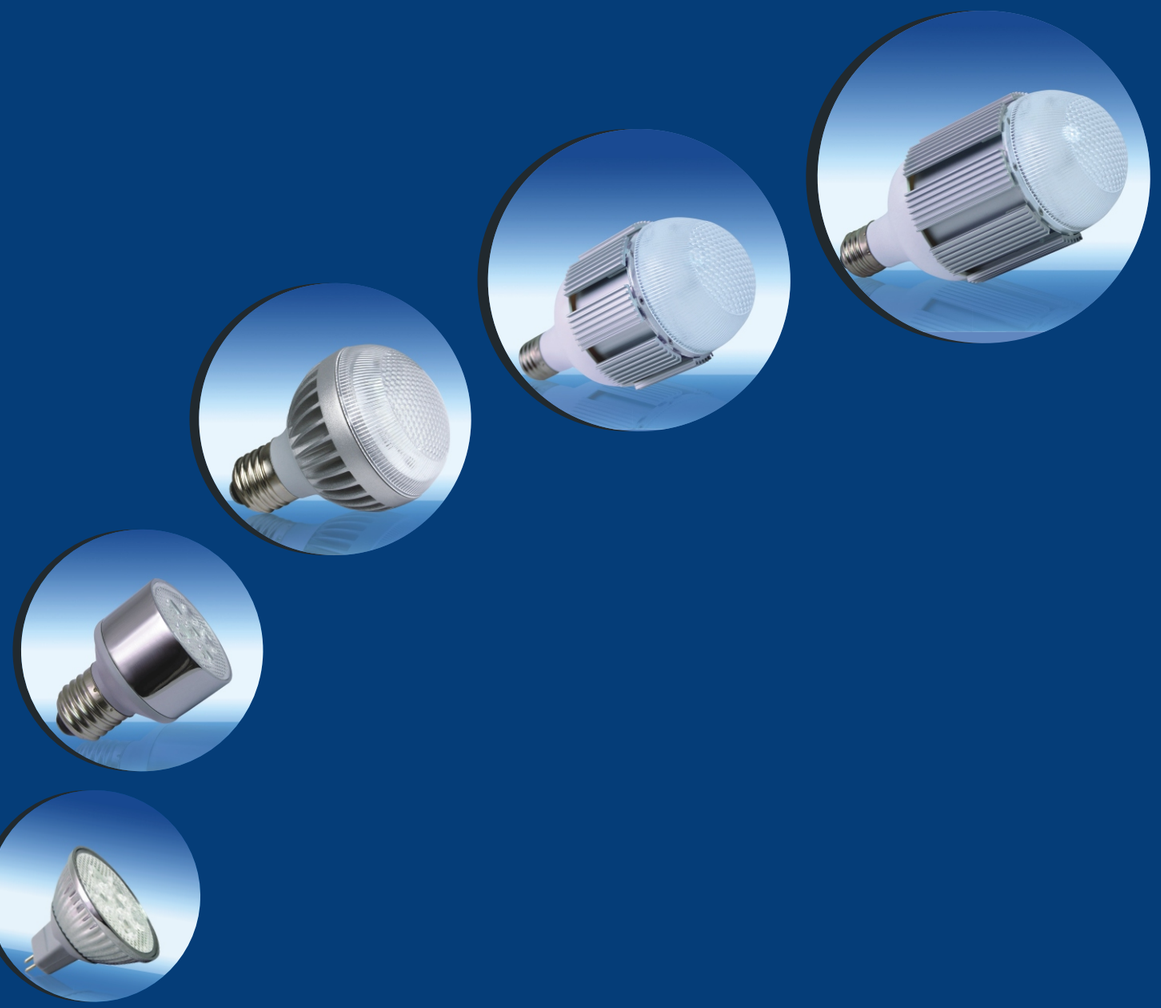
Under the same brightness,It can save 80% energy more than the traditional light sources

SHENZHEN BANG-BELL ELECTRONICS CO., LTD.

Address: Building C, JinXiongDa Industrial Park, Huan'guan South Road, Guanlan Town, Bao'an District, Shenzhen, Guangdong, China.
Tel: +86 755 2958 8988 Fax: +86 755 2958 8616 P.C:518110
Website: www.bbeled.com E-mail: lj74@bbeled.com

CE ISO 9001 UCS ACCREDITED BY MEMBER OF THE IAF MLA FOR QMS RvA Reg. No C345 UL RoHS

BBE LED LIGHT SOURCE



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The member of the China Semiconductor Lighting Technology Standard Workgroup

Shenzhen Bang-Bell Electronics Co., Ltd., we are one of the Shenzhen Hi-Tech enterprises, engaged in developing and manufacturing LED products since 1992. Now our products have sold to hundreds of countries or areas of five continents all over the world. Most of products have passed the UL and CE approvals. There are some optical, electrical, thermal and structural experts compose a powerful LED application products research & development team. We have invested tens of millions of dollars to build the fully automated LED packaging assembly lines. Through the exact Optical and Thermal design, our product and technology are in the leading level of the international LED industry.

Under the ISO9001:2000 quality management system, we are now at a stage of rapid development. We will take developing green urban lighting, building a harmonious society as our responsibility, work together with the people from the same industry, to create the Green Lighting storm.

In today's world, the gradual depletion of energy and the gradually deteriorated of environment is become a great challenge of us. LED is the most Green Lighting Source in 21 century, which is the criterion of the Energy saving and environment protection. Most of country in the world has use policy and rules to map out the spread plan. A revolutionary war in the lighting field is coming.

In the past three years, we have invested a tremendous amount of manpower and resources. Committed to developing a new generation of semiconductor LED lighting products, these products have been published right now. They need only 20% of the power consumption of traditional bulbs, which can generate 80lm/w and has super long life up to 50, 000 hours, also 10 times brightness than the traditional light bulb. Now, all this is no longer inconceivable, in our efforts, it has become a reality.

Let's Light The World And Light Your Future With Green LED Light, Bring You Fresh Illumination Experience!

Bang-Bell takes “Save Energy, Reduce Consumption” as our responsibity to answer the government's call of “Save Energy, Reduce Release”; engage in high tech green light, work for the well-being of the people. The new generation LED green light has been in the leading position to this industry!

Our target: Make the serious pollution caused by the conventional light and the power plant disappeared, to repay our green and clear world”!
Our Slogan: “Build green city; create an abstemious and harmonious society”!
Our Service: Wherever our products were sold, where you will have our service
Our Tenet: “Technology works for the people”

Our Pride

BBE LED is a global originated product with patents, it characterizes universal advanced photometric technology and other excellent features; Achieving distinction, saving energy and reducing power consumption, in the meantime, we pay great attention to the spirit of “Technology works for the people”; promoting the successful wave of energy and illumination revolution in 21 century by the new concept of “technological and green illumination”. And it will be the global lighting mainstream. BBE LED will sail to every corner of the world with great passion rapidly like a giant warship!

BBE LED Streetlight BBE LED Tunnel Lamp BBE LED Illumination Light Source ····

www.bbeled.com CE ISO 9001 UL RoHS

CONTENTS

BBE LED Building

Conference Room

Certificates Display

Patent Number

ZL 200510037514.5
ZL 200710124238.5
ZL 200710124275.6

CONTENTS

SP–MR16 / SP50 LED Lamp Cup Series

SP70 / SP80/ SP80B LED Bulb Series

LED Lighting Source Lamp Cup Series

Under the same brightness, can save power more than 80%

SP50

No Glare, High Brightness, High Uniformity,
Eliminate the glare of ordinary LED lights

SP-MR16 AC Adapter

We always insist on hard exploration, with persistent pursuit and innovative spirit, extraordinary refined design concepts, constantly surpassing ourselves; we developed the prominent quality and excellence extraordinary performance, bringing you a new lighting experience.

BBE LED Lamp Cup, with rich revolutionary and creative idea, is the perfect combination of technology, creative and light, let the LED release the maximum brightness; Design for the green lighting, it is the total subversion of the traditional concept of indoor lighting, create a new concept of road lighting, guide the new indoor lighting trends, it is an epoch-making milestone in the indoor lighting field, it must rise a rapturous revolution in the lighting industry.

With generous appearance, novel and unique, BBE LED Lamp Cup was designed for the topical lighting demand, fully meet the special requirements of topical lighting. This product adopt the High Power LED as the light source, using dozens of BBE Emitter high power 0.5W SMD LED. With the world's leading optical allocation, advanced thermal, structural and circuit design, it is a highly cost-effective product.

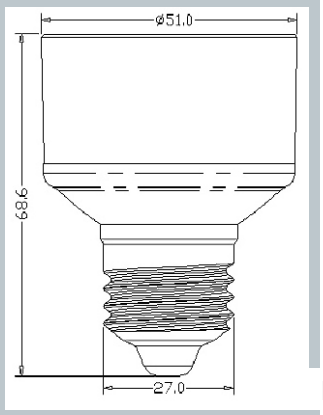
BBE LED adopt the high reliability eutectic welding LED packaging process, the thermal conductivity, electrical conductivity, thermal expansion and mechanical soundness standard is higher than the ordinary silver epoxy packaging. Excellent heat dissipation design, LED junction temperature can be controlled in an ideal temperature (TJ<65 ° C). Fully guarantee the long life of the LED. High power factor and low harmonic distortion reduce the power loss on transmission lines, avoid the high frequency interference contamination for the power network. The lamp body (Radiator) uses the integrated aluminum alloy, it is light and has a nice Thermal Performance. The Lampshade (lens) using optical plastic PMMA, with a high light transmittance up to 92%.

Apply Places

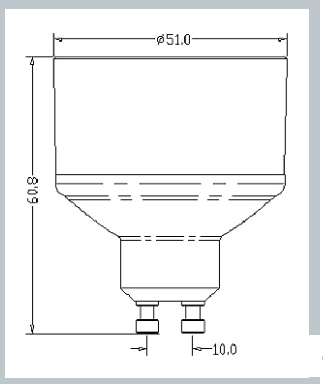
Apply to homes, shopping centers, conference rooms, display counters lighting and decoration, usually installed in the MR16 spotlight case.

Function and Features

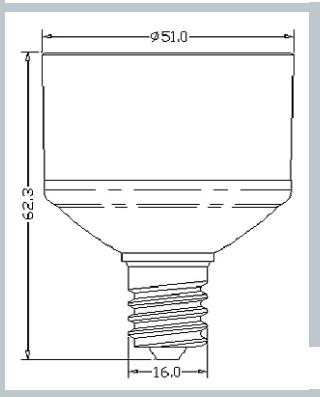
SP-MR16 / SP50



E27



GU10



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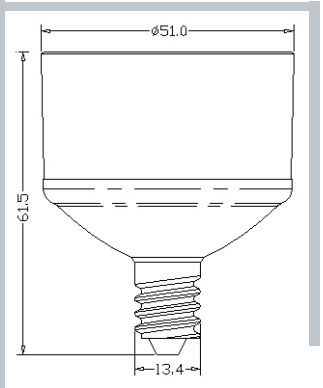

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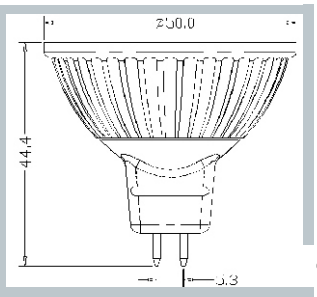


GU5.3

1. **Unique proprietary optical technology,** high beam pattern definition and brightness uniformity;
2. **Unique Integrated Lens and Lampshade Design**. The lens have both light focus and protection LED protection function, avoid the brightness wastage, let the product looks more concise beauty.
3. **Creative High Power LED Planar Combine Packaging, Radiator and Lamp holder Integration**. Fully protect LED life and heat dissipation requirements, satisfied with the structure and design of LED Lights fundamentally, which the most distinctive features of LED Lights;
4. **Tremendous Energy Saving,** Used the ultra high power, high brightness LED light source , together with the high power efficiency power supply, which can save energy up to 80% than the conventional incandescent lamps, under the same power consumption, the brightness is 8 times than the traditional incandescent lamps;
5. **Long Life, Up to 50,000 Hours, 50 times than the conventional tungsten wirelamp:** Used highly reliable, advanced LED packaging technology - Eutectic Welding, fully guaranteed the LED long life;
6. **No Strobe Flashing**, Working under DC, eliminate the tireless which caused by the traditional strobe flashing;
7. **Green and Environmental Protection:** no lead, no mercury, no environmental pollution;
8. **Impact Resistance, Shock-proof, Without Ultraviolet (UV) and Infrared (IR) Radiation:** No filament and glass frames, avoid break of the traditional lamp, without harm to the human body;
9. **Work under Low-voltage and Low-Heat, Safe and Reliable:** The surface temperature is less than 60℃ (Ta=25℃);
10. **Adopting the PWM constant-current technology, with high efficiency, low heat and high precision constant current;**
11. **Use the external adapter to work with the AC Electricity optional;**
12. **Global Wide Working Voltage,** with constant-current under 85-264VAC entire voltage range, the brightness and lifetime will be not influenced b the voltage fluctuations;
13. **Universal standard GU5.3 base, can replace the halogen lamp directly;**
14. **High brightness efficiency, up to 80lm/w, various color temperature optional, High Color Index, Nice Coloration;**
15. **Have a number of patents for inventions and utility model patents.**
16. **Certificated by UL, CE & RoHS.**

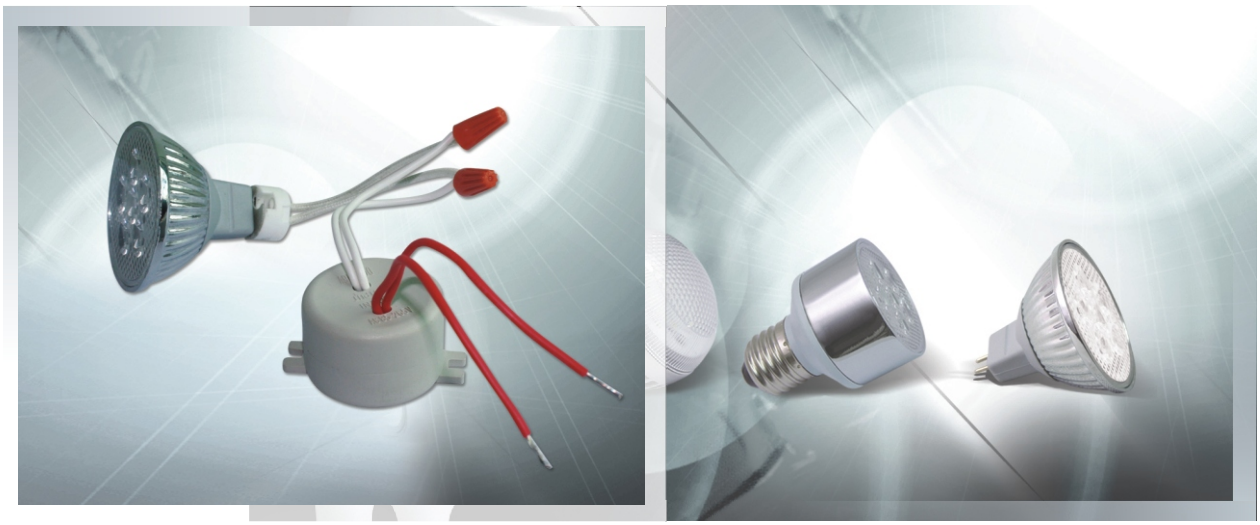
Technical Parameters

SP-MR16 / SP50

Item \ Model	SP–MR16		SP50	
Wattage	3W		3W	
Input Voltage	12VAC/DC	Need AC Adaptor for 100-240VAC	12V or 24V AC/DC	100-240VAC
Frequency Range	\	50–60Hz	\	50–60Hz
Working Voltage	＜36V DC			
LED Optical Efficiency	≥80lm/w			
Luminous Flux	Pure White: 180 lm Warm White: 150 lm		Pure White: 210 lm Warm White: 175 lm	
Lamp Optical Efficiency	Pure White: 60 lm/w Warm White: 50 lm/w		Pure White: 58 lm/w Warm White: 48 lm/w	
Color Temperature (CCT)	Pure White: 5,500±500K Warm White: 4,000±500K			
Color Rendering Index (CRI)	Pure White: Ra>75 Warm White: Ra>70			
Distribution Curve	Center Light Distribution, Quasi Perpendicular Incidence			
Beam Angle (2θ 1/2)	30°			
Junction Temperature (Tj)	75		65	
Ambient Temperature (Ta)	-30℃-40℃			
Working Humidity	10%-90% RH			
Storage Temperature	10℃-80℃			
Working Life	＞50,000 Hrs			
Light Body & Lampshade	Aluminum Alloy and PMMA			
The Dimensions (mm)	50(Ø)X 45(L)		50(Ø)X 70(L)	
IP Rating	IP60		IP60	
Lamp Base	GU5.3		E27、E26、E17、E14、E12、GU10	

Remark:

① Luminous color can be customized in Red, Yellow, Green or Blue;
② 12VAC/DC input for MR16 itself only, you must use an AC Adaptor when for 100-240VAC;
③ 12V and 24V for SP50 is for 2 different spec., but can be for 12VAC/DC and 24VAC/DC;

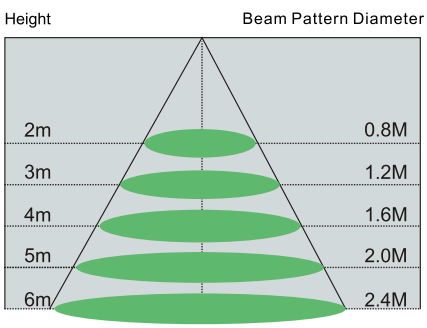


Photometric Performance

The beam pattern can be controlled with in 30 degree, reduced the brightness loss furthest, apply with different topical lighting requirements, can be use for Office, Commercial and Home lighting.

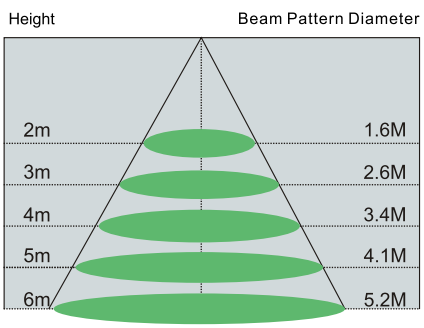
◆ The Different Height Illumination Distribution

The beam pattern when edge intensity dropped to 50%



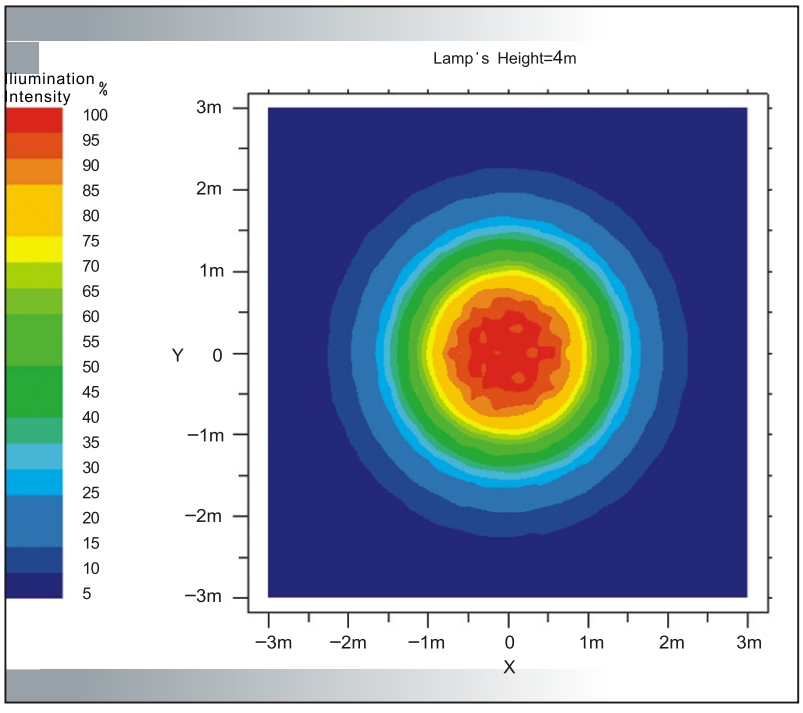
Illumination Intensity	
SP-MR16	SP50
140 LX	150 LX
65 LX	68 LX
36 LX	38 LX
23 LX	25 LX
16 LX	18 LX

The beam pattern when edge intensity dropped to 10%

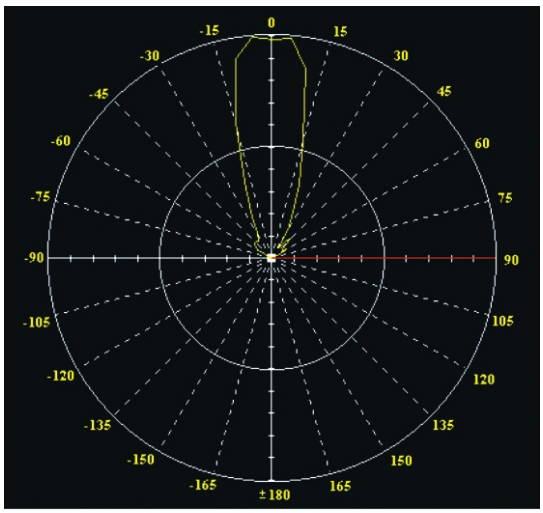


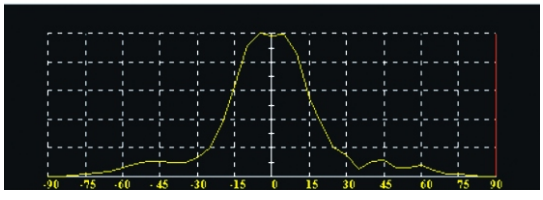
Illumination Intensity	
SP-MR16	SP50
105 LX	109 LX
47 LX	50LX
27 LX	29 LX
17 LX	18 LX
12 LX	13 LX

◆ Plane Equiluminous Distribution (Beam Pattern)



◆ Distribution Curve





Comparison of the LED Lamp Cup and Traditional Light Sources

◆ Comprehensive Performance Comparison

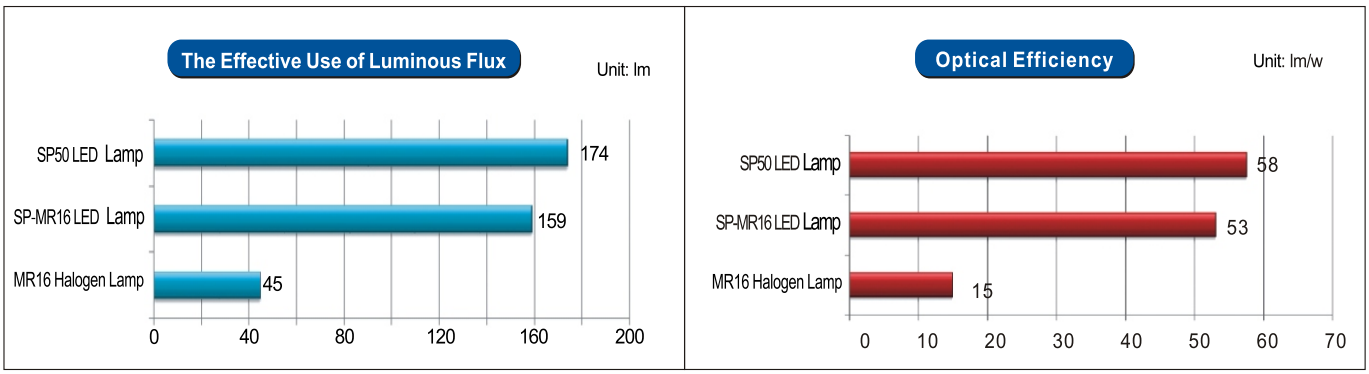
Item	Incandescent Bulb Halogen Lamp	BBE–LED Lamp Cup
Energy-saving rate	High Power Consumption	Save Energy up to 80%
Optical Efficiency	Low	High
Working Life	Short (1,000h)	Super Long (>50,000h)
Environmental Performance	With Lead and Mercury, harmful to environment	Apply with RoHS standard, no harm to environment
Shock Resistance	Poor (Frangibility)	Good (No filament or glass)
Stroboflash	No	No (DC Drives)
Thermal Value	High (Outside temperature > 300℃)	Low (Outside temperature < 60℃)
Glare	Strong (Small luminescence size)	Weak (Large luminescence size)
Working Voltage Range	Narrow (Brightness will be changed by voltage fluctuations, and working life will be shortened)	Wide (Brightness will be not changed by voltage fluctuations, and no influence for working life)
Startup Speed	Slow	Fast
Color Temperature	Single (Warm White only)	Rich (Pure White, Warm White optional)
Color Rendering Index	Best (Ra = 100)	Good (Ra > 75)
Comprehensive Performance	Not Good	Good

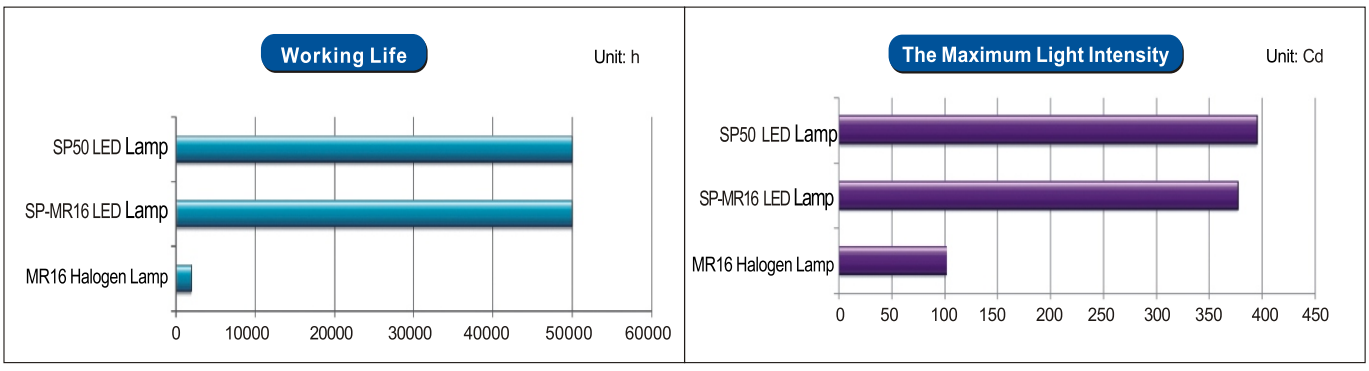
◆Photoelectric parameters comparison

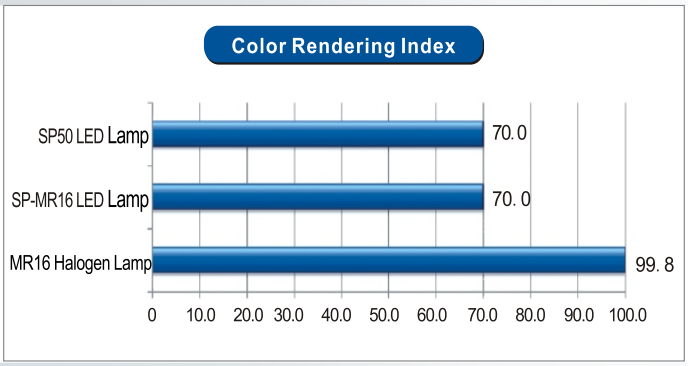
The same parameters under 3W:

Light Source	Power Consumption (w)	Effective Luminous Flux (lm)	Optical Efficiency (lm/w)	Luminous Color	Color Rendering Index	Beam Angle(deg)	Max. Light Intensity(cd)	Working Life (h)
MR16 Halogen Lamp	3	45	15	Warm White	99.8	30	102	2,000
SP-MR16 LED Lamp	3	159	53	Pure White Warm White	70.0	30	378	5,0000
SP50 LED Lamp	3	174	58	Pure White Warm White	70.0	30	396	5,0000

For below index, the higher, the better

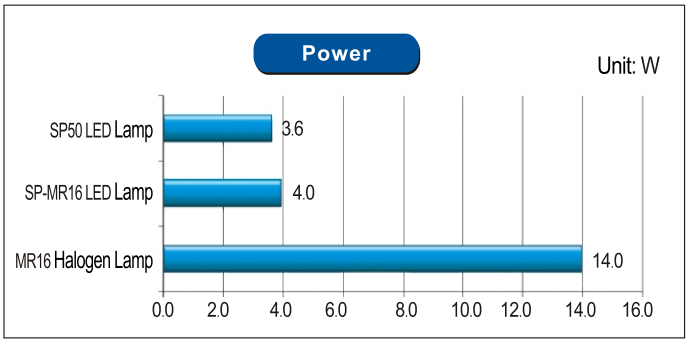






The same parameters under 210 lm brightness:

Light Source	Effective Luminous Flux (lm)	Power Consumption (w)	Optical Efficiency (lm/w)	Luminous Color	Color Rendering Index	Beam Angle(deg)	Max. Light Intensity(cd)	Working Life (h)
MR16 Halogen Lamp	210	14.0	15	Warm White	99.8	230	480	2,000
SP-MR16 LED Lamp	210	4.0	53	Pure White Warm White	70.0	30	480	50,000
SP50 LED Lamp	210	3.6	58	Pure White Warm White	70.0	30	480	50,000



Conclusion

From above figures, we can see, for the Optical Efficiency, the LED lamp is 3 times than Halogen Lamp, and 25 times longer life than the Halogen Lamp, except the Power Factor and Color Rendering Index are a little lower than the Halogen Lamp, the other index are all higher. Apparently, under the same brightness, it is only 25% of the Halogen Lamp's Power Consumption, that means it can save 75% power than the Halogen Lamp. So it is a Green, Environment Protection, Energy Saving, High Efficiency, Long Life and High Technology Lighting products.

Product Package

SP-MR16 / SP50

Model	Unit Package		Master Package				
	Q'ty	N.W. (Kg)	Q'ty	G.W. (Kg)	N.W. (Kg)	Dimension (mm)	Volume (m^3)
SP-MR16	1	0. 034	100	4. 7	3. 4	600×310×162	0.03
SP-M16 AC Adapter	1	0. 028	100	4. 4	2. 8	476×248×120	0.014
SP50	1	0. 087	100	12. 25	8.7	590×460×390	0.106

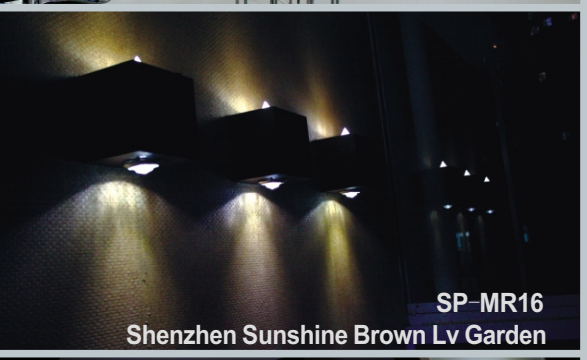
Project Display


Shenzhen Sunshine Chamber SP50


Certificates Display SP-MR16


SP50
Shenzhen Sunshine Chamber


SP50
Shenzhen Sunshine Brown Lv Garden


SP-MR16
Shenzhen Sunshine Brown Lv Garden


SP-MR16
Shenzhen Sunshine Brown Lv Garden


SP50
Shenzhen Sunshine Brown Lv Garden

LED Lighting Source LED Bulb Series

Under the same brightness, can save power more than 80%

Patent Lambency Technology

No Glare, High Brightness, High Uniformity, Eliminate the glare of ordinary LED lights

SP70 SP80 SP80B

We always insist on hard exploration, with persistent pursuit and innovative spirit, extraordinary refined design concepts, constantly surpassing ourselves; we developed the prominent quality and excellence extraordinary performance, bringing you a new lighting experience.

With generous appearance, novel and unique, BBE LED Bulb was designed for the topical lighting demand, fully meet the special requirements of topical lighting. This product adopt the High Power LED as the light source, using dozens of BBE Emitter high power 0.5W SMD LED. With the world's leading optical allocation, advanced thermal, structural and circuit design, it is a highly cost-effective product.

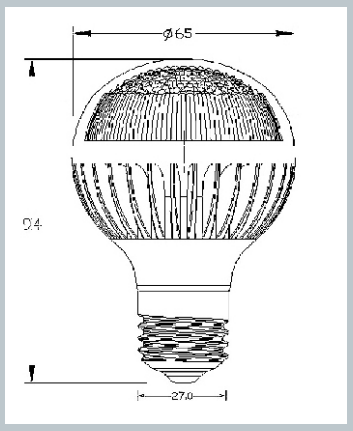
BBE LED adopt the high reliability eutectic welding LED packaging process, the thermal conductivity, electrical conductivity, thermal expansion and mechanical soundness standard is higher than the ordinary silver epoxy packaging. Excellent heat dissipation design, LED junction temperature can be controlled in an ideal temperature (TJ<65 ° C). Fully guarantee the long life of the LED. High power factor and low harmonic distortion reduce the power loss on transmission lines, avoid the high frequency interference contamination for the power network. The lamp body (Radiator) uses the integrated aluminum alloy, it is light and has a nice Thermal Performance. The Lampshade (lens) using optical plastic PMMA, with a high light transmittance up to 92%.

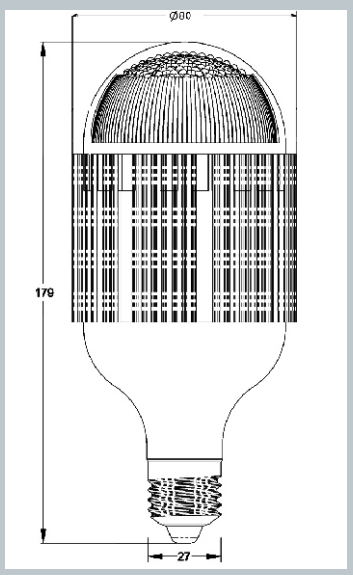
Apply Places

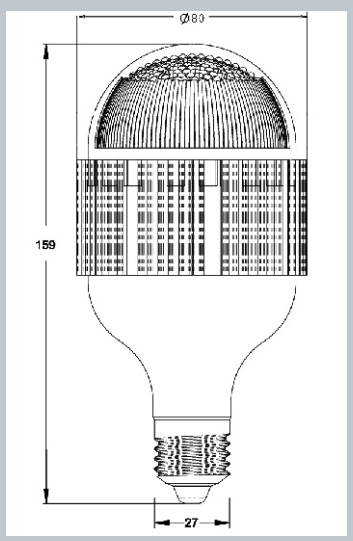
Apply to homes, shopping centers, conference rooms, display counters lighting and decoration, or use in 3.5 inch canister lamp.

Function and Features

SP70/SP80 / SP80B







1. **Unique Patent Lambency technology,** changed the LED light source to surface source, eliminated the glare, improved the vision effect, reduced the vision weariness;
2. **Unique Integrated Lens and Lampshade Design**. The lens have both light focus and protection LED protection function, avoid the brightness wastage, let the product looks more concise beauty.
3. **Creative High Power LED Planar Combine Packaging, Radiator and Lamp holder Integration**. Fully protect LED life and heat dissipation requirements, satisfied with the structure and design of LED Lights fundamentally, which the most distinctive features of LED Lights;
4. **Tremendous Energy Saving,** Used the ultra high power, high brightness LED light source , together with the high power efficiency power supply, which can save energy up to 80% than the conventional incandescent lamps, under the same power consumption, the brightness is 8 times than the traditional incandescent lamps;
5. **Long Life, Up to 50,000 Hours, 50 times than the conventional tungsten wirelamp:** Used highly reliable, advanced LED packaging technology - Eutectic Welding, fully guaranteed the LED long life;
6. **No Strobe Flashing**, Working under DC, eliminate the tireless which caused by the traditional strobe flashing;
7. **Green and Environmental Protection:** no lead, no mercury, no environmental pollution;
8. **Impact Resistance, Shock-proof, Without Ultraviolet (UV) and Infrared (IR) Radiation:** No filament and glass frames, avoid break of the traditional lamp, without harm to the human body;
9. **Work under Low-voltage and Low-Heat, Safe and Reliable:** The surface temperature is less than 60℃ (Ta=25℃);
10. **Adopting the PWM constant-current technology, with high efficiency, low heat and high precision constant current;**
11. **Use the external adapter to work with the AC Electricity optional;**
12. **Global Wide Working Voltage,** with constant-current under 85-264VAC entire voltage range, the brightness and lifetime will be not influenced b the voltage fluctuations;
13. **Universal standard E27 or E26 base**, can replace the exist halogen lamp, incandescent lam and fluorescent lamp directly;
14. **High brightness efficiency, up to 80lm/w, various color temperature optional, High Color Index, Nice Coloration;**
15. **Have a number of patents for inventions and utility model patents.**
16. **Certificated by UL, CE & RoHS.**

SP70/SP80B/SP80

Item \ Model	SP70		SP80B		SP80	
Wattage	5W		10W		15W	
Input Voltage	100–240VAC	12V or 24VAC/DC	100–240VAC	12V or 24VAC/DC	100–240VAC	12V or 24VAC/DC
Frequency Range	50–60Hz	\	50–60Hz	\	50–60Hz	\
Power Factor(PF)	>0.8	\	>0.9	\	>0.9	\
Working Voltage	<36V DC					
LED Optical Efficiency	≥80lm/w					
Luminous Flux	Pure White:270 lm	Warm White:210 lm	Pure White:750 lm	Warm White:650 lm	Pure White:500 lm	Warm White:450 lm
Lamp Optical Efficiency	Pure White:60 lm/w	Warm White:47 lm/w	Pure White:45 lm/w	Warm White:40 lm/w	Pure White:45 lm/w	Warm White:40 lm/w
Color Temperature (CCT)	Pure White:5,500 ± 500K		Warm White:4,000 ± 500K			
Color Rendering Index (CRI)	Pure White:Ra>75		Warm White:Ra>70			
Distribution Curve	Wide Light Distribution / Lambert Style					
Beam Angle (2θ 1/2)	120°		150°		150°	
Junction Temperature (Tj)	70°C±10%(Ta=25°C)		80°C±10%(Ta=25°C)		80°C±10%(Ta=25°C)	
Ambient Temperature (Ta)	-30°C-40°C					
Working Humidity	10%-90% RH					
Storage Temperature	10°C-85°C					
Working Life	>50,000 Hrs					
Light Body& Lampshade	Aluminum Alloy and PC					
The Dimensions(mm)	65(Ø)X 100(L)		80(Ø)X 160(L)		80(Ø)X 180(L)	
IP Rating	IP65		IP60		IP60	
Lamp Base	E27、E26					

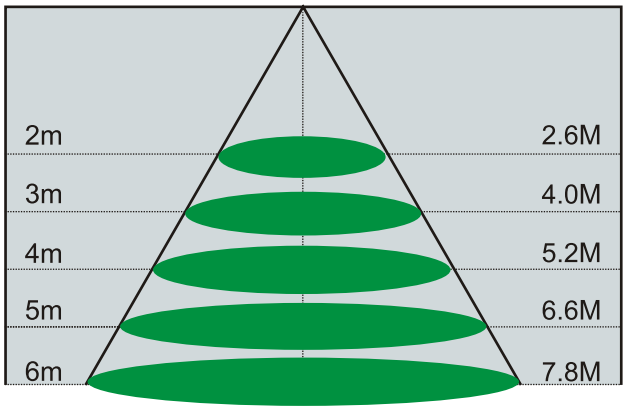
Remark: ①Luminous color can be customized in Red, Yellow, Green or Blue;
②12V and 24V for SP50 is for 2 different spec., but can be for 12VAC/DC and 24VAC/DC;

Photometric Performance

Most of the LED Lulbs or LED Light Sources are point source of light in the present market, we can see the light points from the bulb easily, it can not hide the inaesthetic inside structure, give lots of glare out, it is easy to fell fatigue even decrease your visual acuity if we use these light source in a long time. Even some of them used an ivory cover to make it like a surface light source, but it has a very low throughput rate of 50-70% only. Our SP70, SP80B and SP80 used the fly's-eye lens, it has a 90% high throughput rate, can be used for Office, Commercial and Home Lighting widely.

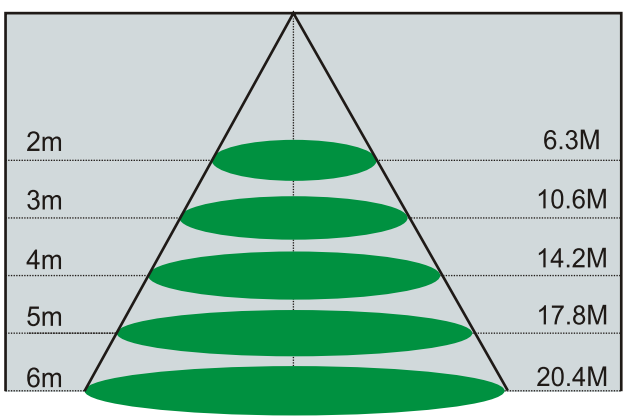
◆ The Different Height Illumination Distribution

The beam pattern when edge intensity dropped to 50%



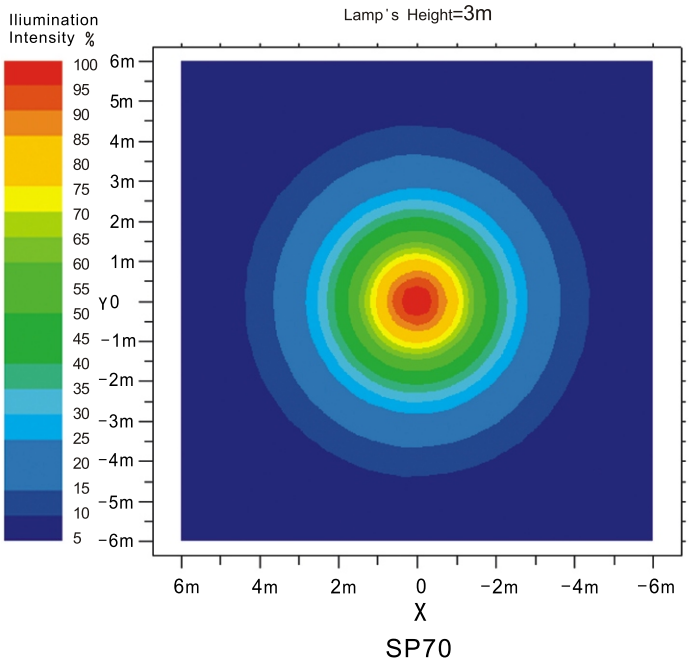
Iliumination Intensity		
SP70	SP80B	SP80
16. 0 LX	24. 5 LX	35. 0 LX
6.8 LX	11. 9 LX	17. 0 LX
3. 9 LX	6. 2 LX	8.8 LX
2. 5 LX	4.1 LX	5.9 LX
1. 6 LX	2. 7 LX	3.9 LX

The beam pattern when edge intensity dropped to 10%

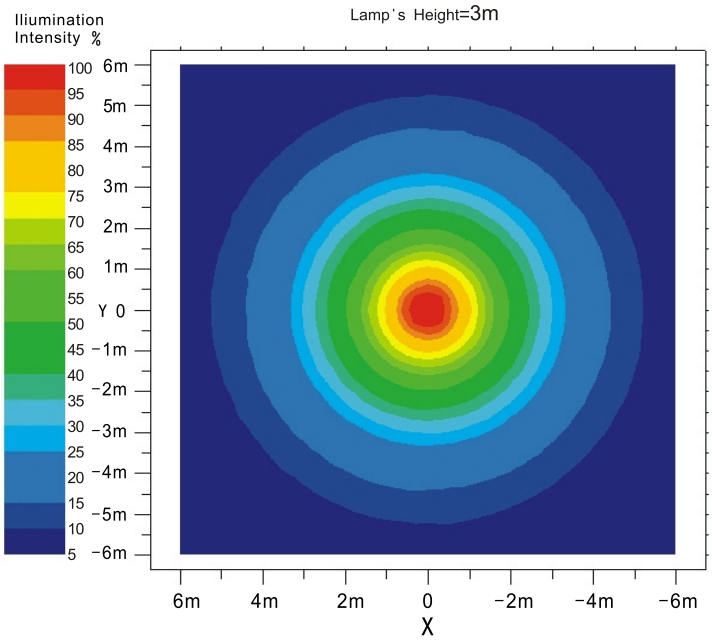


Iliumination Intensity		
SP70	SP80B	SP80
11. 0 LX	17. 5 LX	25. 0 LX
5. 1 LX	7. 7 LX	11. 0 LX
2. 9 LX	4. 5 LX	6. 5 LX
1. 7 LX	2.7LX	3. 9LX
1. 1 LX	1. 8 LX	2. 6 LX

◆ Plane Equiluminous Distribution (Beam Pattern)

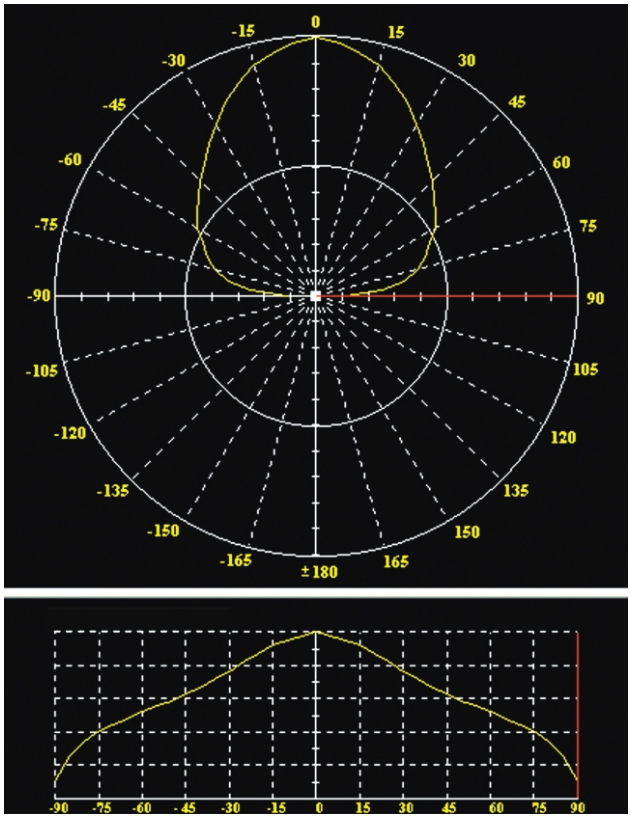


SP70

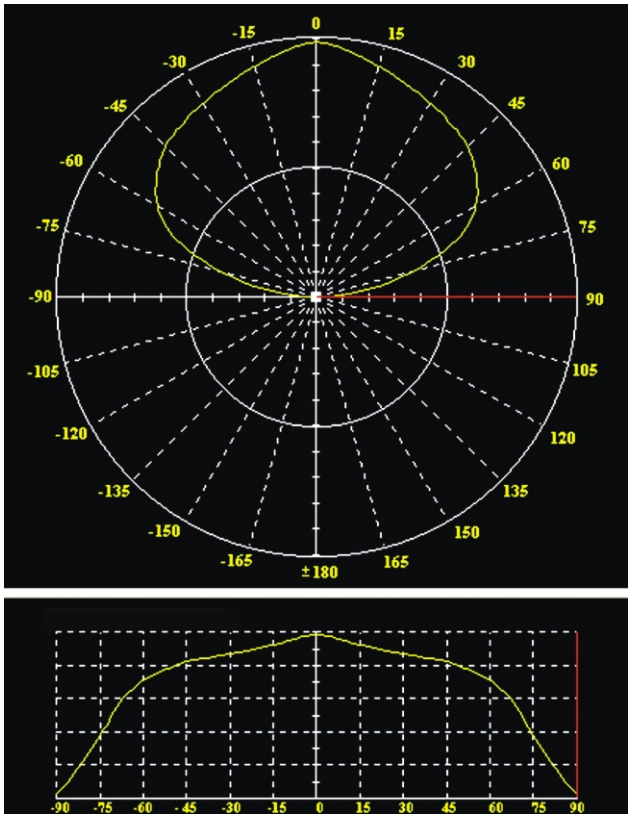


SP80/SP80B

◆ Distribution Curve



SP70



SP80/SP80B

Comparison of the LED Bulb and Traditional Light Sources

◆ Comprehensive Performance Comparison

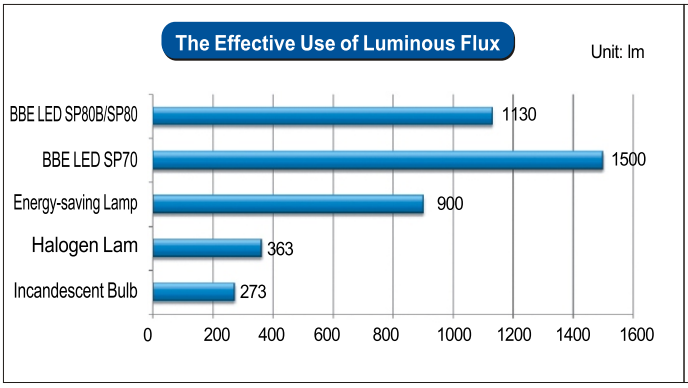
Item	Incandescent Bulb /Halogen Lamp	Fluorescent Lamp / Energy-saving Lamp	BBE-LED Lamp Bulb
Energy-saving rate	High Power Consumption	High (Low Power Consumption)	Energy Saving up to 80%
Optical Efficiency	Low	High	High
Working Life	Short (1,000h)	Short (5,000h)	Super Long (>50,000h)
Environmental Performance	With Lead and Mercury, harmful to environment	High Pollution (With Lead and Mercury, harmful to environment)	Apply with RoHS standard, no harm to environment
Shock Resistance	Poor (Frangibility)	Poor (Frangibility)	Good (No filament or glass)
Stroboflash	No	Yes (AC Drives)	No (DC Drives)
Thermal Value	High (Outside temperature > 300℃)	Middle (Outside temperature > 70℃)	Low (Outside temperature < 60℃)
Glare	Strong (Small luminescence size)	Weak (Large luminescence size)	Weak (Large luminescence size)
Working Voltage Range	Narrow (Brightness will be changed by voltage fluctuations, and working life will be shortened)	Narrow (Brightness will be changed by voltage fluctuations, and working life will be shortened)	Wide (Brightness will be not changed by voltage fluctuations, and no influence for working life)
Power Factor	High (1.0)	Low (<0.6)	High (>0.9)
Startup Speed	Slow	Faster	Fast
Color Temperature	Single (Warm White only)	Rich (Pure White, Warm White optional)	Rich (Pure White, Warm White optional)
Color Rendering Index	Best (Ra = 100)	Good (Ra > 70)	Good (Ra > 75)
Comprehensive Performance	Not Good	Middle	Good

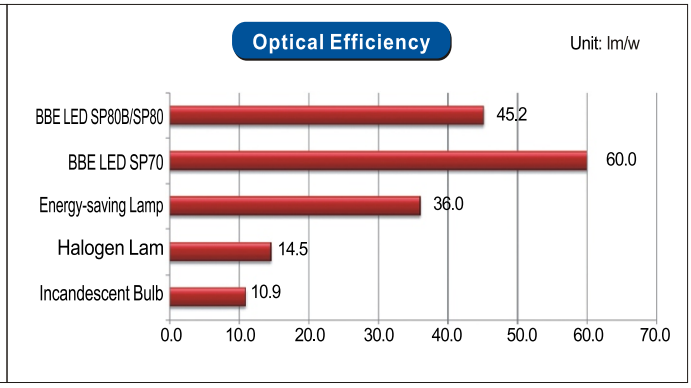
◆ Photoelectric parameters comparison

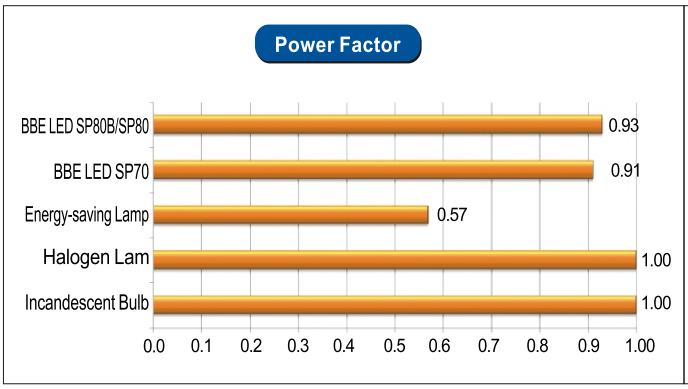
The same parameters under 25W:

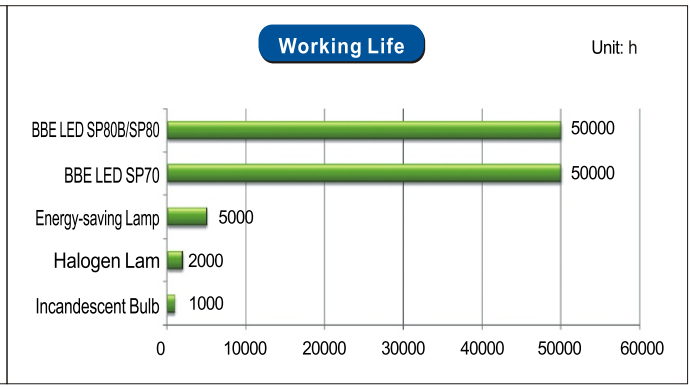
Light Source	Power Consumption (w)	Power Factor	Effective Luminous Flux (lm)	Optical Efficiency (lm/w)	Luminous Color	Color Rendering Index	Beam Angle(deg)	Max. Light Intensity(cd)	Working Life (h)
Incandescent Bulb	25	1.00	273	10.9	Warm White Only	99.5	270	15	1,000
Halogen Lam	25	1.00	363	14.5	Warm White Only	99.8	270	21	2,000
Energy-saving Lamp	25	0.57	900	36.0	Pure White Warm White	80.0	270	130	5,000
BBE LED SP70	25	0.91	1,500	60.0	Pure White Warm White	80.0	120	428	50,000
BBE LED SP80B/SP80	25	0.93	1,130	45.2	Pure White Warm White	80.0	120	166	50,000

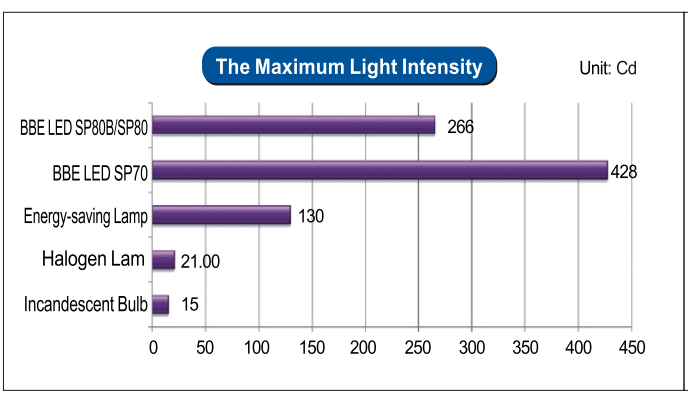
For below index, the higher, the better

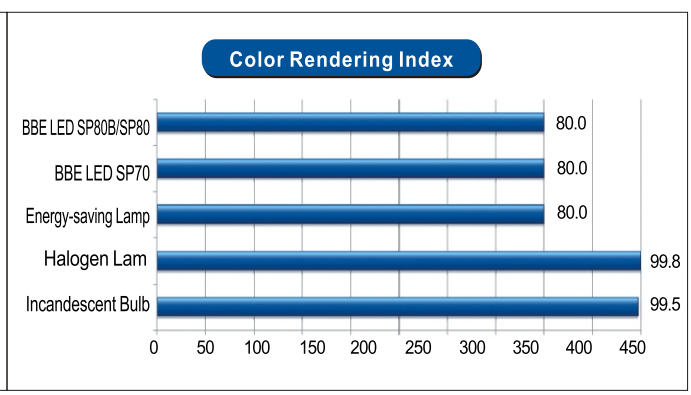






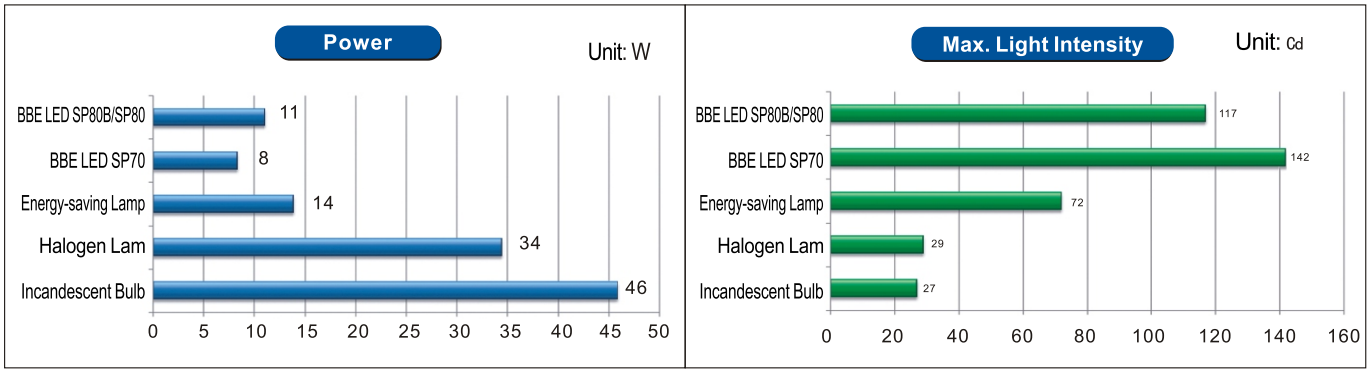






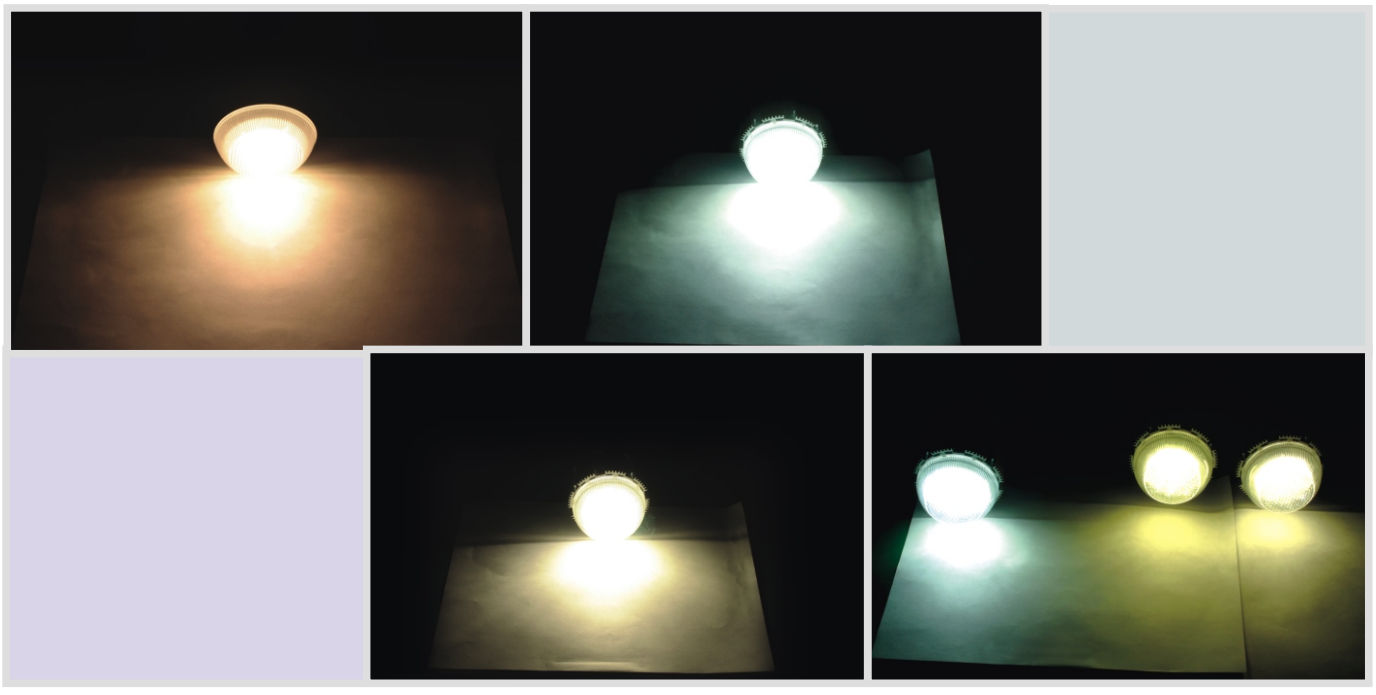
The same parameters under 500 lm brightness:

Light Source	Effective Luminous Flux (lm)	Power Consumption (w)	Power Factor	Optical Efficiency (lm/w)	Luminous Color	Color Rendering Index	Beam Angle(deg)	Max. Light Intensity(cd)	Working Life (h)
Incandescent Bulb	500	46	1.00	10.9	Warm White Only	99.5	270	27	1,000
Halogen Lam	500	34	1.00	14.5	Warm White Only	99.8	270	29	2,000
Energy-saving Lamp	500	14	0.57	36.0	Pure White Warm White	80.0	270	72	5,000
BBE LED SP70	500	8	0.91	60.0	Pure White Warm White	80.0	120	142	50,000
BBE LED SP80B/SP80	500	11	0.93	45.2	Pure White Warm White	80.0	120	117	50,000



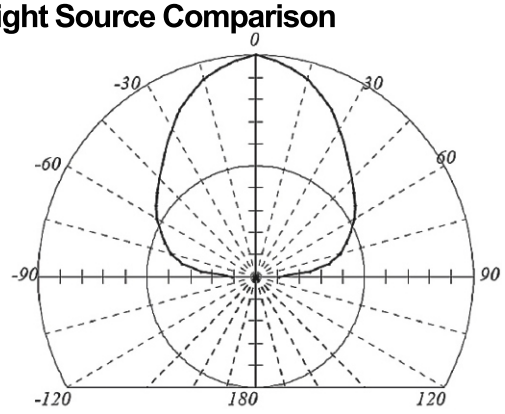
Conclusion

From above figures, we can see, for Effective Use of Luminous Flux, Optical Efficiency, the LED Bulb is 1.6 times than Energy Saving Lamp, 5 times than Halogen Lamp, and 6 times than Incandescent Bulb. LED Bulb has an outstanding Color Rendering Index, 10 times longer life than the Energy Saving Lamp, even 50 timers longer life than the Incandescent Bulb. For the power consumption under the same brightness, the smaller, the better, LED Bulb has a tremendous energy saving efficiency, under the same brightness, our SP70 can save 43%, 77%, 83% energy than the Energy Saving Lamp, Halogen Lamp and Incandescent Bulb each. So it is a Green, Environment Protection, Energy Saving, High Efficiency, Long Life and High Technology Lighting products.

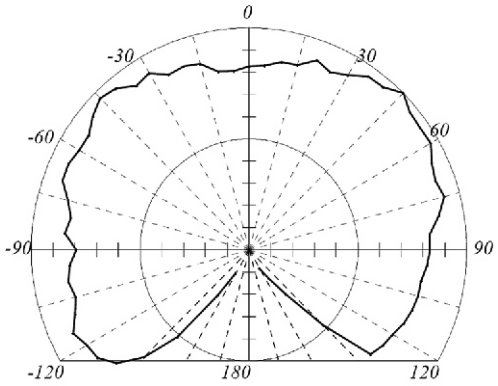


◆ Practical Application Comparison

I. Light Source Comparison



LED Light Intensity Distribution Curve



Incandescent Light Intensity Distribution Curve

	Angle	0° (Center)	±30°	±45°	±60°	±90°	±120°
Light Intensity	25W Incandescent Bulb	15cd	14.5cd	15cd	14cd	12cd	12cd
	SP70	45cd	34cd	28cd	24cd	4. 8cd	0cd

The normal lighting effective angle is about 60 90° commonly (see above ±30° and ±45°), from above table, the light intensity is of BBE 5W SP70 is 2.5 times than the 25W Incandescent Bulb for 30°, and still 1.8 times even for 45°, so the BBE 5W SP70 actual lighting effect is equal to 50-60W Incandescent Bulb, and the brightness is 10 times equal to incandescent bulb on the same power consumption.

II. Luminous Flux Comparison (Simple Comparison)

Figure 1

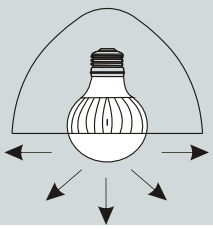


Figure 2

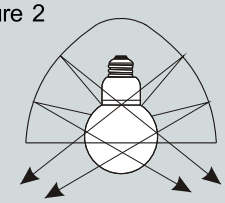
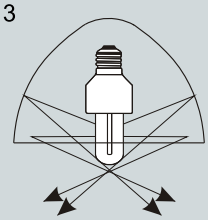


Figure 3



1. Compare with Incandescent Bulb

	Power Consumption (w)	Luminous Flux (lm)	Optical Efficiency (lm/w)	Working Life (h)
25W Incandescent Bulb	25W	273 lm	10.9 lm/w	1,000 h
25W Incandescent Bulb in Fixture		163 lm	6.5 lm/w	
BBE 5W SP70 in Fixture	4.5W	266 lm	59.2 lm/w	50,000 h

Note: Light Fixture Efficiency is calculated by 60%.

From above table, if we compare the light source only, the luminous flux for SP70 is 5.4 times than the incandescent bulb, but after putting in fixture, as most of the light need reflect by the reflector for the incandescent bulb(see figure 2), so it will loss some brightness (LED do not need reflector, see figure 1), so the Optical Efficiency of BBE SP70 is 9 times than incandescent bulb, that means, under the same power consumption, BBE SP70 has 9 times optical efficiency than incandescent bulb.

From above comparison, it approvals LED can save 90% energy than incandescent bulb.

2. Compare with Halogen Lamp

	Power Consumption (w)	Luminous Flux (lm)	Optical Efficiency (lm/w)	Working Life (h)
25W Incandescent Bulb	37W	553 lm	14.5 lm/w	2,000 h
25W Incandescent Bulb in Fixture		332 lm	9.0 lm/w	
BBE 5W SP70 in Fixture	4.5W	266 lm	59.1 lm/w	50,000 h

Note: Light Fixture Efficiency is calculated by 60%.

From above table, if we compare the light source only, the luminous flux for SP70 is 4 times than the halogen lamp, but after putting in fixture, as most of the light need reflect by the reflector for the halogen lamp (see figure 2), so it will loss some brightness (LED do not need reflector, see figure 1), so the Optical Efficiency of BBE SP70 is 6.5 times than halogen lamp, that means, under the same power consumption, BBE SP70 has 6.5 times optical efficiency than halogen lamp.

From above comparison, it approvals LED can save 85% energy than halogen lamp.

3. Compare with Energy-saving Lamp

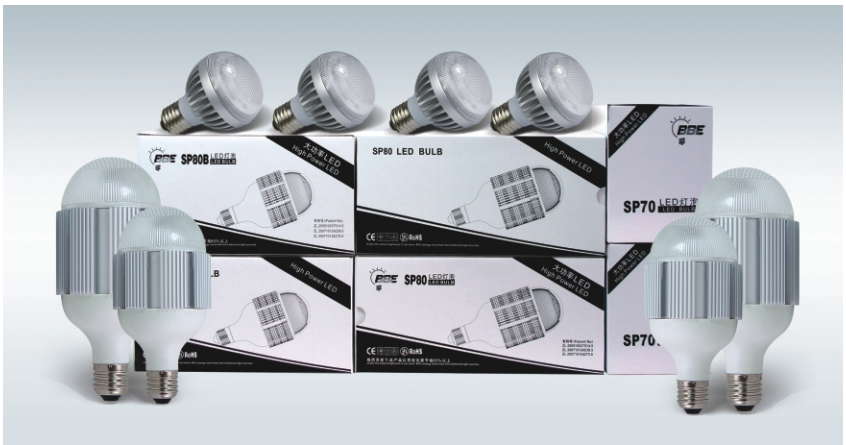
	Power Consumption (w)	Luminous Flux (lm)	Optical Efficiency (lm/w)	Working Life (h)
25W Incandescent Bulb	5W	300 lm	60 lm/w	5,000 h
25W Incandescent Bulb in Fixture		180 lm	36 lm/w	
BBE 5W SP70 in Fixture	4.5W	266 lm	59.1 lm/w	50,000 h

From above table, if we compare the light source only, the luminous flux for SP70 is similar with the energy-saving lamp, but because of the wide angle for energy-saving lamp, after putting in fixture, as most of the light need reflect by the reflector for the energy-saving lamp (see figure 3), so it will loss some brightness (LED do not need reflector, see figure 1), so the Optical Efficiency of BBE SP70 is 50% higher than energy-saving lamp, that means, under the same power consumption, BBE SP70 has 50% optical efficiency than energy-saving lamp.

From above comparison, it approvals LED can save 50% energy than halogen lamp.

Product Package

SP70/P80B/SP80



Model	Unit Package		Master Package				
	Q'ty	N.W. (Kg)	Q'ty	G.W. (Kg)	N.W. (Kg)	Dimension (mm)	Volume (m^3)
SP70	1	0. 142	50	9. 7	7. 1	716×540×246	0.082
SP80B	1	0.333	20	9. 36	6. 66	598×498×270	0.062
SP80	1	0.405	20	10. 78	8. 1	598×498×270	0.069

Project Display


Our Office SP80


SP80
Conference Room


Baoding, Hebei SP70


Baoding, Hebei SP70


SP70
Shenzhen Sunshine Brown Lv Garden


SP80
Perth City, Australia


Our Office SP80B