

The Philips logo is displayed in a white rounded rectangle on a dark background.

Essential  
LED Bulb



## Technical Application Guide

# Philips Essential LED Bulb

## 3000K/6500K 230V

Philips Essential LED Bulb is a sustainable green light bulb to ensure direct replacement of GLS bulbs in indoor application.

With latest LED technology, Essential LED Bulb offers over 85% energy saving and lasts 8 years (if lit 2.7 hours per day across 365 days) to save your total investment cost.

From LED chips chosen to the final assembly, different kinds of professional quality control methods are adopted to guarantee the light quality consistency through product lifetime.

The product is professionally designed to endure surge and environmental tests to make sure it can be adapted into different indoor application situations.



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85%  
Energy cost  
saving



## Design highlights

- Form factor is designed as a direct retrofit into A60 fixtures
- Over 85% energy-saving compared with GLS
- Long lifetime of 8 years (if lit 2.7 hours per day across 365 days)
- Warm white CCT 3000K and cool daylight CCT 6500K available
- Environmental friendly, no Mercury or any other hazardous substances
- Low Carbon Footprint



## Application areas

The qualified light makes it suitable for general indoor applications such as:

- Elite shops
- Corridors / Stairways / Washrooms
- Lobby / Reception areas
- Hotel rooms / Bars
- Home

## Application notes

- Operating temperature range is between  $-20^{\circ}\text{C}$  and  $45^{\circ}\text{C}$  ambient
- Only to apply in dry or damp locations and most of open fixtures with E27 lamp-holders that offer sufficient space (10 mm free air space)
- Not intended for use with emergency light fixtures or exit lights
- Not intended for enclosed luminaires

# Product features

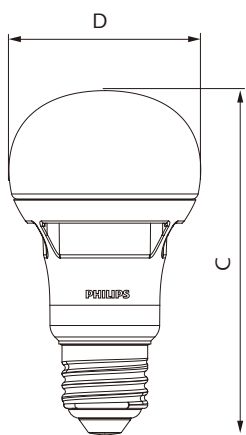
## Technical Specifications

Product type	Voltage (V)	Wattage (W)	Replaced GLS Wattage (W)	Power Factor	Cap	Bulb shape	CCT (K)	Lumen (Lm)	Luminous efficacy (=lm/W)	Lifetime (hours)	CRI	Dimmable
ESS LEDBulb 5W E27 3000K 220-240V	220~240	5.0	40	> 0.4	E27	A60	3000	315	63	8000	70	No
ESS LEDBulb 5W E27 6500K 220-240V	220~240	5.0	40	> 0.4	E27	A60	6500	350	70	8000	70	No
ESS LEDBulb 7W E27 3000K 220-240V	220~240	7.0	50	> 0.5	E27	A60	3000	480	69	8000	70	No
ESS LEDBulb 7W E27 6500K 220-240V	220~240	7.0	50	> 0.5	E27	A60	6500	540	77	8000	70	No
ESS LEDBulb 9W E27 3000K 220-240V	220~240	9.0	60	> 0.5	E27	A60	3000	650	72	8000	70	No
ESS LEDBulb 9W E27 6500K 220-240V	220~240	9.0	60	> 0.5	E27	A60	6500	720	80	8000	70	No

## Dimensions

Type	C typical Overall Length (mm)	D typical Diameter (mm)
ESS LEDBulb 5W E27 3000K 220-240V	106	60
ESS LEDBulb 5W E27 6500K 220-240V	106	60
ESS LEDBulb 7W E27 3000K 220-240V	106	60
ESS LEDBulb 7W E27 6500K 220-240V	106	60
ESS LEDBulb 9W E27 3000K 220-240V	106	60
ESS LEDBulb 9W E27 6500K 220-240V	106	60

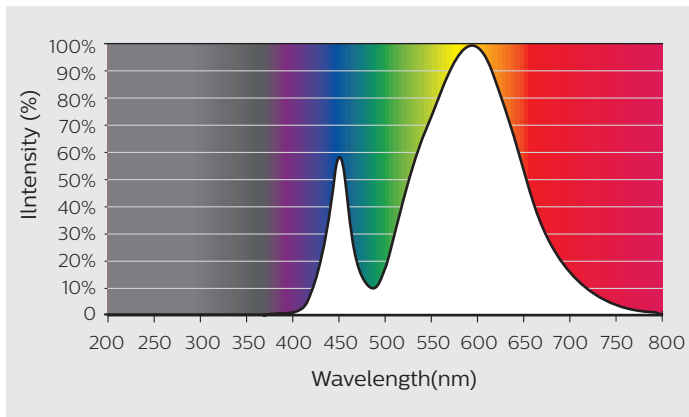
## LEDbulb



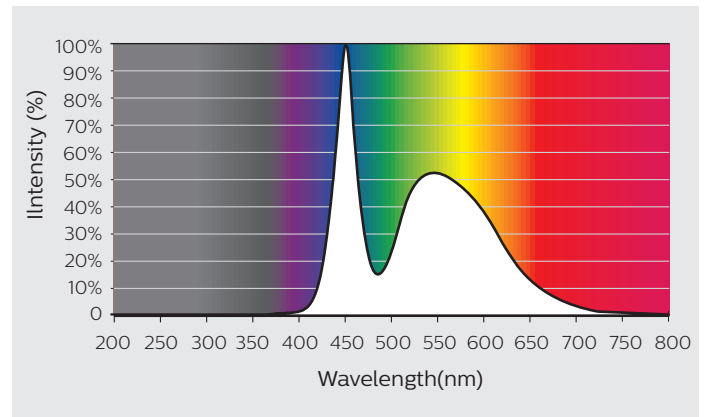
E27

# Spectral Power Distribution

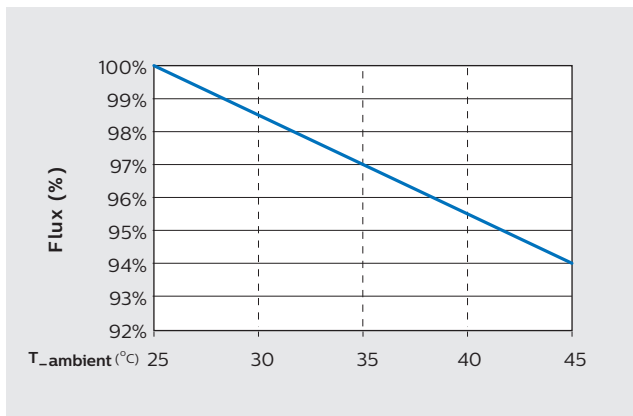
Spectrum Essential LED Bulb 3000K



Spectrum Essential LED Bulb 6500K



# Temperature



T<sub>c</sub> point

350/315 lm

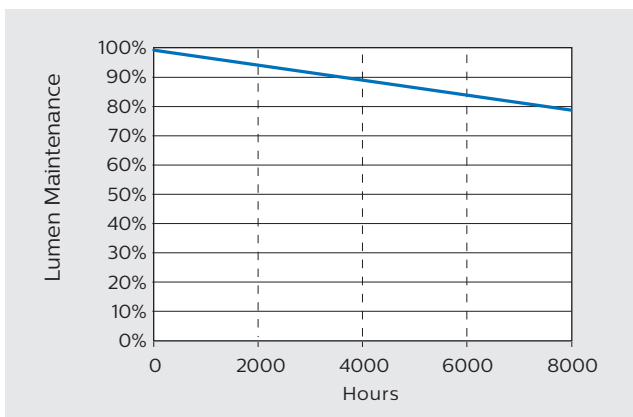
T<sub>c</sub> Max: 102 °C

540/480 lm

T<sub>c</sub> Max: 88 °C

720/650 lm

T<sub>c</sub> Max: 105 °C



# Photometric Diagrams



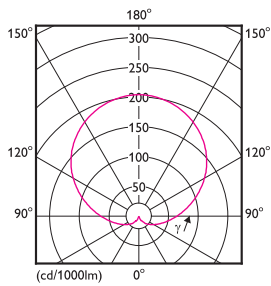
Essential LED bulb A60 E27 5W 3000K

1 x 315 lm

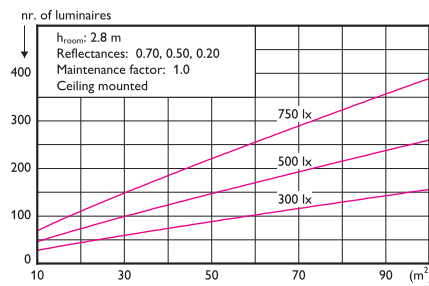
Light output ratio 1.00  
Service upward 0.81  
Service downward 0.19

CIE flux code 7 26 56 19 100  
UGR<sub>cen</sub> (4Hx8H, 0.25H) 16

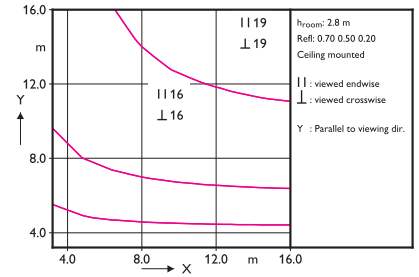
Polar intensity diagram



Quantity estimation diagram



UGR diagram



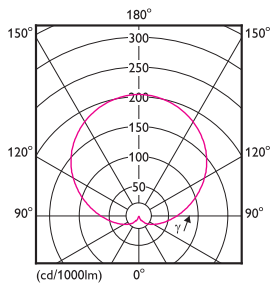
Essential LED bulb A60 E27 5W 6500K

1 x 350 lm

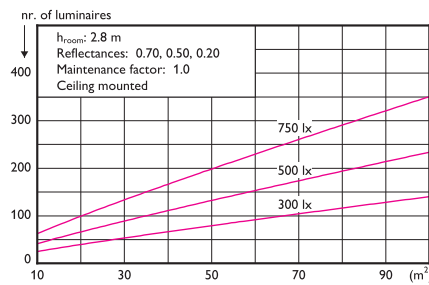
Light output ratio 1.00  
Service upward 0.81  
Service downward 0.19

CIE flux code 7 26 56 19 100  
UGR<sub>cen</sub> (4Hx8H, 0.25H) 16

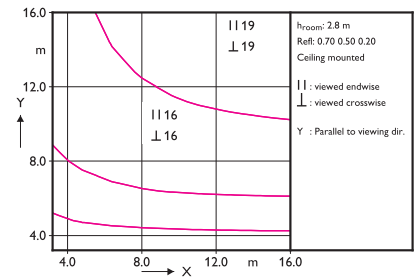
Polar intensity diagram



Quantity estimation diagram



UGR diagram



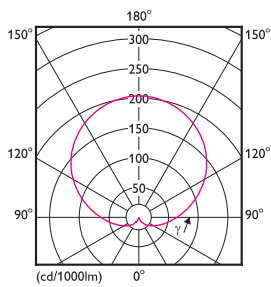
Essential LED bulb A60 E27 7W 3000K

1 x 480 lm

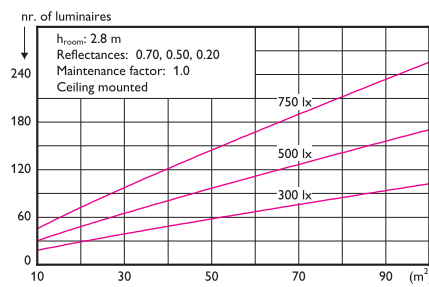
Light output ratio 1.00  
Service upward 0.81  
Service downward 0.19

CIE flux code 7 26 56 19 100  
UGR<sub>cen</sub> (4Hx8H, 0.25H) 17

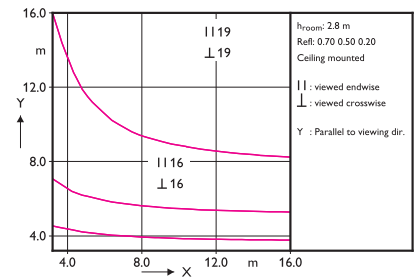
Polar intensity diagram



Quantity estimation diagram



UGR diagram







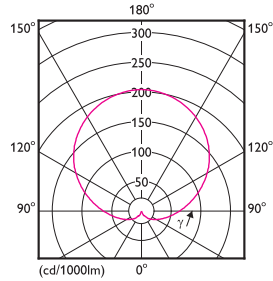
### Essential LED bulb A60 E27 7W 6500K

1 x 540 lm

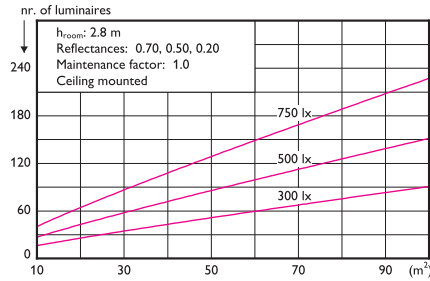
Light output ratio 1.00  
 Service upward 0.81  
 Service downward 0.19

CIE flux code 7 26 56 19 100  
 UGRcen (4Hx8H, 0.25H) 18

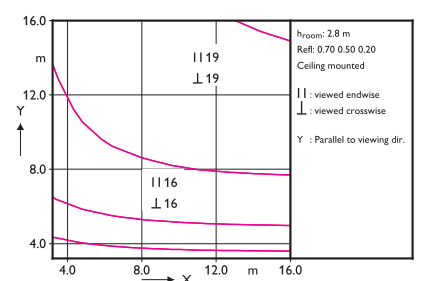
Polar intensity diagram



Quantity estimation diagram



UGR diagram



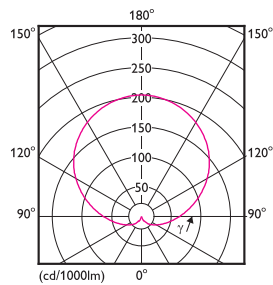
### Essential LED bulb A60 E27 9W 3000K

1 x 650 lm

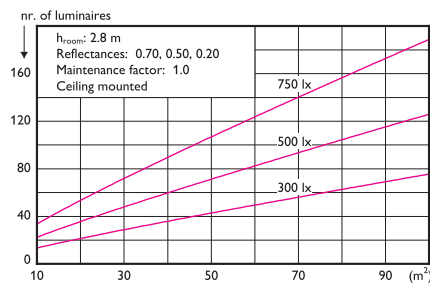
Light output ratio 1.00  
 Service upward 0.81  
 Service downward 0.19

CIE flux code 7 26 56 19 100  
 UGRcen (4Hx8H, 0.25H) 18

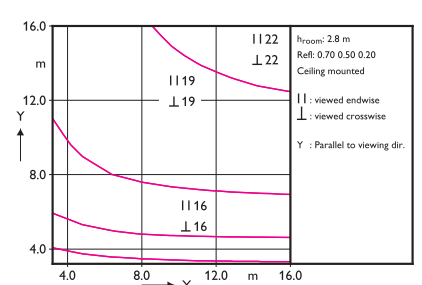
Polar intensity diagram



Quantity estimation diagram



UGR diagram



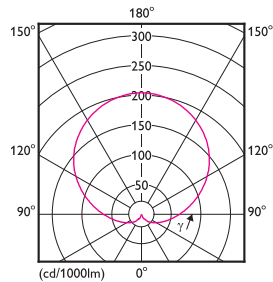
### Essential LED bulb A60 E27 9W 6500K

1 x 720 lm

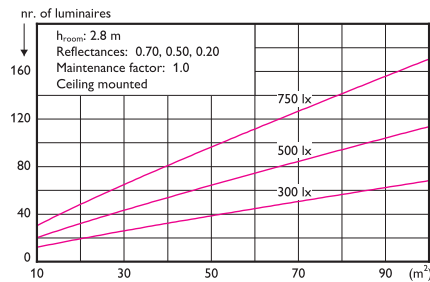
Light output ratio 1.00  
 Service upward 0.81  
 Service downward 0.19

CIE flux code 7 26 56 19 100  
 UGRcen (4Hx8H, 0.25H) 19

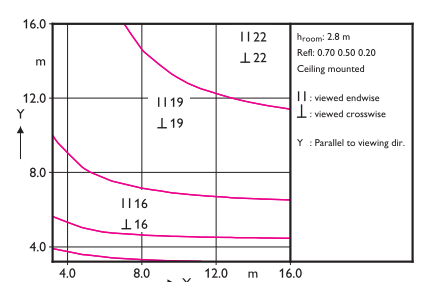
Polar intensity diagram



Quantity estimation diagram



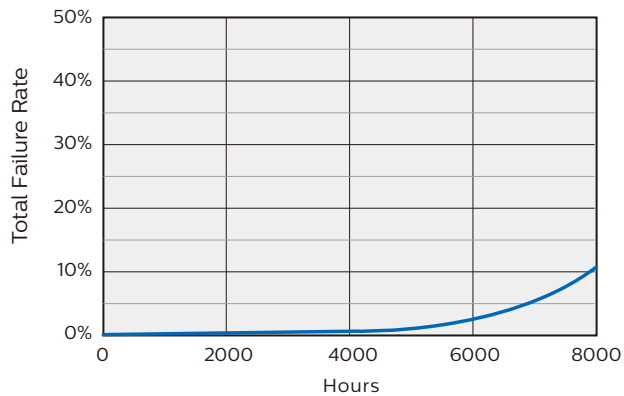
UGR diagram



# Lifetime + Sustainability

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Failure Rate Curve of Essential LED bulb 3000K/6500K



**Essential LED Bulb has a lifetime exceeding 8,000 hours defined as (F50L70), where:**

- F50L70, meaning 50% in total of whole population of lamps either fail without light output or lumen maintenance lower than 70% of initial value
- Lifetime estimation based on the application environment condition: at room temperature (25°C), free air burning, baseup burning position, and at rated voltage.



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