

The Philips logo is displayed in blue capital letters on a white background within a dark red rounded rectangle.

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 83% energy saving and lasts 10 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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83%
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 10 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 °C and 45 °C ambient
- Only to apply in dry or damp locations and most of open fixtures with E27/B22 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

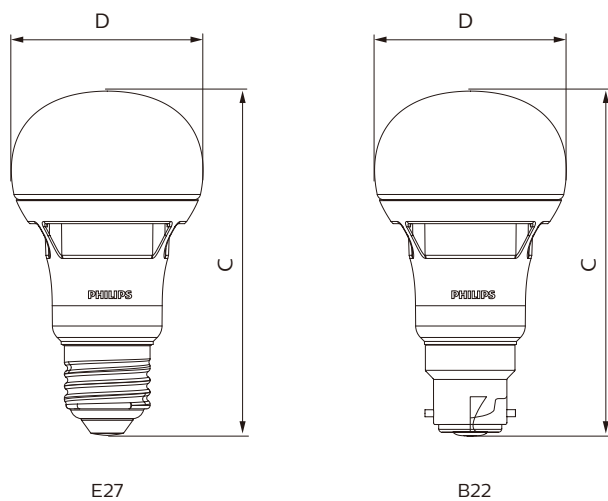
Technical Specifications

Product type	Voltage (V)	Wattage (W)	Cap	Bulb shape	CCT (K)	Lumen (Lm)	Luminous efficacy (=lm/W)	Lifetime (hours)	CRI	EEI label
ESS LEDBulb 4W E27 3000K 230V A60 TR	220-240V	4.0	E27	A60	3000	300	75	10000	80	A+
ESS LEDBulb 4W E27 6500K 230V A60 TR	220-240V	4.0	E27	A60	6500	310	78	10000	80	A+
ESS LEDBulb 6W E27 3000K 230V A60 TR	220-240V	6.0	E27	A60	3000	490	82	10000	80	A+
ESS LEDBulb 6W E27 6500K 230V A60 TR	220-240V	6.0	E27	A60	6500	510	85	10000	80	A+
ESS LEDBulb 8W E27 3000K 230V A60 TR	220-240V	8.0	E27	A60	3000	610	76	10000	80	A+
ESS LEDBulb 8W E27 6500K 230V A60 TR	220-240V	8.0	E27	A60	6500	640	80	10000	80	A+
ESS LEDBulb 4W E27 3000K 230V A60 UAE	220-240V	4.0	E27	A60	3000	300	75	10000	80	4 star
ESS LEDBulb 4W E27 6500K 230V A60 UAE	220-240V	4.0	E27	A60	6500	310	78	10000	80	4 star
ESS LEDBulb 6W E27 3000K 230V A60 UAE	220-240V	6.0	E27	A60	3000	490	82	10000	80	4 star
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ESS LEDBulb 8W E27 6500K 230V A60 UAE	220-240V	8.0	E27	A60	6500	640	80	10000	80	4 star
ESS LEDBulb 4W B22 3000K 230V A60 UAE	220-240V	4.0	B22	A60	3000	300	75	10000	80	4 star
ESS LEDBulb 4W B22 6500K 230V A60 UAE	220-240V	4.0	B22	A60	6500	310	78	10000	80	4 star
ESS LEDBulb 6W B22 3000K 230V A60 UAE	220-240V	6.0	B22	A60	3000	490	82	10000	80	4 star
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ESS LEDBulb 8W B22 6500K 230V A60 UAE	220-240V	8.0	B22	A60	6500	640	80	10000	80	4 star
ESS LEDBulb 4W E27 3000K 230V A60 SA	220-240V	4.0	E27	A60	3000	300	75	10000	80	C
ESS LEDBulb 4W E27 6500K 230V A60 SA	220-240V	4.0	E27	A60	6500	310	78	10000	80	C
ESS LEDBulb 6W E27 3000K 230V A60 SA	220-240V	6.0	E27	A60	3000	490	82	10000	80	C
ESS LEDBulb 6W E27 6500K 230V A60 SA	220-240V	6.0	E27	A60	6500	510	85	10000	80	C
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ESS LEDBulb 4W B22 6500K 230V A60 SA	220-240V	4.0	B22	A60	6500	310	78	10000	80	C
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ESS LEDBulb 8W B22 6500K 230V A60 SA	220-240V	8.0	B22	A60	6500	640	80	10000	80	C

Dimensions

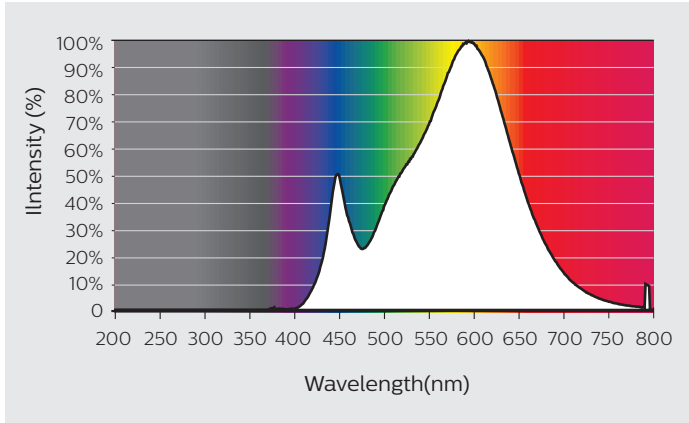
Type	C typical Overall Length (mm)	D typical Diameter (mm)
ESS LEDBulb 4W E27 3000K 230V A60 TR	106	60
ESS LEDBulb 4W E27 6500K 230V A60 TR	106	60
ESS LEDBulb 6W E27 3000K 230V A60 TR	106	60
ESS LEDBulb 6W E27 6500K 230V A60 TR	106	60
ESS LEDBulb 8W E27 3000K 230V A60 TR	106	60
ESS LEDBulb 8W E27 6500K 230V A60 TR	106	60
ESS LEDBulb 4W E27 3000K 230V A60 UAE	106	60
ESS LEDBulb 4W E27 6500K 230V A60 UAE	106	60
ESS LEDBulb 6W E27 3000K 230V A60 UAE	106	60
ESS LEDBulb 6W E27 6500K 230V A60 UAE	106	60
ESS LEDBulb 8W E27 3000K 230V A60 UAE	106	60
ESS LEDBulb 8W E27 6500K 230V A60 UAE	106	60
ESS LEDBulb 4W B22 3000K 230V A60 UAE	105	60
ESS LEDBulb 4W B22 6500K 230V A60 UAE	105	60
ESS LEDBulb 6W B22 3000K 230V A60 UAE	105	60
ESS LEDBulb 6W B22 6500K 230V A60 UAE	105	60
ESS LEDBulb 8W B22 3000K 230V A60 UAE	105	60
ESS LEDBulb 8W B22 6500K 230V A60 UAE	105	60
ESS LEDBulb 4W E27 3000K 230V A60 SA	106	60
ESS LEDBulb 4W E27 6500K 230V A60 SA	106	60
ESS LEDBulb 6W E27 3000K 230V A60 SA	106	60
ESS LEDBulb 6W E27 6500K 230V A60 SA	106	60
ESS LEDBulb 8W E27 3000K 230V A60 SA	106	60
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ESS LEDBulb 4W B22 3000K 230V A60 SA	105	60
ESS LEDBulb 4W B22 6500K 230V A60 SA	105	60
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ESS LEDBulb 8W B22 3000K 230V A60 SA	105	60
ESS LEDBulb 8W B22 6500K 230V A60 SA	105	60

LEDbulb

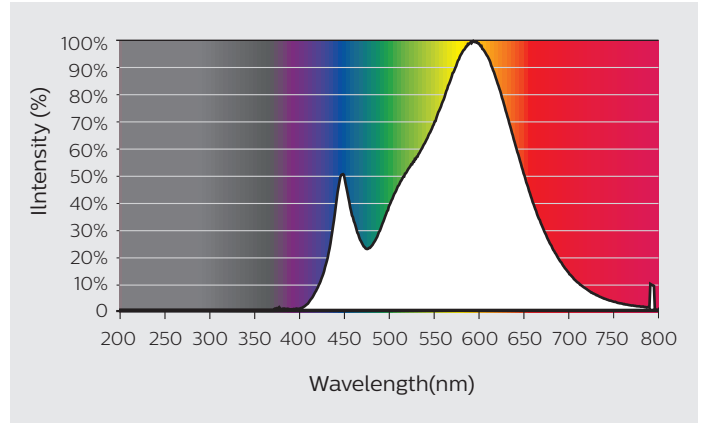


Spectral Power Distribution

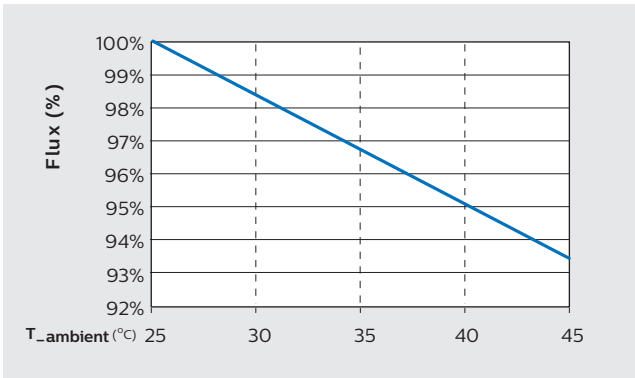
Spectrum Essential LED Bulb 3000K



Spectrum Essential LED Bulb 6500K

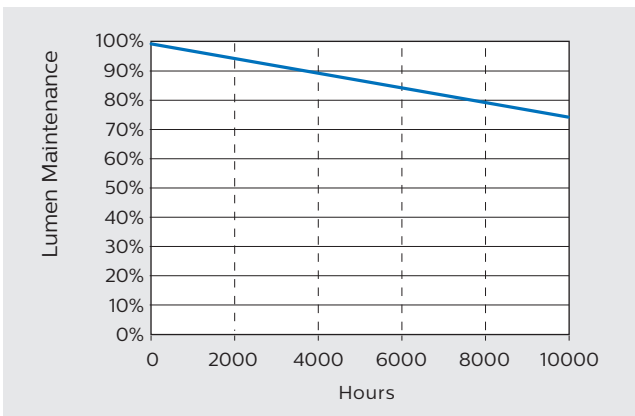


Temperature



Tc point

300/310lm	T _c Max: 102 °C
490/510lm	T _c Max: 90 °C
610/640lm	T _c Max: 105 °C



Photometric Diagrams



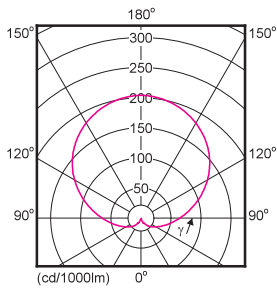
Essential LEDBulb 4W E27/B22 3000K 230V A60

1 x 300 lm

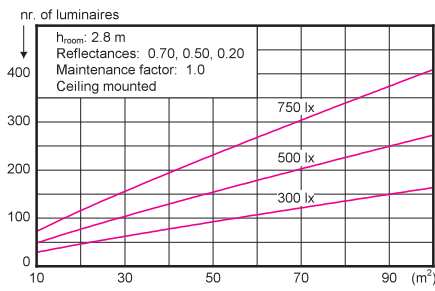
Light output ratio 1.00
Service upward 0.81
Service downward 0.19

CIE flux code 7 26 56 19 100
UGRcen (4Hx8H, 0.25H) 16

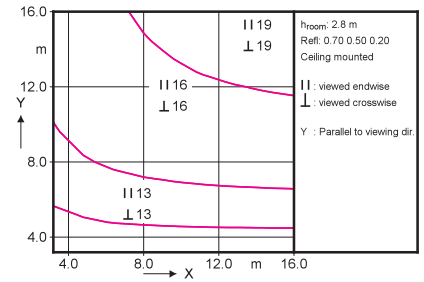
Polar intensity diagram



Quantity estimation diagram



UGR diagram



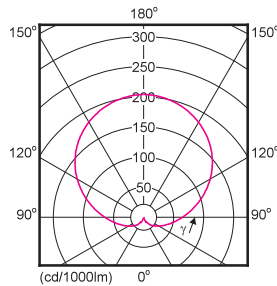
Essential LEDBulb 4W E27/B22 6500K 230V A60

1 x 310 lm

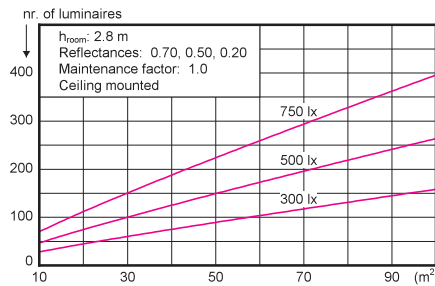
Light output ratio 1.00
Service upward 0.81
Service downward 0.19

CIE flux code 7 26 56 19 100
UGRcen (4Hx8H, 0.25H) 16

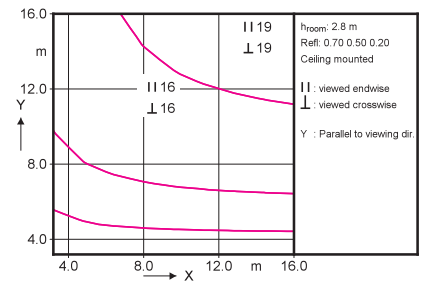
Polar intensity diagram



Quantity estimation diagram



UGR diagram



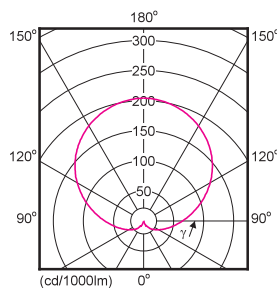
Essential LEDBulb 6W E27/B22 3000K 230V A60

1 x 490 lm

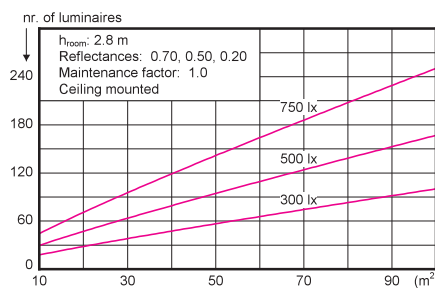
Light output ratio 1.00
Service upward 0.81
Service downward 0.19

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UGRcen (4Hx8H, 0.25H) 17

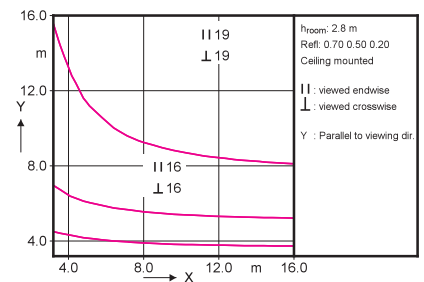
Polar intensity diagram



Quantity estimation diagram



UGR diagram





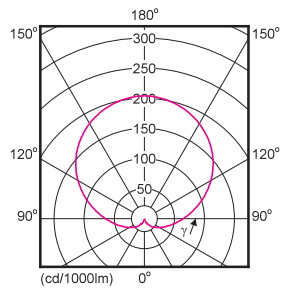
Essential LEDBulb 6W E27/B22 6500K 230V A60

1 x 510 lm

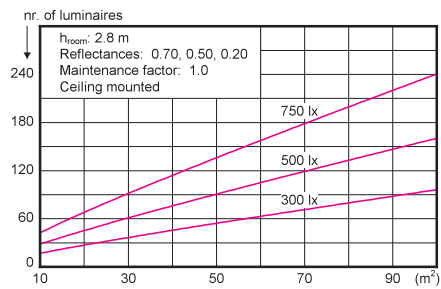
Light output ratio 1.00
 Service upward 0.81
 Service downward 0.19

CIE flux code 7 26 56 19 100
 UGR_{cen} (4Hx8H, 0.25H) 18

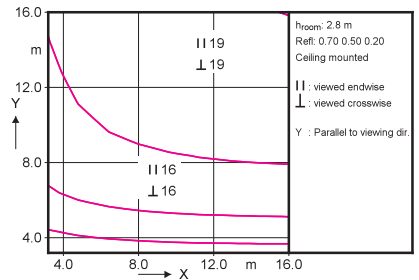
Polar intensity diagram



Quantity estimation diagram



UGR diagram



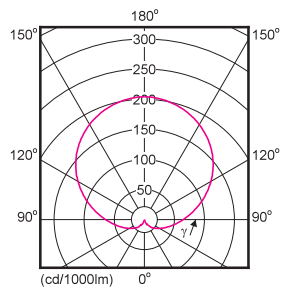
Essential LEDBulb 8W E27/B22 3000K 230V A60

1 x 610 lm

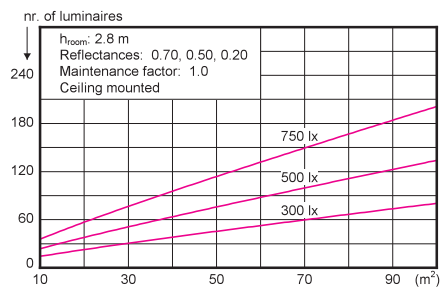
Light output ratio 1.00
 Service upward 0.81
 Service downward 0.19

CIE flux code 7 26 56 19 100
 UGR_{cen} (4Hx8H, 0.25H) 18

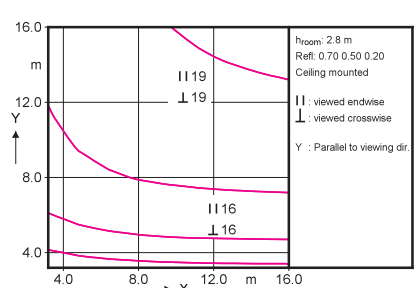
Polar intensity diagram



Quantity estimation diagram



UGR diagram



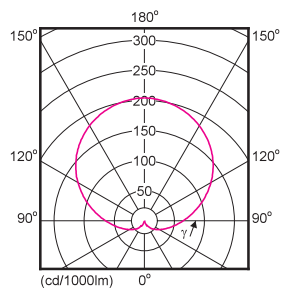
Essential LEDBulb 8W E27/B22 6500K 230V A60

1 x 640 lm

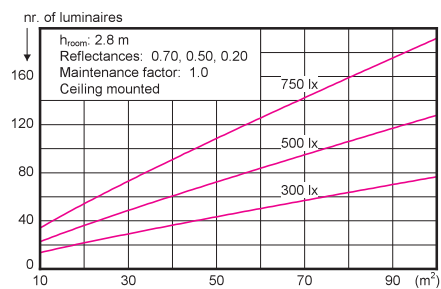
Light output ratio 1.00
 Service upward 0.81
 Service downward 0.19

CIE flux code 7 26 56 19 100
 UGR_{cen} (4Hx8H, 0.25H) 18

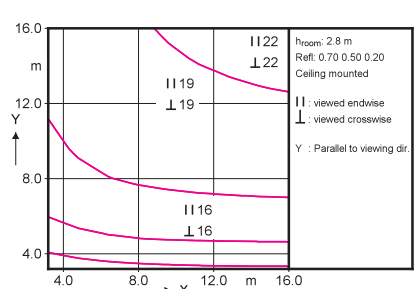
Polar intensity diagram



Quantity estimation diagram

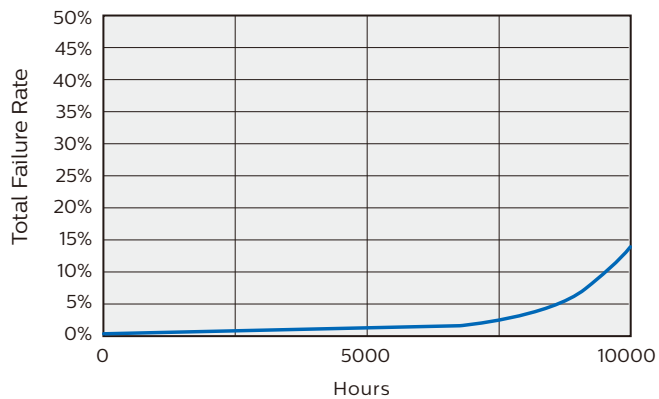


UGR diagram



Lifetime + Sustainability

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



Essential LED Bulb has a lifetime exceeding 10,000 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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