

The Philips logo is displayed in a white rounded rectangle on a dark red background. The background of the entire page is a photograph of a woman in a red shirt preparing food in a kitchen, illuminated by two black pendant lights.

Essential
LED Bulb



Technical Application Guide

Philips Essential LED Bulb

3000K/4000K/6500K 220-240V

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 88% energy saving and lasts 8 to 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.



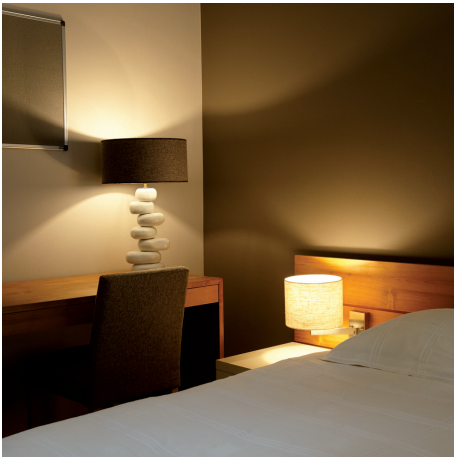
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88%
Energy cost
saving

Design highlights



- Form factor is designed as a direct retrofit into A60, A67, A80 and A110 fixtures
- Over 88% energy-saving compared with GLS
- Long lifetime of 8-10 years (if lit 2.7 hours per day across 365 days)
- Warm white CCT 3000K, daylight 4000K 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 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	Power Factor	Dimmable	Country
ESS LEDBulb 3W E27 3000K 230V	220-240	3	E27	A60	3000	280	93	8000	70	>0.4	No	APR/RCA
ESS LEDBulb 3W E27 4000K 230V	220-240	3	E27	A60	4000	300	100	8000	70	>0.5	No	RCA
ESS LEDBulb 3W E27 6500K 230V	220-240	3	E27	A60	6500	300	100	8000	70	>0.4	No	APR/RCA
ESS LEDBulb 5W E27 3000K 230V	220-240	5	E27	A60	3000	460	92	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 5W E27 4000K 230V	220-240	5	E27	A60	4000	480	96	8000	70	>0.5	No	RCA
ESS LEDBulb 5W E27 6500K 230V	220-240	5	E27	A60	6500	480	96	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 7W E27 3000K 230V	220-240	7	E27	A60	3000	660	94	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 7W E27 4000K 230V	220-240	7	E27	A60	4000	660	94	8000	70	>0.5	No	RCA
ESS LEDBulb 7W E27 6500K 230V	220-240	7	E27	A60	6500	660	94	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 9W E27 3000K 230V	220-240	9	E27	A60	3000	900	100	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 9W E27 4000K 230V	220-240	9	E27	A60	4000	900	100	8000	70	>0.5	No	RCA
ESS LEDBulb 9W E27 6500K 230V	220-240	9	E27	A60	6500	900	100	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 11W E27 3000K 230V	220-240	11	E27	A60	3000	1150	104	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 11W E27 4000K 230V	220-240	11	E27	A60	4000	1230	111	8000	70	>0.5	No	RCA
ESS LEDBulb 11W E27 6500K 230V	220-240	11	E27	A60	6500	1230	111	8000	70	>0.5	No	APR/RCA
ESS LEDBulb 12W E27 3000K 230V	220-240	12	E27	A60	3000	1000	83	8000	70	>0.5	No	PK/AF
ESS LEDBulb 12W B22 3000K 230V	220-240	12	B22	A60	3000	1000	83	8000	70	>0.5	No	PK/AF
ESS LEDBulb 12W E27 6500K 230V	220-240	12	E27	A60	6500	1100	91	8000	70	>0.5	No	PK/AF
ESS LEDBulb 12W B22 6500K 230V	220-240	12	B22	A60	6500	1100	91	8000	70	>0.5	No	PK/AF
ESS LEDBulb 3W E27 3000K 230V	220-240	3	E27	A60	3000	280	93	10000	80	>0.4	No	UAE/KSA
ESS LEDBulb 3W B22 3000K 230V	220-240	3	B22	A60	3000	280	93	10000	80	>0.4	No	UAE/KSA
ESS LEDBulb 3W E27 6500K 230V	220-240	3	E27	A60	6500	300	100	10000	80	>0.4	No	UAE/KSA
ESS LEDBulb 3W B22 6500K 230V	220-240	3	B22	A60	6500	300	100	10000	80	>0.4	No	UAE/KSA
ESS LEDBulb 5W E27 3000K 230V	220-240	5	E27	A60	3000	500	100	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 5W B22 3000K 230V	220-240	5	B22	A60	3000	500	100	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 5W E27 6500K 230V	220-240	5	E27	A60	6500	540	108	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 5W B22 6500K 230V	220-240	5	B22	A60	6500	540	108	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 7W E27 3000K 230V	220-240	7	E27	A60	3000	680	97	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 7W B22 3000K 230V	220-240	7	B22	A60	3000	680	97	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 7W E27 6500K 230V	220-240	7	E27	A60	6500	720	102	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 7W B22 6500K 230V	220-240	7	B22	A60	6500	720	102	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 9W E27 3000K 230V	220-240	9	E27	A60	3000	900	100	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 9W B22 3000K 230V	220-240	9	B22	A60	3000	900	100	10000	80	>0.5	No	UAE/KSA
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ESS LEDBulb 9W B22 6500K 230V	220-240	9	B22	A60	6500	950	105	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 11W E27 3000K 230V	220-240	11	E27	A60	3000	1150	104	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 11W B22 3000K 230V	220-240	11	B22	A60	3000	1150	104	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 11W E27 6500K 230V	220-240	11	E27	A60	6500	1250	113	10000	80	>0.5	No	UAE/KSA
ESS LEDBulb 11W B22 6500K 230V	220-240	11	B22	A60	6500	1250	113	10000	80	>0.5	No	UAE/KSA



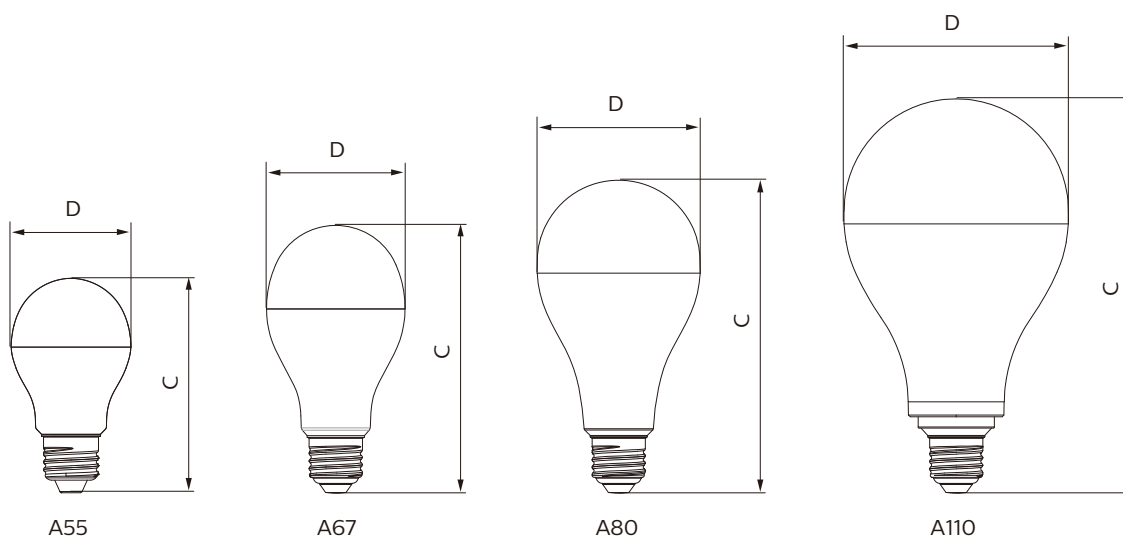


Product type	Voltage (V)	Wattage (W)	Cap	Bulb shape	CCT (K)	Lumen (Lm)	Luminous efficacy (=lm/W)	Lifetime (hours)	CRI	Power Factor	Dimmable	Country
ESS LEDBulb 3W E27 3000K 230V	220-240	3	E27	A60	3000	250	65	8000	80	>0.4	No	CN
ESS LEDBulb 3W E27 6500K 230V	220-240	3	E27	A60	6500	250	70	8000	80	>0.4	No	CN
ESS LEDBulb 5W E27 3000K 230V	220-240	5	E27	A60	3000	500	65	8000	80	>0.5	No	CN
ESS LEDBulb 5W E27 6500K 230V	220-240	5	E27	A60	6500	500	70	8000	80	>0.5	No	CN
ESS LEDBulb 7W E27 3000K 230V	220-240	7	E27	A60	3000	650	65	8000	80	>0.5	No	CN
ESS LEDBulb 7W E27 6500K 230V	220-240	7	E27	A60	6500	650	70	8000	80	>0.5	No	CN
ESS LEDBulb 9W E27 3000K 230V	220-240	9	E27	A60	3000	850	65	8000	80	>0.5	No	CN
ESS LEDBulb 9W E27 6500K 230V	220-240	9	E27	A60	6500	900	70	8000	80	>0.5	No	CN
ESS LEDBulb 11W E27 3000K 230V	220-240	11	E27	A60	3000	1100	65	8000	80	>0.5	No	CN
ESS LEDBulb 11W E27 6500K 230V	220-240	11	E27	A60	6500	1200	70	8000	80	>0.5	No	CN
ESS LEDBulb 15W E27 6500K	220-240	15	E27	A67	6500	1800	120	10000	80	>0.5	No	CN
ESS LEDBulb 19W E27 6500K	220-240	19	E27	A80	6500	2200	115	10000	80	>0.5	No	CN
ESS LEDBulb 24W E27 6500K	220-240	24	E27	A110	6500	3000	125	10000	80	>0.5	No	CN

Dimensions

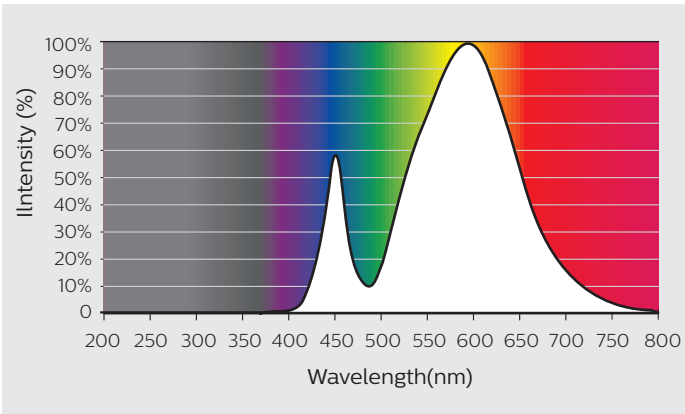
Type	C typical Overall Length (mm)	D typical Diameter (mm)	Weight (gram)
ESS LEDBulb 3W	104	58	45
ESS LEDBulb 5W	104	58	45
ESS LEDBulb 7W	104	58	45
ESS LEDBulb 9W	104	58	45
ESS LEDBulb 11W	104	58	45
ESS LEDBulb 12W	104	58	45
ESS LEDBulb 15W	132	68	120
ESS LEDBulb 19W	155	80	150
ESS LEDBulb 24W	195	110	255

LEDbulb

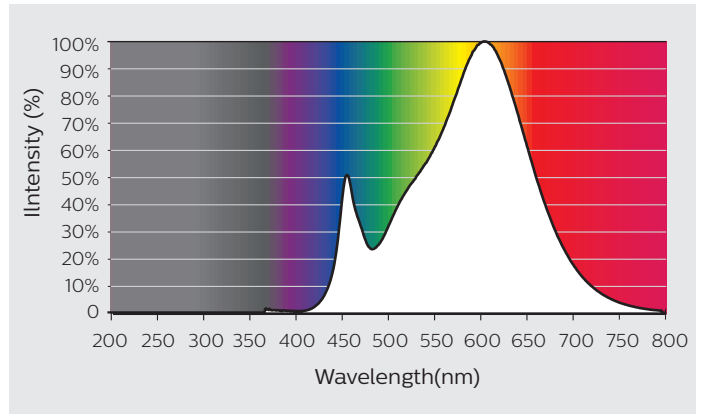


Spectral Power Distribution

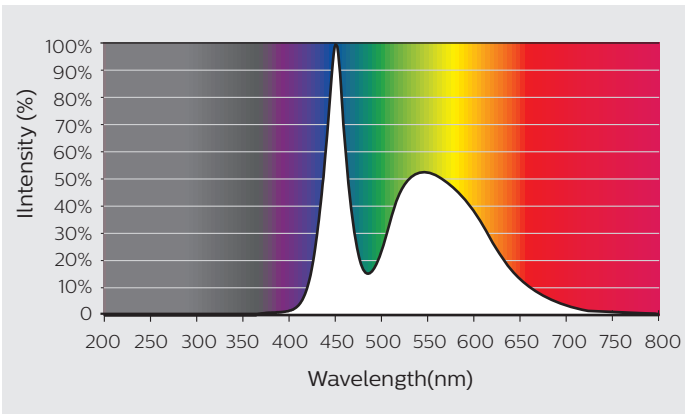
Spectrum Essential LED Bulb 3000K



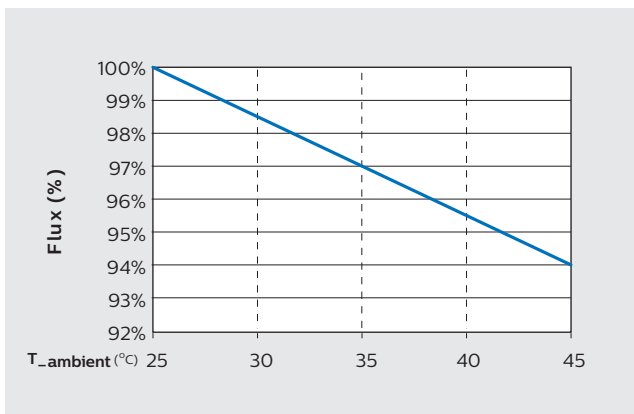
Spectrum Essential LED Bulb 4000K



Spectrum Essential LED Bulb 6500K



Temperature



Tc point

3W-5W-7W

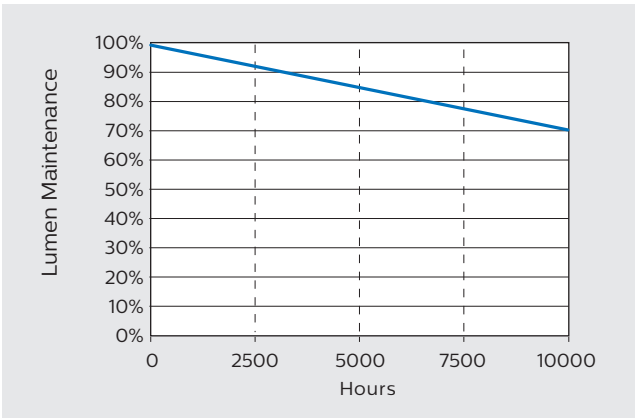
Tc Max: 55 °C

9W-11W

Tc Max: 80 °C

15W-19W-24W

Tc Max: 90 °C



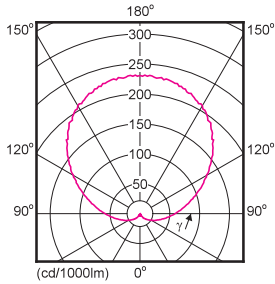
Photometric Diagrams



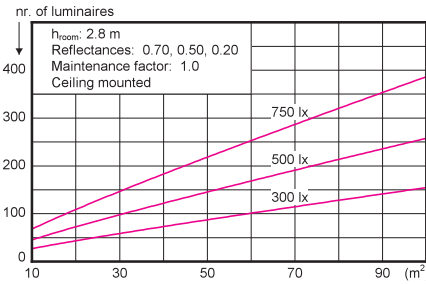
ESS LEDBulb 3W

Light output ratio 1.00 CIE flux code 4 20 51 15 100
 Service upward 0.85
 Service downward 0.15 UGRcen (4Hx8H, 0.25H) 15

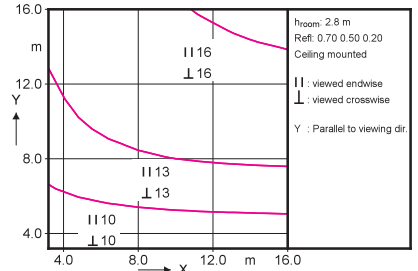
Polar intensity diagram



Quantity estimation diagram



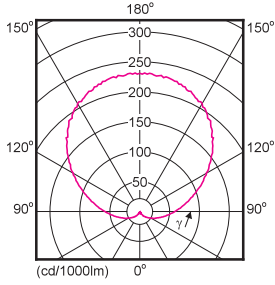
UGR diagram



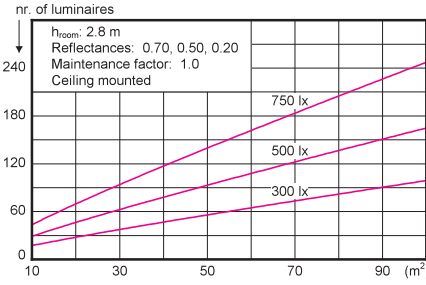
ESS LEDBulb 5W

Light output ratio 1.00 CIE flux code 4 20 51 15 100
 Service upward 0.85
 Service downward 0.15 UGRcen (4Hx8H, 0.25H) 16

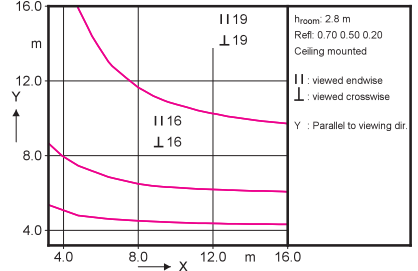
Polar intensity diagram



Quantity estimation diagram



UGR diagram



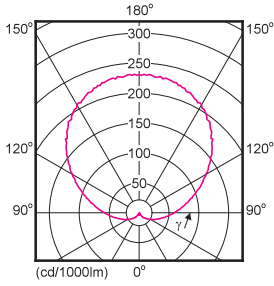


ESS LEDBulb 7W

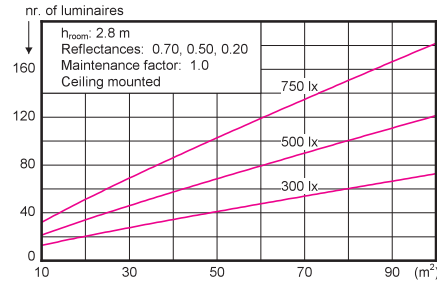
Light output ratio 1.00
 Service upward 0.85
 Service downward 0.15

CIE flux code 4 20 51 15 100
 UGRcen (4Hx8H, 0.25H) 18

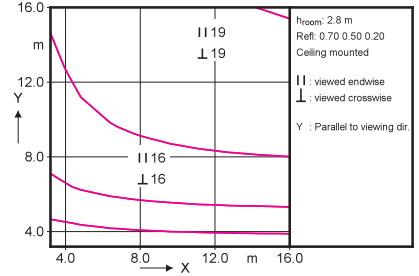
Polar intensity diagram



Quantity estimation diagram



UGR diagram

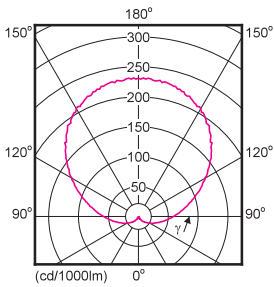


ESS LEDBulb 9W

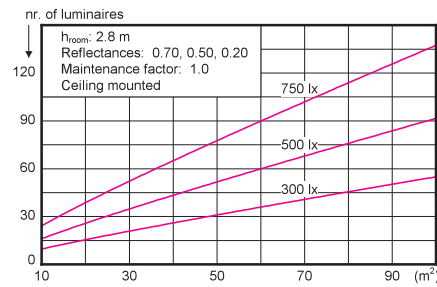
Light output ratio 1.00
 Service upward 0.85
 Service downward 0.15

CIE flux code 4 20 51 15 100
 UGRcen (4Hx8H, 0.25H) 18

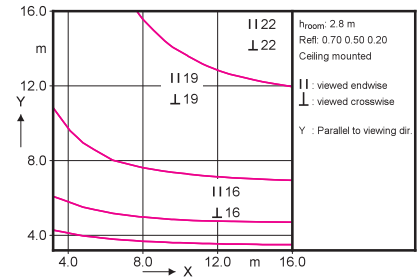
Polar intensity diagram



Quantity estimation diagram



UGR diagram

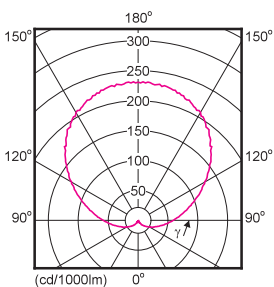


ESS LEDBulb 11/12W

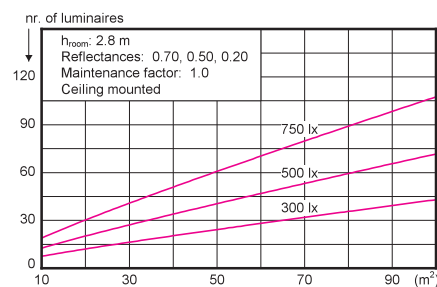
Light output ratio 1.00
 Service upward 0.85
 Service downward 0.15

CIE flux code 4 20 51 15 100
 UGRcen (4Hx8H, 0.25H) 19

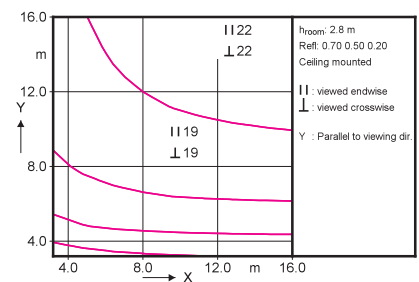
Polar intensity diagram



Quantity estimation diagram



UGR diagram



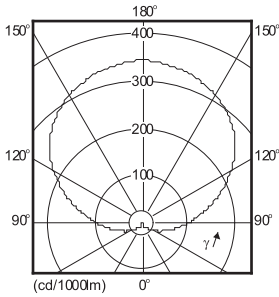


LEDBulb 15W

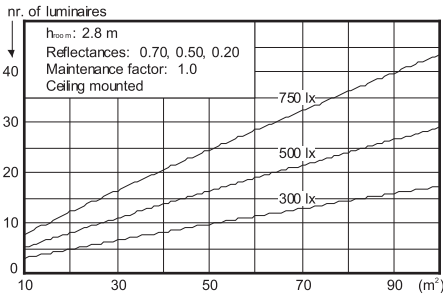
Light output ratio 1.58
Service upward 1.34
Service downward 0.24

CIE flux code 4 19 49 15 158
UGRcen (4Hx8H, 0.25H) 21

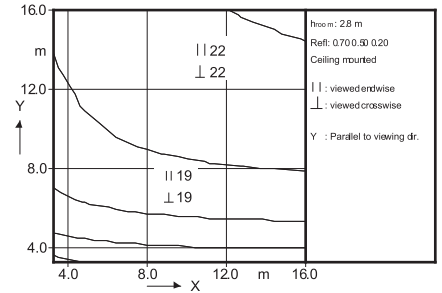
Polar intensity diagram



Quantity estimation diagram



UGR diagram

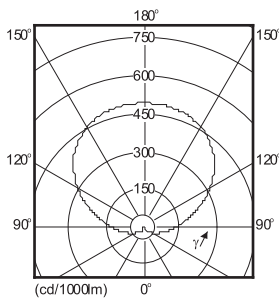


LEDBulb 19W

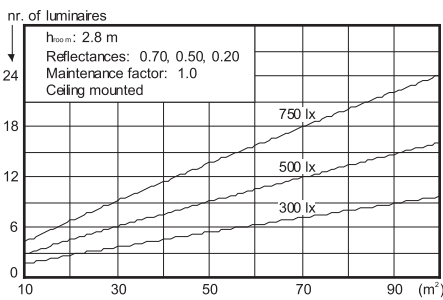
Light output ratio 2.22
Service upward 1.91
Service downward 0.31

CIE flux code 5 21 50 14 222
UGRcen (4Hx8H, 0.25H) 21

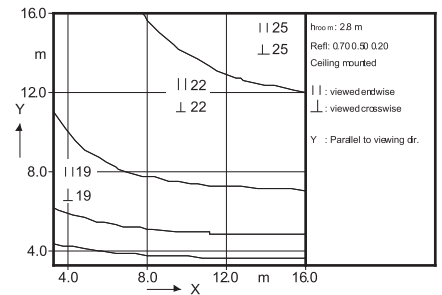
Polar intensity diagram



Quantity estimation diagram



UGR diagram

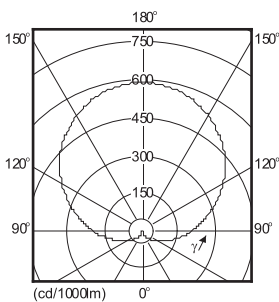


LEDBulb 24W

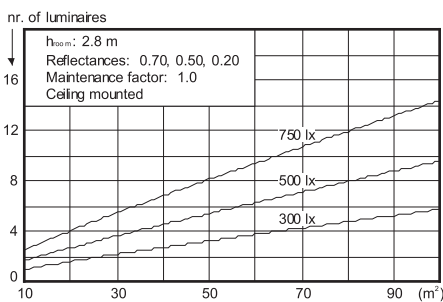
Light output ratio 2.86
Service upward 2.35
Service downward 0.51

CIE flux code 5 21 51 18 286
UGRcen (4Hx8H, 0.25H) 23

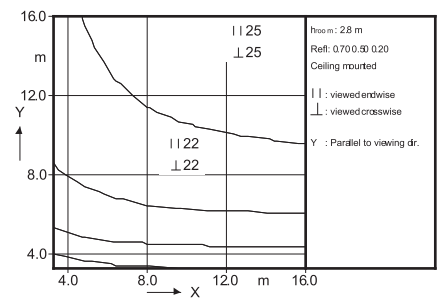
Polar intensity diagram



Quantity estimation diagram

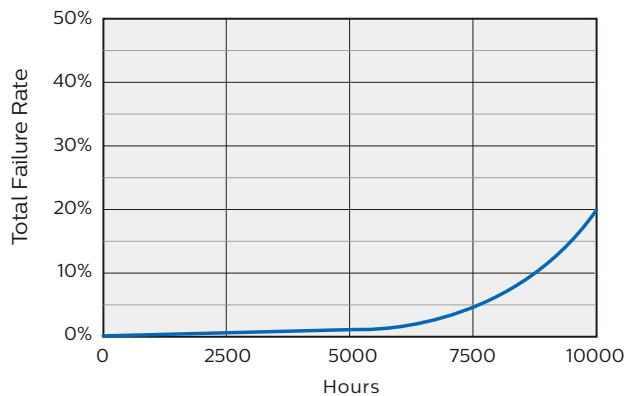


UGR diagram



Lifetime + Sustainability

Failure Rate Curve of Essential LED bulb



Essential LED Bulb has a lifetime exceeding 8,000 to 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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