PHILIPS

MASTER
LEDbulb

LED

Technical Application Guide

# Philips MASTER
## LEDbulb 7-40 W and 10-60 W E27/B22 2700 K 230 V

The first dimmable LED replacement for a 40 W and 60 W GLS bulb with warm white light all around.

Philips MASTER LEDbulb integrates leading high power LED light source and compact high efficiency driver into a traditional incandescent A-shape form-factor. Not only does it employ hi-tech IC solution to ensure the dimming system control, it also delivers high quality light, all-around the lamp, to ensure direct replacement of GLS bulbs in every application. Unlike the traditional incandescent lamps, the MASTER LEDbulb offers 80% energy saving and a longer lifetime of 25,000 hours (equivalent to 15 years if lit 4 hours a day). This is especially ideal for 24/7 applications to ensure minimum maintenance cost and maximum energy saving.

**www.philips.com/masterledlamps**


Dimmable

80% Energy cost saving

# **Design** highlights


- Form factor is designed as a direct retrofit into A60 fixtures
- 40 W 470 lm, 60 W 806 lm
- Long lifetime of 25,000 hours
- Warm light all around
- CCT: 2700 K
- 7 W/10 W replaces traditional 40 W/60 W
- No UV and no heat in the beam
- Environmental friendly, no mercury and RoHS compliance

# “Compatible with all **major dimmer** brands”

## Application areas

The warm light and dimming effect makes it ideal for general lighting applications in the retail and hospitality industry by offering their guests a differentiating ambiance and unique experience in public areas like:

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

## Application notes

- Operating temperature range is between -20 °C and 45 °C ambient
- Only to apply in dry or damp locations and 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
- For use in fixtures that can stryctrally support a lamp weighing one quarter kilogram

# Product features

## Technical Specifications

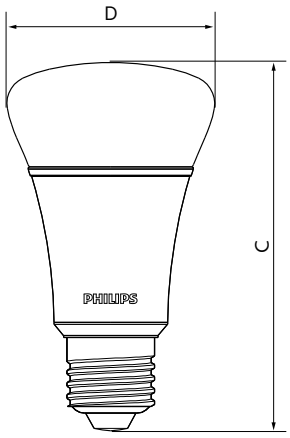
| Product type | Voltage (V) | Wattage (W) | Base | Power Factor | Color temp. (K) | Light Output (Lm) | Lifetime (hours) | CRI | Dimmable* |
|---|---|---|---|---|---|---|---|---|---|
| Philips MASTER LEDbulb 7-40W 2700K E27 | 220-240 | 7 | E27 | 0.9 | 2700 | 1521 | 25,000 | 80 | Yes |
| Philips MASTER LEDbulb 7-40W 2700K B22 | 220-240 | 7 | B22 | 0.9 | 2700 | 1521 | 25,000 | 80 | Yes |
| Philips MASTER LEDbulb 10-60W 2700K E27 | 220-240 | 10 | E27 | 0.9 | 2700 | 1055 | 25,000 | 80 | Yes |
| Philips MASTER LEDbulb 10-60W 2700K B22 | 220-240 | 10 | B22 | 0.9 | 2700 | 1055 | 25,000 | 80 | Yes |

* For information about dimming compatibility we would like to refer to the recommended dimmerlist on the Philips LED Lamps website: www.philips.com/masterledlamps

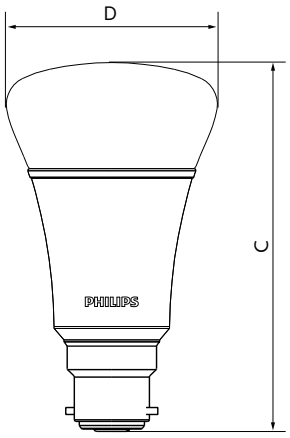
## Dimensions

| Type | C max. Overall Length Novallure (mm) | D max. Diameter Novallure (mm) | Weight (gr) |
|---|---|---|---|
| Philips MASTER LEDbulb 7-40W 2700K E27 | 109.6 | 61.5 | 135 |
| Philips MASTER LEDbulb 7-40W 2700K E27 | 109.6 | 61.5 | 135 |
| Philips MASTER LEDbulb 10-60W 2700K E27 | 109.6 | 61.5 | 152 |
| Philips MASTER LEDbulb 10-60W 2700K B22 | 109.6 | 61.5 | 152 |

**MASTER LEDbulb E27**

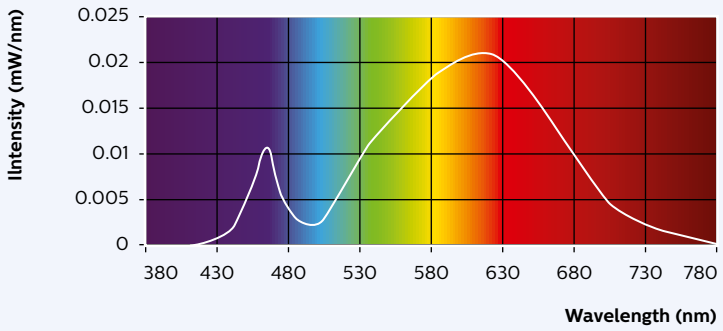



**MASTER LEDbulb B22**

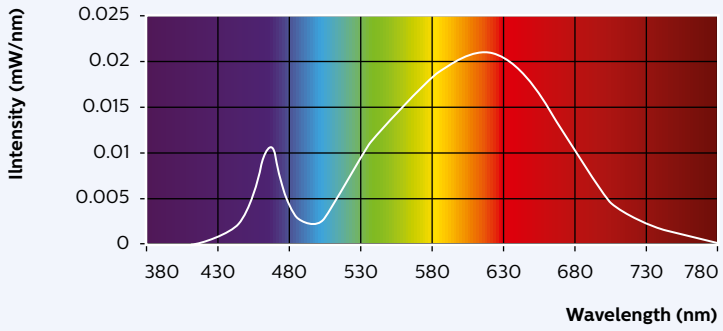


## Spectral Power Distribution

**Spectrum Philips MASTER LEDbulb 7-40 W 2700 K**

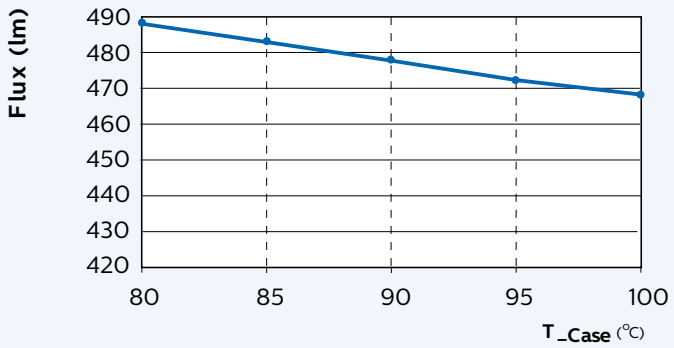



**Spectrum Philips MASTER LEDbulb 10-60 W 2700 K**



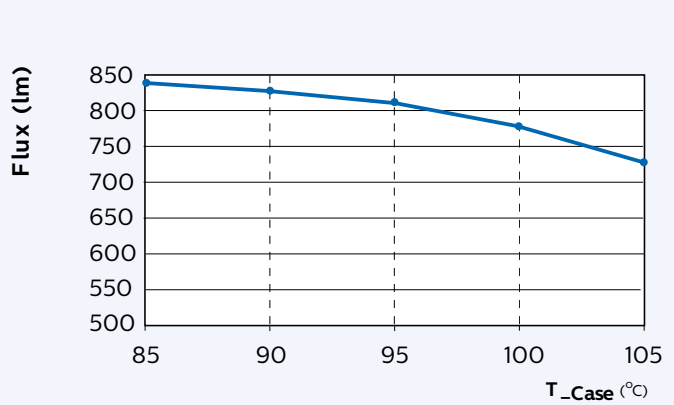
## Temperature

### Philips MASTER LEDbulb 7-40 W 2700 K



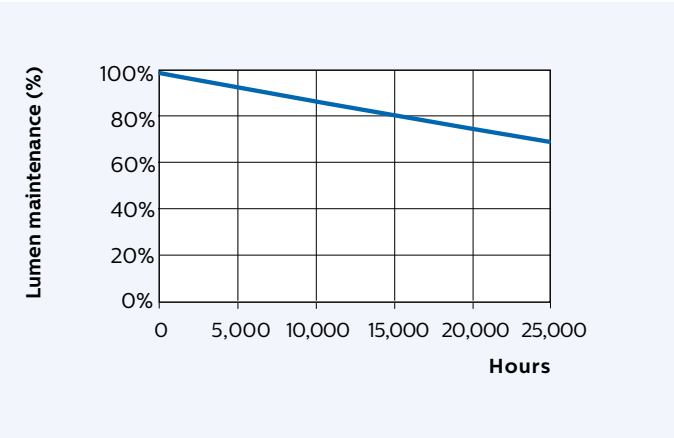


### Philips MASTER LEDbulb 10-60 W 2700 K



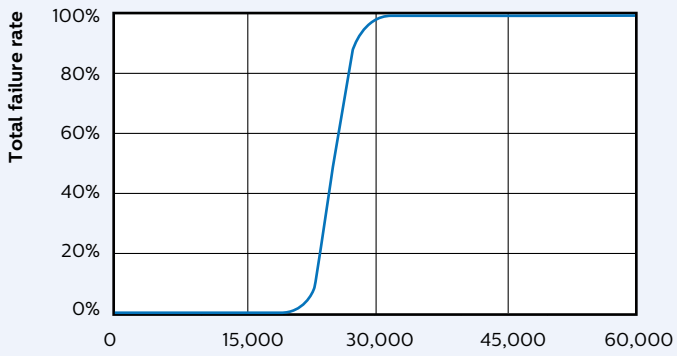


### Lumen Maintenance Philips MASTER LEDbulb 7-40 W and 10-60 W



## Lifetime + Sustainability

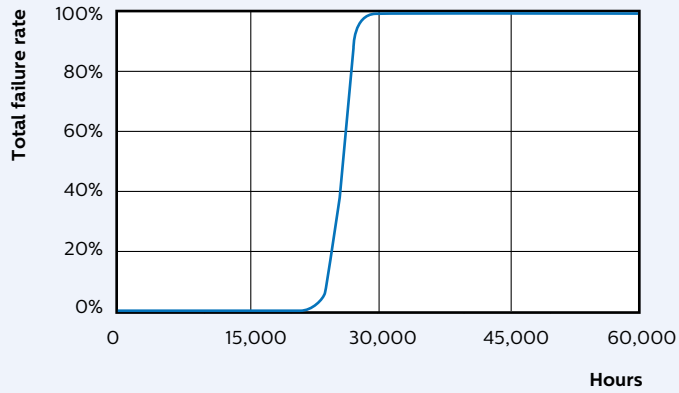
**Failure Rate Curve of MASTER LEDbulb 7-40 W 2700 K**




### MASTER LEDbulb has a lifetime exceeding 25,000 hours defined as (F50, L70), where:

- PHILIPS MASTER LEDbulb lamp has a lifetime of 25,000 hours, defined as the number of hours when 50% of a large group of identical lamps falls below 70% of its initial lumens
- Lifetime estimation based on the application environment condition at room temperature (25 ˚C @ 10 mm), base down burning position, and at rated voltage

**Failure Rate Curve Philips MASTER LEDbulb 10-60 W 2700 K**

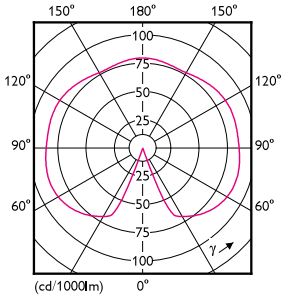


# Photometric Diagrams

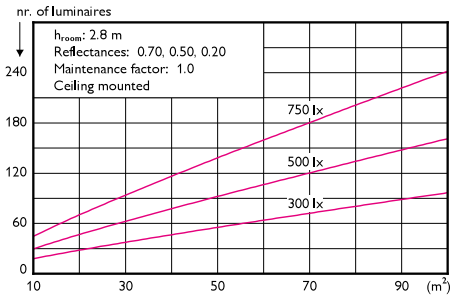
## MASTER LEDbulb 7-40 W E27

| | | | |
|---|---|---|---|
| Light output ratio | 1.00 | CIE flux code | 17 44 72 48 100 |
| Service upward | 0.52 | UGRcen (4Hx8H, 0.25H ) | 22 |
| Service downward | 0.48 | | |

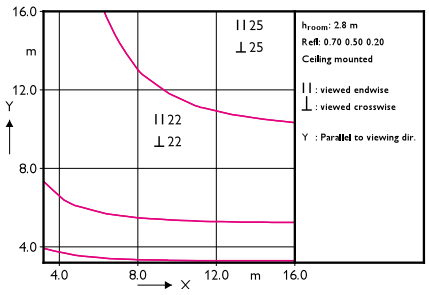
### Polar intensity diagram




### Quantity estimation diagram



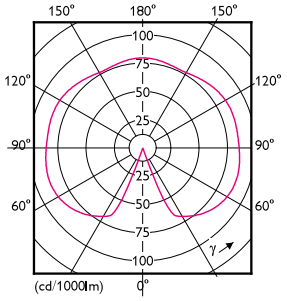

### UGR diagram



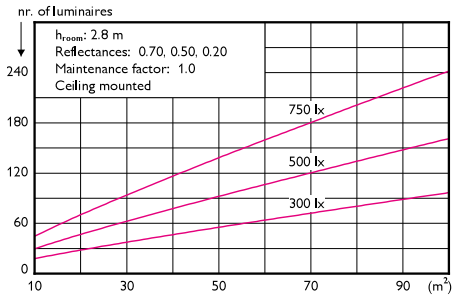

## MASTER LEDbulb 7-40 W B22

| | | | |
|---|---|---|---|
| Light output ratio | 1.00 | CIE flux code | 17 44 72 48 100 |
| Service upward | 0.52 | UGRcen (4Hx8H, 0.25H ) | 22 |
| Service downward | 0.48 | | |

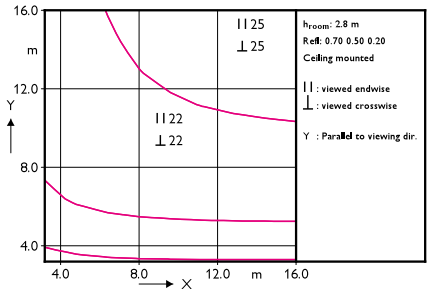
### Polar intensity diagram




### Quantity estimation diagram




### UGR diagram

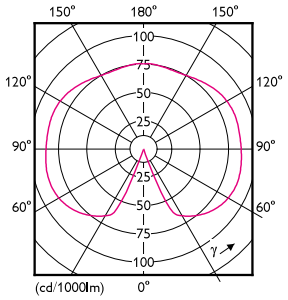


# Photometric Diagrams

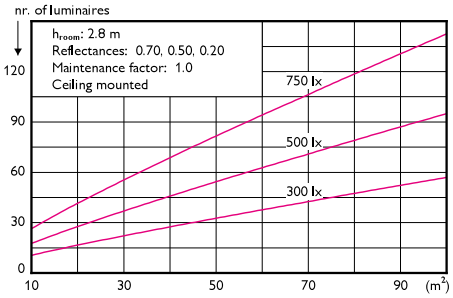
## MASTER LEDbulb 10-60 W E27

| | | | |
|---|---|---|---|
| Light output ratio | 1.00 | CIE flux code | 16 43 72 48 100 |
| Service upward | 0.52 | UGRcen (4Hx8H, 0.25H ) | 24 |
| Service downward | 0.48 | | |

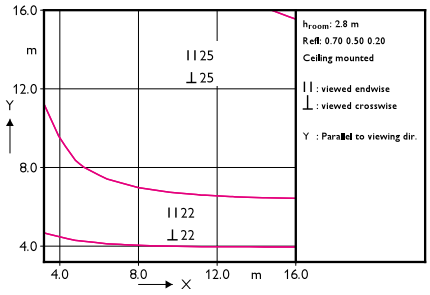
### Polar intensity diagram




### Quantity estimation diagram



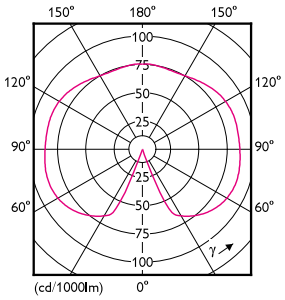

### UGR diagram



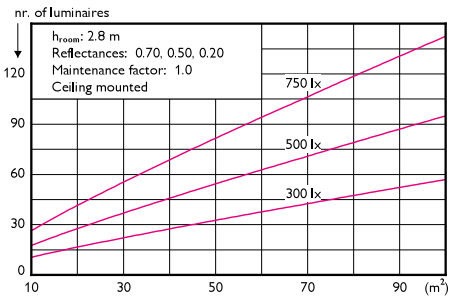

## MASTER LEDbulb 10-60 W B22

| | | | |
|---|---|---|---|
| Light output ratio | 1.00 | CIE flux code | 16 43 72 48 100 |
| Service upward | 0.52 | UGRcen (4Hx8H, 0.25H ) | 24 |
| Service downward | 0.48 | | |

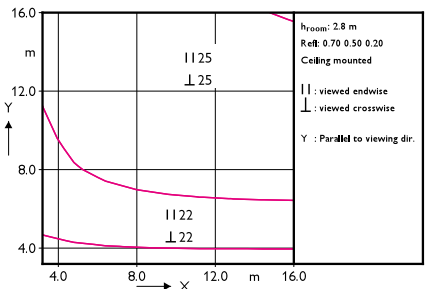
### Polar intensity diagram




### Quantity estimation diagram




### UGR diagram






www.philips.com/masterledlamps

Product launch: Q2 2014
11/2014