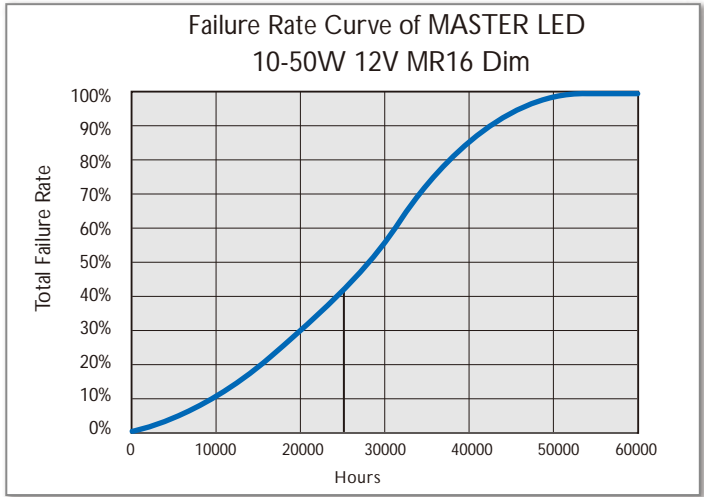


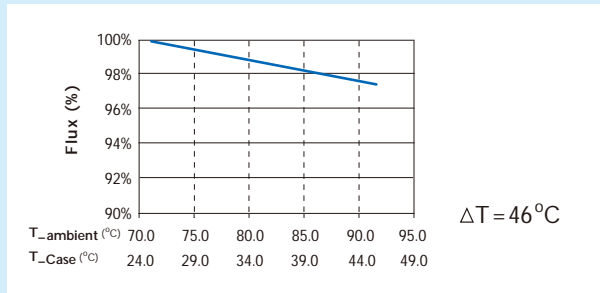
Lifetime + Sustainability



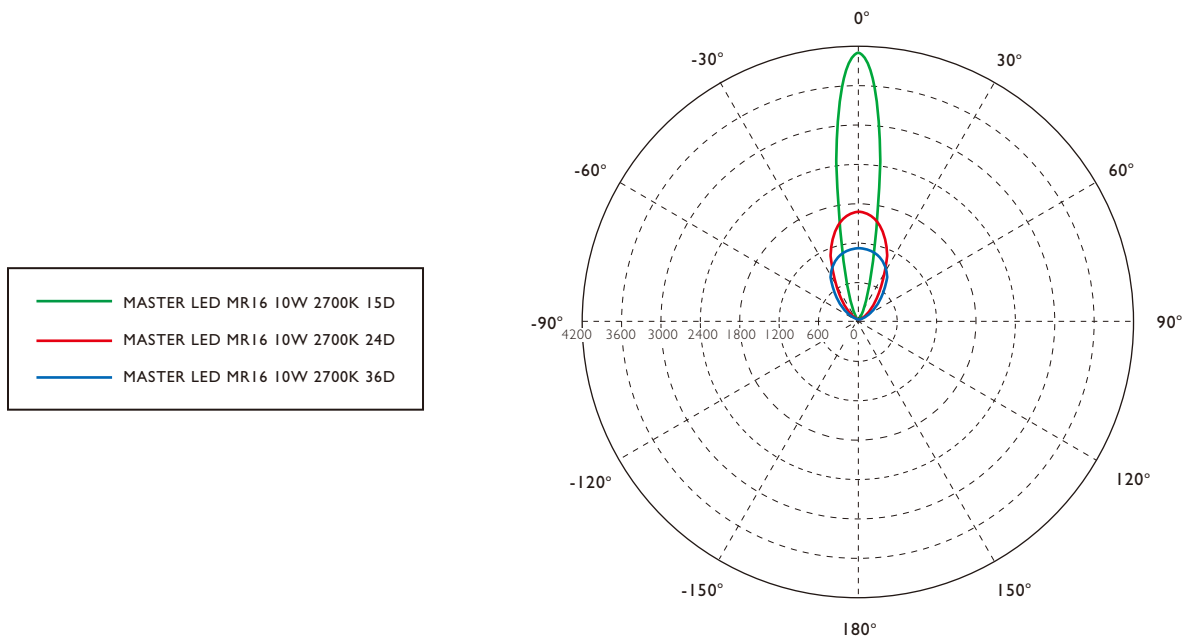
- PHILIPS MASTER LED 10-50W 12V MR16 Dim lamp has a lifetime of 25,000 hours, defined as the number of hours when 50% of a large group of identical lamps below 70% of its initial lumens.
- Lifetime estimation based on the application environment condition: at room temperature (25°C), free air burning, base down burning position, and at rated voltage.

Temperature

MASTER LED 10-50W 12V MR16 Dim is designed for operation in all MR16 lighting installations in open fixtures, 10mm free air space is needed around the lamp housing to ensure long-life.



Polar Diagram Comparison



Transformer Compatibility

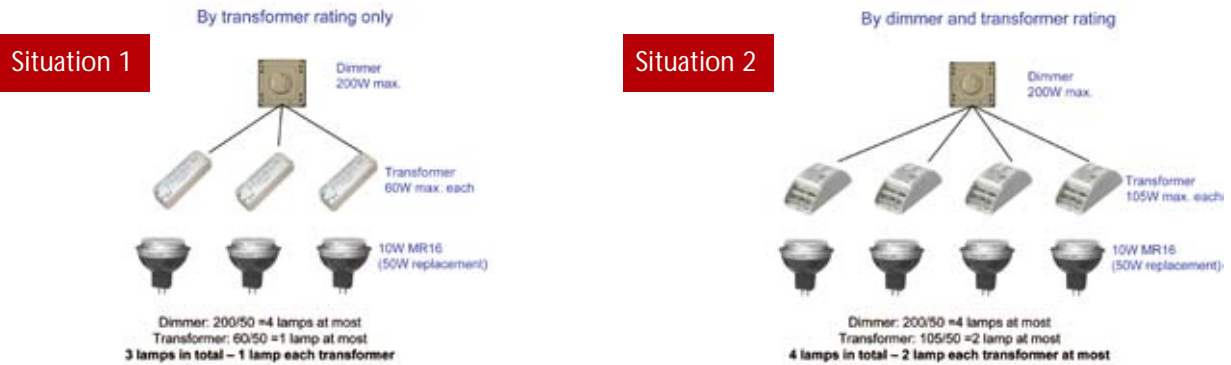
- PHILIPS MASTER LED 10-50W 12V MR16 Dim lamp has a unique, patented, electronic solution embedded that makes this LED Replacement lamp compatible with the broadest possible range of standard 12VAC Halogen electronic transformers in the global market place except for some IC-base transformers WHEN the whole system is without dimmers. Compatibility with electromagnetic transformers is guaranteed as well.
- To determine the maximum number of these LED MR16 lamps to be connected to a standard halogen transformer, is by simply dividing the rated power of the transformer by the replacement wattage (50W). Thus, a 150W Halogen transformer will hold up to INT(150/50)=3 lamps.

Dimmer Compatibility

- Philips offers a range of dimmer-compatible LED lamps, with specially designed electronics so that the lamp works on most common dimmers
 - Given the vast diversity in dimmer types and dimmer quality, a 100% compatibility cannot be guaranteed
 - Dimmer compatibility issues can include flickering lamps at certain dim level, audible noise(hum), higher light output at low dim level. Also the dimming performance may vary when connected with different transformers.
- Philips LED lamps are tested with more than 30 different mixes of transformers vs dimmers available in APR region, result is shown in following tables.

<div></div> Can be smoothly dimmed to 10% or less	Transformer															
<div></div> Obvious dimming effect, slight flicker will occur at certain level	Brand		Philips						Osram							
	Model		ET-E60 (<2007)	ET-S60	ET-E50 220-230	ET-K50, Halolite	ET-ECO60	ECO-ET105		Redback 60 VA/230-240		HTM 105/230-240				
	Country		China	China	China	India	China	China		Australia		Australia				
	Type		Leading & Trailing	Leading & Trailing	Leading & Trailing	Leading & Trailing	Leading & Trailing	Leading & Trailing		Leading & Trailing		Leading & Trailing				
<div></div> Not dimmable	Dimmer	Brand	Model	Country	Type/Load	1 lamp	1 lamp	1 lamp	1 lamp	1 lamp	1 lamp	2 lamp	1 lamp	1 lamp	2 lamp	
		Clipsal	E3031HD	Australia	Universal/RLC											
		Clipsal	32E450UDM	Australia	Universal/RLC											
		Clipsal	32E450TM	Australia	Trailing/RC											
		Relco	RTM34SMA	-	Universal/RLC											

- The maximum number of these LED MR16 lamps to be connected to a standard dimmable system(dimmable transformer+ dimmers) is determined by the dimmer loading as well as transformer loading, and the load should be calculated with the replacement power –It applies to both dimmers and transformers.



© 2010 Koninklijke Philips Electronics
All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.
The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use.
Publication thereof does not convey nor imply any license under patent or other industrial or intellectual property rights.

08/2010
www.philips.com



Technical Application Guide for PHILIPS LED Lamps

PHILIPS MASTER LED 10-50W 12V MR16 Dim



Introduction



PHILIPS MASTER LED 10-50W 12V MR16 Dim integrates leading high power LED light source and compact high efficiency driver into a traditional halogen form-factor. Not only does it employ hi-tech IC solution to ensure the dimming system control, it also delivers a light intensity and quality which fully retrofit the light effect of 50W Halogen MR16 lamp. The form-factor of the PHILIPS MASTER LED 10-50W 12V MR16 Dim guarantees a 100% form-fit on the back-side of the lamp.

MASTER LED 10-50W 12V MR16 Dim is ideal for a myriad of applications including track lighting, general architectural and landscape lighting, plus industrial OEM equipment lighting.

Design Highlights

- Up to 80% energy saving compared to standard halogen and incandescent spot lamps
- Long lifetime of 25,000 hours (B50, L70)
- Retrofits into vast majority of MR16 fixtures
- Dimmable with recommended dimmers
- 15 & 24 & 36 degrees beam angle for a clearly defined beam spread
- CCT: 2700K, 3000K, 4000K
- No UV and Cool Beam (no IR)
- Environmental friendly, without Mercury or any other hazardous substances
- RoHS compliant

Application Areas

PHILIPS MASTER LED 10-50W 12V MR16 Dim lamp is suitably designed for spot and general lighting applications in hospitality and retail industries.

Unlike the conventional halogen reflector lamp, PHILIPS MASTER LED 10-50W 12V MR16 Dim lamp, 10W power consumption per lamp, has a long lifetime of 25,000 hours (or equivalent to 2.5 years if lit continuously for 24hrs a day) ensuring minimum maintenance cost in hotels, restaurants, cafes and shops, especially suitable for various applications in the public areas such as:

- Corridors / Stairway / Washroom
- Lobby / Reception areas

Application Notes

- Operating temperature range is between -25°C and 40°C ambient
- Only to apply in indoor environments and open fixtures with MR16 lamp-holders that offer sufficient space (10mm free air space)
- Dimmable with most of leading edge dimmers in the market (refer to the recommended dimmer list in the last page)
- Not intended for use with emergency light fixtures or exit lights
- For use in fixtures that can structurally support a lamp weighing a half kilogram

Certifications



Product Design

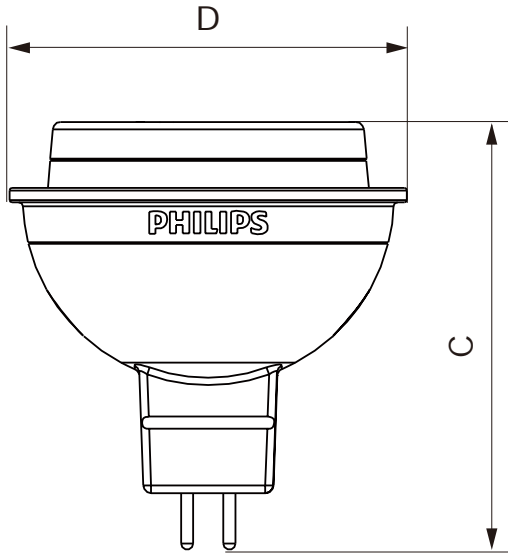
Technical Specifications

Product name	Voltage (V)	Power (W)	Base	Power Factor	Flux (lm)	Beam Angle	CCT	Intensity (Cd)	Lifetime (hrs)	CRI	Dimmable
MASTER LED 10-50W 2700K 12V MR16 15D Dim	12	10	GU5.3	0.75	360	15D	2700K	4100	25,000	80	Yes
MASTER LED 10-50W 3000K 12V MR16 15D Dim	12	10	GU5.3	0.75	370	15D	3000K	4200	25,000	80	Yes
MASTER LED 10-50W 4000K 12V MR16 15D Dim	12	10	GU5.3	0.75	420	15D	4000K	4700	25,000	80	Yes
MASTER LED 10-50W 2700K 12V MR16 24D Dim	12	10	GU5.3	0.75	360	24D	2700K	1700	25,000	80	Yes
MASTER LED 10-50W 3000K 12V MR16 24D Dim	12	10	GU5.3	0.75	370	24D	3000K	1760	25,000	80	Yes
MASTER LED 10-50W 4000K 12V MR16 24D Dim	12	10	GU5.3	0.75	420	24D	4000K	2000	25,000	80	Yes
MASTER LED 10-50W 2700K 12V MR16 36D Dim*	12	10	GU5.3	0.75	440	36D	2700K	1050	25,000	80	Yes
MASTER LED 10-50W 3000K 12V MR16 36D Dim*	12	10	GU5.3	0.75	465	36D	3000K	1110	25,000	80	Yes
MASTER LED 10-50W 4000K 12V MR16 36D Dim*	12	10	GU5.3	0.75	540	36D	4000K	1295	25,000	72	Yes

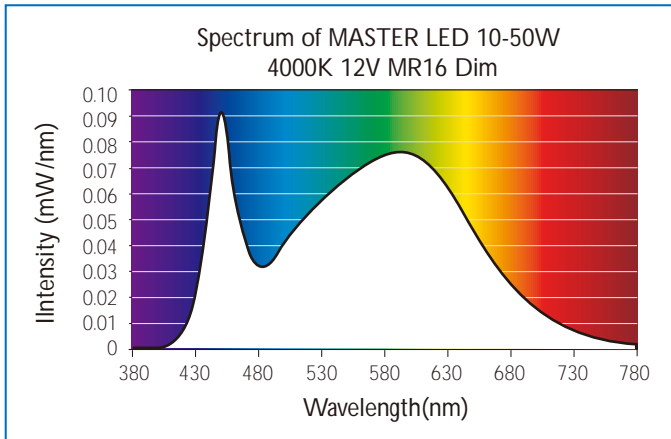
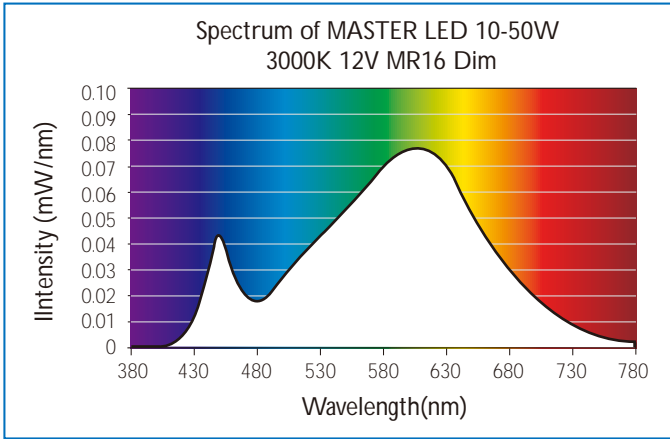
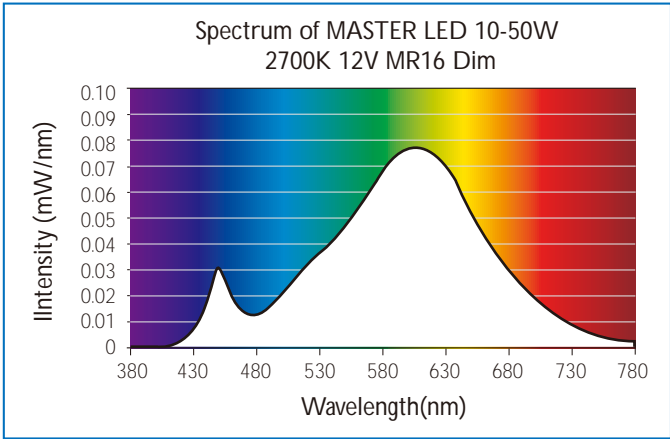
* Draft SPEC, Coming soon in November

Fixture Compatibility

Type	C D max. Overall length (mm)	max. Diameter (mm)	Weight (kg)
MASTER LED 10-50W 12V MR16 Dim	54.2	50.5	0.045



Spectral Power Distribution



Photometric Diagrams

