

Master LED MR11/MR16

หลอด LED MR11 และ MR16 รุ่น Master



MR11



MR16 5.5 Non Dim



MR16 6.5 Non Dim



Master LED7 - 8w Dim



MR16 High lumen Dim



MR16 ExpertColor Dim

คุณสมบัติ

- ประหยัดไฟฟ้า 85% เมื่อเทียบกับหลอดฮาโลเจน
- เลนส์พิเศษที่ออกแบบมาเพื่อการกระจายแสงนุ่มนวล เป็นธรรมชาติ พร้อมมุมแสงให้เลือกหลากหลาย
- ให้ค่าความถูกต้องของสี CRI ไม่น้อยกว่า 90 (ยกเว้นรุ่น MR11 และ MR16 8W)
- รุ่น Expert Color ให้คุณภาพสีสูงถึง Ra 97
- เปลี่ยนแทนหลอดฮาโลเจน MR16 ได้ทันทีโดยไม่ต้องเปลี่ยนหม้อแปลง

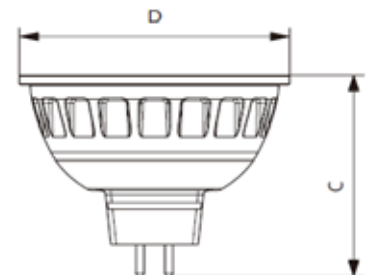
การใช้งาน

- ใช้ทดแทนหลอดฮาโลเจน MR16
- ควรใช้โคม หรือบริเวณที่มีการระบายความร้อนที่ดี
- คุณภาพในการปรับหรือแสงขึ้นกับความเข้ากันได้ของหลอด หม้อแปลง และอุปกรณ์ปรับหรือ

คำแนะนำ : ควรตรวจสอบอุปกรณ์การติดตั้งหลอดทุกครั้ง

Dimension (mm.)

Type	(C) max. (mm.)	(D) max. (mm.)
MR11	39	34.6
MR16 5.5 - 6.5 Non Dim	50.2	49
Master LED7 - 8w Dim	46.5	50.5
MR16 High lumen Dim	46	50.5
MR16 ExpertColor Dim	46	51



สินค้า	ขั้ว	กำลังไฟฟ้า (วัตต์)	ฟลักซ์ (ลูเมน)	ความเข้ม (แคนเดลา)	อุณหภูมิสี (เคลวิน)	CRI ไม่น้อยกว่า	มุมแสง (องศา)	ปรับหรือแสง	อายุ (ชั่วโมง)	ราคาปลีก (บาท)
Master LEDspotV 3.5=20W 827 MR11 24D	GU4	3.5	210	1000	2700	80	24	ไม่ได้	40000	650.00
MASTER LED 5.5-50W 2700K MR16 24D	Gu5.3	5.5	415	1800	2700	80	24	ไม่ได้	25000	700.00
MASTER LED 5.5-50W 3000K MR16 24D	Gu5.3	5.5	425	1800	3000	80	24	ไม่ได้	25000	700.00
MASTER LED 5.5-50W 4000K MR16 24D	Gu5.3	5.5	450	1800	4000	80	24	ไม่ได้	25000	700.00
MASTER LED 5.5-50W 2700K MR16 36D	Gu5.3	5.5	415	1000	2700	80	36	ไม่ได้	25000	700.00
MASTER LED 5.5-50W 3000K MR16 36D	Gu5.3	5.5	425	1000	3000	80	36	ไม่ได้	25000	700.00
MASTER LED 5.5-50W 4000K MR16 36D	Gu5.3	5.5	450	1000	4000	80	36	ไม่ได้	25000	700.00
MASTER LED 6.5-50W 927 MR16 24D ND	Gu5.3	6.5	470	2300	2700	90	24	ไม่ได้	40000	900.00

ข้อมูลจำเพาะ: Master LED MR11/MR16

สินค้า	ขั้ว	กำลังไฟฟ้า (วัตต์)	ฟลักซ์ (ลูเมน)	ความเข้ม (แคนเดลา)	อุณหภูมิสี (เคลวิน)	CRI ไม่น้อยกว่า	มุมแสง (องศา)	ปรับหรี่แสง	อายุ (ชั่วโมง)	ราคาปลีก (บาท)
MASTER LED 6.5-50W 930 MR16 24D ND	Gu5.3	6.5	470	2300	3000	90	24	ไม่ได้	40000	900.00
MASTER LED 6.5-50W 940 MR16 24D ND	Gu5.3	6.5	520	2500	4000	90	24	ไม่ได้	40000	900.00
MASTER LED 6.5-50W 927 MR16 36D ND	Gu5.3	6.5	470	1400	2700	90	36	ไม่ได้	40000	900.00
MASTER LED 6.5-50W 930 MR16 36D ND	Gu5.3	6.5	470	1400	3000	90	36	ไม่ได้	40000	900.00
MASTER LED 6.5-50W 940 MR16 36D ND	Gu5.3	6.5	520	1500	4000	90	36	ไม่ได้	40000	900.00
MASTER LED 7-50W 927 MR16 10D Dim	Gu5.3	7	500	5300	2700	90	10	ได้	40000	1,000.00
MASTER LED 7-50W 930 MR16 10D Dim	Gu5.3	7	500	5300	3000	90	10	ได้	40000	1,000.00
MASTER LED 7-50W 940 MR16 10D Dim	Gu5.3	7	530	5600	4000	90	10	ได้	40000	1,000.00
MASTER LED 7-50W 927 MR16 24D Dim	Gu5.3	7	500	2500	2700	90	24	ได้	40000	1,000.00
MASTER LED 7-50W 930 MR16 24D Dim	Gu5.3	7	500	2500	3000	90	24	ได้	40000	1,000.00
MASTER LED 7-50W 940 MR16 24D Dim	Gu5.3	7	530	2700	4000	90	24	ได้	40000	1,000.00
MASTER LED 7-50W 927 MR16 36D Dim	Gu5.3	7	500	1400	2700	90	36	ได้	40000	1,000.00
MASTER LED 7-50W 930 MR16 36D Dim	Gu5.3	7	500	1400	3000	90	36	ได้	40000	1,000.00
MASTER LED 7-50W 940 MR16 36D Dim	Gu5.3	7	530	1500	4000	90	36	ได้	40000	1,000.00
MASTER LED 7-50W 927 MR16 60D Dim	Gu5.3	7	500	500	2700	90	60	ได้	40000	1,000.00
MASTER LED 7-50W 930 MR16 60D Dim	Gu5.3	7	500	500	3000	90	60	ได้	40000	1,000.00
MASTER LED 7-50W 940 MR16 60D Dim	Gu5.3	7	530	550	4000	90	60	ได้	40000	1,000.00
MAS LEDspotLV D 8-50W 827 MR16 24D	Gu5.3	8	660	3100	2700	80	24	ได้	40000	1,200.00
MAS LEDspotLV D 8-50W 830 MR16 24D	Gu5.3	8	660	3250	3000	80	24	ได้	40000	1,200.00
MAS LEDspotLV D 8-50W 840 MR16 24D	Gu5.3	8	710	3350	4000	80	24	ได้	40000	1,200.00
MAS LEDspotLV D 8-50W 827 MR16 36D	Gu5.3	8	660	1700	2700	80	36	ได้	40000	1,200.00
MAS LEDspotLV D 8-50W 830 MR16 36D	Gu5.3	8	660	1700	3000	80	36	ได้	40000	1,200.00
MAS LEDspotLV D 8-50W 840 MR16 36D	Gu5.3	8	710	1800	4000	80	36	ได้	40000	1,200.00
MR16 1200 827 36D	Gu5.3	9	1200	2300	2700	80	36	ได้	50000	1,200.00
MR16 1200 830 36D	Gu5.3	9	1200	2300	3000	80	36	ได้	50000	1,200.00
MR16 1200 840 36D	Gu5.3	9	1200	2500	4000	80	36	ได้	50000	1,200.00
MR16 1000 927 36D	Gu5.3	10-12	1000	1900	2700	90	36	ได้	50000	1,200.00
MR16 1000 930 36D	Gu5.3	10-12	1000	1900	3000	90	36	ได้	50000	1,200.00
MR16 1000 940 36D	Gu5.3	10-12	1000	1900	4000	90	36	ได้	50000	1,200.00
MR16 800 927 24D	Gu5.3	10-12	800	3500	2700	90	24	ได้	50000	1,200.00
MR16 800 930 24D	Gu5.3	10-12	800	3500	3000	90	24	ได้	50000	1,200.00
MR16 800 940 24D	Gu5.3	10-12	800	3500	4000	90	24	ได้	50000	1,200.00
MAS LED MR16 ExpertColor 7.2-50W 927 10D	Gu5.3	7.2	450	4500	2700	97	10	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 930 10D	Gu5.3	7.2	480	5000	3000	97	10	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 940 10D	Gu5.3	7.2	480	5000	4000	97	10	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 927 24D	Gu5.3	7.2	450	2200	2700	97	24	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 930 24D	Gu5.3	7.2	480	2400	3000	97	24	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 940 24D	Gu5.3	7.2	480	2400	4000	97	24	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 927 36D	Gu5.3	7.2	450	1350	2700	97	36	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 930 36D	Gu5.3	7.2	480	1450	3000	97	36	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 940 36D	Gu5.3	7.2	480	1450	4000	97	36	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 927 60D	Gu5.3	7.2	450	410	2700	97	60	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 930 60D	Gu5.3	7.2	480	440	3000	97	60	ได้	40000	1,300.00
MAS LED MR16 ExpertColor 7.2-50W 940 60D	Gu5.3	7.2	480	440	4000	97	60	ได้	40000	1,300.00

ราคาสินค้ารวมภาษีมูลค่าเพิ่ม
 ขอลงหนังสือ ในการรับแก้ไขราคาข้างต้นโดยไม่ต้องแจ้งให้ทราบล่วงหน้า



PHILIPS

LEDspot LV



Technical Application Guide

Philips Master MR16

6.5W/7W/8W/9W

Philips Master LED MR16 is the latest in Philips' series of low voltage (12VAC) Halogen MR16 replacements. Not only does it employ Philips' patented solution to guarantee the broadest possible compatibility with standard 12V Halogen electronic transformers, it also delivers beam intensity which equivalent to 50W Philips Halogen MR16 lamp.

Its low SDCM ensure more strict color consistency, and also new smaller housing provide perfect fitting with majority of luminaire in market.

www.philips.com



Design highlights

- The innovative trimless lens design with single optic lens
- Up to 88% energy saving compared to standard halogen MR16 lamps
- Long lifetime of 40,000 hours (F50, L70)
- Retrofits into a vast majority of GU5.3 based fixtures
- Compatible with a broad selection of transformers
- Strong color consistency per batch (4SDCM) and stay over the time
- 10, 24, 36 & 60 degrees beam angle for a clearly defined beam spread
- CCT: 2700K, 3000K, 4000K
- No UV and Cool Beam (no IR), making it suitable for illuminating heat-sensitive objects like food, organic materials, paintings, etc.
- Environmental friendly; free of mercury and other hazardous materials
- RoHS compliant



Application areas

Suitably designed for general lighting applications in the hospitality and retail segment. Its trimless lens design with single optic look suit any interior decor with its clean and neat look.

Unlike the conventional halogen reflector lamp, it has only 6.5-8W consumption per lamp with long lifetime of 40,000 hours (or equivalent to 27 years if lit continuously for 4hrs a day) ensuring minimum maintenance cost in hospitality and retail segment. It is suitable for various applications such as:

- Lobby / Reception areas
- Hotel room / Ball room / Business center
- Restaurants / Bar / Cafe
- Corridors / Stairway / Washroom
- Display area / Dress room / Check out

Application notes

- Suitable for totally enclosure fixture application (refer to failure rate curve, make sure Tc is not over max)
- Operating temperature range is between -20°C and 40°C ambient
- For use in fixtures that can structurally support a lamp weighing 60 grams
- Compatible with broad transformers (refer to the recommended with a broad selection of transformers list), also suitable for 12V DC input
- Do not use or install the lamp in wet environment
- Not intended for use with emergency light fixtures or exit lights

Product features

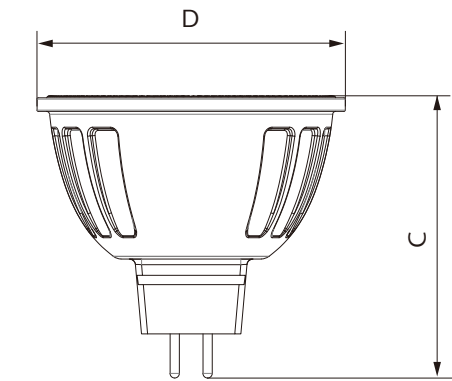
Technical Specifications

Product type	Voltage (VAC)	Lamp Wattage (W)	Replaced Wattage (W)	Beam Angle (°)	CCT (K)	Lumen (lm)	MBCP (Cd)	Lifetime (Hrs)	CRI	Dimmable
MASTER LED 8-50W+ 827 MR16 24D Dim	12	8	50	24	2700	660	3100	40000	80	Yes
MASTER LED 8-50W+ 830 MR16 24D Dim	12	8	50	24	3000	660	3250	40000	80	Yes
MASTER LED 8-50W+ 827 MR16 36D Dim	12	8	50	36	2700	660	1700	40000	80	Yes
MASTER LED 8-50W+ 830 MR16 36D Dim	12	8	50	36	3000	660	1700	40000	80	Yes
MASTER LED 8-50W+ 840 MR16 36D Dim	12	8	50	36	4000	710	1800	40000	80	Yes
MASTER LED 9-50W+ 827 MR16 36D Dim KR	12	9	50	36	2700	660	1700	40000	80	Yes
MASTER LED 7-50W 927 MR16 10D Dim	12	7	50	10	2700	500	5300	40000	90	Yes
MASTER LED 7-50W 930 MR16 10D Dim	12	7	50	10	3000	500	5300	40000	90	Yes
MASTER LED 7-50W 940 MR16 10D Dim	12	7	50	10	4000	530	5600	40000	90	Yes
MASTER LED 7-50W 927 MR16 24D Dim	12	7	50	24	2700	500	2500	40000	90	Yes
MASTER LED 7-50W 930 MR16 24D Dim	12	7	50	24	3000	500	2500	40000	90	Yes
MASTER LED 7-50W 940 MR16 24D Dim	12	7	50	24	4000	530	2700	40000	90	Yes
MASTER LED 7-50W 927 MR16 36D Dim	12	7	50	36	2700	500	1400	40000	90	Yes
MASTER LED 7-50W 930 MR16 36D Dim	12	7	50	36	3000	500	1400	40000	90	Yes
MASTER LED 7-50W 940 MR16 36D Dim	12	7	50	36	4000	530	1500	40000	90	Yes
MASTER LED 7-50W 927 MR16 60D Dim	12	7	50	60	2700	500	500	40000	90	Yes
MASTER LED 7-50W 930 MR16 60D Dim	12	7	50	60	3000	500	500	40000	90	Yes
MASTER LED 7-50W 940 MR16 60D Dim	12	7	50	60	4000	530	550	40000	90	Yes
MASTER LED 6.5-50W 927 MR16 24D ND	12	6.5	50	24	2700	470	2300	40000	90	No
MASTER LED 6.5-50W 930 MR16 24D ND	12	6.5	50	24	3000	470	2300	40000	90	No
MASTER LED 6.5-50W 940 MR16 24D ND	12	6.5	50	24	4000	520	2500	40000	90	No
MASTER LED 6.5-50W 927 MR16 36D ND	12	6.5	50	36	2700	470	1400	40000	90	No
MASTER LED 6.5-50W 930 MR16 36D ND	12	6.5	50	36	3000	470	1400	40000	90	No
MASTER LED 6.5-50W 940 MR16 36D ND	12	6.5	50	36	4000	520	1500	40000	90	No
MASTER LED ND 7-50W 927 MR16 36D KR	12	7	50	36	2700	470	1400	40000	90	No
MASTER LED ND 7-50W 930 MR16 36D KR	12	7	50	36	3000	470	1400	40000	90	No
MASTER LED ND 7-50W 940 MR16 36D KR	12	7	50	36	4000	520	1500	40000	90	No
MAS LEDspotLV D 7-35W 927 MR16 24D	12	7	35	24	2700	450*	2500	40000	90	Yes
MAS LEDspotLV D 7-35W 927 MR16 36D	12	7	35	36	2700	450*	1400	40000	90	Yes
MAS LEDspotLV D 8-50W 827 MR16 24D	12	8	50	24	2700	621*	3100	40000	80	Yes
MAS LEDspotLV D 8-50W 827 MR16 36D	12	8	50	36	2700	621*	1700	40000	80	Yes

*90D cone lumen value

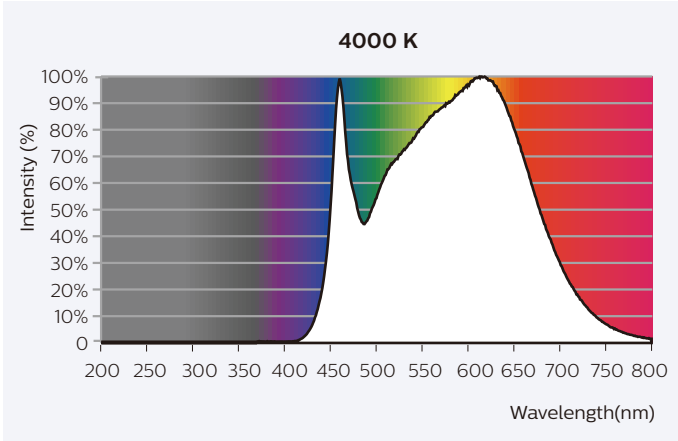
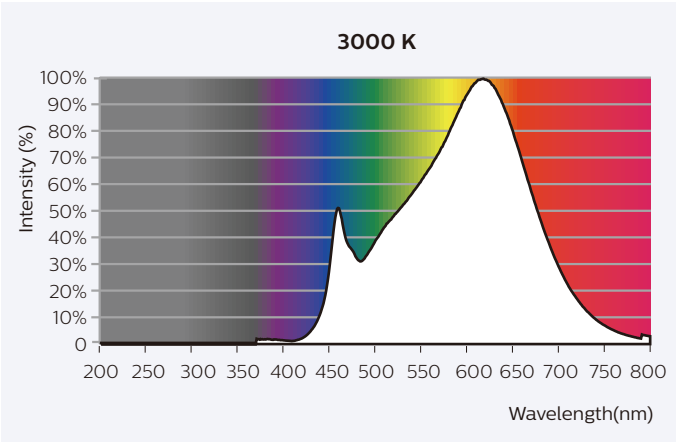
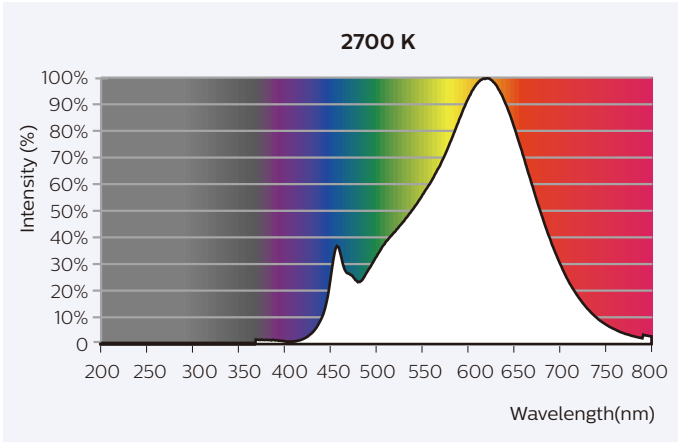
Fixture Compatibility

Type	C max. Overall Length (mm)	D max. Diameter (mm)	Weight unpacked (gram)
Master LED 6.5W, 7W, 8W, 9W	46.5	50.5	60

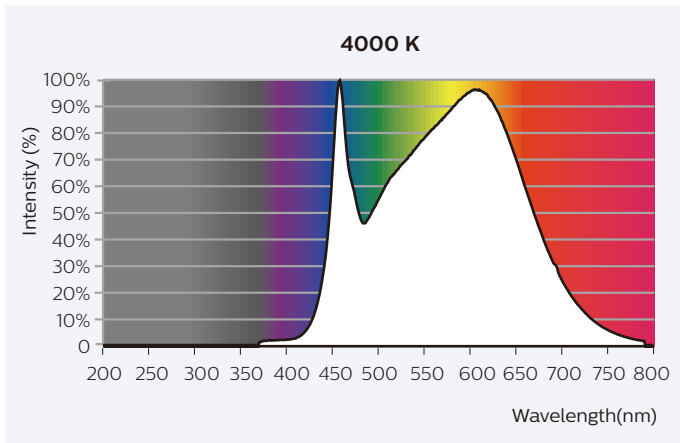
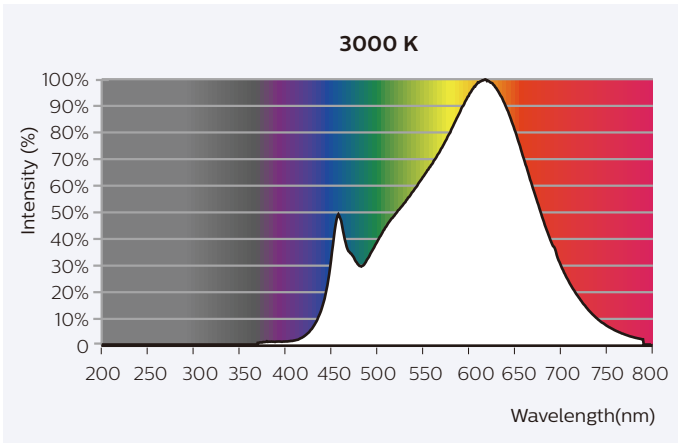
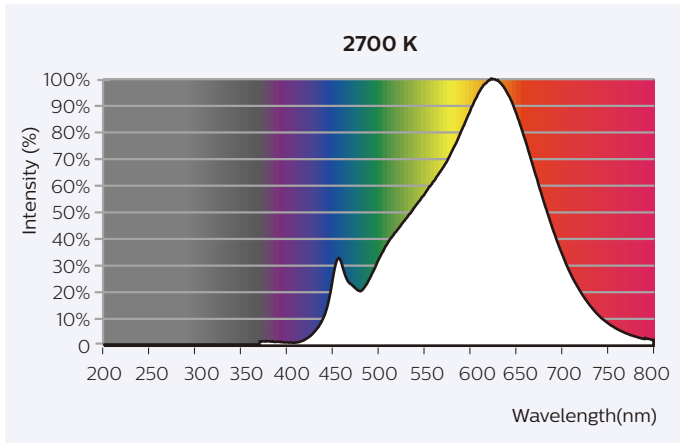


Spectral Power Distribution

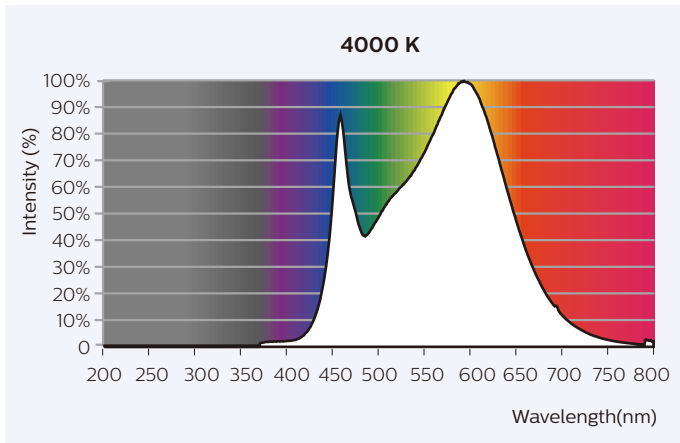
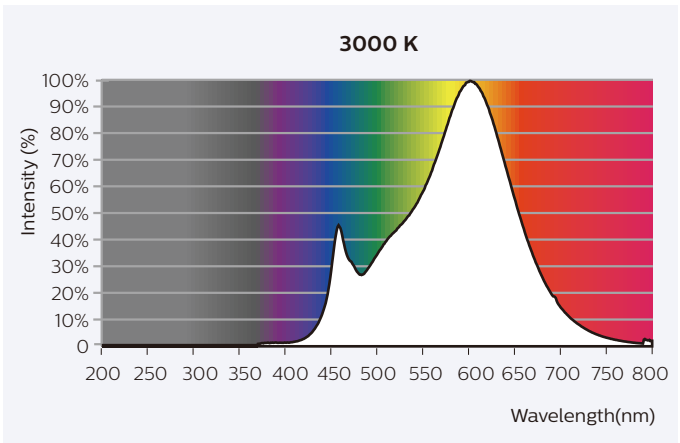
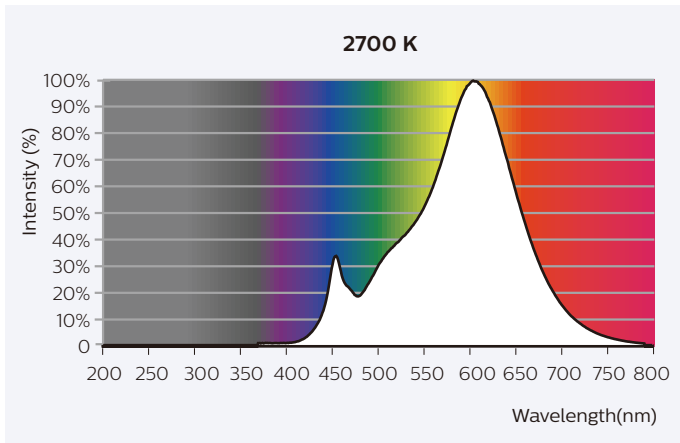
6.5W CRI90



7W CRI90



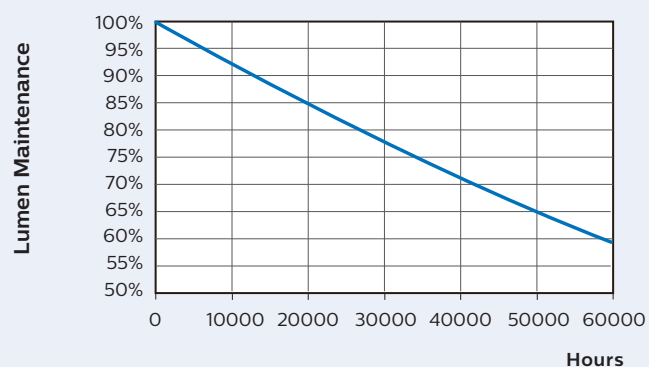
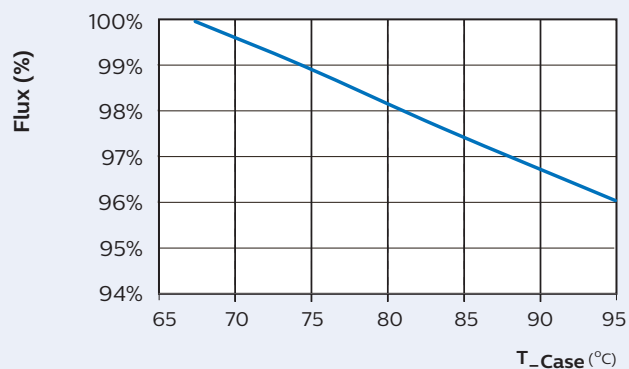
8W/9W CRI80



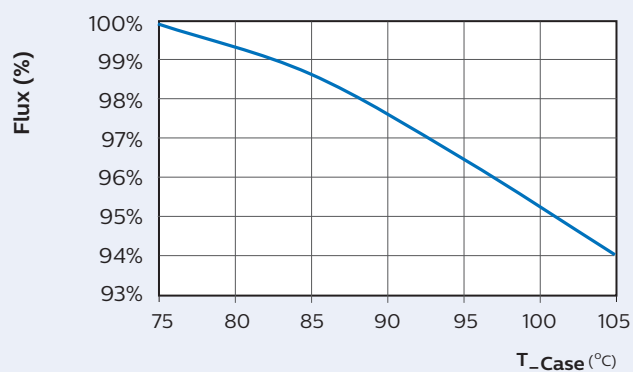
Temperature

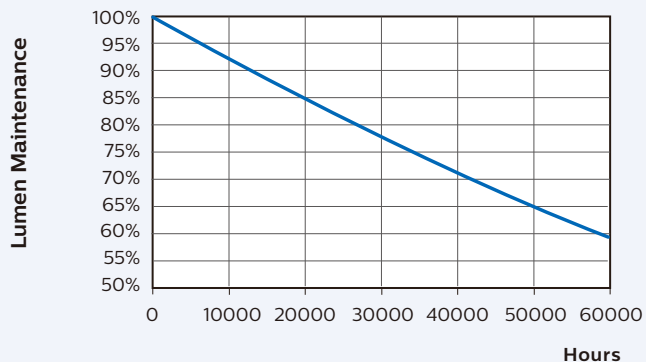
Philips LED MR16 is designed for operation in all GU5.3 lighting installations in open and closed fixtures, refer to the failure rate curve, make sure T_c is not over the max temperature.

LEDspotLV MR16 6.5W & 7W



LEDspotLV MR16 8W & 9W





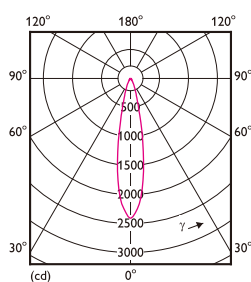
Photometric Diagrams

MASTER LED 6.5-50W 927 MR16 24D ND

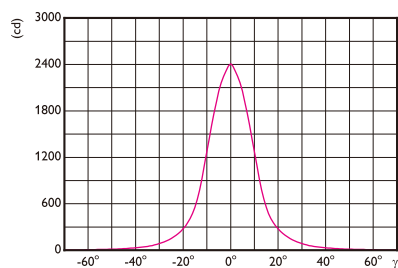
470 lm

Light output ratio	1.00	I_{max}	2409 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 11^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 11^{\circ}$

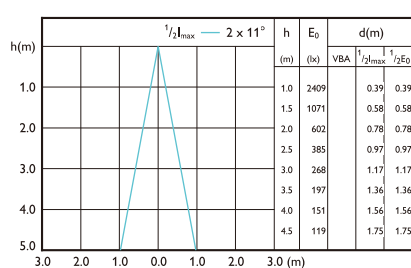
Polar intensity diagram



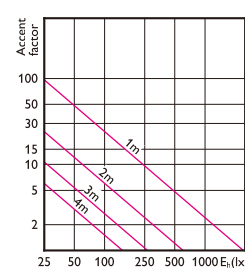
Cartesian intensity diagram



Beam diagram



Visual impact diagram

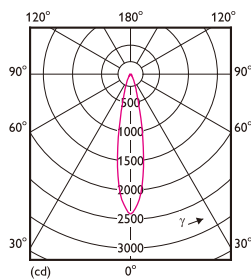


MASTER LED 6.5-50W 930 MR16 24D ND

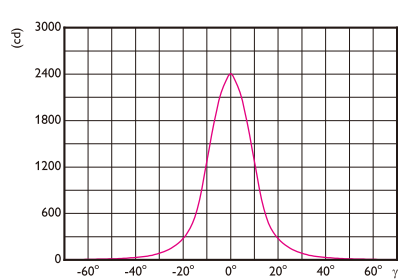
470 lm

Light output ratio	1.00	I_{max}	2409 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 11^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 11^{\circ}$

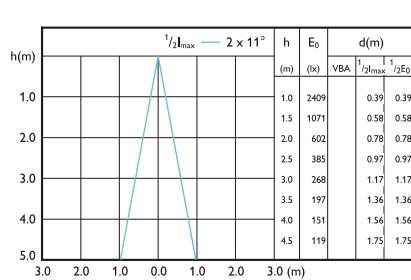
Polar intensity diagram



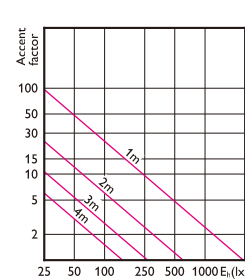
Cartesian intensity diagram



Beam diagram



Visual impact diagram

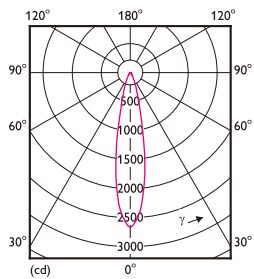


MASTER LED 6.5-50W 940 MR16 24D ND

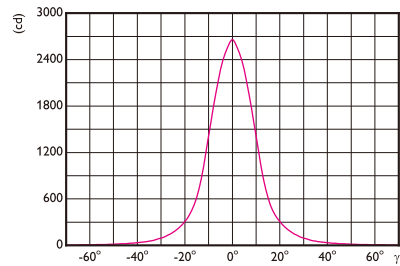
520 lm

Light output ratio	1.00	I_{max}	2666 cd
Service upward	0.00	BS ($\frac{1}{2} I_{max}$)	$2 \times 11^\circ$
Service downward	1.00	BS ($\frac{1}{2} E_0$)	$2 \times 11^\circ$

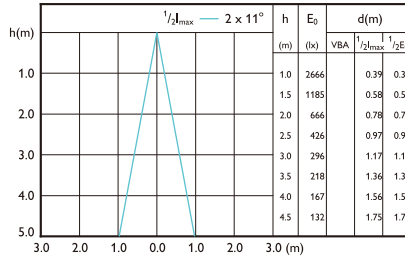
Polar intensity diagram



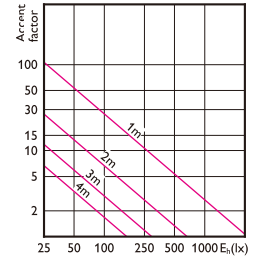
Cartesian intensity diagram



Beam diagram



Visual impact diagram

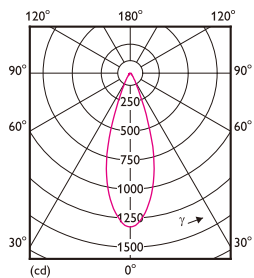


MASTER LED 6.5-50W 927 MR16 36D ND

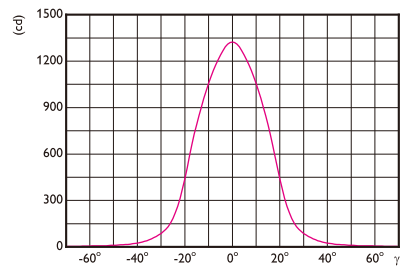
470 lm

Light output ratio	1.00	I_{max}	1323 cd
Service upward	0.00	BS ($\frac{1}{2} I_{max}$)	$2 \times 17^\circ$
Service downward	1.00	BS ($\frac{1}{2} E_0$)	$2 \times 16^\circ$

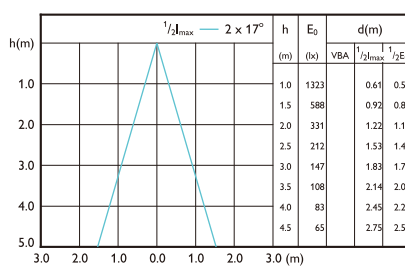
Polar intensity diagram



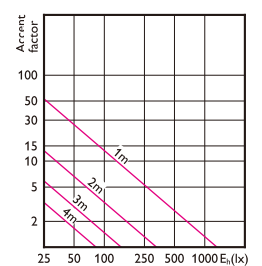
Cartesian intensity diagram



Beam diagram



Visual impact diagram

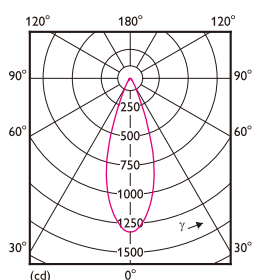


MASTER LED 6.5-50W 930 MR16 36D ND

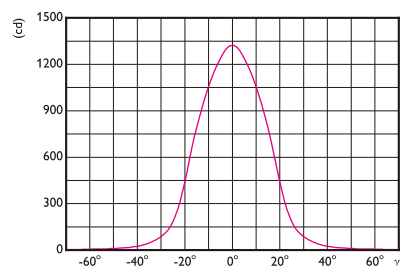
470 lm

Light output ratio	1.00	I_{max}	1323 cd
Service upward	0.00	BS ($\frac{1}{2} I_{max}$)	$2 \times 17^\circ$
Service downward	1.00	BS ($\frac{1}{2} E_0$)	$2 \times 16^\circ$

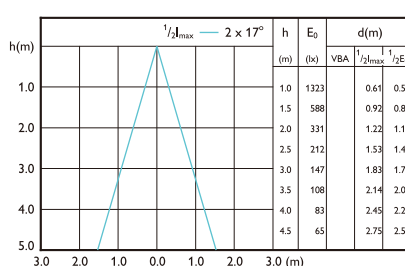
Polar intensity diagram



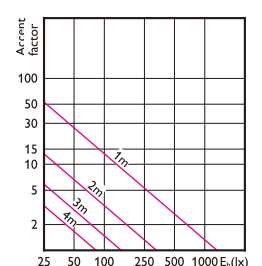
Cartesian intensity diagram



Beam diagram



Visual impact diagram

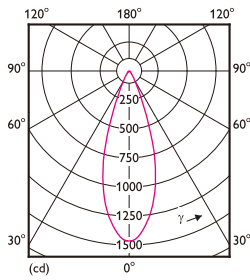


MASTER LED 6.5-50W 940 MR16 36D ND

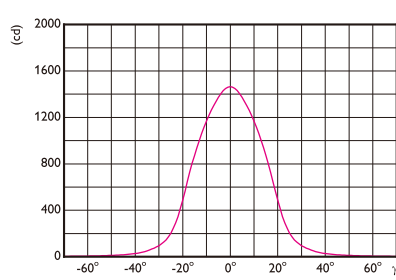
520 lm

Light output ratio	1.00	I_{max}	1464 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 17^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 16^{\circ}$

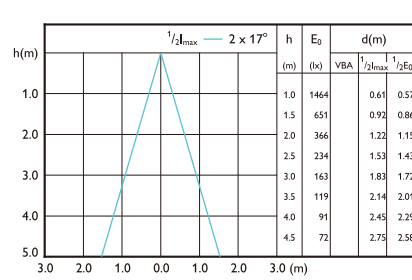
Polar intensity diagram



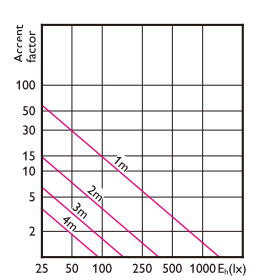
Cartesian intensity diagram



Beam diagram



Visual impact diagram

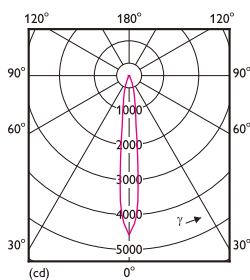


MASTER LED 7-50W 927 MR16 10D Dim

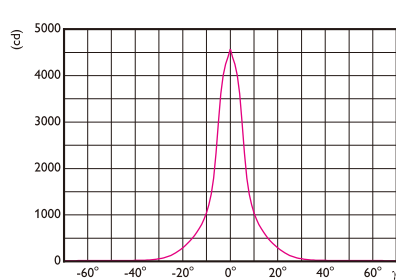
500 lm

Light output ratio	1.00	I_{max}	4574 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 7^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 7^{\circ}$

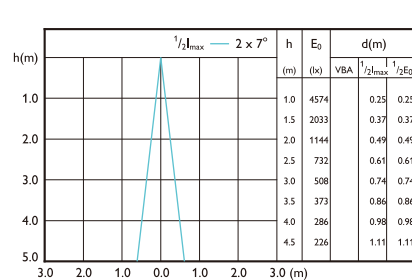
Polar intensity diagram



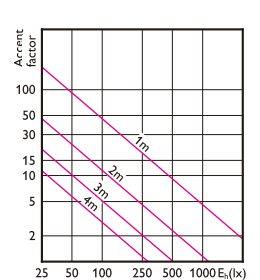
Cartesian intensity diagram



Beam diagram



Visual impact diagram

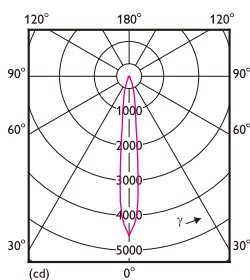


MASTER LED 7-50W 930 MR16 10D Dim

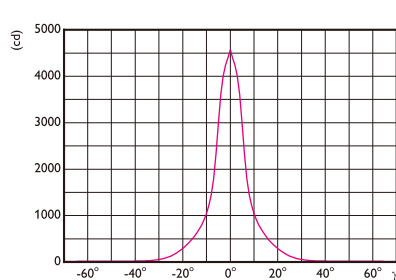
500 lm

Light output ratio	1.00	I_{max}	4574 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 7^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 7^{\circ}$

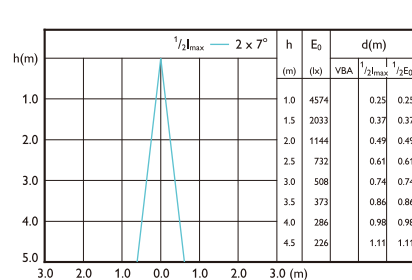
Polar intensity diagram



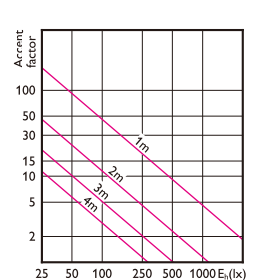
Cartesian intensity diagram



Beam diagram



Visual impact diagram

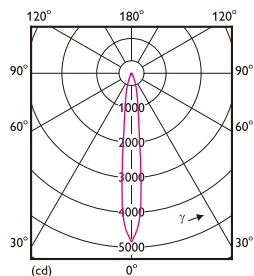


MASTER LED 7-50W 940 MR16 10D Dim

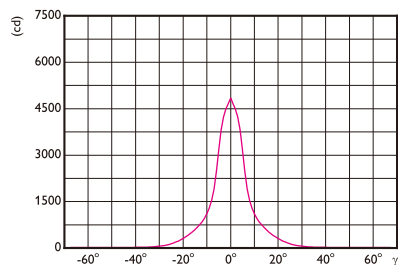
530 lm

Light output ratio	1.00	I _{max}	4849 cd
Service upward	0.00	BS ($\frac{1}{2}$ I _{max})	2 x 7°
Service downward	1.00	BS ($\frac{1}{2}$ E ₀)	2 x 7°

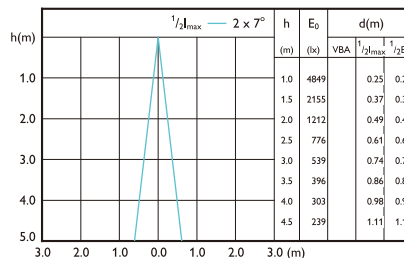
Polar intensity diagram



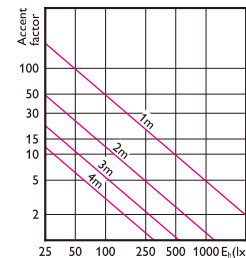
Cartesian intensity diagram



Beam diagram



Visual impact diagram

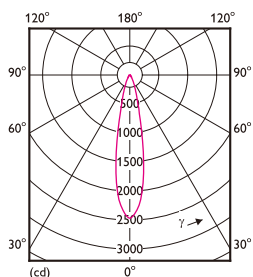


MASTER LED 7-50W 927 MR16 24D Dim

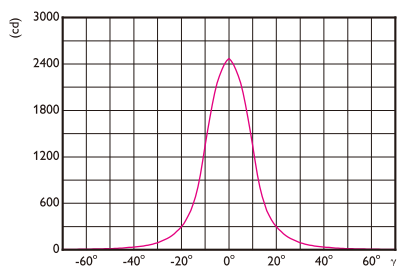
500 lm

Light output ratio	1.00	I _{max}	2471 cd
Service upward	0.00	BS ($\frac{1}{2}$ I _{max})	2 x 11°
Service downward	1.00	BS ($\frac{1}{2}$ E ₀)	2 x 11°

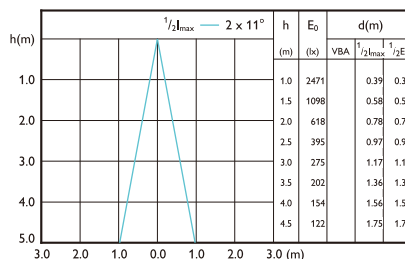
Polar intensity diagram



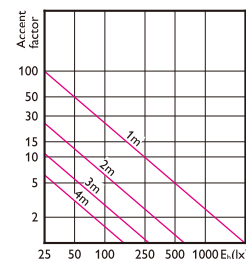
Cartesian intensity diagram



Beam diagram



Visual impact diagram

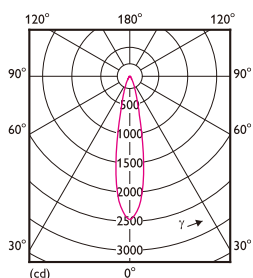


MASTER LED 7-50W 930 MR16 24D Dim

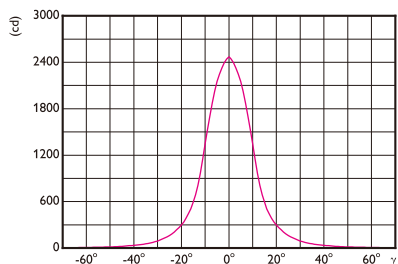
500 lm

Light output ratio	1.00	I _{max}	2471 cd
Service upward	0.00	BS ($\frac{1}{2}$ I _{max})	2 x 11°
Service downward	1.00	BS ($\frac{1}{2}$ E ₀)	2 x 11°

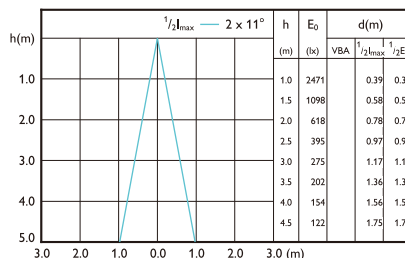
Polar intensity diagram



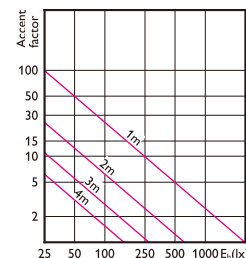
Cartesian intensity diagram



Beam diagram



Visual impact diagram

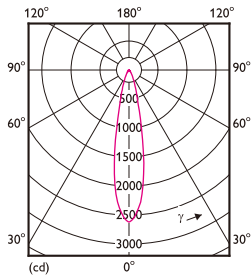


MASTER LED 7-50W 940 MR16 24D Dim

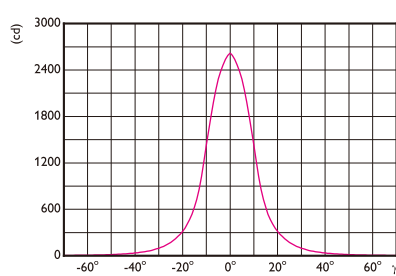
530 lm

Light output ratio	1.00	I_{max}	2620 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 11^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 11^{\circ}$

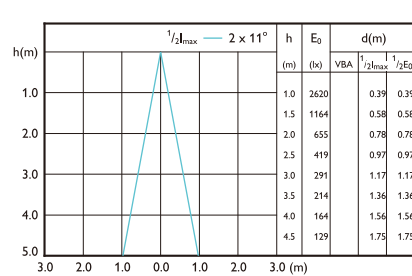
Polar intensity diagram



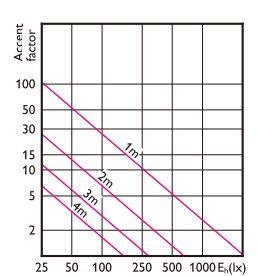
Cartesian intensity diagram



Beam diagram



Visual impact diagram

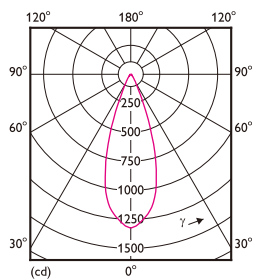


MASTER LED 7-50W 927 MR16 36D Dim

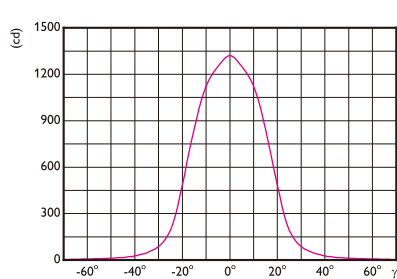
500 lm

Light output ratio	1.00	I_{max}	1322 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 18^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 17^{\circ}$

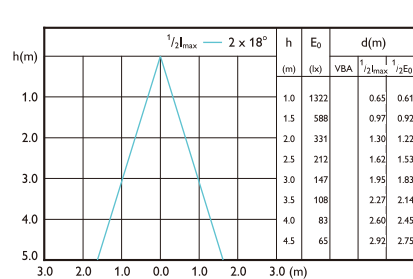
Polar intensity diagram



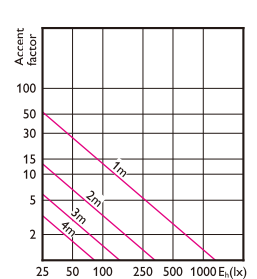
Cartesian intensity diagram



Beam diagram



Visual impact diagram

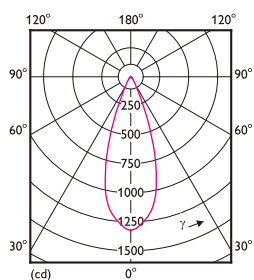


MASTER LED 7-50W 930 MR16 36D Dim

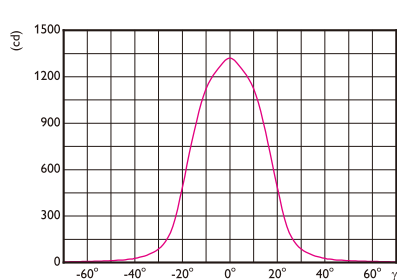
500 lm

Light output ratio	1.00	I_{max}	1322 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 18^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 17^{\circ}$

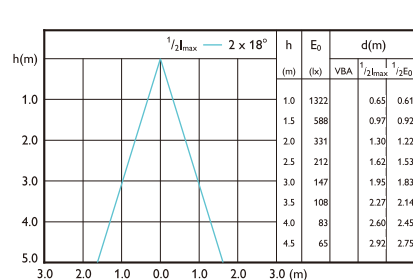
Polar intensity diagram



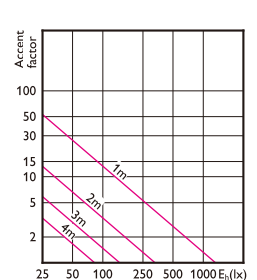
Cartesian intensity diagram



Beam diagram



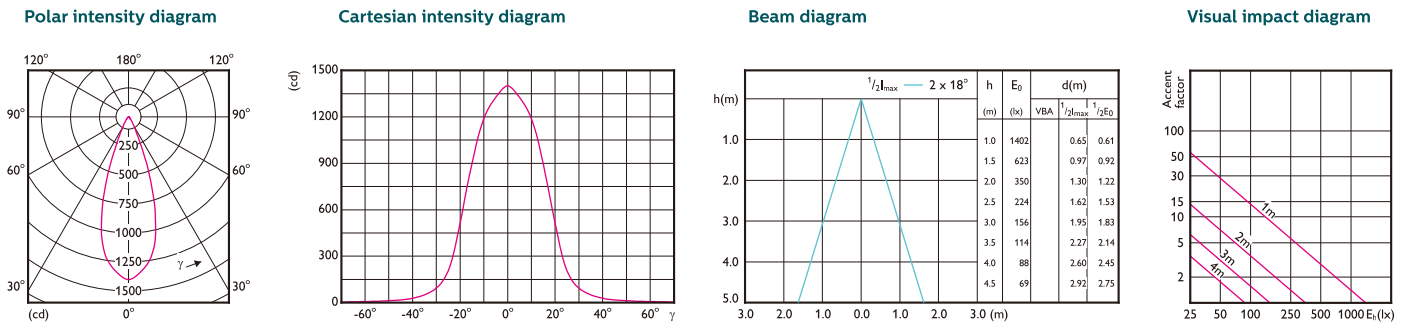
Visual impact diagram



MASTER LED 7-50W 940 MR16 36D Dim

530 lm

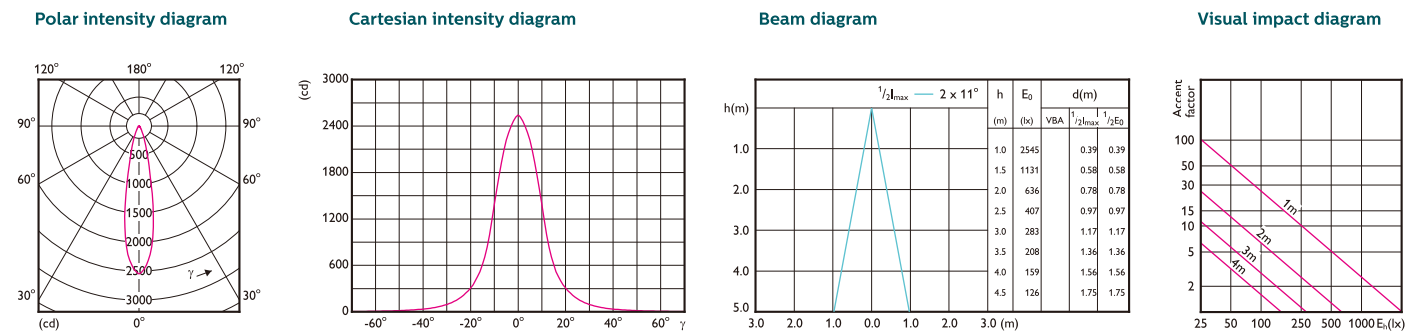
Light output ratio	1.00	I _{max}	1402 cd
Service upward	0.00	BS (1/2 I _{max})	2 x 18°
Service downward	1.00	BS (1/2 E ₀)	2 x 17°



MAS LEDspotLV D 7-35W 927 MR16 24D

515 lm

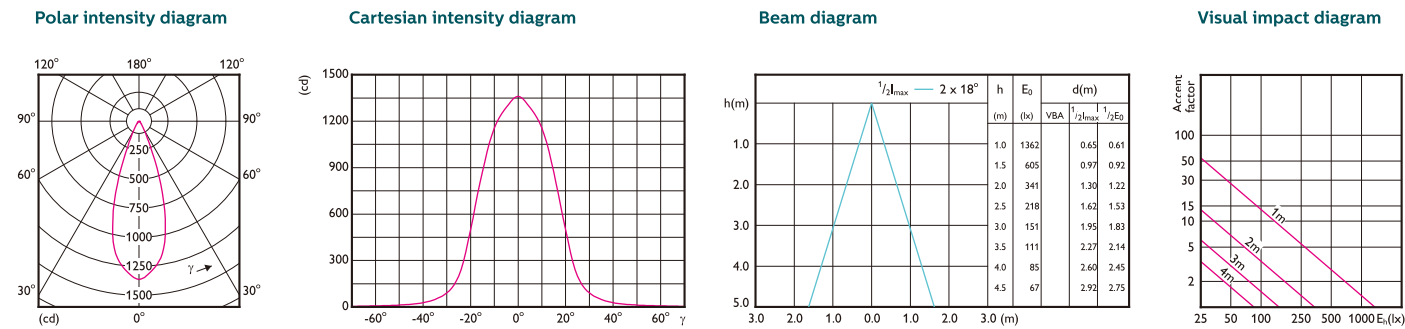
Light output ratio	1.00	I _{max}	2545 cd
Service upward	0.00	BS (1/2 I _{max})	2 x 11°
Service downward	1.00	BS (1/2 E ₀)	2 x 11°



MAS LEDspotLV D 7-35W 927 MR16 36D

515 lm

Light output ratio	1.00	I _{max}	1362 cd
Service upward	0.00	BS (1/2 I _{max})	2 x 18°
Service downward	1.00	BS (1/2 E ₀)	2 x 17°

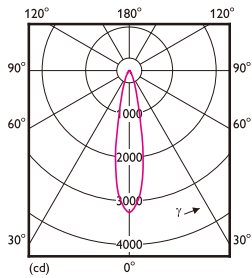


MASTER LED 8-50W+ 827 MR16 24D Dim

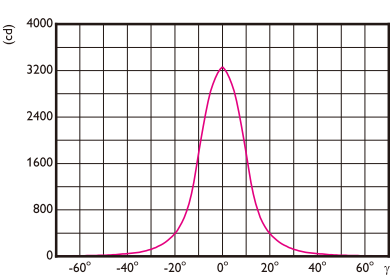
660 lm

Light output ratio	1.00	I_{max}	3262 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 11^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 11^{\circ}$

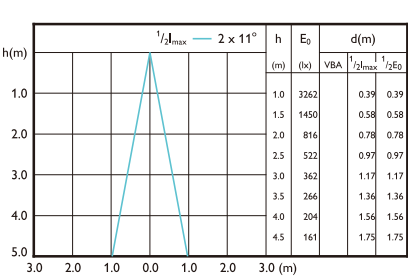
Polar intensity diagram



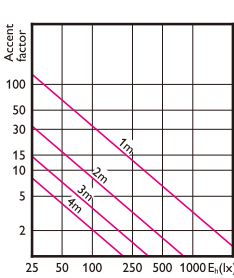
Cartesian intensity diagram



Beam diagram



Visual impact diagram

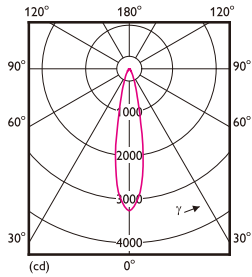


MASTER LED 8-50W+ 830 MR16 24D Dim

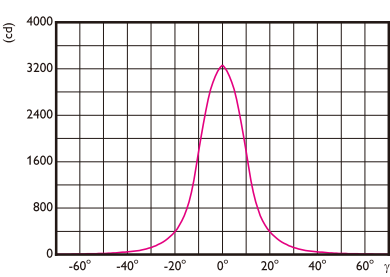
660 lm

Light output ratio	1.00	I_{max}	3262 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 11^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 11^{\circ}$

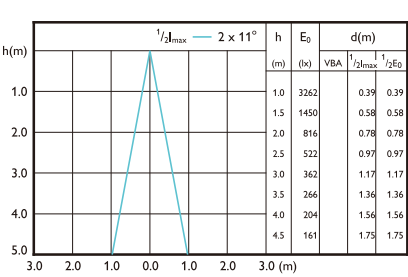
Polar intensity diagram



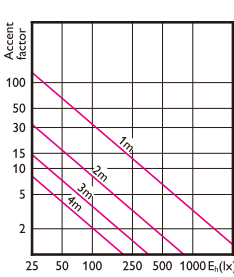
Cartesian intensity diagram



Beam diagram



Visual impact diagram

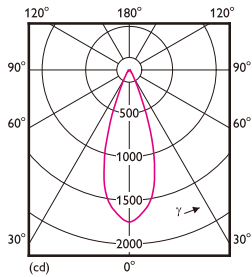


MASTER LED 8-50W+ 827 MR16 36D Dim

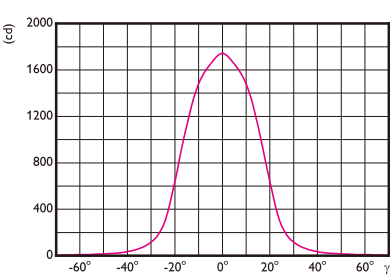
660 lm

Light output ratio	1.00	I_{max}	1746 cd
Service upward	0.00	$BS (\frac{1}{2} I_{max})$	$2 \times 18^{\circ}$
Service downward	1.00	$BS (\frac{1}{2} E_0)$	$2 \times 17^{\circ}$

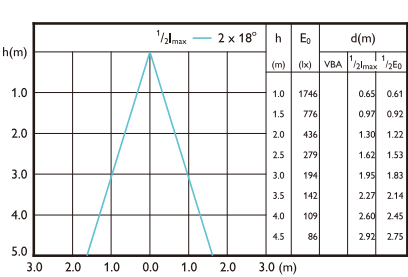
Polar intensity diagram



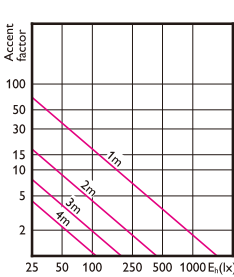
Cartesian intensity diagram



Beam diagram

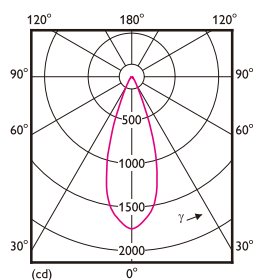


Visual impact diagram

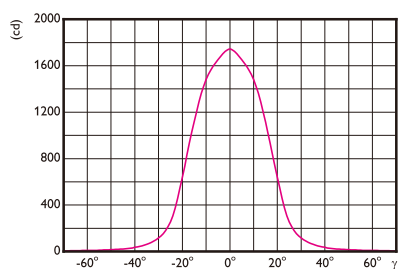


Light output ratio	1.00	I_{max}	1746 cd
Service upward	0.00	BS ($\frac{1}{2} I_{max}$)	$2 \times 18^\circ$
Service downward	1.00	BS ($\frac{1}{2} E_0$)	$2 \times 17^\circ$

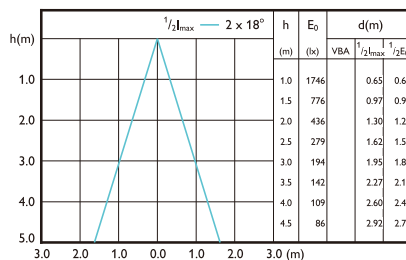
Polar intensity diagram



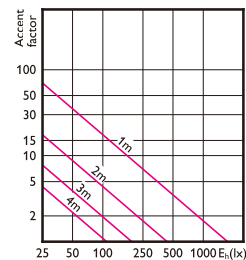
Cartesian intensity diagram



Beam diagram



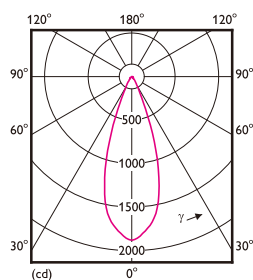
Visual impact diagram



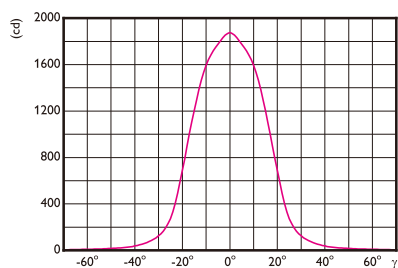
MASTER LED 8-50W+ 840 MR16 36D Dim

Light output ratio	1.00	I_{max}	1878 cd
Service upward	0.00	BS ($\frac{1}{2} I_{max}$)	$2 \times 18^\circ$
Service downward	1.00	BS ($\frac{1}{2} E_0$)	$2 \times 17^\circ$

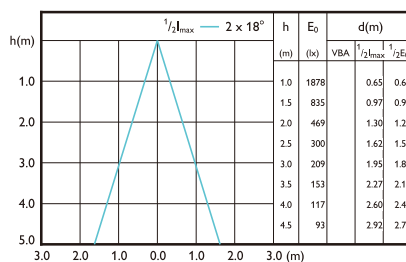
Polar intensity diagram



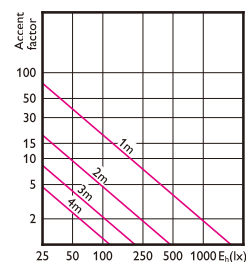
Cartesian intensity diagram



Beam diagram

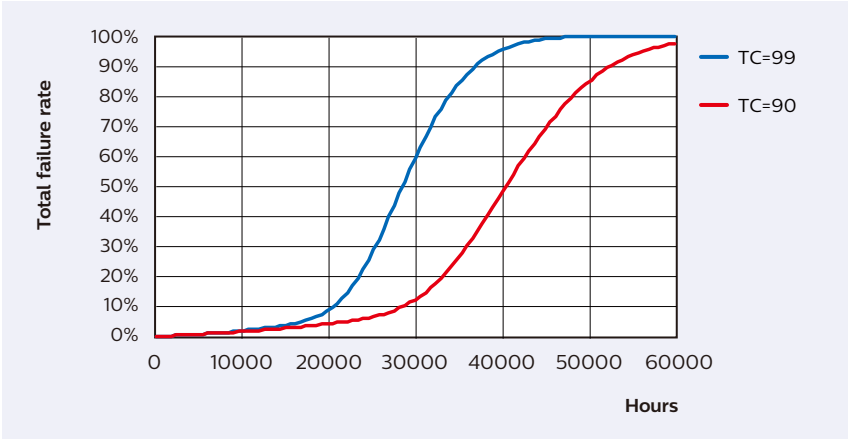


Visual impact diagram



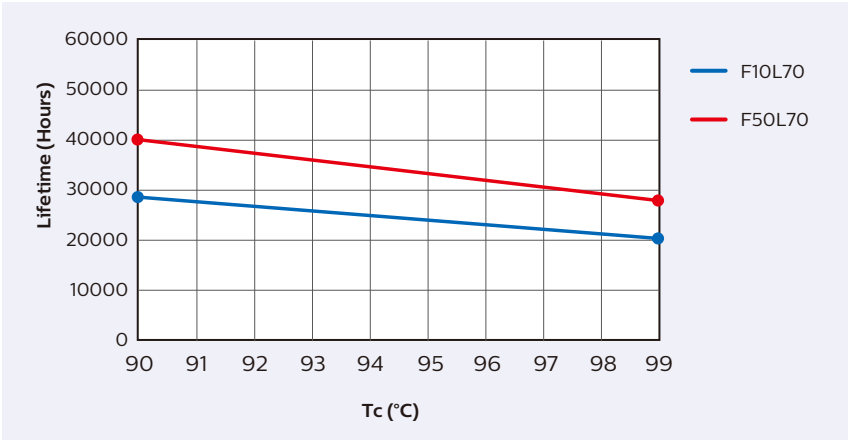
Lifetime + Sustainability

Failure Rate Curve of LED 6.5W & 7W

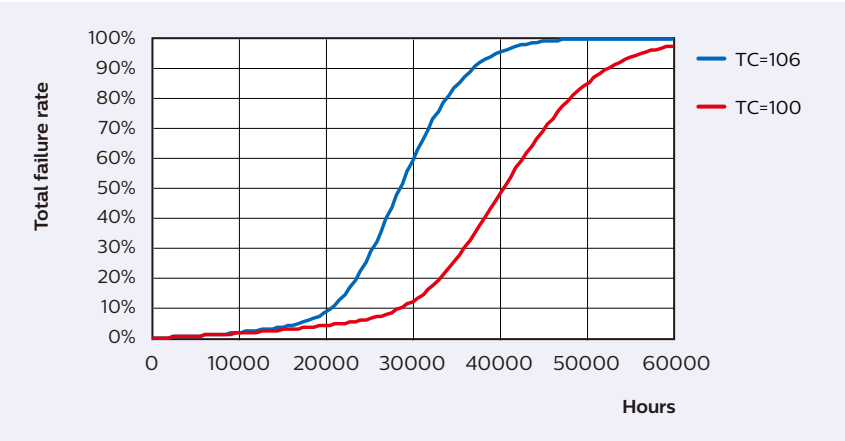


- Philips LED MR16 lamp has a lifetime of 40,000 hours, defined as the number of hours when 50% of a large group of identical lamps below 70% of its initial lumens.
- Lifetime estimation based on the application environment condition: at room temperature (25°C@ 10mm free air), base up burning position, and at rated voltage.

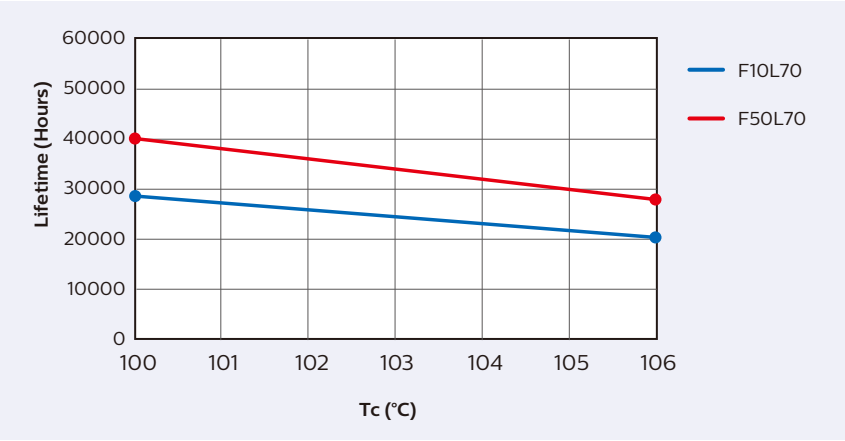
Master LED 6.5W & 7W Lifetime Vs Tc



Failure Rate Curve of LED 8W & 9W



Master LED 8W/9W Lifetime Vs Tc

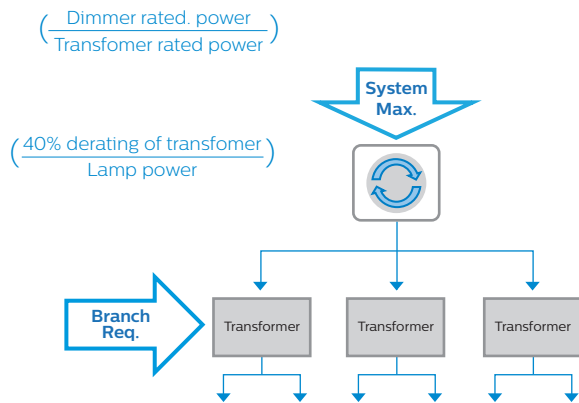


Installation Guide

Philips LED 7W MR16 lamp has a unique, patented, electronic solution 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. To determine the maximum number of these LED MR16 lamps to be connected to a standard halogen transformer, is by simply dividing 40% of the rated power of the transformer by LED lamp wattage.

Thus, a 60W Halogen transformer will hold Master Premium LED Spot 7W up to $\text{INT}(60 \times 40\% / 7) = 3$ lamps.

1. Determine the max. number of lamps can be connected to a ET, 40% power derating of ET should be considered
2. For dimming system, you can install for each dimmer



Example:

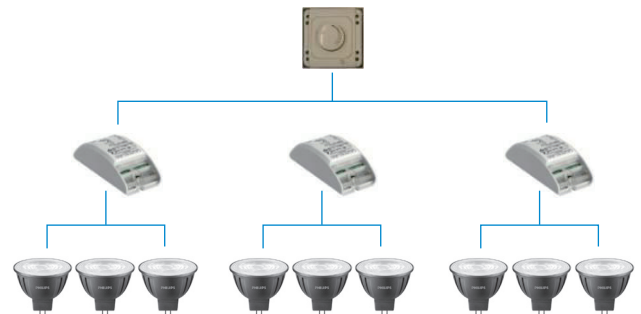
1. W (or VA) * 40% of ET to determine max. lamps per transformer



Transformer: ET-S60
Pout: 60W max
 $60W \times 40\% / 7W \sim 3$
3 x 7W lamps max. per transformer

2. The rated power of the dimmer and the transformer is to determine the max. numbers of the transformers per dimmer

Max. number of transformers:
 $200W / 60W = 3.33 \rightarrow 3$ transformer per dimmer



Compatibility list

7W/8W/9W

		Transformer												
		Brand	Philips							OSRAM				
		Model	ET-E 10 LED	ETS 15	ETS 30	ET-E 60	ET-S 60	ET-E 105 With 2 lamps	EHC 150F	ET-R 60	ET-P 60	ET-Parrot	Redback 60VA	ET-A-60
		Without Dimmer												
Brand	Model													
Dimmer	Clipsal	32E450UDM												
		32E450TM												
		32E2CFLDM												
		250Volt 500VA												
		KB31RD400												
	ABB	M20 SM												
		6197/14-500 & 6197/15-500												
	HPM	Cat 400L												
		Cat 400T												
	Philips	LRD8020												
	Lonon	NB6MB												
	TCL	V8051												
		A8051												
	TNC	Z62-M12												
	PDL	624TMWH												
	KIWI	K004U												
		K005T												
	ANAM	D700												
		3031H360M												
	Schneider	E3031HD												
		559												
		WEG57816->WEG57912												
	Panasonic	WEG57813												
		WTDF57026K												
		WTDF57016K												
		WEC57518												
		WMS 549												
		NQ20203T												
		WN575211K												
		WTY521730W												
		WTA57583W												
		NQ20615												
	Koizumi	AEE690180												
	ENDO	X-220W												
	ERE电工	110V												
	中一电工	110V												
		220V												
	Anam	Anam 1000W												
	ABB	ABB6523												
	Daesung	SRD-1000												
	SHINSUNG	SSD-500												

		Transformer													
		Brand	OSRAM			Tridonic			LONON	NVC	Koizumi	ModuleX	ENDO	Daiko	
		Model	HTM 70	HTM 105	HTM 150 with 2 lamps	VIPER	Speedy	POSSUM	LNDET-50	ET60E	AEE690156	TR-E055D	X224B	DP36283	
		Without Dimmer													
Brand	Model														
Dimmer	Clipsal	32E450UDM													
		32E450TM													
		32E2CFLDM													
		250Volt 500VA													
		KB31RD400													
	ABB	M20 SM													
		6197/14-500 & 6197/15-500													
	HPM	Cat 400L													
		Cat 400T													
	Philips	LRD8020													
	Lonon	NB6MB													
	TCL	V8051													
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		NQ20203T													
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	Koizumi	AEE690180													
	ENDO	X-220W													
	ERE电工	110V													
	中一电工	110V													
		220V													
	Anam	Anam 1000W													
	ABB	ABB6523													
	Daesung	SRD-1000													
	SHINSUNG	SSD-500													

6.5W

Brand	Philips												
Model	Certaline 60	Certaline 105	Certaline 150	Primaline 105	Primaline 150	ET-E 60	ET-E 105	ET-S 60	ET-K 50	ET-C 60 (10#)	ET-E 10 LED	ET-E 15	ET-S 15
Min Load	20W	35W	50W	35W	50W	20W	5-W	20W		20W			
Max Load	60W	105W	150W	105W	150W	60W	105W	60W	50W	60W	10W		
1 Lamp													
2 Lamps	NA							NA	NA	NA	NA		
3 Lamps	NA							NA	NA	NA	NA	NA	NA

Brand	Osram						ELT	Varilight		Tridonic		
Model	ET-P 60	ET-Parrot 70	Redback 60VA	ECO-ET 60	HTM 105 (n0938)	HTM 150	ECO-ET 105	TCE 6/23-E	YT 50	VIPER	Speedy TE-0050	POSSUM
Min Load	20W		20W	20W	35W	50W	35W	20W	0W		20W	
Max Load	60W		60W	60W	105W	150W	105W	60W	50W	60W	50W	60W
1 Lamp												
2 Lamps	NA		NA	NA				NA	NA	NA	NA	NA
3 Lamps	NA		NA	NA				NA	NA	NA	NA	NA



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