Aeon Lighting Technology Inc.

MR16 Comparison Table

Asteria MR16 7W V.S PhiliXX MR16 10W

Specification

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	ALT - V4 MR16	ALT - V5 MR16	Philixx-mastar
Average Life	20,000 hrs		-
Cap Type	GU5.3 / E27 / GU10 / E11 / E14 / E17 / B22D		GU5.3
Color Temperature	TW / NW / WW		TW / NW / WW
CRI	80		80
Length	46 mm		54 mm
Diameter	50 mm		50 mm
Weight	25 g		50 g
Lumen Output (initial)	420 lm (Warm White)	520lm (Warm White)	440lm(Warm White)
Lumen Per Watt	60 lm/w	74.2 lm/w	44 lm/w
Voltage	AC / DC 12V or AC 110V~240V		AC / DC 12V
Wattage	7W		10W
Beam Angle	25° & 38° & 45° & 72°& 120°	38° & 50° & 120°	15° & 24° & 36°
Certification	UL, C-Tick, CE, FCC, LVD, RoHS, Laser Testing	UL, C-Tick, CE, FCC, LVD, RoHS, Laser Testing	CE

Illumination

Aeon Lighting Technology Inc.

LUX	ALT-V4	ALT-V5	Philixx-mastar
Color Temperature	WW	WW	WW
Beam Angle	25D	38D	36D
0.5M	7920 lux	4840 lux	3920 lux
1M	1980 lux	1210 lux	980 lux
1.5M	880 lux	538 lux	435 lux
2M	495 lux	302 lux	245 lux
2.5M	316 lux	193 lux	156 lux
3M	220 lux	135 lux	108 lux

Temperature

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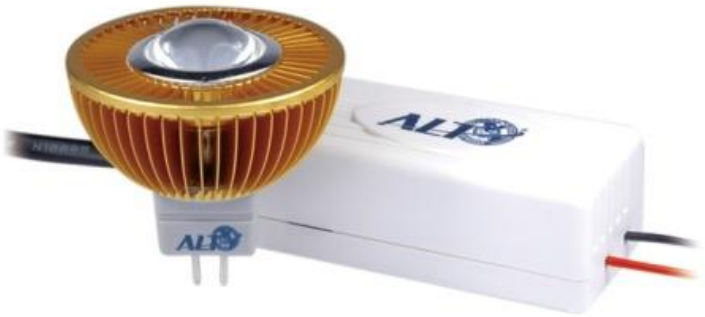


ALT- MR16	10 min	20 min	30 min	60 min	90 min	120 min
Heat sink	46.8	54.5	58.5	58.8	59.1	58.6
Chipboard	49.2	56.6	60.2	60.8	60.3	60.9
Working Temperature	24.2	23.6	24.5	24.1	23.1	23.6

According to the chart, Asteria™ has a shorter time to reach heat equilibrium and maintains longer temperature stability time. Besides, the temperature gap between heat sink and chipboard is small, which means Asteria™ has well-designed heat dissipation technology and is able to transfers heat from chipboard to heat sink as quickly as possible. It also guarantees the stability and lifespan of the products.

Temperature Con't

Aeon Lighting Technology Inc.

10W	10 min	20 min	30 min	60 min	90 min	120 min
Heat sink	48.8	55.2	59.1	62.5	62.6	62.9
Chipboard	71.4	93.2	101.3	105.0	104.8	105.1
Working Temperature	25.2	24.8	24.6	25.3	24.5	25.1

In contrast, the other brand has 42 degrees Celsius difference between chipboard and heat sink due to low thermal conductivity. As estimated, Tj will reach up to 117 degrees Celsius. High Tj will lead to serious light depreciation, which strongly affects the lifespan of the product.

Heat Dissipation

Aeon Lighting Technology Inc.

ALT

Asteria™ uses natural heat transferring to dissipate heat. The dissipation area is big and with high efficiency. The product stability is superior, and with longer lifespan and there is no noise.

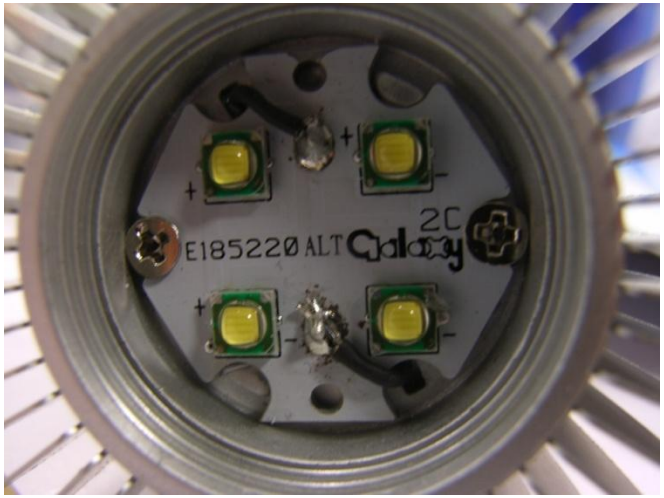
Philixx

The heat sink of “Master products” is in the bottom of the plastic case. The product uses fans for heat conversion. However, there is fan noise while using the product. If the fan is broken, the product will not work anymore. Poor stability, with noise and shorter lifespan.

Components

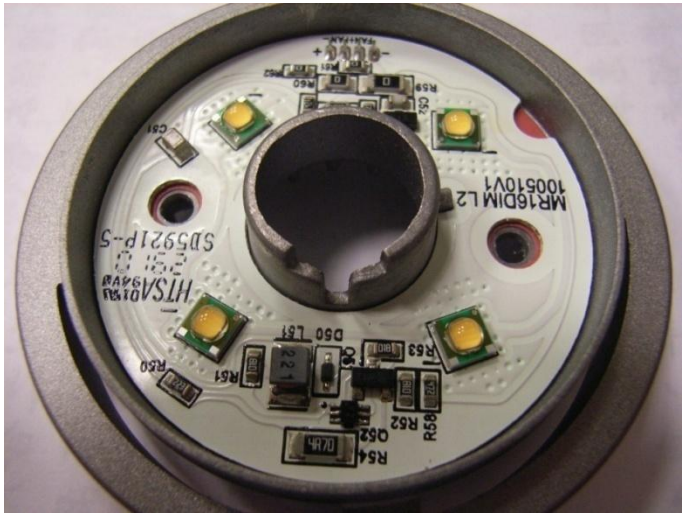
Aeon Lighting Technology Inc.

ALT



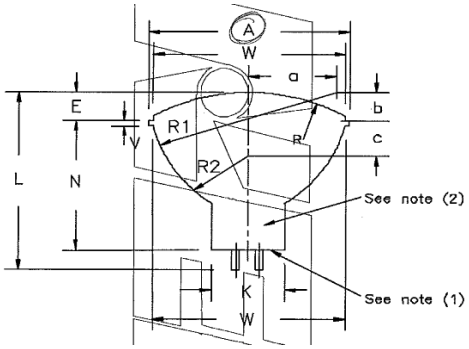
Asteria™ applies MCPCB with high heat-dissipation efficiency. Even though the cost is 3 to 4 times higher than FR4 chipboard, the product can obtain better stability and lifespan than other products.

Philixx



Master uses FR4 chipboard with low cost and heat-dissipation efficiency. The result leads to 42 degrees Celsius of temperature difference between chipboard and heat sink and reduces the lifespan of the product.

Size of the Product



Regulation for ANSI

ALT

Philixx

Asteria™ follows the regulations of international ANSI; that means Asteria™ can fit in all types of light fixture.

The size of Master is beyond of the regulations of ANSI, therefore, some light fixture can not be fitted in.

Dimming Function

Aeon Lighting Technology Inc.

ALT

ALT proprietary dimmable transformer is applied and most of the dimmer in the market can be compatible to Asteria™ with high stability.

Philixx

No designated dimmable transformer is contained in the packaging box. The compatibility with dimmers in the market may be the problem. Master performance of the dimming will be affected by different dimmer applied. Hence, the stability is poor.

Lumens Depreciation Test

Aeon Lighting Technology Inc.

Continuously lighting the product for 18 hours In the ambient temperature of 80℃

	Before Test	After Test	Light Depreciation
1.ALT – Asteria MR16 V5	1210 lux	1173lux	3.0%
2.Philxxx-Master	980 lux	765 lux	21.9%

ALT Asteria™ is with excellent heat dissipation technology, so the light depreciation is low. Other brand – Master, the temperature difference is large between chipboard and the heat sink; therefore, the light depreciation is high so as to shorten the lifespan of the product.