LiTON®

ADVANTAGES OF DEDICATED LED VS. AFTERMARKET MR16 LED LAMPS

Advantages of Dedicated LED Fixtures vs. Aftermarket MR16 LED Lamps

In today's energy conscious, cost-minded marketplace manufacturers, contractors and consumers are looking for the most efficient, sustainable and affordable LED lighting solutions available.
To be sure, there are literally thousands of Aftermarket LED Lamp products and dozens of Dedicated LED products competing for market share. Each manufacturer makes their own claims about compatibility, energy efficiency, sustainability, color and color rendering, lamp life and so on.
With so many choices and conflicting information, it can be a daunting task to try and make the best LED lighting decision for a particular project or job. To help you answer the question - Aftermarket or Dedicated? – Liton has created this technology comparison. In the following tables we compare the features and benefits or pluses and minuses of each technology.

	 **Aftermarket MR16 Style LED Lamps**	 **Liton Dedicated LED Housings**
Energy Efficiency	A typical 50 watt Low Voltage Transformer can increase the net power draw of the LED lamp by 4.5 watts or more. Example: a 2W aftermarket LED could actually consume 6.5 watts when transformer draw is added and still output only 100 lumens, **cutting the LPW in half**. See table.	Dedicated LED Drivers use less wattage. For example, it takes only 0.6 Watts to power a 4 watt LED. The actual combined power consumption is only 4.6 watts and produces 200 lumens. That's double the LPW and half the energy. See table.
Dimming	Because the LED driver is built into the lamp and transformer options are limitless, **finding compatible dimmers** will require investigation and may not be possible to a certainty. Incompatible dimmers can cause flickering, ghosting and other problems including lamp failure.	**Liton Dimming Options** are decided prior to purchase. Liton provides compatible dimmer information for all of its products. You don't have to investigate dimmer compatibility. We have already pre-qualified our products. Dimming options may include Incandescent, ELV, O-10V and Hi-Lume.
Sustainability	The large variety of inexpensive lamps available from many different sources creates a large number of variables between lamps. Mixing and matching lamps may create an **unprofessional** look to the space.	Liton offers beam spread, color temperature, CRI, and lumen output options that are consistent across the product line and are maintained through rigorous **laboratory testing**.
Re-Lamping	**Re-lamping mistakes**: Universal MR16 base means changes in color temp, CRI, beam spread and lumen output could accidentally be introduced, changing the lit environment.	Liton Lighting's Dedicated LED Housings and Trims are designed to function as an **integrated unit**. They cannot be re-lamped incorrectly. No other lamp can be used with the housing. This facilitates **sustainable lighting environments**.
Energy Star & Energy Rebates	Housings with MR16 and medium base sockets **don't qualify as high efficacy** eventhough they use LED lamps because they can be changed back to low efficacy lamps too easily. Therefore, they **may not qualify for Energy Code Rebates or Energy Star Ratings**.	Liton's Dedicated LED Housings use specialized GU24 sockets and quick-connectors and never use Medium base or MR16 sockets. **This qualifies many of them for Energy Star rating and strict Energy Codes like CA's Title 24**.
Warranty	Warranties vary from 0 to 2 years and **only cover the lamp**.	Liton's LED fixtures and trims are backed by a 3 or 5 year warranty that covers the entire luminaire not just the lamp.

Actual Wattage Draw Comparison

Many people believe that an aftermarket LEM lamp, say 2 watts, only consumes 2W. However, aftermarket lamps can consume more energy when all current draws are factored in:

	LED Wattage Draw	Typical **Low Voltage** Transformer Wattage Draw to Drive 2W LED	Total **Combined** Wattage Draw	Typical **Lumen Output** per LED Watt (50lm)	Actual Lumens per Watt (**LPW**) Lm/Watt = LPW
	**2 Watts**	**4.5 Watts**	**6.5 Watts**	**100 lm**	**13.58**
	LED Wattage Draw	Typical **LED** Wattage Draw to Drive 4W LED	Total **Combined** Wattage Draw	Typical **Lumen Output** per LED Watt (50lm)	Actual Lumens per Watt (**LPW**) Lm/Watt = LPW
	**4 Watts**	**0.6 Watts**	**4.6 Watts**	**200 lm**	**43.47**

Comparative Results		
Dedicated LED Total Wattage **Difference**	Dedicated **LED Lumen** Increase	Dedicated **LED LPW** Increase
-1.9 Watts	**+100 lm**	**+28.09 LPW**

Conclusion

As you can see, by using the dedicated LED housing instead of the aftermarket lamp you are saving 1.9 watts per fixture, you are doubling the lumen output and increasing your energy efficiency by 28.09 LPW, even though you are using a higher wattage lamp!!

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