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MAGNILUMEN PLUS+™

HIGH OUTPUT

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# A Comparison of T5HO Fluorescent and Magnilumen Plus High Output LED Lighting Systems

**High-output (HO) lighting solutions, such as T5HO (High Output T5 fluorescent) and Magnilumen Plus HO (a high-output LED system), are popular choices in environments like warehouses, horticulture, and retail, where intense illumination is necessary. While both systems offer high-performance lighting, they differ in various aspects, including efficiency, lifespan, and adaptability to modern lighting needs.**

## 1. Technology and Design

• **T5HO:** Relies on fluorescent technology, utilizing a small-diameter (5/8-inch) tube to produce high lumen output. It is known for its uniform light distribution and works well with traditional fixtures.

• **Magnilumen Plus High Output:** Represents a shift towards LED-based systems, designed for both retrofitting existing fluorescent fixtures or new installations. It offers a modern alternative, built for energy efficiency and longer life.

## 2. Energy Efficiency

• **T5HO:** Consumes more energy due to its reliance on ballasts, which add to the energy usage of the system.

• **Magnilumen Plus High Output:** Significantly more energy-efficient. As an LED system, it consumes less power to provide the same or greater light output, helping reduce operational costs and meet sustainability goals.

## 3. Lifespan and Maintenance

• **T5HO:** Has a moderate lifespan, generally between 20,000 to 30,000 hours. Over time, lumen output decreases due to ballast wear and lamp degradation.

• **Magnilumen Plus High Output:** Offers a much longer lifespan, typically exceeding 50,000 hours, with minimal lumen depreciation, reducing the frequency of replacements and minimizing maintenance costs.

## 4. Light Quality and Adaptability

• **T5HO:** Provides consistent, bright light but with limited color temperature options and lacks advanced dimming capabilities.

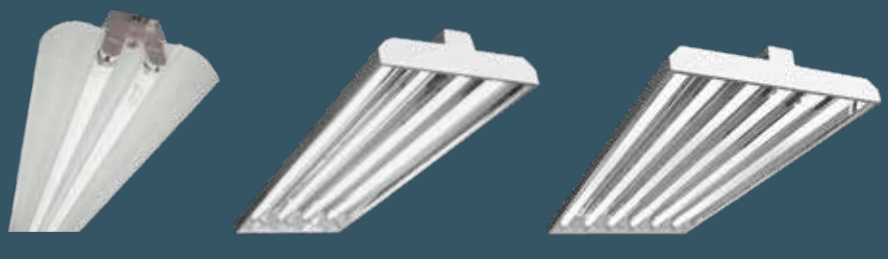
• **Magnilumen Plus High Output:** Excels in light quality, offering a wider range of adjustable color temperatures (such as 4000K, 5000K), better color rendering, and advanced dimming options. This adaptability makes it ideal for dynamic lighting requirements in commercial and industrial settings.

## 5. Cost Considerations

• **T5HO:** Has a lower initial cost for both fixtures and installation.

• **Magnilumen Plus High Output:** Although the upfront cost is higher, the long-term savings from energy efficiency and reduced maintenance make it a more cost-effective option in the long run.

Upgrade T12, T8, and T5HO 4, 6, and 8 lamp high bays with Magnilumen™ Plus High Output kits.



# A Comparison of T5HO Fluorescent and Magnilumen Plus High Output LED Lighting Systems

**While T5HO fluorescent lighting remains a reliable solution for traditional applications, Magnilumen Plus High Output LED systems provide superior energy efficiency, longer lifespan, and increased versatility. For organizations seeking to modernize their lighting infrastructure and prioritize sustainability, Magnilumen Plus High Output is the better choice.**

## Comparison Table: Fluorescent vs. LED in High Bay Lighting Applications

| | Fluorescent (e.g., T5HO) | LED (e.g., Magnilumen Plus HO) |
|---|---|---|
| ENERGY EFFICIENCY | **Moderate** - Higher energy consumption. Efficiency: 80-100 lumens per watt. | **High** - Lower energy consumption. Efficiency: 130-200 lumens per watt. |
| LIFESPAN | 20,000-30,000 hours. Lumen output diminishes faster. | 50,000+ hours. Minimal lumen depreciation over time. |
| LIGHT QUALITY | Good, but limited in color rendering (CRI ~80) and fewer temperature options. | Excellent, with versatile color temperatures (4000K, 5000K). |
| DIMMING CAPABILITY | Limited and requires special ballasts. | Superior dimming, often compatible with smart controls. |
| INITIAL COST | Lower upfront cost for fixtures and installation. | Higher upfront cost, but decreasing with advancements in LED technology. |
| OPERATING COST | Higher due to increased energy usage and frequent lamp/ballast replacements. | Lower due to energy efficiency and reduced maintenance needs. |
| HEAT EMISSION | Produces significant heat, requiring ventilation in some settings. | Minimal heat output, reducing HVAC load. |
| MAINTENANCE | Requires frequent lamp and ballast replacements. | Virtually maintenance-free during its lifespan. |
| ENVIRONMENTAL IMPACT | Contains mercury, requiring proper disposal (hazardous waste). | Environmentally friendly, free of hazardous materials. |
| FIXTURE ADAPTABILITY | Limited compatibility with smart or IoT systems | Easily integrates with smart lighting systems and sensors. |
| APPLICATIONS | Suitable for general lighting in warehouses and industrial settings. | Ideal for all applications, including high-demand environments and dynamic lighting needs. |

**This detailed comparison shows that while T5HO fluorescent lighting is a viable option, Magnilumen Plus High Output LED systems offer far superior energy savings, longevity, and adaptability, making them a smart choice for modern lighting applications.**