



## Energy Saving T5 High-Bay

Lighting made easy to  
maximize energy and cost savings  
T5 High-Bay Catalog 05/2012



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## Comparison of High Bay Industrial Lighting Base with 400W power

### 1. High Bay – Mercury Vapor 400W

- Color Temperature: 6500k (Daylight)
- Lumens: 22,000 lm.
- Power: 400W
- Ampere: 2A (220 VAC), 1.1A (380 VAC)
- Cable: THW, VCT Ø 4 Sqmm.

#### Vapor 400W



#### Accessories:

**Control Gear (Power Supply), Mercury Vapor Lamp E40 400Wx1 Ea**



### 2. Fluorescent High Bay – T5 4 x 54W

- Color Temperature: 6500k (Daylight)
- Lumens: 19,000 lm.
- Power: 216W
- Ampere: 1A (220 VAC), 0.6A (380 VAC)
- Cable: THW, VCT Ø 2.5 Sqmm.

#### T5 High Bay 4x54W



#### Accessories:

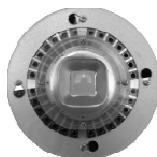
**Electronic Ballast 2 of 2x54W, T5 Fluorescent G5 54Wx4 Ea**



### 3. Hi-Efficiency LED High Bay – 120W

- Color Temperature: 6500k (Daylight)
- Lumens: 10,000 lm.
- Power: 120W
- Ampere: 0.6A (220 VAC), 0.32A (380 VAC)
- Cable: THW, VCT Ø 2.5 Sqmm.

#### Hi efficiency LED High Bay 120W






#### Accessories:

**Power Supply**





### High Bay Lighting Comparison



|                                     | Mercury Vapor   | T5 High Bay  | LED High Bay  |
|-------------------------------------|---|--|---|
| <b>Feature</b>                      |  |  |  |
| <b>Power Consumption (W)</b>        | 400W  | 4x54W (216W)   | 120W  |
| <b>Initial Lumens (lm)</b>          | 22,000  | 19,000   | 10,000  |
| <b>Initial Lumens / Watt</b>        | 53  | 88   | 83  |
| <b>Lifetime (hr.)</b>               | 12,000  | 22,000   | 50,000  |
| <b>Ampere (A) 220V</b>              | 2A  | 1A   | 0.6A  |
| <b>% of Power Remain</b>            | 40% at 10,000 hr.   | 80% at 20,000 hr.  | 70% at 45,000 hr.   |
| <b>Color rendition index (CRI)*</b> | 55%   | 85%  | 80%   |
| <b>Instant On Starts</b>            | Slow warm-up  | Instantly  | Instantly   |
| <b>Hot Re-strike</b>                | ±10 minutes   | Re-starts Instantly  | Re-starts Instantly   |

**\*Color Rendition Index:** The Color Rendition Index (CRI) is the measure of the ability of a light source to reproduce the colors of various objects faithfully in comparison with an ideal or natural light source. The lower CRI negatively impacts visual acuity and can strain the eye.

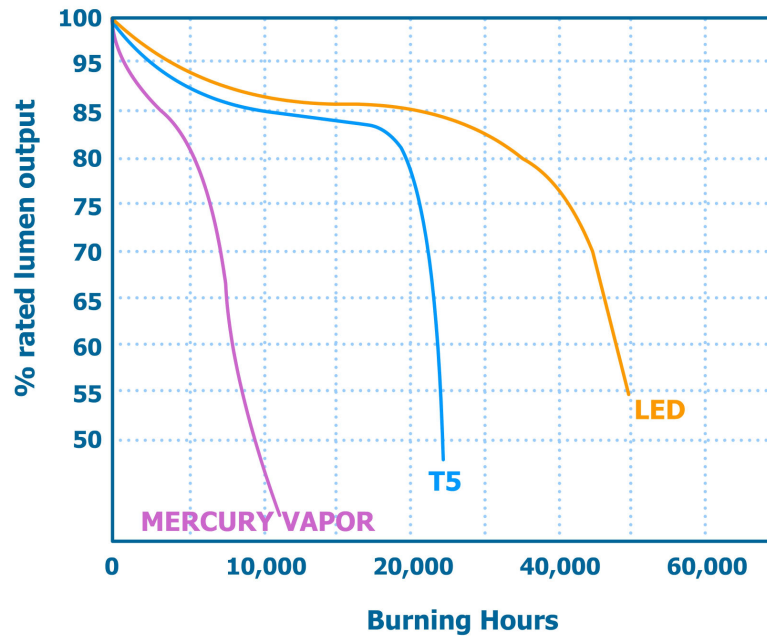
### Estimated Energy Saving

| Mercury Vapor   | T5 High Bay   | Saving (Watt) | Percentage of Saving |
|---|---|---------------|----------------------|
|  |  |               |                      |
| 400   | 216   | 184           | 46%                  |

| Mercury Vapor   | LED High Bay  | Saving (Watt) | Percentage of Saving |
|---|---|---------------|----------------------|
|  |  |               |                      |
| 400   | 120   | 280           | 70%                  |

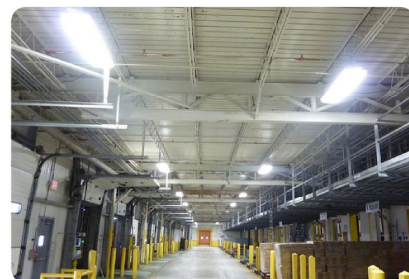
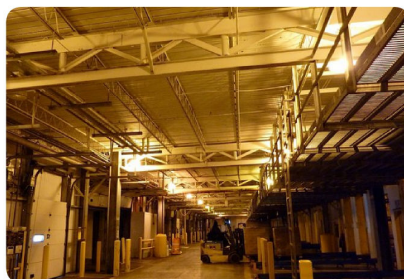
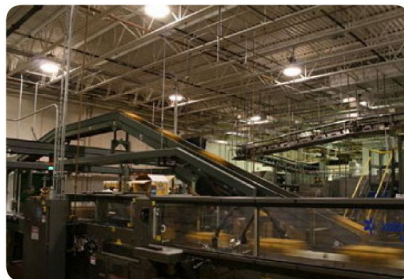
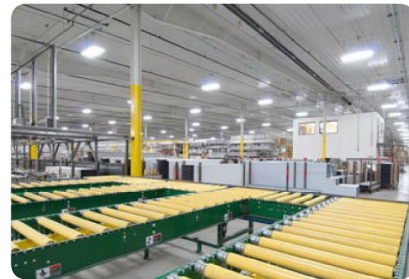
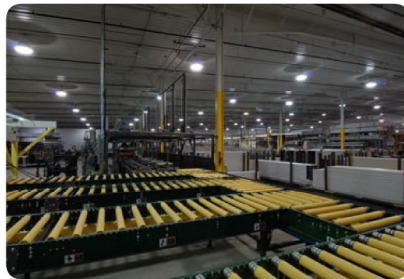
### Lumen Depreciation Chart



### Applications

Before

After



## Return on Investment Analysis

Understanding the Return on Investment for a lighting retrofit project is critical to get management approval and buy-in. The process is very simple. To begin with, you'll need the following pieces of information:

- Quantity of existing HID fixtures
- Total Watts consumed by each existing fixture
- Burn hours per year (number of hours the lights are on per year)
- Cost of Electricity per kilowatt-hour (kWh)

Your electric bill may have multiple charges per kWh in addition to fixed charges on every bill. In addition, the rate may change depending on the amount of electricity you use or the time of year. To get an accurate cost for your ROI analysis, you should add up the individual per kWh charges and average the variable charges throughout the year.

Your utility company may also impose an additional charge based on the maximum amount of electricity your facility draws at any one time throughout the day. This is called a demand charge. A lighting retrofit project may be able to reduce this charge also if the total draw from your operations drops to a lower demand tier.

## Relight with T5 ROI Formulas

The following formulas can be used to calculate a simple return on investment analysis.

### Annual Savings

$$\frac{\text{Burn Hrs.} \times \text{\# of Fixtures} \times \text{kWh Rate} \times (\text{Existing Watts} - \text{T5 Watts})}{1000} = \text{Annual Savings}$$

### Return on Investment

$$(\text{\# of Years} \times \text{Annual Savings}) - (\text{\# of Fixtures} \times \text{Cost per Fixture}) = \text{ROI}$$

### Payback Period

$$\frac{(\text{\# of Fixtures} \times \text{Cost per Fixture})}{\text{Annual Savings}} = \text{Payback Period (yrs)}$$

**T5 High-Bay Set: Power by Lekise**  
**Product Code: HB-T5L454W-115/00**

| <b>Lekise</b>               | <b>Light Fixture</b>  |           | <b>Electronic Ballast</b>  |          | <b>Lamps</b>  |          |
|-----------------------------|---|-----------|--|----------|---|----------|
|                             |  |           |  |          |  |          |
| <b>Price</b>                | 1x\$100   | \$ 100.00 | 2x\$20   | \$ 40.00 | 4x\$8.50  | \$ 34.00 |
| <b>Total (Complete Set)</b> | <b>\$ 174.00 USD (THB 5,250 BAHT)</b>   |           |  |          |   |          |

**T5 High-Bay Set: Power by Philips**  
**Product Code: HB-T5P454W-140/00**

| <b>PHILIPS</b>              | <b>Light Fixture</b>  |           | <b>Electronic Ballast</b>  |          | <b>Lamps</b>  |          |
|-----------------------------|---|-----------|--|----------|---|----------|
|                             |  |           |  |          |  |          |
| <b>Price</b>                | 1x\$100   | \$ 100.00 | 2x\$23.25  | \$ 46.50 | 4x\$12.50   | \$ 50.00 |
| <b>Total (Complete Set)</b> | <b>\$ 196.50 USD (THB 5,950 BAHT)</b>   |           |  |          |   |          |

\* see specification and price for Electronic Ballast and Lamps' reference at 'TIEC Lamp Catalog'

\*\* not included installation accessories such as hanger or support

