



T5/HO versus High Ballast Factor T8

BALLAST FACTOR:

The ratio of light output from a reference lamp operated by a ballast under test, to the light output from the same reference lamp operated by a reference ballast. The reference ballast provides a ballast factor (BF) of 1.0.

When running T8 lamps on a High Ballast Factor ballast, the lamps are rated at 20,000 hours but only if the ballast is running the lamps on an electronic rapid-start or programmed-start mode and further is not running the lamps at current which exceeds the maximum allowable for the lamp. In the case of T8 it is 265ma. If the lamps are operated on an Instant-Start ballast lamp life is reduced and lumen maintenance goes down.

T8 lamps on a BF 1.0 magnetic ballast draw 265ma. T8 lamps on a BF 1.0 electronic ballast draw 210ma. At a BF of 1.0 the lamps are running at 210ma which is below the design criteria of the lamp. So at BF 1.2 the ballast is running the lamp at 210ma X 1.2 or approximately 263ma (still below the design criteria of the lamp). Thus you should achieve a full 20,000 lamp life @ 3 hours per start and **50% mortality** (this is standard test protocol).

Most high ballast factor ballasts run T8 lamps at a BF of 1.2 (meaning the lumen output of the lamp is 1.2 times the lumen output of the lamp on a BF 1.0 ballasts, so if the lamp produces 2800 lumens at BF 1.0, it produces 3500 lumens at BF 1.20 (2800 X 1.2).

A major advantage of the T5/HO system is the T5/HO system provides 20,000 hours at 10 hours per start with only **30% mortality** (also based on standard test protocol). Other benefits of T5/HO:

- **Better color, increased CRI.**
- **Less maintenance, less lamps to replace, less often. Less ballasts to replace.**
- **Higher lumen maintenance.**
- **More lumens per watt High Efficiency (HE).**
- **Higher light output per lamp.**
- **Lower lamp mortality at present 20,000 rated life, 30% mortality T5/HO Vs 50% mortality T8.**
- **Longer lamp life currently estimated to be 30,000 hours at 12 hours per start, 36200 hours at 24/7. Expect to see new lamp manufacturer data soon.**
- **Smaller, easier to install fixtures.**
- **Smaller optics which result in more punch and better distribution and uniformity.**
- **Lower minimum start and operating temperature.**
 - T8 (32°F)
 - T5/HO (-20°F)

The T5/HO system is a proven system and a better system in every respect.