

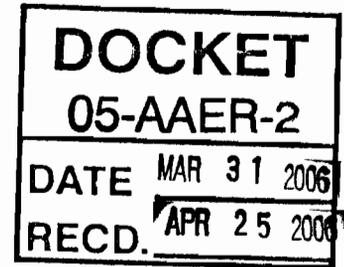
Email message from James Richards 3/31/06

Gary Flamm

Attached is a proposed text to define the way the efficiency is measured.

Best Regards,

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“Lamp-ballast system efficiency” in this section refers to High Intensity Discharge, HID, lamped luminaire and means the efficiency of a lamp and ballast combination expressed as a percentage and calculated by $\text{Efficiency} = P_{\text{out}}/P_{\text{in}}$, as measured, P_{out} is the measured operating lamp wattage and P_{in} is the measured operating input wattage when tested under the following conditions.

1. The input voltage to the ballast shall be considered to be 120, 208, 240, 277, or 480 V unless the ballast is intended for other system voltages, in which case, rated voltage is to be considered the marked voltage or the mid-point of a range.
2. The ballast is to be loaded with the lamp, wattage, type and size as specified on the ballast. Where more than one lamp is specified, the measurement is to be made with each lamp. Where a range, such as lamp wattage, is specified, the ballast is to be measured with the highest and lowest in the range.
3. The lamp and, when provided, capacitor are to constitute a nominal system. A nominal system is to be considered to exist when, with the system stabilized at rated voltage, the ballast output lamp wattage and voltage are within ± 5 percent of the ballast rating in accordance with the ANSI C78 series standards or the manufacturer's data sheet.
4. During the input and output measurements, the ballast is to be mounted in setup which consists of a test alcove as prescribed for the Normal Temperature Test in the Standard for High-Intensity Discharge Lamp Ballasts UL 1029.
5. The power input, P_{in} and the power output, P_{out} are to be measured after 6 hours of operation using a true rms wattmeter rated for the voltages being measured.

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