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A study on the influence of operating circuit on the position of emission point of fluorescent lamp TADAO UETSUKI, YUKI GENBA, Tsuyama National College of Technology, TAKASHI KANDA, Panasonic Electric Works Ltd. — High efficiency fluorescent lamp systems driven by high frequency are very popular for general lighting. Therefore it is very beneficial to be able to predict the lamp's life before the lamp dying, because people can buy a new lamp just before the lamp dying and need not have stocks. In order to judge the lifetime of a lamp it is very useful to know where the emission point is on the electrode filament. With regard to a method for grasping the emission point, it has been reported that the distance from the emission point to the end of the filament can be calculated by measuring the voltage across the filament and the currents flowing in both ends of the filament. The lamp's life can be predicted by grasping the movement of the emission point with operating time. Therefore it is very important to confirm whether the movement of the emission point changes or not when the operating circuit is changed. The authors investigated the difference in the way the emission points moved for two lamp systems which are very popular. One system had an electronic ballast having an auxiliary power source for the heating cathode. Another system had an electronic ballast with no power source, but with a capacitor connected to the lamp in parallel. In this presentation these measurement results will be reported.

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