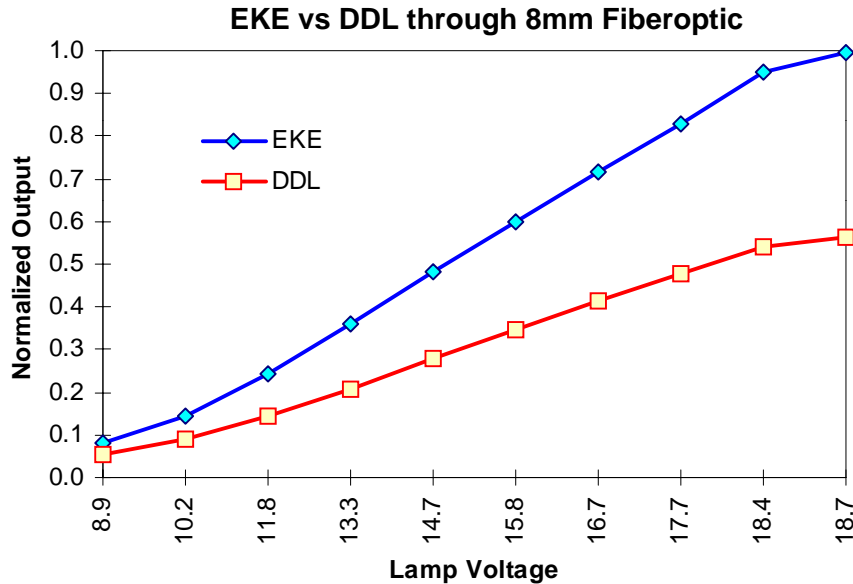


Technical Note: 103

Question: Which Halogen lamp provides longer lifetime; the EKE or DDL?



Answer:

Contrary to expectations, the EKE has more than **5 times** the lifetime in almost all applications involving fiberoptics. This is true in spite of the fact that the rated lifetimes, as given by the manufacturers, are given as 200 hours for the EKE and 500 hours for the DDL. The reason for this anomaly is that the lamp lifetime is strongly dependent on the drive conditions, which is directly related to the efficiency with which the fiberoptic is coupled. The EKE has much more efficient coupling to standard fiberoptic assemblies. Many customers switch to the DDL with the false hopes of increasing lamp lifetime.

Proof:

The graph shows that for a given standard fiberoptic assembly, the amount of light passing through the fiber and onto the working plane is on average 72% higher for the EKE versus the DDL. The lifetime of the lamp varies inversely as the tenth power of operating voltage, and the intensity varies as the third power, therefore the DDL lifetime is always about one-fifth that of the EKE.

Illumination Technologies, Inc.