

# DDC NEWSLETTER

Volume 1, Number 2.

February 1, 2000

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## Comments on January issue

Issue Volume 1, Number 1 was sent to about one hundred lamp customers. Please contact us at Display Device Consultants, 6170 Plymouth Rd. Ann Arbor, MI 48105 to receive the Newsletter by US mail or go to our Web site at <http://www.displayconsultants.com> to be put on the e-mail subscription list.

We will now continue with our article on Mercury arc Lamps.

## Historical

One of the earliest of the mercury arc lamps (refs 1 & 2) was the 128-130 cm arc length, low Hg pressure, Cooper-Hewitt tube reported in 1930. Worthing in ref 2, describes this lamp as having an inner tube diameter of 2.4 cm, an operating voltage of about 72 Volts, a current of 3.70 Amperes and an output of 6,500 lumens. This mercury lamp was intended for use in industrial lighting but had some starting problems in cold weather. Another lamp was the mercury "Glow Lamp". This 1 cm arc length lamp was used as a source of low intensity 253.7nm resonance radiation. Higher pressure lamps with "mercury pool cathodes and Fused quartz tubing transmitted the 220.nm UV line. It is interesting that they consider a two types of construction; 1) with a single anode for DC operation and 2) with two anodes for AC operation. Forsythe (ref 1) discussed the water cooled , high pressure Capillary Hg Lamp supplied by Dr. N. T. Gordon of GE Research Labs. The tubing's ID was 2 mm, with an arc length of 12 mm, a vapor pressure of 110 atm, operating conditions of voltage of 500 volts and 1.35 amperes. This 580 watt lamp delivered 38,200 lumens. Figure 1. Shows the construction of a high pressure capillary lamp (from page 539 in Cobine's book "Gaseous Conductors")

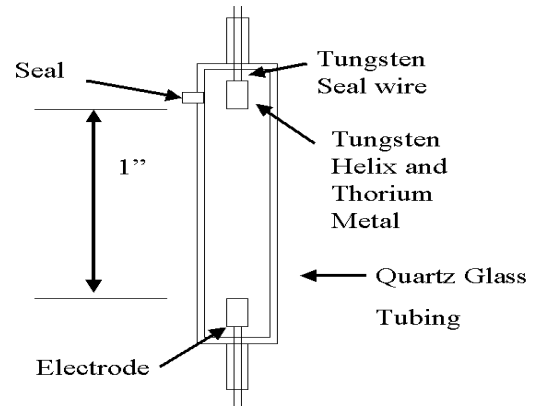


Figure 1. Early Capillary Lamp  
(from ref 4. Cobine)

article to be continued in March issue and will cover information on Lamp Development and ARC Lamps used in Microelectronics.

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## Display News

According to Monitor Market Trends 1999, the sales of 15 inch Monitors will lead in unit shipments until 2000, and then 17-inch displays will take the lead. However, the \$100 price difference between 15- and 17-inch displays has prevented 17-inch units from being sold to the low-cost/free PC market.

The SID'2000 Symposium is to be Held at the Long Beach Convention Center in Long Beach CA. May 14-19,2000.

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