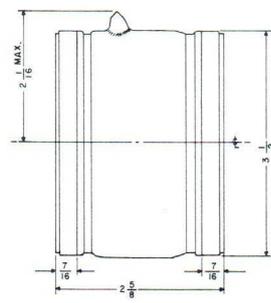TPD

IMAGE TUBE

TYPE FW-116

A PRODUCT OF ITT LABORATORIES

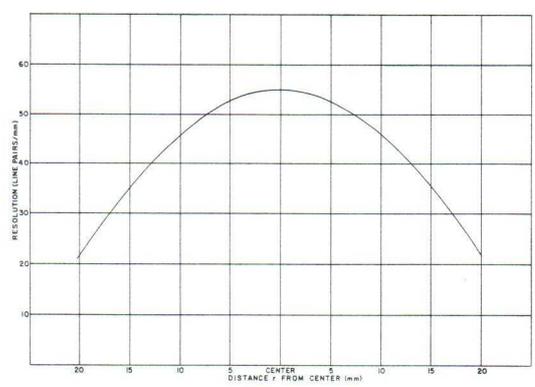Nutley, N. J. • Fort Wayne, Ind. • San Fernando and Palo Alto, Calif.

The FW-116 is a unipotential magnetically focused image tube capable of high resolution and low distortion. The tube may be operated under static or pulsed conditions and is intended (by reason of its P-11 type phosphor screen) for photographic applications rather than direct viewing.

PRELIMINARY DATA

Cathode	Cesium-antimony
Cathode response	S-11
Cathode sensitivity	
Luminous	30 µa/lumen
Radiant	0.03 µa/µw
Cathode useful area	1½ inch diameter
Phosphor	
Type	P-11
Useful area	1½ inch diameter
Image	
Magnification (paraxial)	1 (approximately)
Resolution (paraxial)	50 line pairs/mm *
Distortion	* *
Anode voltage (static)	10 kv ***
Magnetic field strength	450 Gauss

Characteristic resolution curve with tube immersed symmetrically in cylindrical solenoid (uniform winding) and focused for maximum resolution in center of field. Dimensions of solenoid: 7½ inches long, 9½ inches OD, 4¾ inches ID.

  * Depending on uniformity of magnetic field.

* * Since distortion is a function of magnetic field uniformity, no figure can be specified. Nonuniformity results in both image rotation and S distortion; however, even with relatively nonuniform fields the image quality is inherent superior to that obtained with a purely electrostatic lens system. The tube is normally operated immersed in the most uniform region of a solenoid; however, very acceptable image reproduction may be had using a squirrel-cage array of uniformly distributed ⅜ inch diameter by 6 inch length Alnico rod magnets, 48 in number.

*** Normally, an image tube may be operated for short time intervals at approximately four times rated anode voltage without increase in background.

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