

MULTIPLIER PHOTOTUBETYPE 7664

The Du Mont Type 7664 is a 10 stage, 2 inch, end on multiplier phototube with an ultra violet sensitive cathode having an S-13 spectral response. The cathode is essentially that used for an S-11 response enclosed in a fused silica envelope allowing transmission of ultra violet radiation down to 1800 Å. The 7664 has an average luminous sensitivity of 60 microamperes per lumen for white light. The 10 stage multiplier structure employs a focusing electrode for adjusting to optimum photo-electron collection efficiency.

GENERAL CHARACTERISTICS

<u>Electrical Data</u>	<u>Min.</u>	<u>Avg.</u>	<u>Max.</u>	<u>Units</u>
Spectral Response		S-13		
Cathode luminous sensitivity at 210 volts, 0 cycle between cathode and all other electrodes	50	60		μA/L
Anode luminous sensitivity 105 volts/stage, 0 cycles	4	13		A/L
145 volts/stage, 0 cycles	28	120		A/L
Cathode sensitivity at maximum response at 210 volts between cathode and all other electrodes		.056		μA/μW
Anode dark current at 105 volts/stage (25°C)			.05	μA
Current amplification at 105 volts/stage		215,000		
150 volts/stage		2,000,000		
Interelectrode capacitances anode to all other electrodes		3.3		μμf
anode to last dynode		1.3		μμf
<u>Mechanical Data</u>				
Window dimensions, minimum		1 1/2		Inch Dia.
Seated height to center of window		4 7/8 ± 3/16		Inch
Tube Diameter		2 ± 1/8		Inch
Overall Length		5 5/8 ± 3/16		Inch
Base - Medium shell diheptal 14 pin (B14-38)				
Mounting position		Any		
Window index of refraction		1.458		

TL-1304 -2
1/8/60

MULTIPLIER PHOTOTUBETYPE 7664MAXIMUM RATINGS

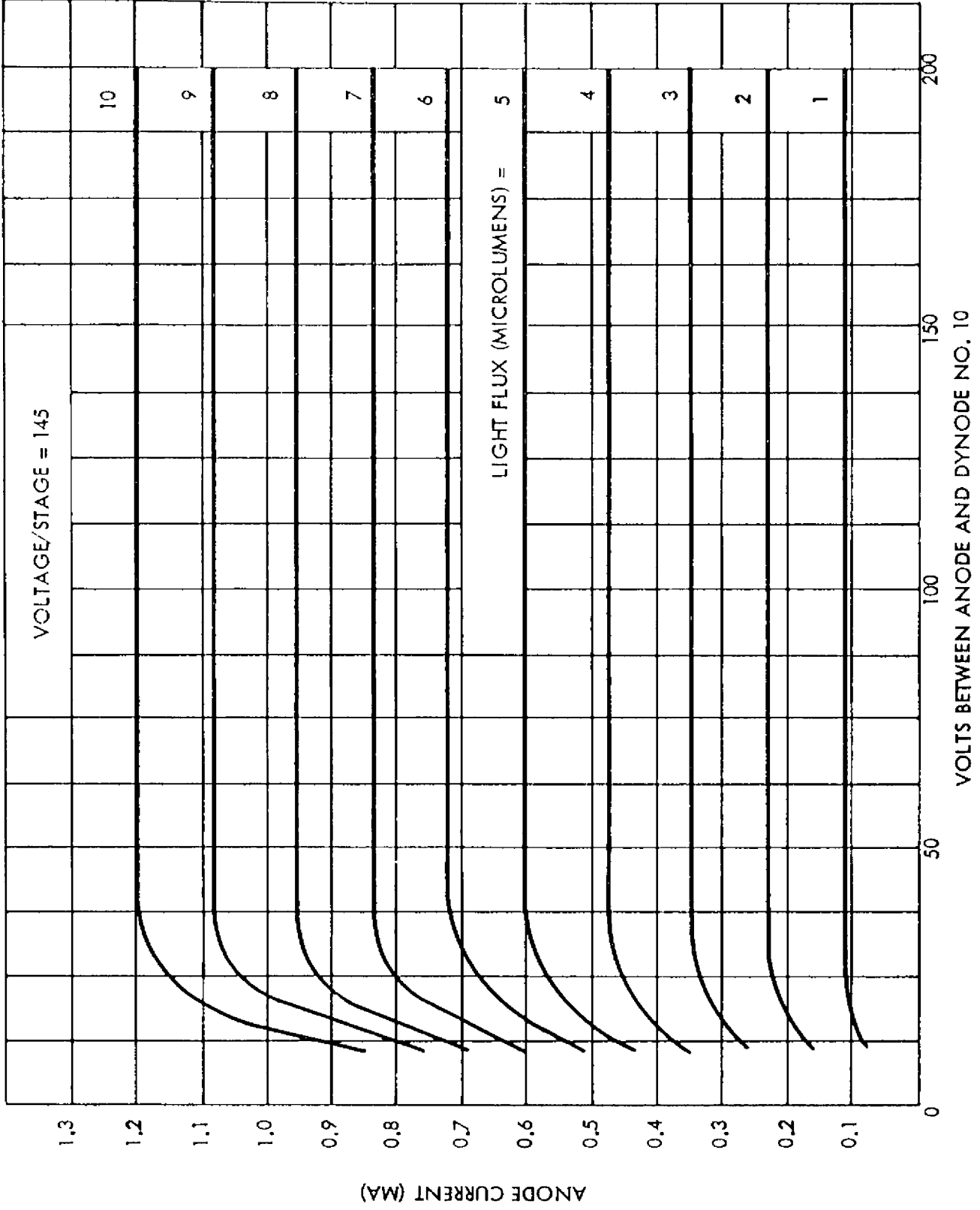
	<u>Min.</u>	<u>Avg.</u>	<u>Max.</u>	<u>Units</u>
Peak cathode current (Note 1)			20	μ A
Average anode current (Note 2)			5	mA
Peak anode current			25	mA
Average anode dissipation (Note 2)			0.5	W
Peak anode dissipation			2.5	W
Supply voltage between anode and cathode (DC or Peak AC)			1800	Volts
Supply voltage between last dynode and anode (DC or Peak AC)			200	Volts
Supply voltage between cathode and 1st dynode (DC or Peak AC)			400	Volts
Focusing electrode voltage (Note 3)				
Ambient temperature			75	$^{\circ}$ C

NOTES

1. The cathode current given here is that current at which the response of the cathode current ceases to be a linear function of the light intensity because of cathode resistance. In general, the cathode current must be kept well below this value in order to satisfy the maximum ratings on the anode current.
2. Averaged over a 30 second interval maximum.
3. The focusing electrode (shield) voltage should be adjusted between cathode and 1st dynode potentials for optimum photoelectron collection efficiency. This will vary from tube to tube but will usually be several volts more positive than the cathode.

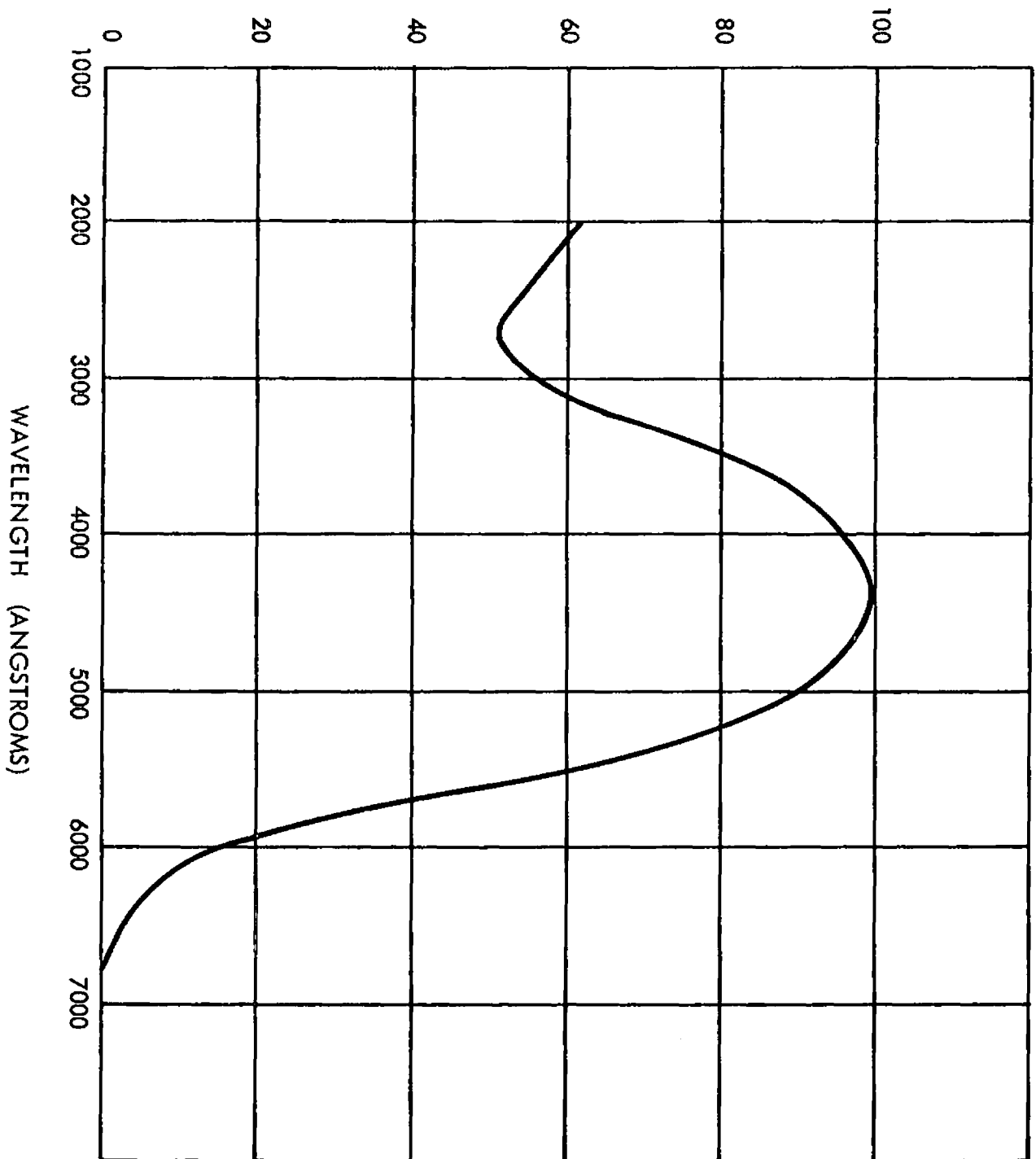
TL-1304 -2

AVERAGE ANODE CHARACTERISTICS OF DU MONT TYPE 7664



RELATIVE SENSITIVITY - ARBITRARY UNITS

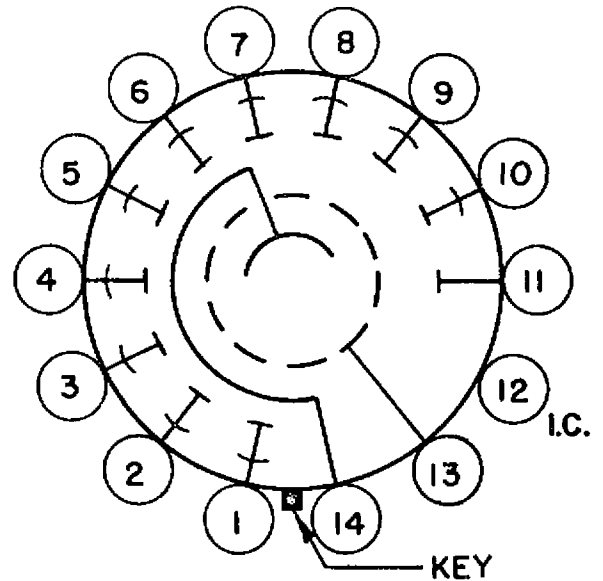
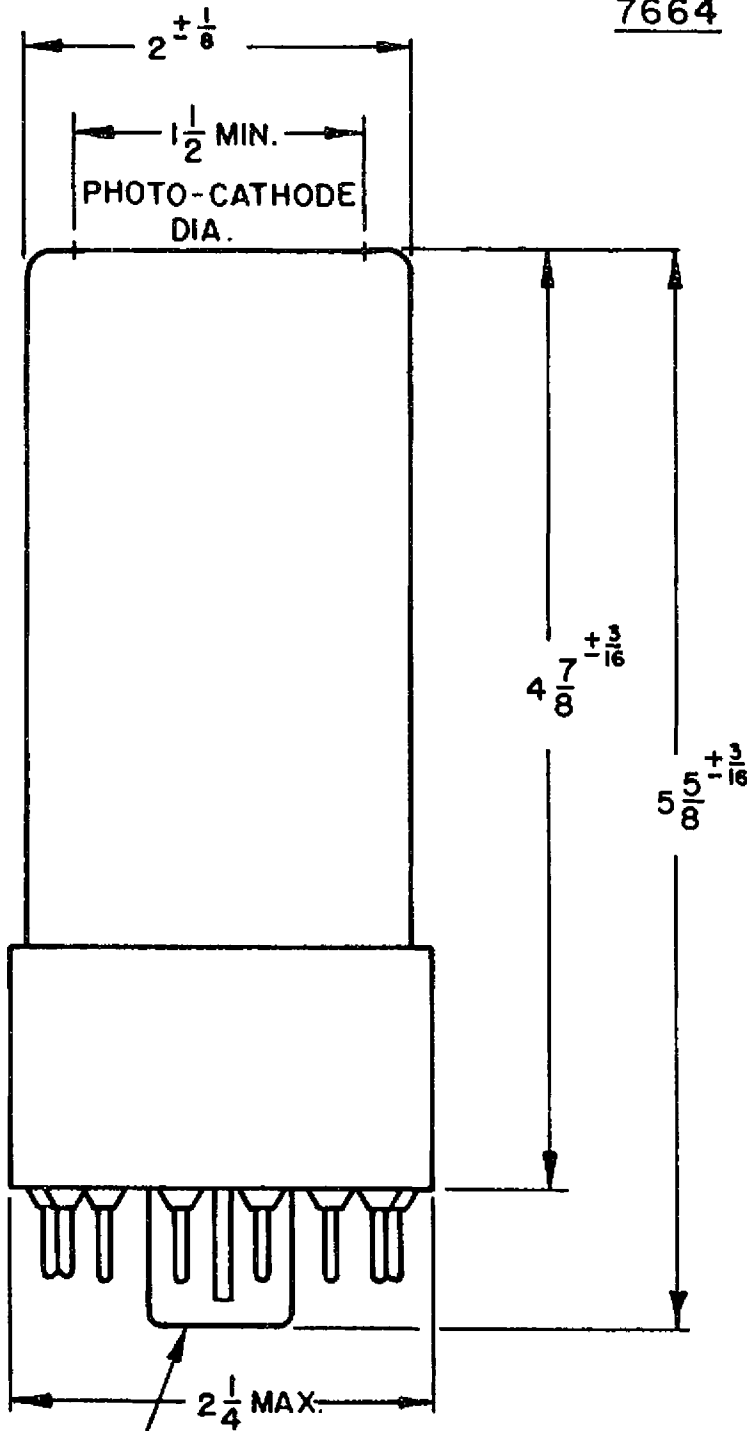
SPECTRAL SENSITIVITY CHARACTERISTICS OF S-13 RESPONSE



DUMONT

MULTIPLIER PHOTOTUBE

7664



BOTTOM VIEW

PIN NO.	ELEMENT
1	— DYNODE NO.1
2	— DYNODE NO.2
3	— DYNODE NO.3
4	— DYNODE NO.4
5	— DYNODE NO.5
6	— DYNODE NO.6
7	— DYNODE NO.7
8	— DYNODE NO.8
9	— DYNODE NO.9
10	— DYNODE NO.10
11	— ANODE
12	— INTERNAL CONNECTION
13	— FOCUSING ELECTRODE (SHIELD)
14	— CATHODE

NOTE:
DIRECTION OF LIGHT INTO END OF BULB

AVERAGE MULTIPLIER CHARACTERISTICS
DU MONT TYPE 7664

