



MULTIPLIER PHOTOTUBE

TYPE 8062

The Du Mont Type 8062 is a 10-stage, flat end window, multiplier phototube with an infrared sensitive photocathode having an average luminous sensitivity of 18 microamperes per lumen. The dark current of the Type 8062 can be reduced considerably by applying dry ice or liquid air to the tube.

The Du Mont Type 8062 is useful in infrared spectroscopy, ranging applications, temperature analysis plus numerous other industrial and scientific applications.

GENERAL CHARACTERISTICS

<u>Electrical Data</u>	<u>Min.</u>	<u>Median</u>	<u>Max.</u>	<u>Units</u>
Spectral response		S-1		
Cathode luminous sensitivity at 210 volts, 0 cycles between cathode and all other electrodes	10	18		$\mu\text{A/Lumen}$
Anode luminous sensitivity at 105 volts/ stage, 0 cycles	3	9		A/Lumen
Cathode sensitivity at maximum response at 210 volts between cathode and all other electrodes		.0016		$\mu\text{A}/\mu\text{W}$
Anode dark current at 105 volts/stage (25° C)			15	μA
IR Sensitivity ¹		10		%
Current amplification at 105 volts/stage		500,000		
Interelectrode capacitances:				
Anode to all other electrodes		3.3		μpF
Anode to last dynode		1.3		μpF
Wavelength at maximum response		8000		Angstroms

Mechanical Data

Window dimension, minimum	1	Inch Dia.
Seated height to center of window	$4 \pm 3/16$	Inches
Tube diameter	$1 \frac{1}{4} \pm 1/16$	Inches
Overall length	$4 \frac{1}{2} \pm 3/16$	Inches
Base, Small Shell Duodecal (B12-43)		
Mounting position	Any	
Window index of refraction	1.5	

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MAXIMUM RATINGS

	<u>Min.</u>	<u>Median</u>	<u>Max.</u>	<u>Units</u>
Peak cathode current ²			15	μ A
Average anode current ³			0.1	mA
Average anode dissipation ³			0.5	W
Supply voltage between anode and cathode (DC or peak AC)			1600	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 ⁴			75	$^{\circ}$ C
Ambient temperature				

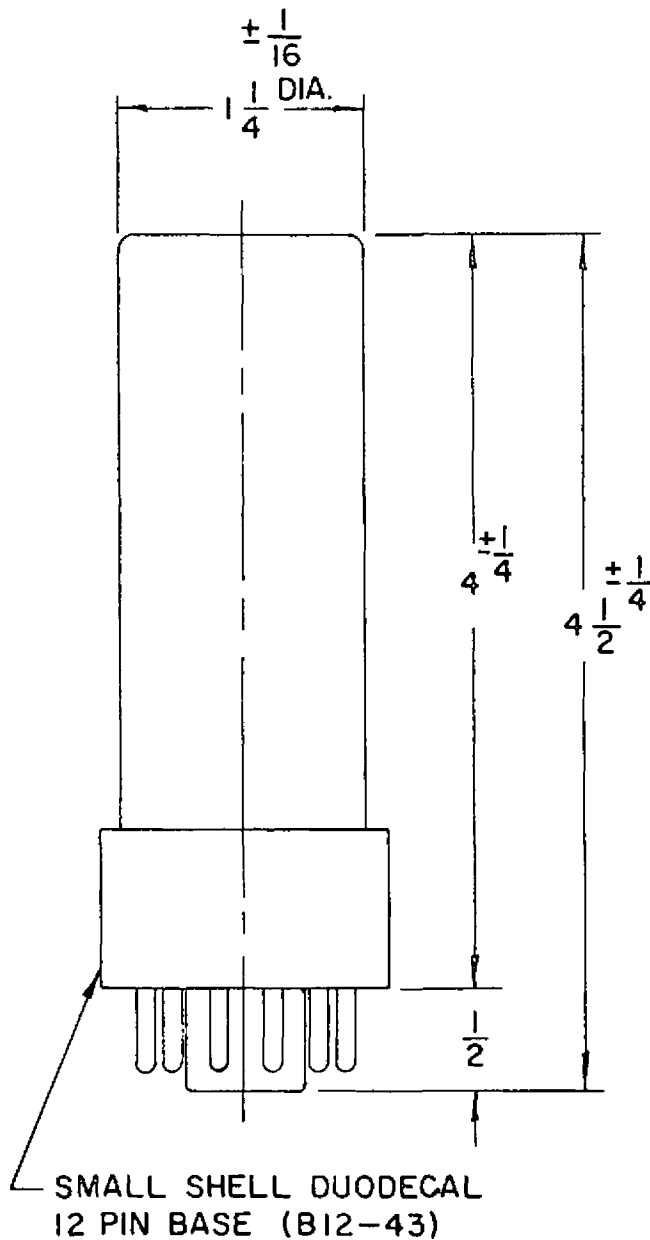
NOTES

1. The IR response is measured in the following manner: A tungsten filament lamp operating at 2870 $^{\circ}$ K is used as a light source. The output of the tube is measured using an infrared filter in conjunction with the light source and another reading is obtained without the IR filter. The ratio of the reading with the filter to the reading without the filter x 100 is the percentage IR response. A Corning Filter Type No. 2540, Form Melt 1613 and 2.61 mm thickness is employed as an Infrared filter.
2. 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.
3. Averaged over a 30-second interval maximum.
4. The focusing electrode (shield) voltage should be adjusted between cathode and first 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.

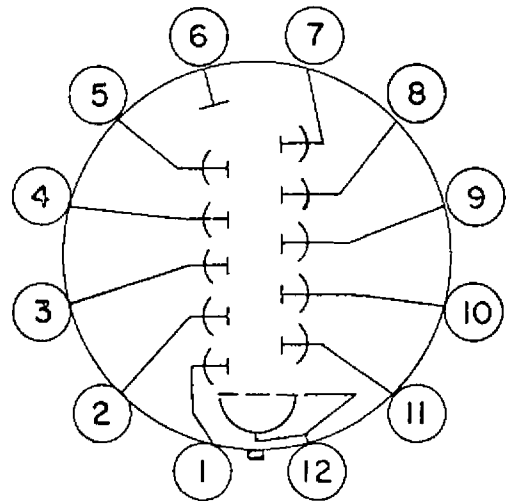
DU MONT

MULTIPLIER PHOTO-TUBE

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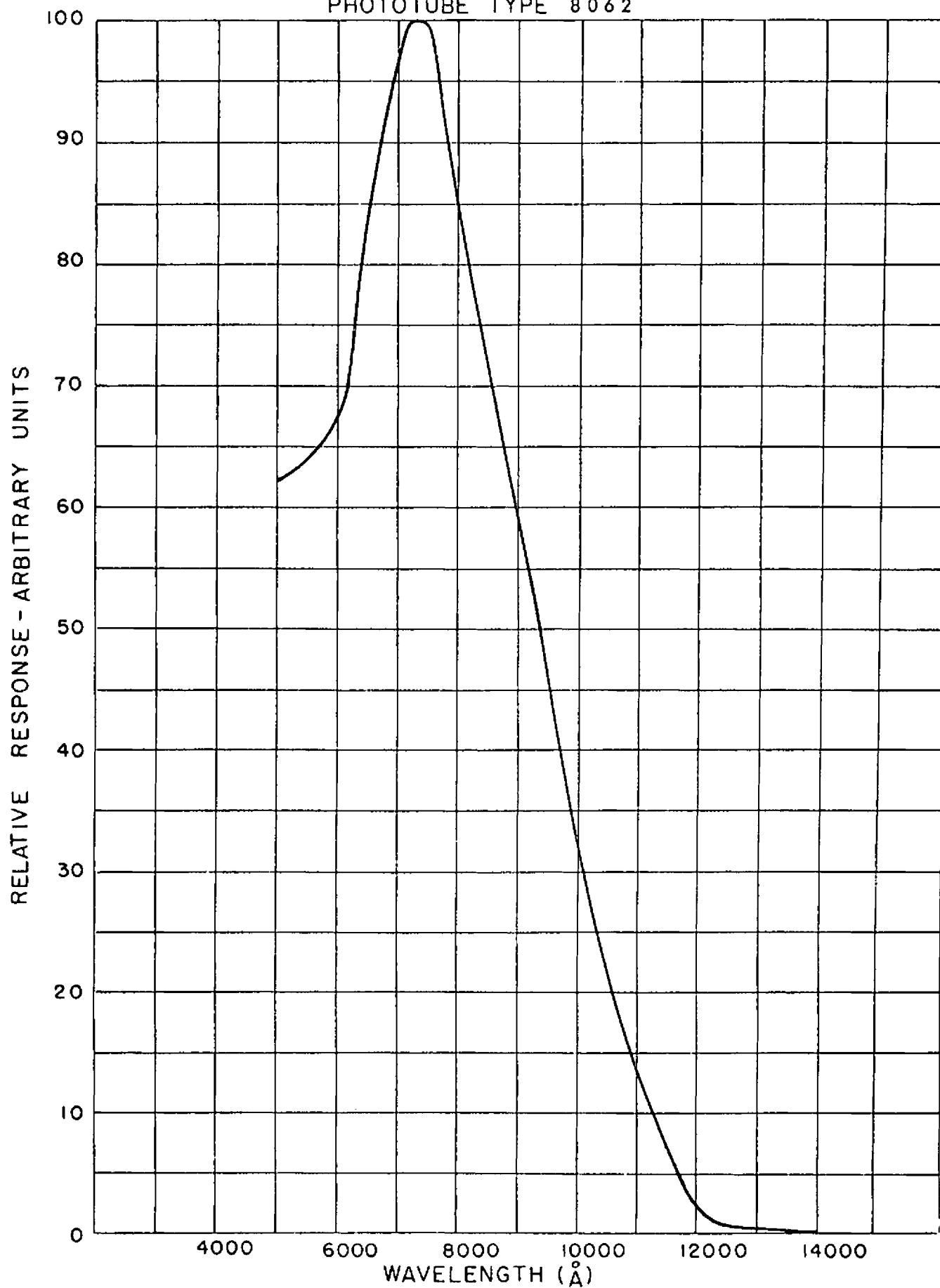
DIRECTION OF LIGHT: INTO END OF BULB



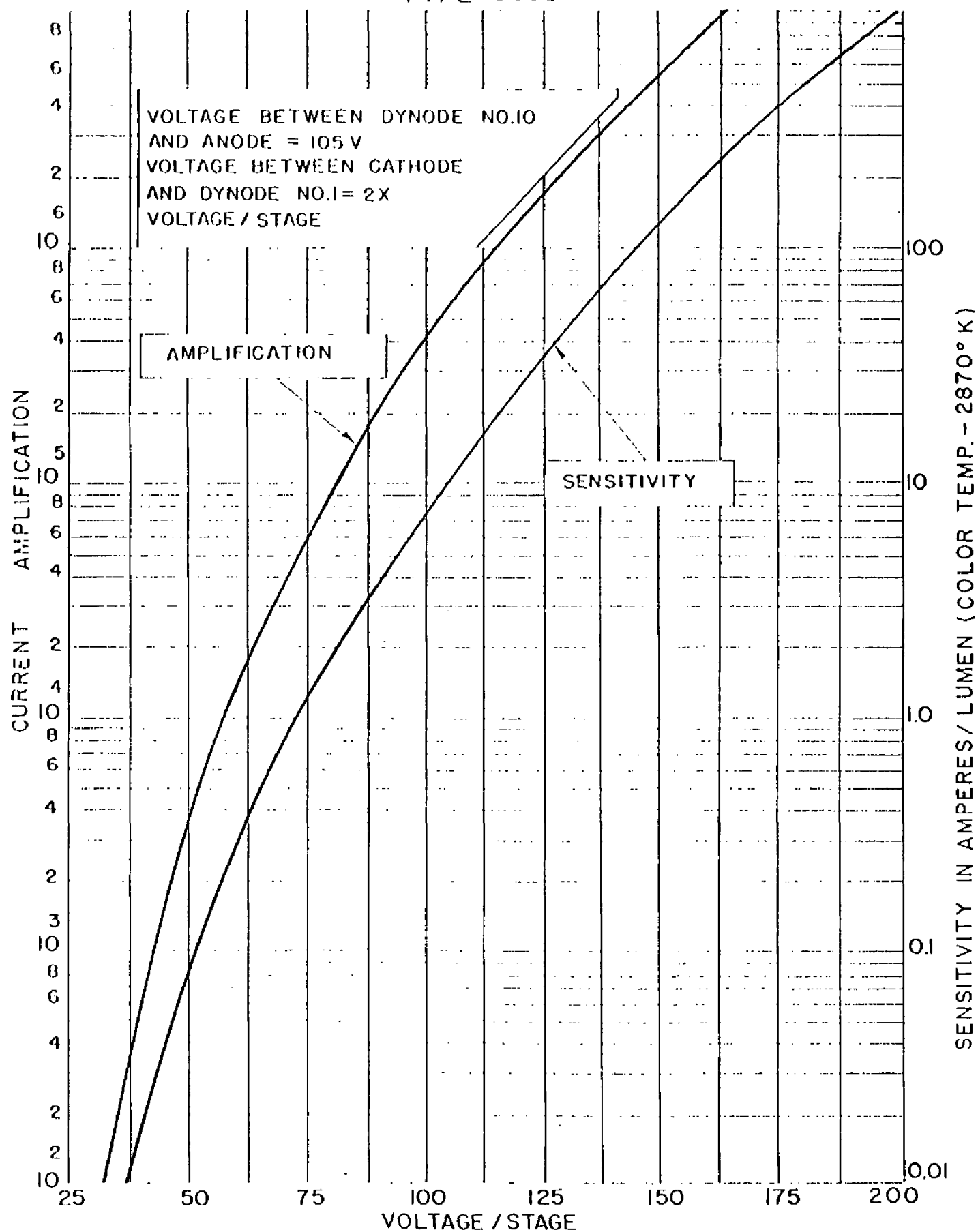
BOTTOM VIEW

<u>PIN NO.</u>	<u>ELEMENT</u>
1	DYNODE NO. 1
2	DYNODE NO. 3
3	DYNODE NO. 5
4	DYNODE NO. 7
5	DYNODE NO. 9
6	ANODE
7	DYNODE NO. 10
8	DYNODE NO. 8
9	DYNODE NO. 6
10	DYNODE NO. 4
11	DYNODE NO. 2
12	CATHODE AND FOCUSING ELECTRODE (SHIELD)

SPECTRAL RESPONSE - TYPICAL DUMONT INFRARED MULTIPLIER
PHOTOTUBE TYPE 8062



AVERAGE MULTIPLIER CHARACTERISTICS DUMONT TYPE 8062



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