

Photomultiplier Tube

FLEXIBLE LEADS **S-4 RESPONSE** **SIDE-ON, 9-STAGE TYPE**

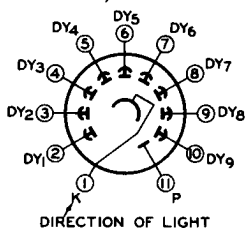
*For AC- or DC-Operated Control Applications
Which Require High Luminous Sensitivity*

GENERAL

| | |
|---|--|
| Spectral Response | S-4 |
| Wavelength of Maximum Response | 4000 ± 500 angstroms |
| Cathode, Opaque | Cs-Sb ← |
| Minimum projected length ^a | 15/16 in |
| Minimum projected width ^a | 5/16 in |
| Window | Lime Glass, (Corning ^b No.0080), or equivalent ← |
| Dynode Material | Cs-Sb ← |
| Direct Interelectrode Capacitances (Approx.) | |
| Anode-to-dynode No.9 | 3.8 pF |
| Anode to all other electrodes | 4.8 pF |
| Maximum Overall Length | 2-3/4 in |
| Excluding semiflexible leads | |
| Maximum Envelope Length | 2-1/4 in |
| Excluding tip | |
| Length | 1-1/4 ± 3/32 in |
| From envelope seal to center of useful cathode area | |
| Maximum Diameter | 1-3/16 in |
| Operating Position | Any |
| Weight (Approx.) | 2 oz |
| Envelope | JEDEC T9 |
| Magnetic Shield | Perfection Mica Co., ^c No.P-107, or equivalent |

TERMINAL DIAGRAM (Bottom View)

- Lead 1 - Photocathode
- Lead 2 - Dynode No.1
- Lead 3 - Dynode No.2
- Lead 4 - Dynode No.3
- Lead 5 - Dynode No.4
- Lead 6 - Dynode No.5
- Lead 7 - Dynode No.6
- Lead 8 - Dynode No.7
- Lead 9 - Dynode No.8
- Lead 10 - Dynode No.9
- Lead 11 - Anode



ABSOLUTE-MAXIMUM RATINGS

| | |
|--|---------|
| DC or Peak AC Supply Voltage | |
| Between anode and cathode | 1250 V |
| Between anode and dynode No.9 | 250 V |
| Between consecutive dynodes | 250 V ← |
| Between dynode No.1 and cathode | 250 V ← |
| Average Anode Current^d | 0.1 mA |
| Ambient Temperature | 75 °C ← |

← Indicates a change.



CHARACTERISTICS RANGE VALUES

Under conditions with supply voltage (E) across a voltage divider providing 1/10 of E between cathode and dynode No.1; 1/10 of E for each succeeding dynode stage; and 1/10 of E between dynode No.9 and anode.

With E = 1000 V dc

| | Min | Typ | Max | |
|--|-----|-------------------|----------------------|------|
| Sensitivity | | | | |
| Radiant, at 4000 angstroms. | - | 3.4×10^4 | - | A/W |
| Luminous, at 0 c/s ^e | 5 | 35 | 250 | A/lm |
| Dark Current to any Electrode | - | - | 7.5×10^{-7} | A |
| At 25°C | | | | |

With E = Adjustable 60 c/s ac voltage

| | Min | Typ | Max | |
|---|-----|-----|----------------------|---|
| → Anode-to-Cathode Voltage^f | | | | |
| RMS Values | 535 | 775 | 1000 | V |
| Anode Dark Current^g | - | - | 2.5×10^{-7} | A |
| At 25°C | | | | |

^a On plane perpendicular to the indicated direction of incident light and passing through the major axis of the tube.

^b Made by Corning Glass Works, Corning, New York.

^c Made by Magnetic Shield Division, Perfection Mica Co., 1829 Civic Opera Bldg., 20 North Wacker Drive, Chicago 6, Illinois.

^d Averaged over any interval of 30 seconds maximum.

^e Under the following conditions: The light source is a tungsten-filament lamp having a lime-glass envelope. It is operated at a color temperature of 2870° K and a light input of 10 microlumens is used.

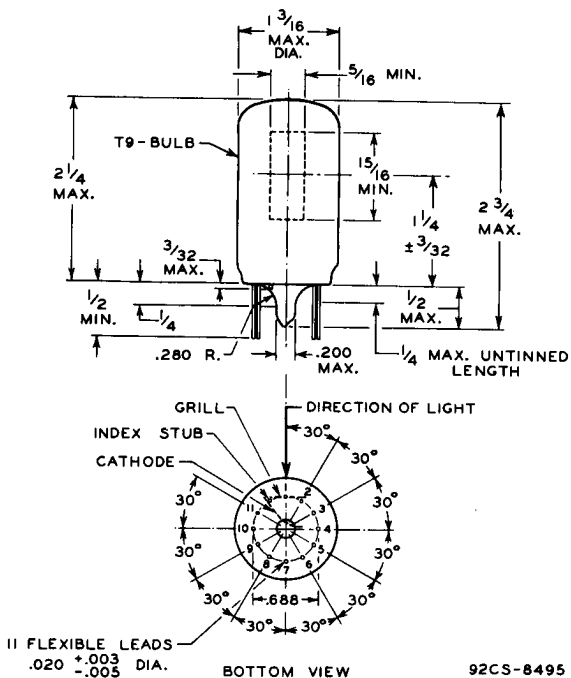
^f Under the following conditions: The light source is a tungsten-filament lamp having a lime-glass envelope. It is operated at a color temperature of 2870° K and a light input of 1 microlumen is used. Supply Voltage (E) is adjusted to give an anode current of 7.5 microamperes.

^g For conditions same as (f) except no radiant flux on photocathode.

→ Indicates a change.



DIMENSIONAL OUTLINE



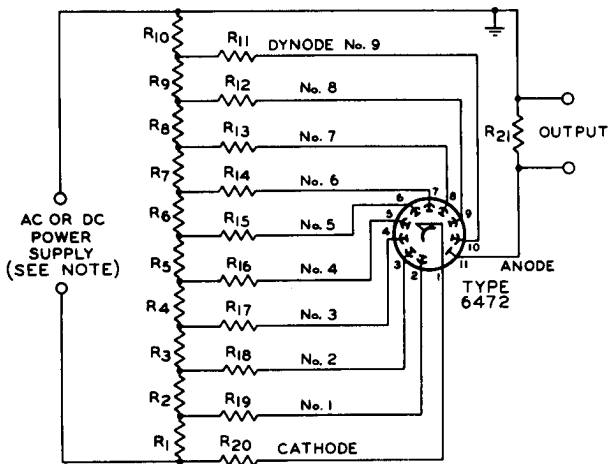
DIMENSIONS IN INCHES

The angular variation between the plane through Lead No.1 and tube axis and the plane perpendicular to the plane of the grill will not exceed 20° .

SPECTRAL-SENSITIVITY CHARACTERISTIC
 of Phototube having S-4 Response
 is shown at front of this section



RECOMMENDED VOLTAGE-DIVIDER NETWORK FOR USE
WITH TYPE 6472 IN HEADLIGHT-DIMMING SERVICE



92CS-8526

R1 R2 R3 R4 R5

R6 R7 R8 R9 R10: 1 megohm, 1/2 watt

R11: 2 megohms, 1/2 watt

R12: 5.1 megohms, 1/2 watt

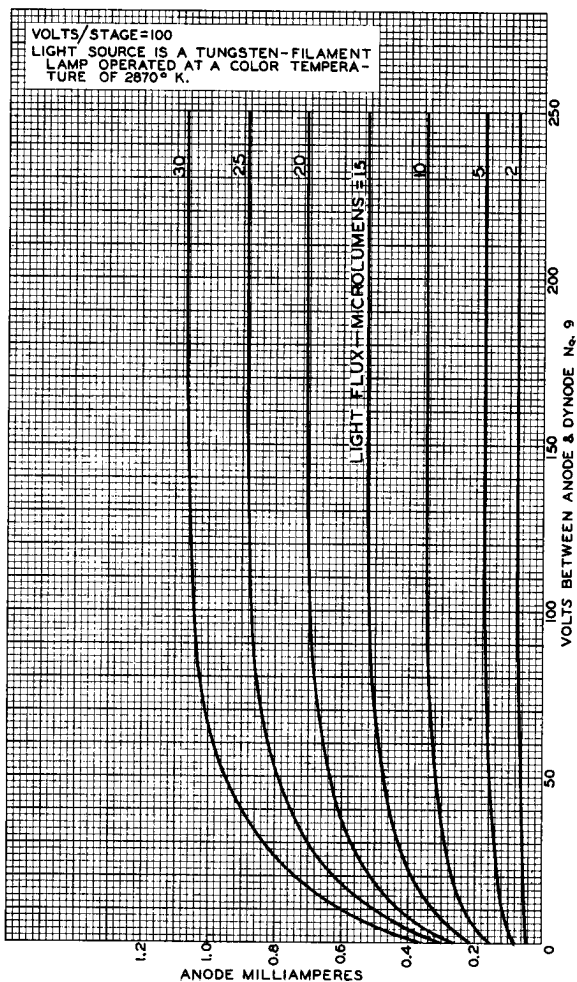
R13 R14 R15 R16

R17 R18 R19 R20: 8.2 megohms, 1/2 watt

R21: 820,000 ohms, 1/2 watt

Note: Adjustable between approximately 500 and 1000 volts
dc or peak ac.

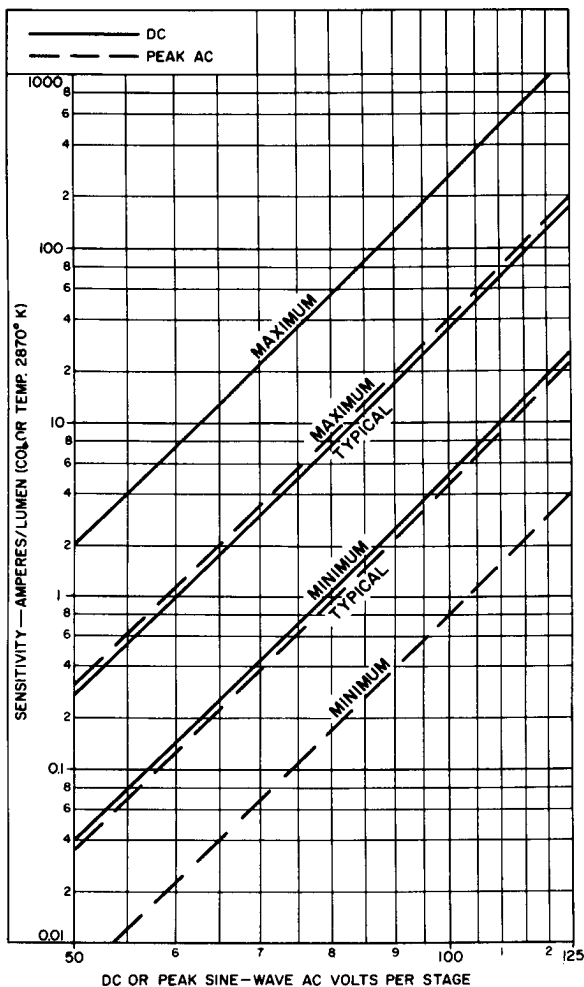
Typical Anode Characteristics



92CM-8029R2



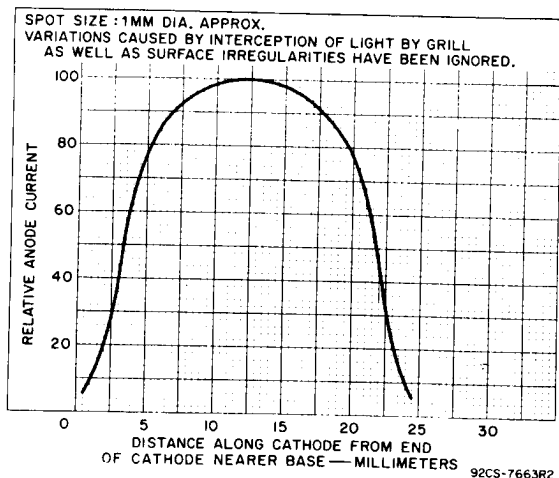
Range of Luminous Sensitivity



92CM-8027R2



Variation in Photocathode Sensitivity Along Its Length



Variation in Photocathode Sensitivity Across Its Projected Width in Plane of Grill

