

GENERAL DATA

Spectral Response	See Curve
Wavelength of Max. Response	6100 $\pm$ 400 Angstroms
Sensitive Material	Cadmium-Sulfide
Shape of Sensitive Area	Circular
Construction	Hermetically Sealed in Glass
8142	Flexible Leads
8142-1	Push-Pin Base
8142-7	Bayonet Base
Outline	See Drawings
Operating Position	Any

ELECTRICAL DATA

RATINGS (Absolute Maximum Values)

Breakdown Voltage ²	400 VAC
Dissipation	
T-amb = 25°C	300 mW
T-amb = 70°C	25 mW
Ambient Temperature Range	-40 to +70 °C
Illumination	Note 3

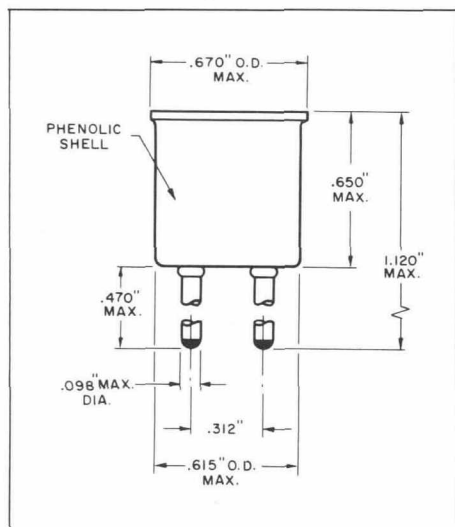
CHARACTERISTICS

Cell Resistance ⁴	
Illumination 2 FC	
Color Temperature 2870°K	1500 Ohms
Dark Resistance ⁵	200,000 Ohms Min.

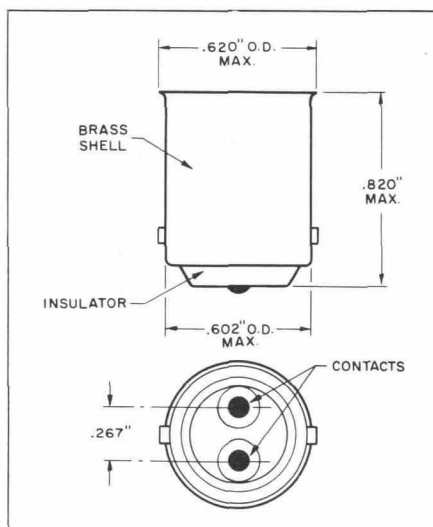
NOTES:

1. Minute increases in relative humidity will produce change in color.
2. Measured with cell in complete darkness at a pulse rate of 100 pps, 100 μ sec. duration. Voltage in excess of the rated value may damage the cell. Maximum DC voltage is limited by maximum dissipation and minimum dark resistance rating.
3. Care should be exercised to prevent localized overheating of the sensitive surface when the cell is used with a lens system.
4. Measured after 60 minutes exposure to approximately 50 FC illumination (ambient room light).
5. Measured in complete darkness, 10 seconds after removal of 2 FC illumination.

OUTLINE 8142-1



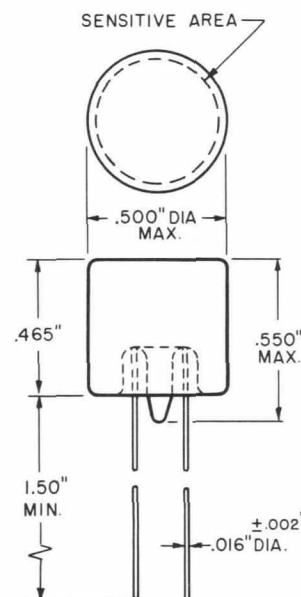
OUTLINE 8142-7



QUICK REFERENCE DATA

The Sylvania Types 8142, 8142-1 and 8142-7 are cadmium sulfide photoconductive cells featuring high sensitivity and hermetically sealed-in-glass construction. The cell is backfilled with gas for a high dissipation safety factor and high voltage capability and includes a blue-dot compound which turns pink¹ if the cell envelope becomes damaged. They feature relatively low resistance (1500 Ohms). They are designed for use in a wide variety of industrial applications, and are particularly suited to direct operation of relays.

OUTLINE 8142



SYLVANIA ELECTRIC PRODUCTS INC.

Electronic Components Group
ELECTRONIC TUBE DIVISION
EMPORIUM, PA.

A Technical Publication

MAY, 1965

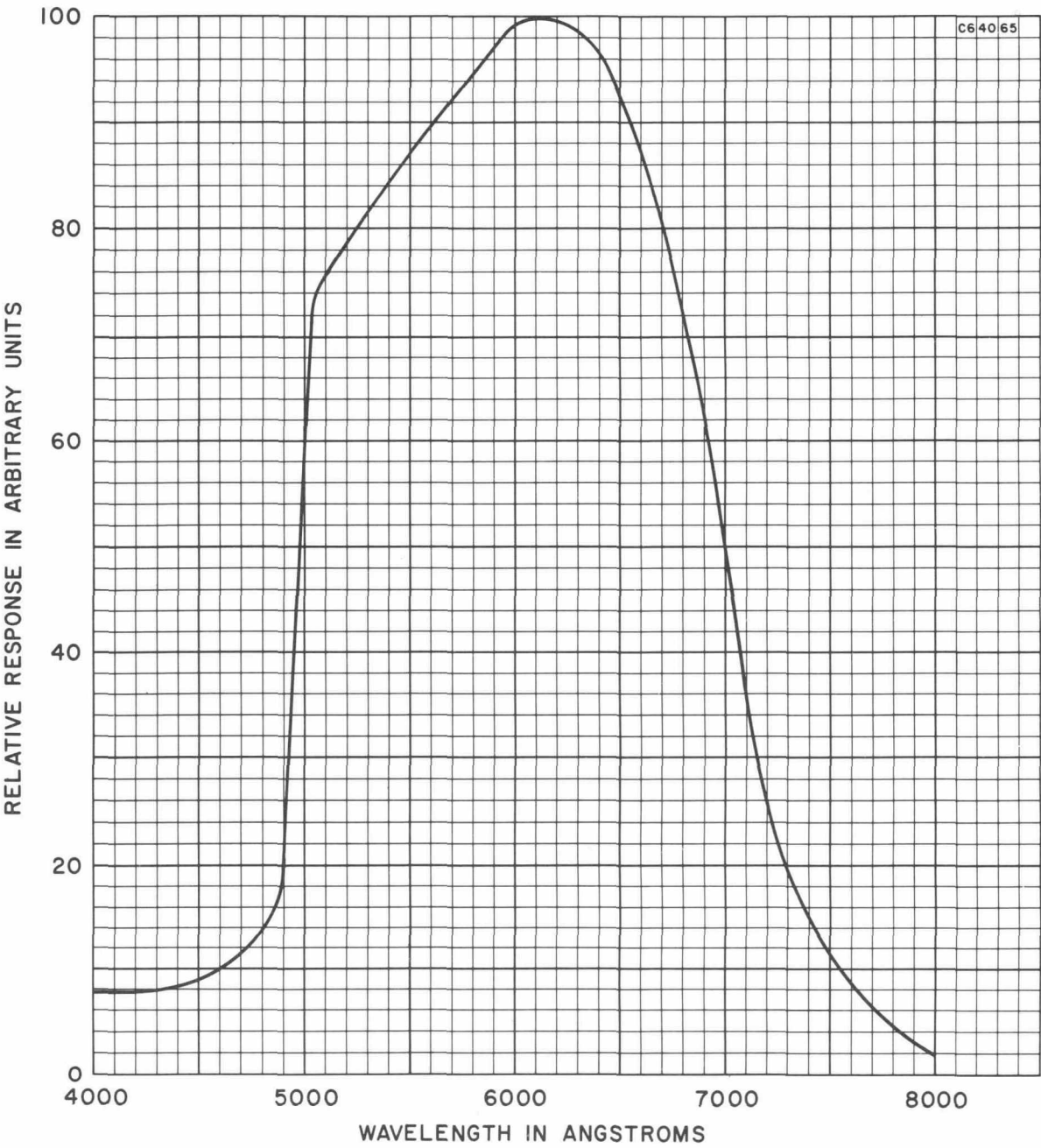
PAGE 1 OF 4

File Under

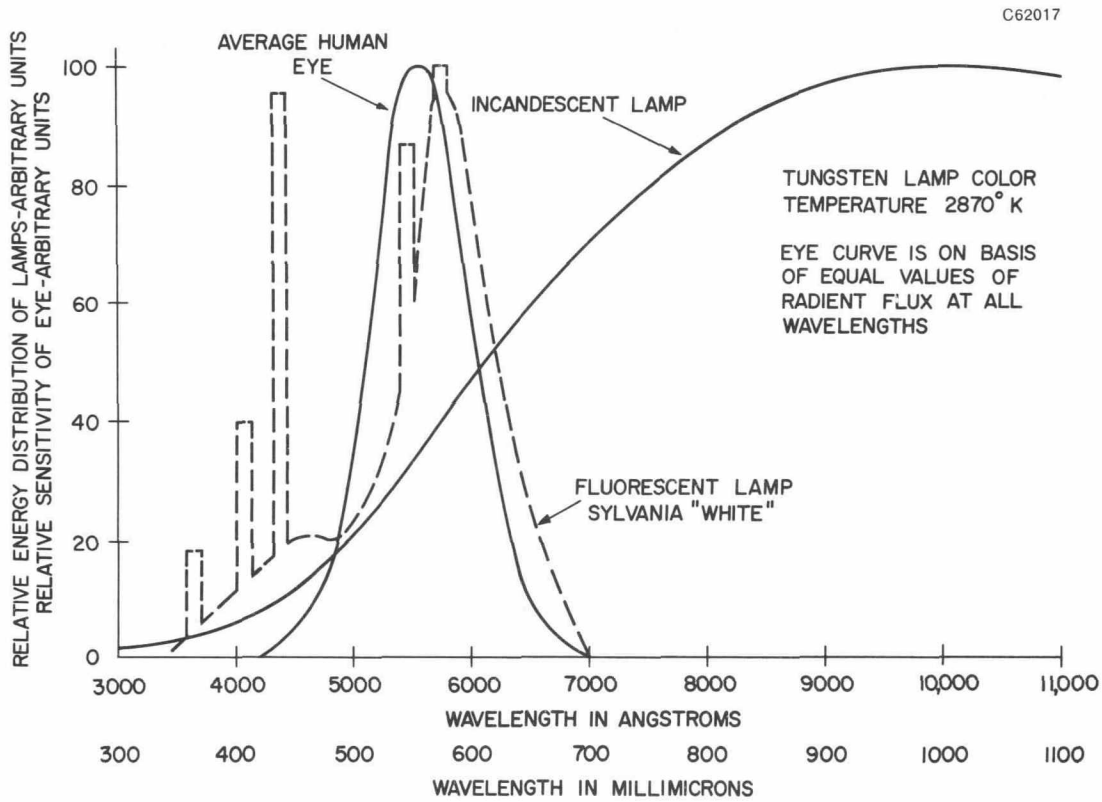
PHOTOCONDUCTORS

8142
8142-1
8142-7

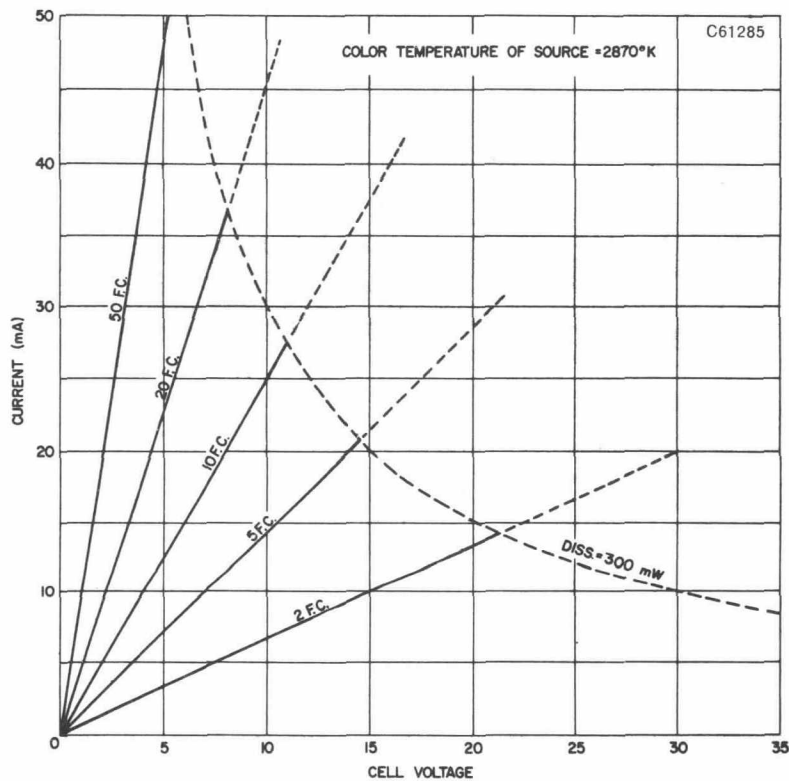
SPECTRAL RESPONSE



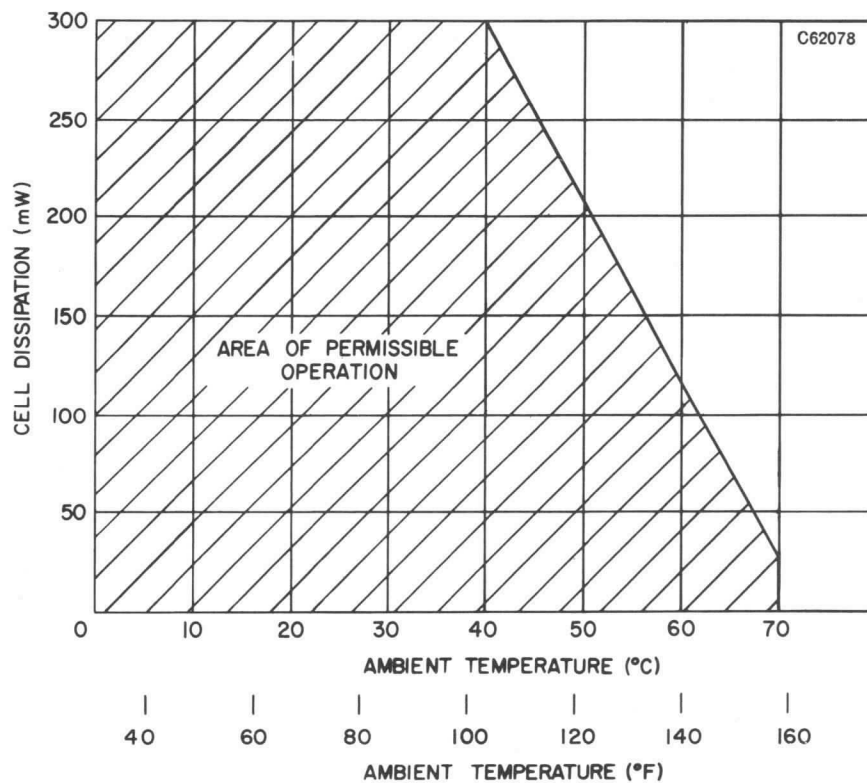
SPECTRAL CHARACTERISTIC OF HUMAN EYE,
TUNGSTEN AND FLUORESCENT LAMPS



AVERAGE CHARACTERISTICS



PERMISSIBLE DISSIPATION AS A FUNCTION
OF AMBIENT TEMPERATURE



AVERAGE CHARACTERISTICS

