

ADMIRALTY SIGNAL & RADAR ESTABLISHMENT

Specification AD/CV2133/Issue 2. Dated 12.6.51. To be read in conjunction with K1004.	<u>SECURITY</u>	
	<u>Specn.</u> Unclassified	<u>Valve</u> Unclassified

<u>TYPE OF VALVE:-</u> Gas-filled Photo-Electric Cell. <u>CATHODE:-</u> Caesium on oxidised Silver. <u>ANODE:-</u> Frame or Rod Type. <u>ENVELOPE:-</u> Glass. <u>PROTOTYPE:-</u> 90CG.			<u>MARKING</u> See K1001/4, also notes 'A' and 'B' below.	
			<u>BASE</u> B7G See K1001/AIV/D9.	
<u>RATING</u>		<u>Note</u>	<u>Pin</u>	<u>Electrode</u>
Working Voltage (V)	90		A	1 (c)
Max. Voltage (V)	100	B	2	Cathode
Max. Cathode Current (µA)	2		3 (c)	No connection
Sensitivity (µA/lumen)	125		4	Anode
			5 (c)	No connection
			6	Cathode
			7 (c)	No connection
			<u>DIMENSIONS</u> See Page J.	
			<u>PACKAGING</u> See K1005.	

<u>NOTES</u>	
A. The working voltage is to be clearly and permanently marked on each photocell.	
B. The max. voltage is considered to be the voltage which will never be exceeded at any time when the cell is illuminated; it is <u>NOT</u> to be marked on the cell.	
C. No connection is to be made to any of these pins.	

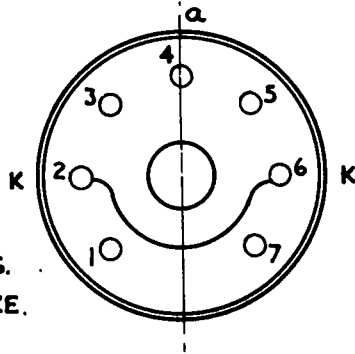
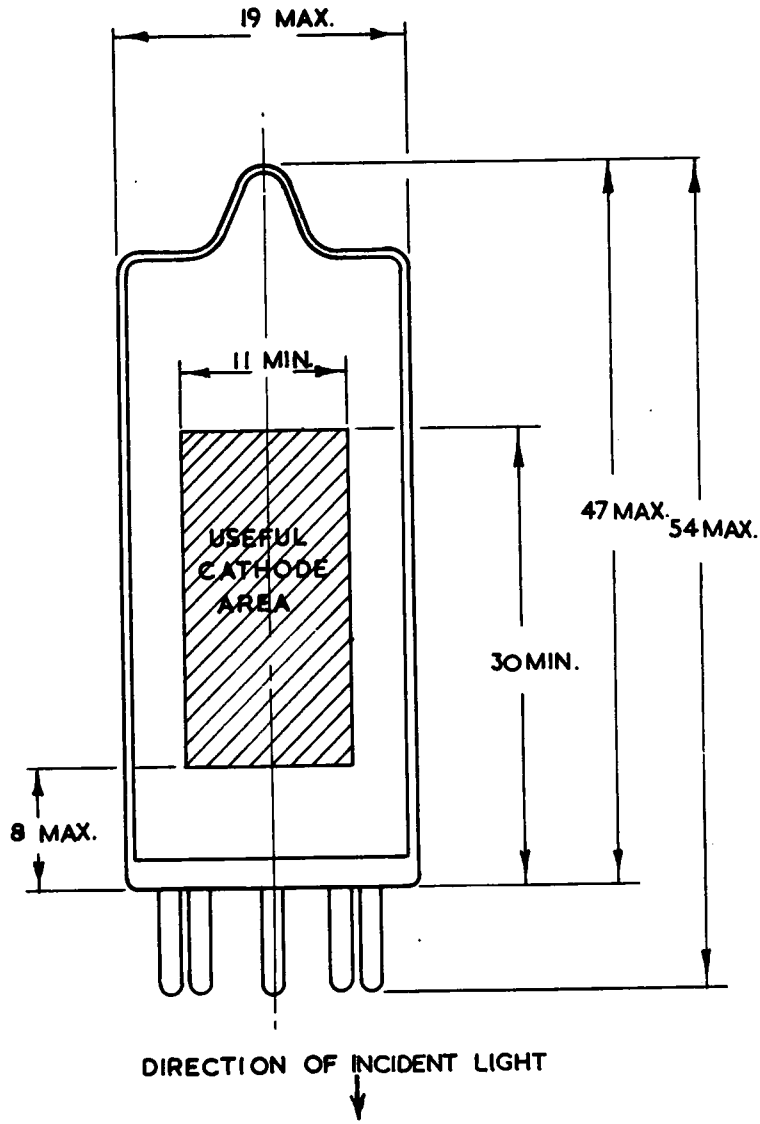
TESTS

To be performed in addition to those applicable in K1004.

	Test Conditions		Test (See Test)	Limits		No. Tested	Notes
	V <sub>a</sub> (volts)	Light Flux (lumens)		Min.	Max.		
a	25	0.02	Sensitivity ( $\mu\text{A}/\text{lumen}$ )	10.0	-	100%	1,2
b	90	0.02	Sensitivity ( $\mu\text{A}/\text{lumen}$ )	72.0	-	100%	1,2
c	-	-	Gas Factor	-	10	100%	4
d	90	0	Dark Current ( $\mu\text{A}$ )	-	0.1	100%	2
e	100	0.02	There must be no uncontrolled breakdown	-	-	100%	1,2, 3,5
f	100	0	Dark Current ( $\mu\text{A}$ )	-	0.2	100%	2,3
g	110	0	Dark Current ( $\mu\text{A}$ )	-	0.2	100%	2

NOTES

1. Light Flux is to illuminate a Cathode Area 22 mm high x 11 mm wide, the centre of which is 19 mm from the soleplate.
2. Test to be carried out with resistance of 100,000 ohms  $\pm$  5% connected in series with the anode circuit. All voltages in the test are measured across the cell and resistance in series.
3. Tests are to be carried out in the order given above and test 'f' is to follow immediately after observing test 'e'.
4. Gas Factor is the ratio  $I_{V_a = 90} : I_{V_a = 25}$ .
5. Observation of photocell for breakdown should be of at least 10 secs. duration. Should the photocell exhibit any tendency to breakdown during this period, a further test of 2 mins. duration is to be made.



NOTES:-  
ALL DIMS. IN MMS.  
SCALE-TWICE FULL SIZE.