



SPECTRAL LIGHT SOURCES

Light Sources filled with spectrally pure gas. These spectral sources can be used in cases where a known line spectrum is required and the form of construction makes them particularly suitable for uses requiring a compact source or where a close approach to the actual source is necessary. The light output is roughly proportional to the anode current.

PHYSICAL DETAILS.

Base	...	...	...	...	B7G
Max. Overall Length	...	...	...	...	68 mm.
Max. Seated Height	...	...	...	...	61 mm.
Top Cap	...	...	...	...	CT1.

GAS FILLING.

CL55	...	...	...	...	Helium.
CL56	...	...	...	...	Krypton.
CL57	...	...	...	...	Neon.
CL58	...	...	...	...	Xenon.

LIGHT SOURCE.

The source of light is cylindrical with an effective broad-side dimension of 5 × 32 mm. approx. and extends downwards from the top cap.

BASE CONNECTIONS.

Pin 1—Trigger.	Pin 5—Trigger.
Pin 2—Cathode.	Pin 6—No connection.
Pin 3—Heater.	Pin 7—Cathode.
Pin 4—Heater.	Top Cap—Anode.

HEATER.

	CL55	CL56	CL57	CL58	
Heater Voltage	...	6.3	6.3	6.3	volts.
Heater Current	...	1.5	1.5	1.3	1.5 amps.

RATINGS & CHARACTERISTICS.

Type No. Gas	CL55 He.	CL56 Kr.	CL57 Ne.	CL58 Xe.	
*Min. Supply Voltage	500	375	400	375	volts(d.c.).
Max. Mean Anode Current	40	50	40	50	mA.
Min. Cathode Current	See Note * below.				
Max. Peak Cathode Current	90	90	90	90	mA.
Anode/Cathode Volt Drop	95	15	55	12	volts.(Apx)
†Min. Cathode Heating Delay (all types)	—	60	—		sec.

*It is recommended that the trigger electrode is connected to the anode through a 22,000 ohm resistor. Under these conditions the minimum anode current to maintain the discharge is less than 10 mA.

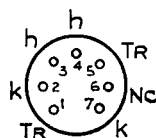
*This is the maximum voltage required to trigger the lamp.
†Before application of the HT supply to anode or trigger.

CL 55

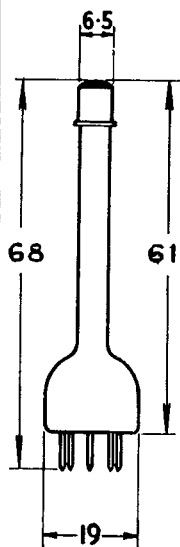
CL 56

CL 57

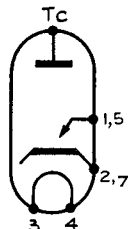
CL 58



Underside view of base



Dimensions are in millimetres (max.)



CL 55
CL 56
CL 57
CL 58
TYPICAL OPERATION

For most applications in which a light source of pre-determined and relatively constant brightness is required the circuit of Fig. 1 is suitable. If it is desired to operate the lamp at various levels of brightness the series resistor R should be variable. The value of R should be chosen to limit the current to within the specified rating.

The lamp should first be allowed to stabilise at near maximum mean current for a few minutes after which the series resistance can be increased to reduce the current through the lamp.

If it is required to have a light source that can be continuously controlled, the circuit of Fig. 2 should be used. The control signal is applied to the pentode control grid at A.

When greater stability is required in either of the above circuits the HT supply to the lamp (and pentode) should be derived from a stabilised DC power pack.

In circumstances where the available DC voltage is limited and lower than the specified minimum supply voltage, it is possible to start the lamp by utilising a surge voltage in the manner indicated in Fig. 3. Triggering is achieved by opening S2 with S1 closed. The value of the choke is not critical but the resistance at R must limit the current through the lamp to 40 mA.

In all cases provision should be made for the cathode heating delay before application of HT voltage.

Fig. 1.

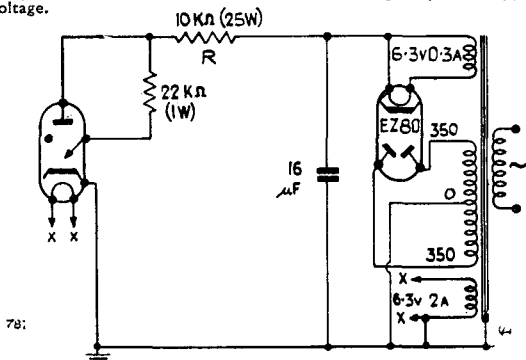


Fig. 2.

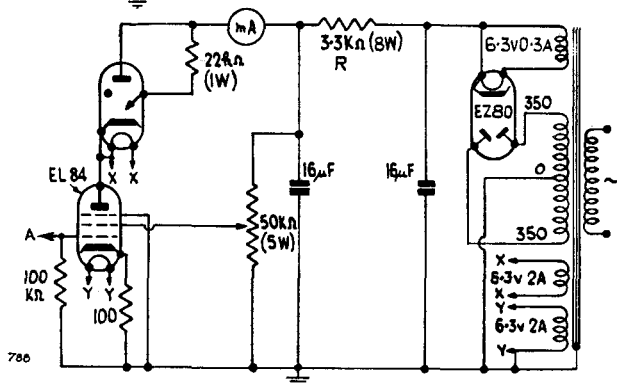


Fig. 3.

