



## Luminance meter

### EC1-L



Your Solution To Testing Instrument

**PROMAT (HK) Limited 寶時(香港)有限公司**

901 New Trend Center, 704 Prince Edward Road East, SPK, Kln, HK

香港九龍新蒲崗太子道東704號新時代商業中心901室

TEL: (+852) 2661 2392

FAX: (+852) 2661 2086

Email: sales@promat.hk

<http://www.promat.hk>



## The Hagner EC1-L Screen Luminance and Film Density Meter

The Hagner EC1-L is a compact instrument for measuring the luminance of luminous screens, for instance of film and slide viewers, X-ray viewers etc., and for easy calculation of film density. It has both an automatic zeroing and an on/off switch and the only controls needed are a four position range selection switch and a hold button to retain the displayed value.

The opening of the detector, which should be pressed against the screen, has a round aperture with an area of 100 mm<sup>2</sup>.

The meter is normally calibrated to read from 1 cd/m<sup>2</sup> to 2,000,000 (2x10<sup>6</sup>) cd/m<sup>2</sup> in four measurement ranges. This calibration is suitable for X-ray viewers. Other ranges, for instance from 0.1 - 200,000 cd/m<sup>2</sup> can be supplied on request.

The calculation of film density requires also a simple calculator which will give the logarithm to base 10 of a number (LOG<sub>10</sub>).

### Measurement of film density

A. Measure the luminance (L<sub>S</sub>) of the blank viewing screen and enter into the calculator.

B. Measure the luminance (L<sub>F</sub>) of the film when placed over the screen.

Film density is then given by  $D = \text{LOG}_{10} \frac{L_S}{L_F}$

### Example

Screen luminance is 1,352,000 cd/m<sup>2</sup>  
Film luminance is 107.2 cd/m<sup>2</sup>

Density is  $D = \text{LOG}_{10} \frac{1,352,000}{107.2} = 4.10$

If the value of screen luminance is stored in the memory of the calculator, the density at several different positions on the film can be calculated very easily.

### Instrument data

Detector	Silicon photodiode V <sub>λ</sub> - filtered
Measurement range	1 - 2,000,000 cd/m <sup>2</sup> (1 - 2 x 10 <sup>6</sup> cd/m <sup>2</sup> )
Accuracy	Better than ± 3% (± 1 in last digit)
Power supply	9 volt battery type PP3 (lifetime 350 hours)
Dimensions	130 x 75 x 35 mm
Weight	0.24 kg