LUCIMETER · S

Alphabetical Index

This Kodachrome II daylight or blue flash says Asa 25 Din 15

Fig. 1

Key to Illustration

① Setting Frame

② Exposure Pointer

③ Exposure Value Scale

④ Triangular Mark indicating the exposure values

⑤ Setting the Scales (right DIN, left ASA)

⑥ Film Speed Setting Ring (rotatable in both directions) according to DIN and ASA

⑦ Diaphragm Scale

⑧ Shutter Speed Scale

⑨ Milled Ring for centralising the exposure pointer ② in the setting frame ①

⑩ Eyelet for neck chain

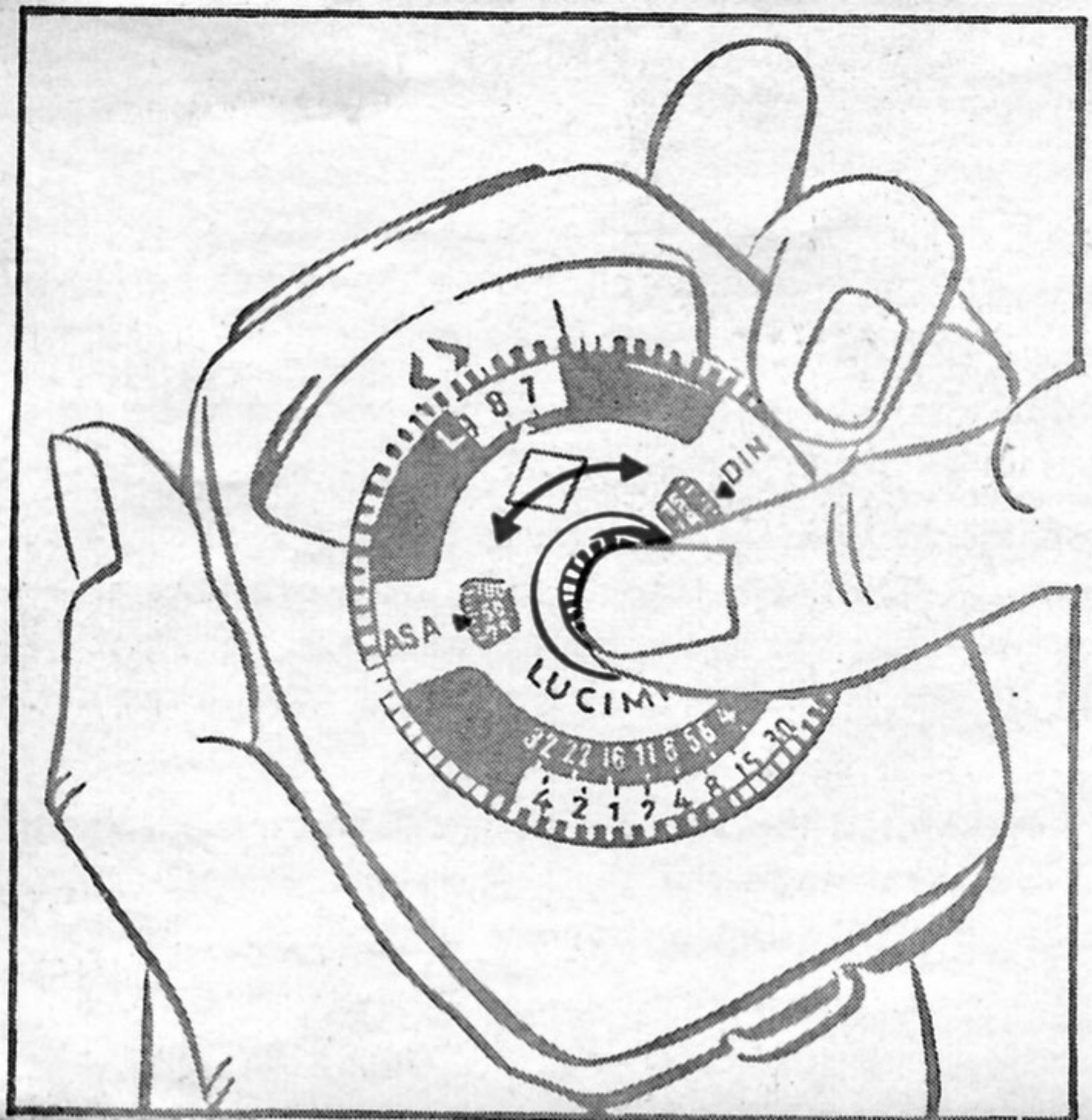
The Agfa Lucimeter S, if purchased without a case, is supplied in a **transparent container.** In order to take out the exposure meter the thumb is pressed against the bottom part below the serrated gripping bar, and the lid opened with the other hand on the gripping bar.

In your new Agfa Lucimeter S you now own a reliable guide to the perfectly exposed picture.

Whether you use colour or black-and-white film, you are now certain to be able to employ the last refinement in exposure technique.

Since we meet border line cases here as in measuring technique everywhere else, we have described them in detail. Do take a little time over the study of this booklet, to make yourself familiar with the potentialities of your exposure meter. The operation of the Lucimeter S is so simple that it requires neither time nor thought.

Our designers have not only considered the speed with which the measurement results can be read, they have also made the mechanism proof against the extremes of climate and designed a pleasing instrument altogether.



To set the film speed, turn the inner milled ring with the thumb.

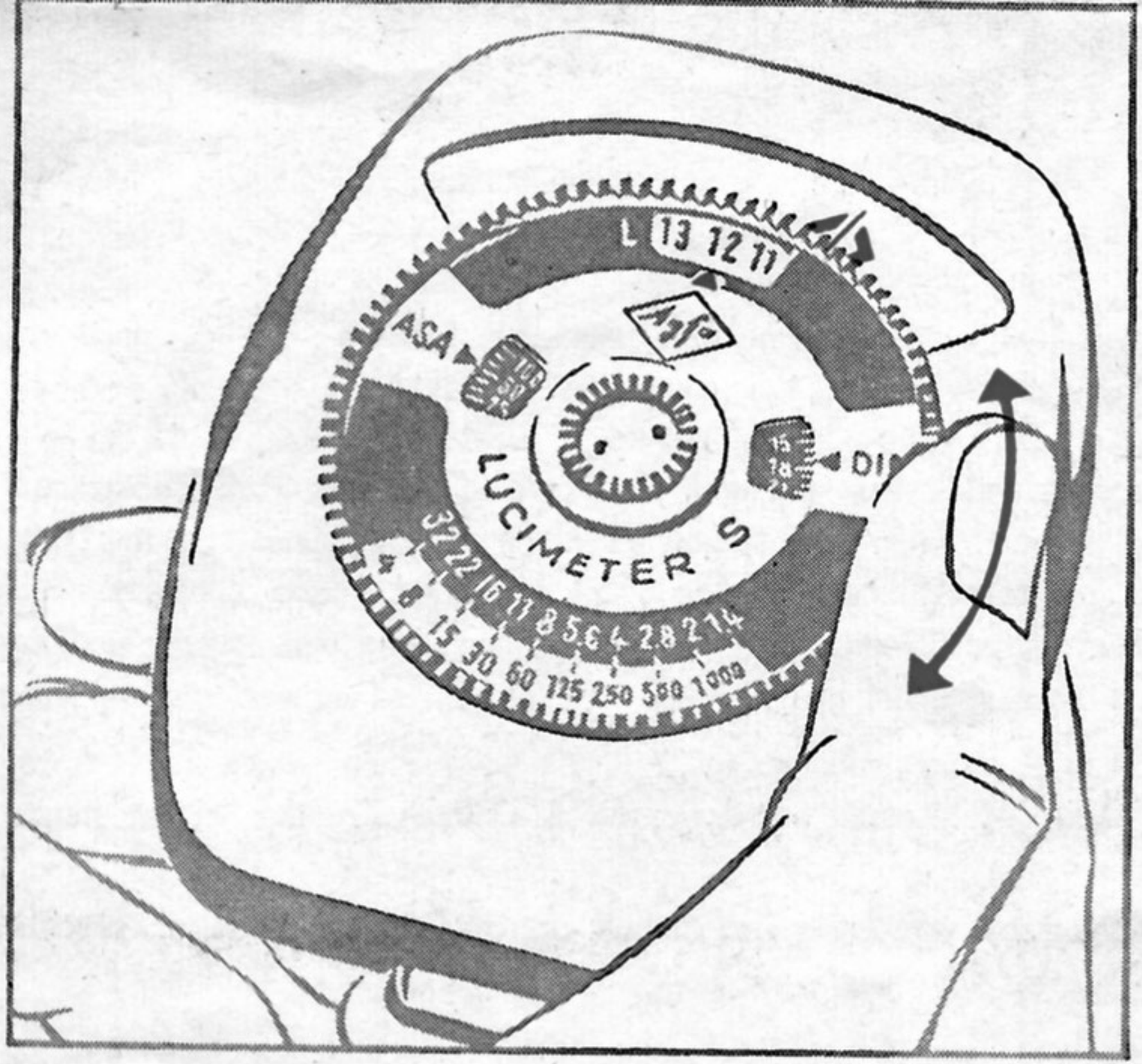
Fig. 2

Setting the Film Speed

Most probably your photo dealer has already explained to you that there are types of film of varying speed. The film speed is normally printed on the film carton. This value must be transferred to the ASA or DIN scale respectively. It is best to grip the Lucimeter S with the left hand turning the inner setting ring with the thumb of the right hand, until the required speed value lies opposite the black triangular mark (in fig. 2: 40 ASA/17° DIN).

ASA values are set in the left hand window, DIN values in the right hand window.

When using films the speed of which is indicated according to another system please refer to the Film Speed Comparison Table on page 22.



Thus you hold the Lucimeter S with your hand; while performing the measurement your thumb should touch the outer milled ring.

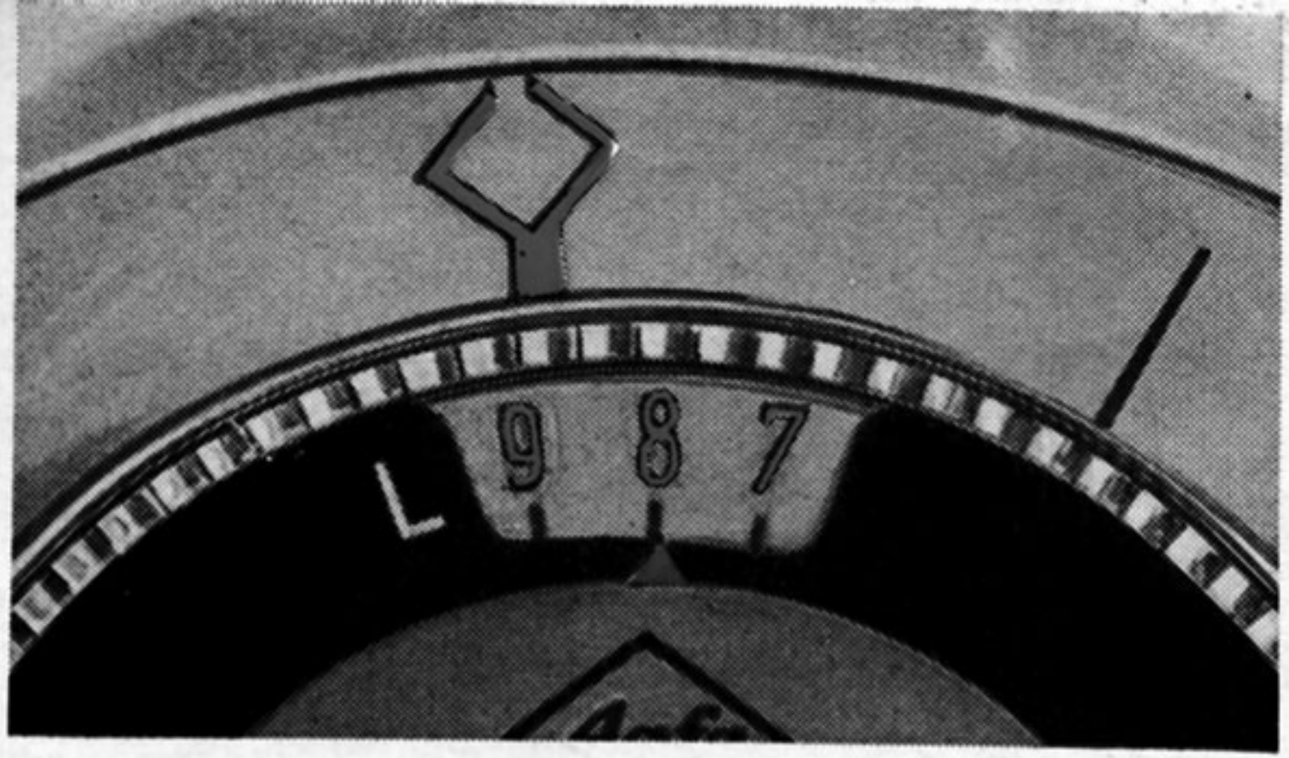
Fig. 3

Reflected and Incident Light Measurement

In the first case (reflected light measurement) the light reflected by the subject is measured: the exposure meter being pointed at the subject from the camera position, **without the opal diffusing plate;** this is called **reflected light measurement.**

In the second case the light incident on the subject is measured: the exposure meter, **the opal diffusing plate in position,** is pointed at the camera from the subject; this is called the **incident light measurement.**

Since the **reflected light measurement** is the most popular measuring method we want to describe it first. Here, as we have already mentioned, the Lucimeter S is always used **without the opal diffusing plate.** In case it is in position in front of the measuring window, it must be pulled downwards from its grooves. It can be stored conveniently in a special compartment, both in the transparent box as well as in the case of the exposure meter.



Beginning of Measurement

Fig. 4

To centralise the exposure pointer turn the outer milled ring with your thumb. The measurement is completed as soon as the pointer coincides with the opening of the setting frame.

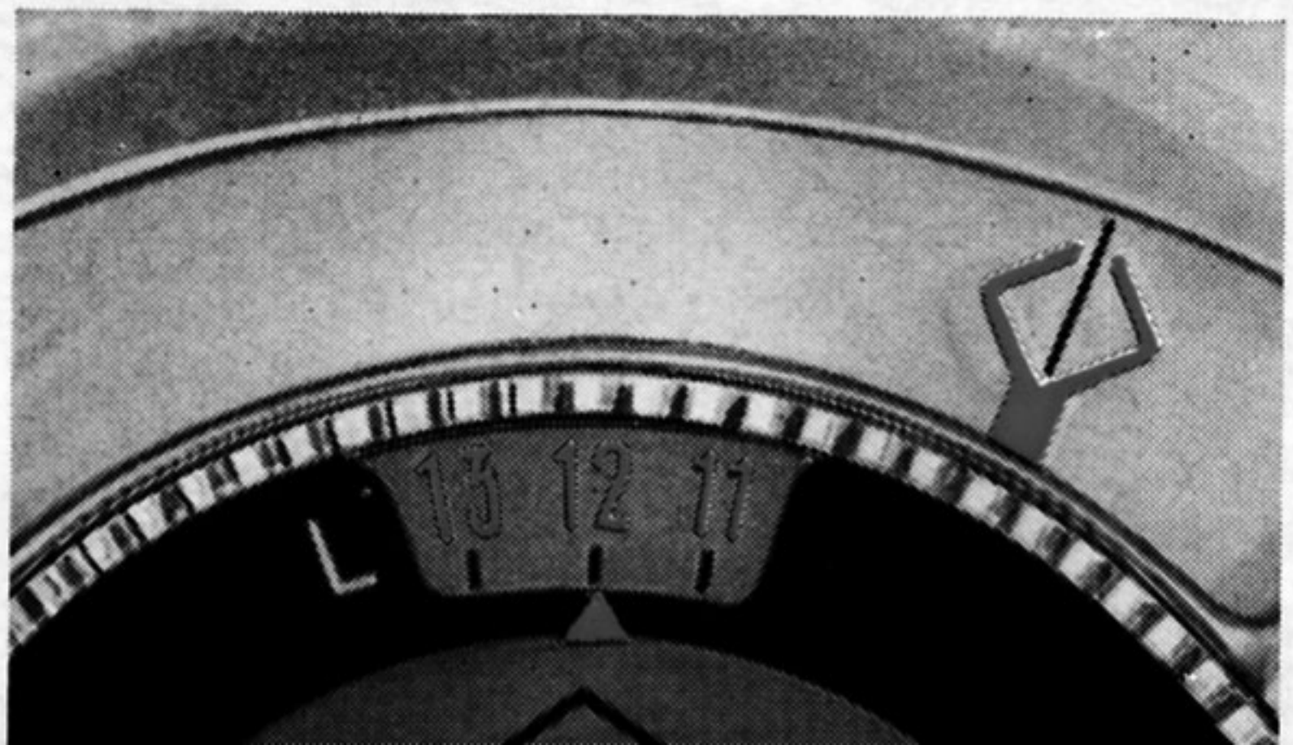


Fig. 5

End of Measurement

You now point your exposure meter—as you would your camera during an exposure—at your subject, the reflected light from which passes through the measuring window and falls on the photo electric cell inside the instrument. **Caution:** The measuring window of the cell must on no account be obscured by your fingers!

The incident light generates an electric current which causes a deflection of the exposure pointer. This pointer deflection will be small with weak light, and great with strong light. The exposure pointer must now be centralised in the setting frame which is also visible in the scale window (see fig. 5). To do this the outer milled ring (9) (see fig. 1) is turned with the thumb.

When using **Colour Reversal Films** (e. g. Agfacolor Reversal Film CT 18) it is recommended to direct the Lucimeter to the main **brighter** parts of the subject. For subjects with small brightness differences (e. g. in fog, bad weather or in the shadow) it is more convenient to use the next longer shutter speed. **This rule applies only to colour reversal films** and only to the indicated cases.

When using a **colour negative film** point the exposure meter always to the essential **darker** parts of the subject.

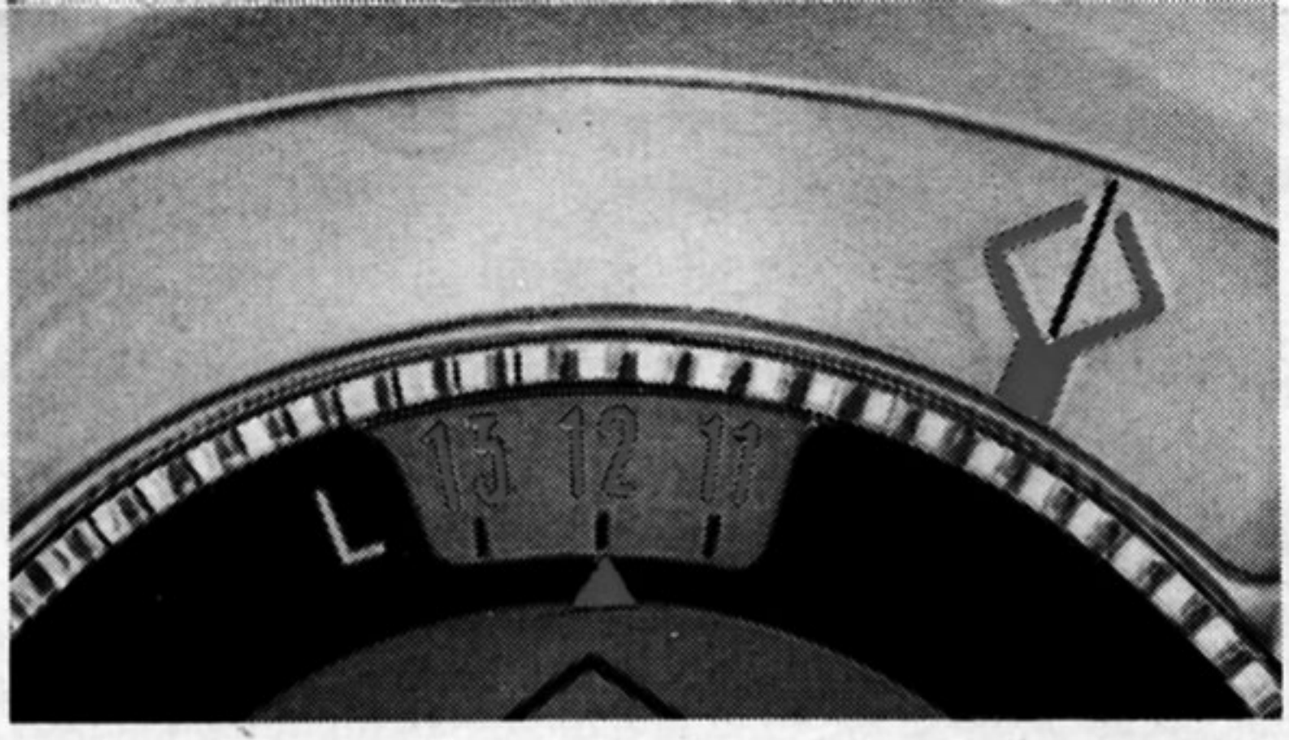


Fig. 6

Reading the Measuring Result

If your camera has an **exposure value shutter** you should read the relevant red exposure value number opposite the triangular mark of the cut-out marked with the Letter L and transfer it to the shutter of your camera (e. g. exposure value 12 in fig. 6).

For cameras **without** exposure value shutter you will find the result of your measurement (stop number and shutter speed) on the bottom scale (e. g. stop 8 and $^1/_{60}$ sec. in fig. 7).

Fig. 7

The **black numbers** on the shutter speed scale represent fractions of seconds (e. g. 60 = $^1/_{60}$, 125 = $^1/_{125}$, 500 = $^1/_{500}$, 1 = 1 second), and the **green numbers** full seconds.

When using the green numbers (shutter set at B) and the slow instantaneous speeds from 1 (= 1 second) to 15 (= $^1/_{15}$ second), a tripod and a cable release should be used. Thus camera shake can be avoided that would be encountered during hand-held exposures.

Intermediate Settings

During the centralising of the exposure pointer it may happen that the white triangular mark settles between two exposure value numbers, or, respectively, the shutter speed between two stop numbers. The transfer of such a reading to your camera is possible and correct. However, you must only use **full shutter speeds,** but **intermediate stop values** (apertures) may be set. ⟶

Should you own a camera whose shutter speed series differs from the linear scale also used on the Lucimeter, you should always set the next shutter speed i. e. for instance,

	1/10	1/25	1/50	1/100
instead of	1/8	1/30	1/60	1/125

Which Shutter Speed/Stop Combination should be set?

We are sure you know from your operating instructions of your camera that the exposure of your film depends on two factors, the exposure time and the aperture stop. With the aid of these two factors, therefore, a setting adaptable to the lighting conditions and the subject can always be found.
The Lucimeter S facilitates this setting quite considerably for you, as it offers you the precise values, i. e. as

shutter speed / stop combination for all cameras
without exposure value shutter

and as exposure value for all cameras
with exposure value shutter.

Let us assume that the measurement permits, as can also be seen from fig. 6 and 7 the setting of the following shutter speed/stop combinations:

Stop:	f/2	2.8	4	5.6	8	11	16	22	32	= Exposure
Shutter speed:	$^1/_{1000}$	$^1/_{500}$	$^1/_{250}$	$^1/_{125}$	$^1/_{60}$	$^1/_{30}$	$^1/_{15}$	$^1/_8$	$^1/_4$	**Value 12**

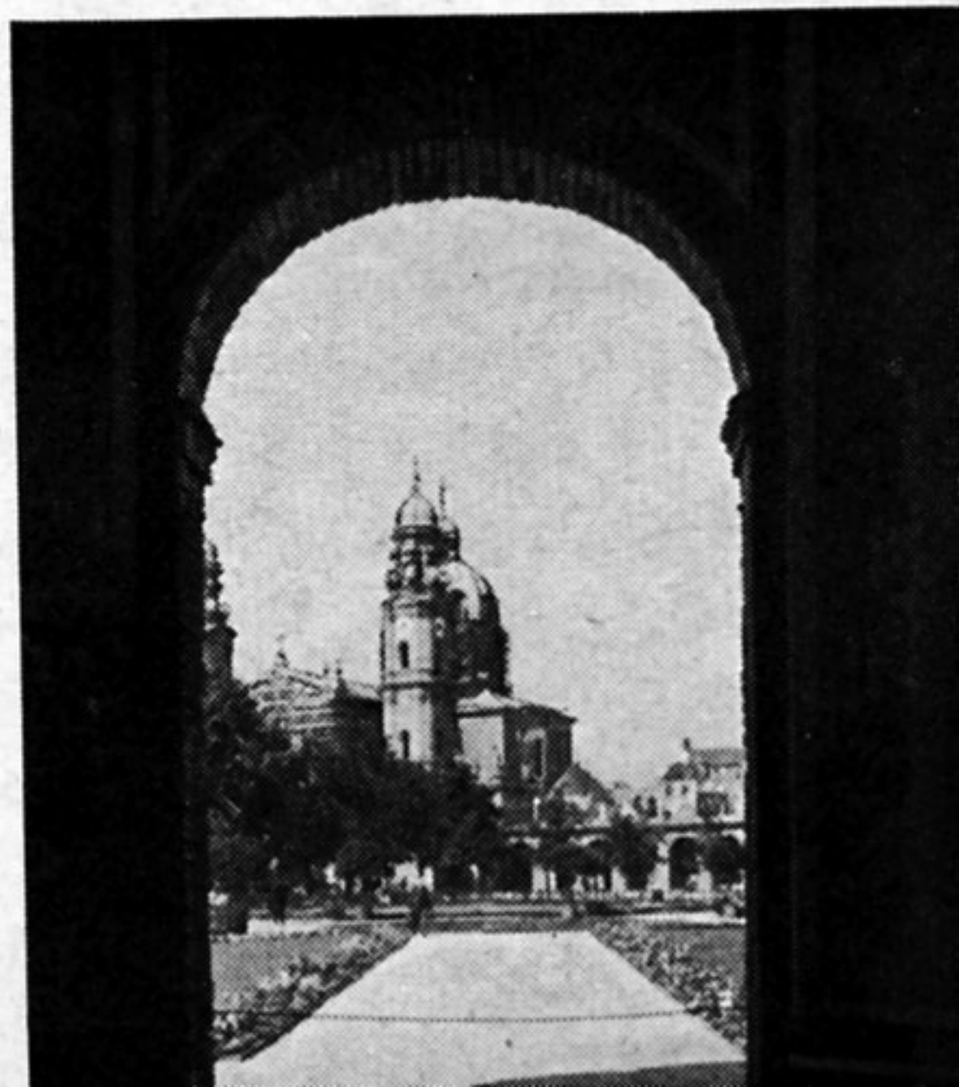
Since each of these shutter speed/stop combinations allows the same quantity of light to reach the film, all you have to do is to choose the one most favourable to your subject. The following will assist you in making this choice:

If you want to photograph a landscape where foreground as well as background are to appear sharp in the picture, the setting of a small stop is necessary (see above scale e. g. f/11 and $^1/_{30}$ sec.).

If, however, you want to capture a rapidly moving subject, a fast shutter speed is indispensable, if a sufficiently sharp picture is to be obtained (see above scale e. g. $^1/_{250}$ sec. and f/4).

In the first case a slow shutter speed should be set in the interest of a smaller stop, in the second case a large stop should be chosen to be able to set a faster shutter speed. ⟶

A camera **with exposure value shutter** makes it easy for you to set the shutter speed/stop combination most favourable to the subject by **one** movement direct at the camera shutter ring.
If you have any doubts at all about this, please re-read the chapter dealing with the advantages of the exposure value shutter in the operating instructions of your camera.



Close-Up Measurements

In cases showing extreme brightness differences in the subject, or its closest neighbourhood, a close-up measurement is recommended. In order to effect this you approach the most important part of the subject closely enough with your Lucimeter to eliminate the disturbing influence of the surroundings. The following rule may serve you as a guide:

Fig. 8

If any further approach, or a slight turn of the Lucimeter no longer causes a noticeable change in the pointer deflection, the correct measuring is completed. The exposure is taken from the originally chosen camera viewpoint with the measuring result thus determined.

Fig. 9

Incident Light Measurement

If the foregoing close-up measurement of a subject with large brightness differences is impossible, either because one cannot get close enough to the subject (e. g. due to a snow field, a river or for other reasons), the light measurement method described below must be chosen.

Two extreme examples may make this clear:

When a person in a bright dress is taken against the background of a dark wood, she would be over-exposed with reflected light measurement, owing to the preponderance of the dark part of the subject.

On the other hand, the same measuring method would lead to far too short an exposure time for a chimney sweep in a field of snow, so that in the positive he would appear merely as a silhouette.

If a close-up measurement is not possible in such cases or the brightness differences are altogether so great as to make reflected light measurement of doubtful value, you should change over to incident light measurement. ⟶

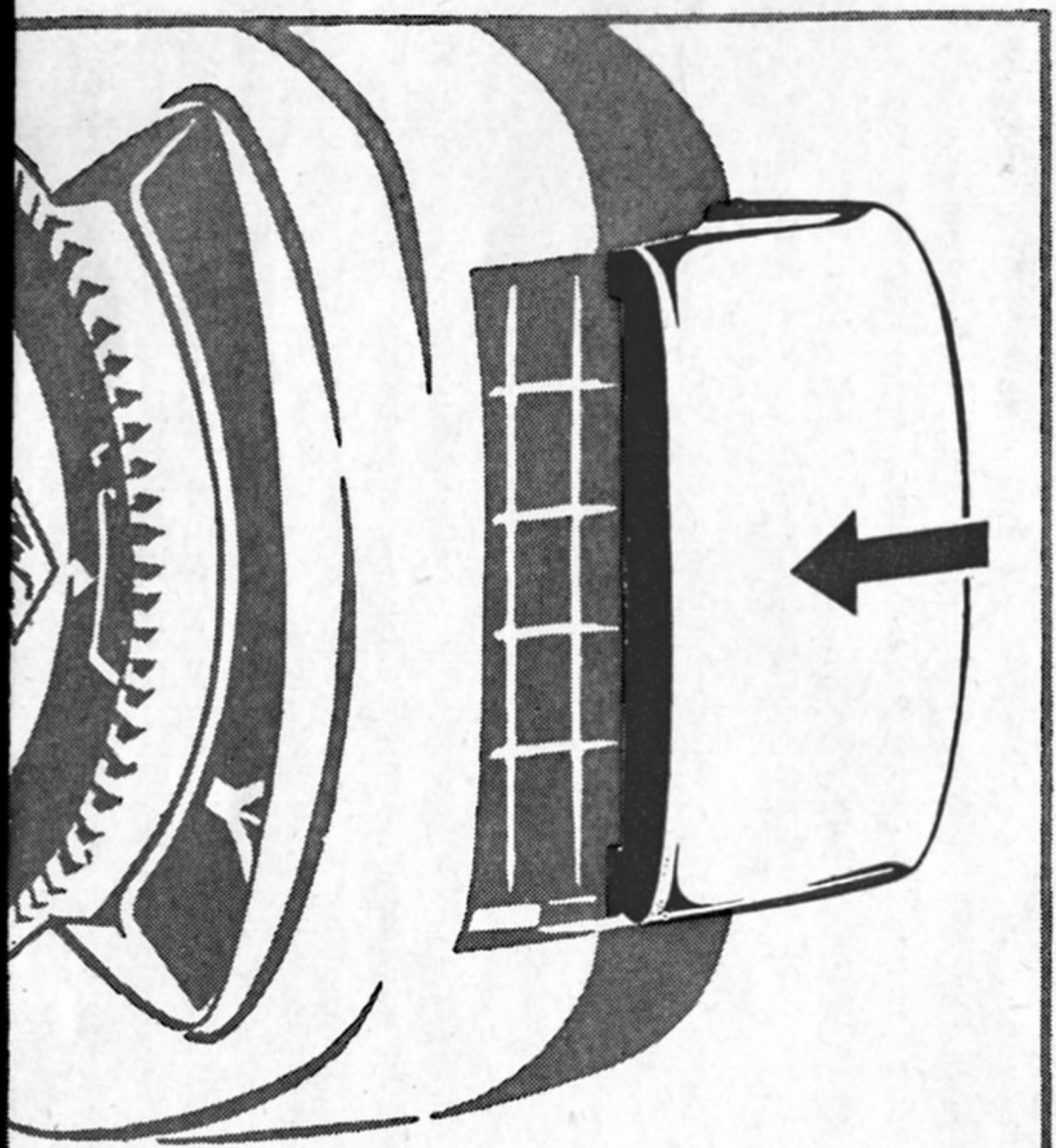


Fig. 10

The **incident light measurement** is always taken through the opal diffusing plate. For this purpose the opal diffusing plate supplied—also known as diffusor— is fitted with its broad edge from below into the guide grooves in front of the measuring window of the Lucimeter S (see fig. 10).

It is then best to approach the subject as close as possible and to turn round to take the measurement, i. e. in the direction of the intended camera viewpoint. Proceed in the same manner in diffused light, i. e. in bright general lighting without direct sunlight.

With artificial light subjects, too, the light is always measured from the subject to the camera viewpoint, irrespective of whether one or several light sources are used.

For narrow-gauge cine-camera owners

You can read your exposure values off your Lucimeter for your narrow-gauge cine-camera too, provided you know the shutter speed at which it operates; this can be obtained from your operating instructions.

If your camera provides **single frame exposure,** a second and longer exposure time will be given for this operation.

If, for instance, a shutter speed of $^1/_{30}$ sec. is stated for the normal camera speed (16 frames per second) please read the stop facing $^1/_{30}$ second on the Lucimeter. With a shutter speed of $^1/_{45}$ sec., as on the Movex 88, the stop corresponding to the position on the half-way mark between $^1/_{30}$ and $^1/_{60}$ of a second must be set.

The stop setting thus determined is transferred to the narrow-gauge cine-camera and ensures the correct exposure of your film.

If your narrow-gauge cine-camera provides other speeds in addition, you must, starting from the basic 16 f.p.s. setting,

close your lens by **one** stop (next larger stop number) for **8** f.p.s.,

open your lens by **one** stop (next smaller stop number) for **32** f.p.s.,

open your lens by **two** stops for **64** f.p.s.

In this way the Agfa Lucimeter S can also be used for narrow-gauge cine-cameras.

Maintenance of the Lucimeter

The Lucimeter should always be protected against dust, dirt, sand, and humidity and should never be left lying in the sun. Its movable parts are mounted on shockproof bearings; the instrument, however, must be protected against hard knocks.

Climate-proof?

You have read correctly, the Lucimeter S is greatly protected against temperature variations due to a built-in heat conductor. In the absence of this electrical device it is possible that faulty results of 1–2 stops may be indicated in very low or very high temperatures. You are now certain that within a range from about 14° to 104° F. (from –10° C. to +40° C.) the indicated exposures are as precise as at normal temperatures, as the heat conductor compensates for the disturbing temperature differences.

If you wish to protect your exposure meter from bad weather then use the practical carrying case. For measuring it will suffice to pull the instrument only partly out of the case.

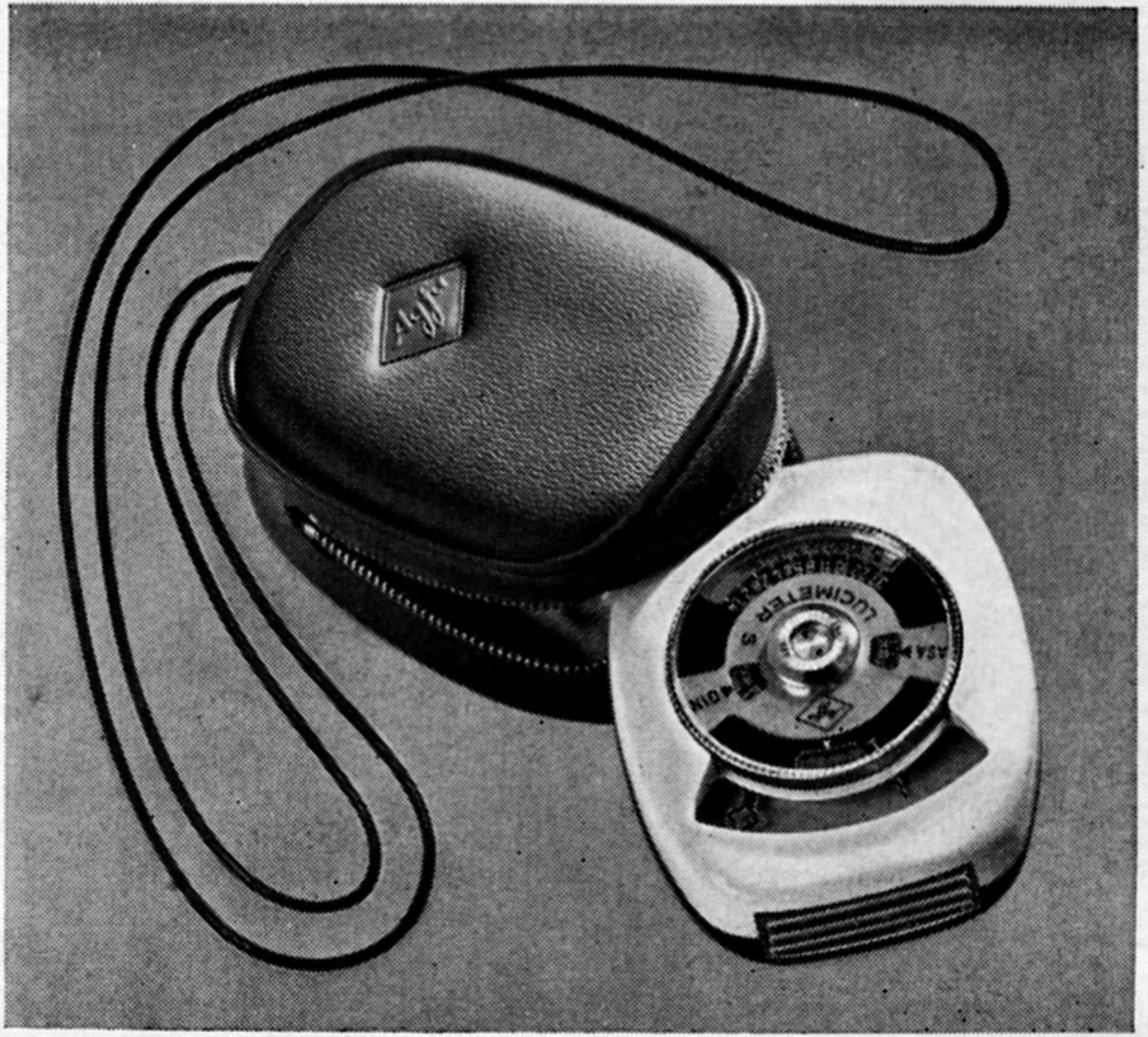


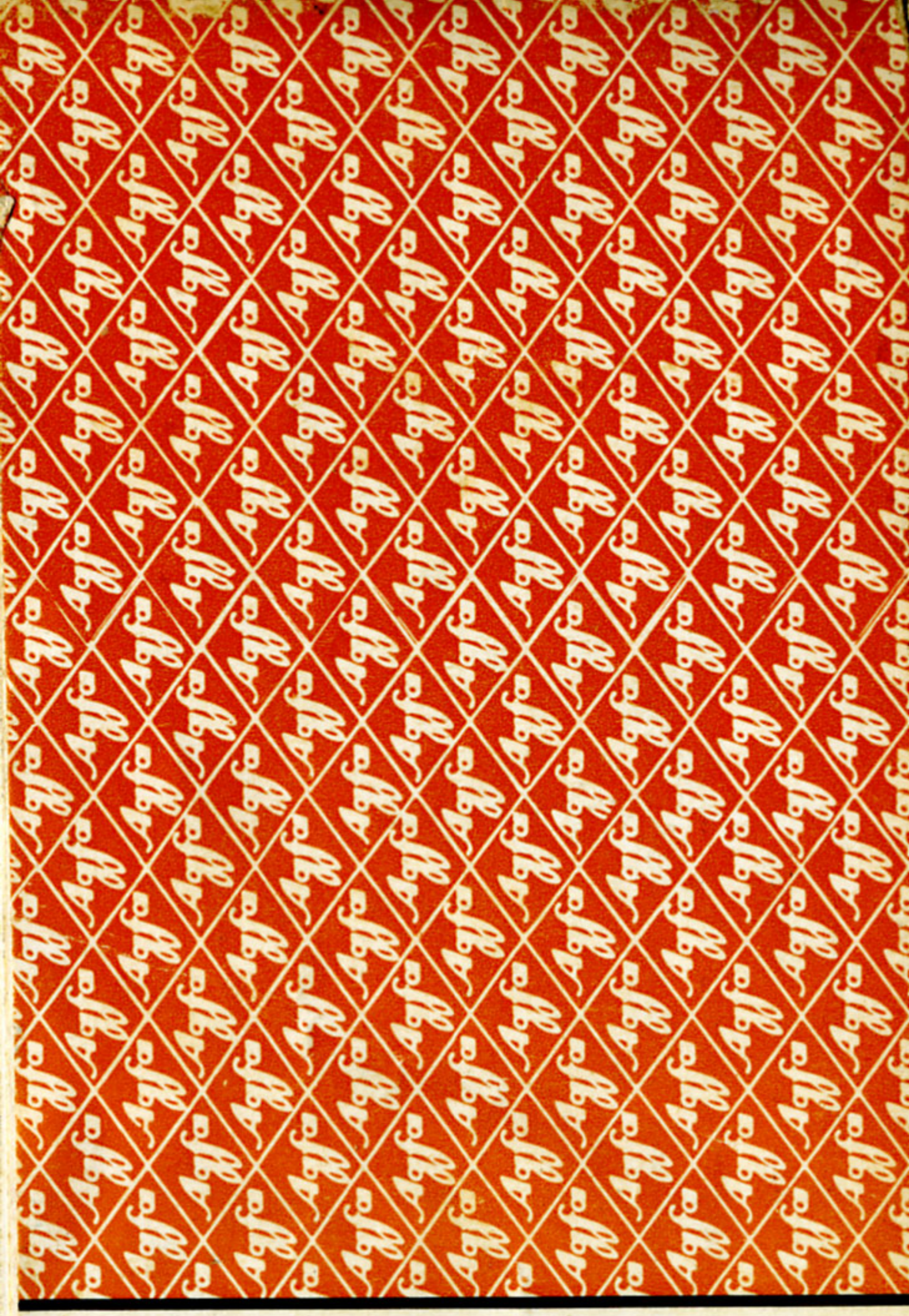
Fig. 11

Film Speed Comparison Table

DIN	ASA	Scheiner	Weston	G.E.	DIN	ASA	Scheiner	Weston	G.E.
11°	10	21°	8	12	23°	160	33°	125	200
12°	12	22°	10	16	24°	200	34°	160	250
13°	16	23°	12	20	25°	250	35°	200	320
14°	20	24°	16	25	26°	320	36°	250	400
15°	25	25°	20	32	27°	400	37°	320	500
16°	32	26°	25	40	28°	500	38°	400	640
17°	40	27°	32	50	29°	640	39°	500	800
18°	50	28°	40	64	30°	800	40°	640	1000
19°	64	29°	50	80	31°	1000	(41°)	800	1250
20°	80	30°	64	100	32°	1250	(42°)	1000	1600
21°	100	31°	80	125	33°	1600	(43°)	1250	2000
22°	125	32°	100	160	34°	2000	(44°)	1600	2500

We reserve the right to structural changes resulting from further development of the exposure meter.

AGFA AKTIENGESELLSCHAFT
Camera-Werk Muenchen



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