

Your **WESTON** Cadet



25¢

Your Weston Cadet

Your Weston Cadet is outstanding among small photoelectric exposure meters. It combines an efficiency of design with fine scientific instrumentation to meet the demands of modern photography.

Your Cadet, designed for simplicity of operation, incorporates not only reflected light readings for the bulk of picture taking but also incident light readings without detachable accessories.

Your Cadet is for use with both still and motion picture cameras using either color or black-and-white film. It employs Weston film speed values obtained as the result of continuous independent testing in the Weston Sensitometric Laboratory.



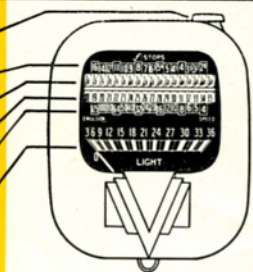
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Your Cadet... its Operation...

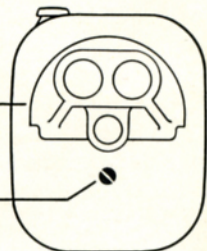
EASY TO USE FOR EITHER REFLECTED OR INCIDENT LIGHT READINGS... QUICKLY INDICATES CORRECT CAMERA SETTINGS

- KNOB
- f/STOPS
- SHUTTER SPEEDS
- LIGHT VALUES
- FILM SPEEDS
- LIGHT SCALE

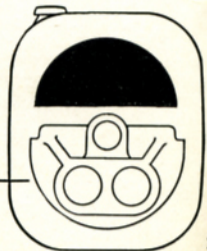


INCIDENT LIGHT COLLECTOR
—IN UPPER POSITION OVER
PHOTOELECTRIC CELL FOR
INCIDENT LIGHT READINGS

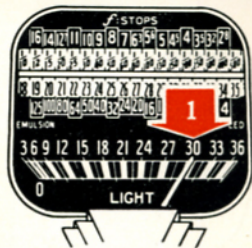
ZERO CORRECTOR



COLLECTOR MOVED CLOCK-
WISE TO LOWER POSITION
EXPOSING PHOTOELECTRIC
CELL FOR REFLECTED LIGHT
READINGS

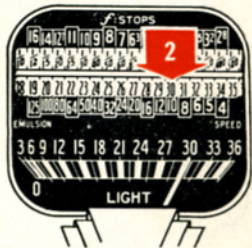


1. Aim the meter for either reflected or incident light measurement, note reading on LIGHT SCALE... assume value of 30.



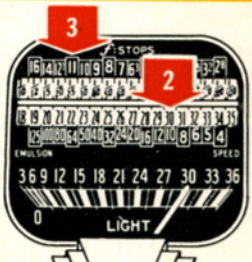
2. Now assume you are using a film having a Weston speed of 10... turn knob on top of the meter until 30 on the LIGHT VALUE line is directly above 10 on the FILM SPEED line.

NOTE!—Weston Film Speeds are listed in a separate folder supplied with your Cadet.



3. Exposure settings now appear in the two top lines as f/STOPS and SHUTTER SPEEDS... select a speed and stop to best fit the scene or subject... set these values on your camera and take the picture.

Example—F/11 at 1/25 second,
F/8 at 1/50 second or any other
combination shown on the two
top scales.



Light Readings with Your Cadet



AIMING YOUR CADET

When aiming the Cadet hold it so that the photoelectric cell opening or incident light collector is not shaded by your hand or the neckcord.

Exposure is determined by (1) the brightness of the subject, **REFLECTED LIGHT** or (2) the light falling on the subject, **INCIDENT LIGHT**.

REFLECTED LIGHT

Move incident light collector to lower position exposing the photoelectric cell opening . . . aim meter and read the light reflected from the subject or scene.

Always read what you are shooting . . . a general scene, read the scene . . . a dog, read the dog . . . a person, read the flesh tone.

INCIDENT LIGHT

Move incident light collector into position over the photoelectric cell opening . . . aim from the subject towards the camera so that the meter is influenced by the same light falling on the subject to be photographed.



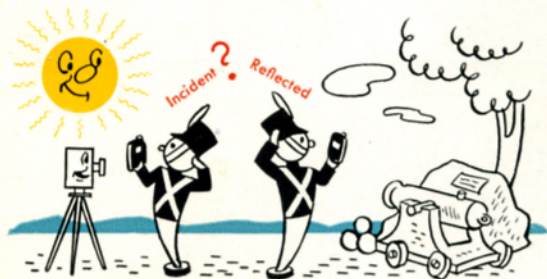
Reflected or Incident

Personal preference and/or the subject-camera conditions usually dictate the appropriate method to use. Reflected light readings are, in general, easier to make when working out-of-doors, incident light readings a convenience indoors.

No set rule applies . . . experience is the best guide.

Incident light meters assume a middle or flesh tone as being of major importance in the scene or subject and are adjusted to provide an exposure which will correctly reproduce these tones. Should these tones be of interest incident light can be used. If not of importance an exposure allowance must be made for the type of subject . . . or use the reflected light method.

The latter relieves the picture taker of estimating this allowance . . . reflected light meters consider the type of subject to be photographed.



Reflected Light Readings ...

Color or Black-and-White



Photographing a General Scene?

Read the general scene.
Avoid reading sky areas.

Photographing a Contrasty Scene?

Read the lightest and darkest objects of importance ... average the two light readings.



Photographing a Person?

Read the face of the person.

Copy Work?

Divide the film speed value by 5 ... read the light reflected from a white card placed over the subject.



Photographing an Inaccessible Subject?

Read a substitute object near at hand similarly lighted.

Panorama With a Movie Camera?

Pan with your Cadet meter and select an average light value.



Incident Light Readings

Color or Black-and-White

INDOORS

Stand close to the subject and aim your Cadet towards the camera.

LIGHT BALANCING

The lighting contrast ratio can be determined by reading the intensity of the light sources.

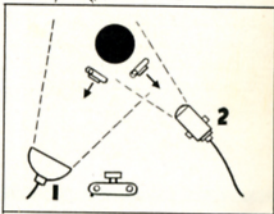
1. From the subject aim your Cadet towards the main light source ... note the reading.
2. Read the secondary light source in the same manner ... note the reading.
3. The difference between the two light values determines the lighting contrast.

EXAMPLE:

Difference - 3 - Contrast - 2:1

Difference - 6 - Contrast - 4:1

Difference - 9 - Contrast - 8:1



8

Reflected Light Reading

Light Value 29

Film Speed 100

Exposure $f/11 - 1/200$ second



Reflected Light Reading

Light Value 30

Film Speed 50

Exposure $f/12.7 - 1/100$ second



9





Reflected Light Reading
 Light Value 31
 Film Speed 50
 Exposure $f/10 - 1/200$ second



Reflected Light Reading
 Light Value—Average 24
 (Bright Area 29—Dark Area 19)
 Film Speed 100
 Exposure $f/12.7 - 1/50$ second



Reflected Light Reading
 Light Value 28
 Film Speed 50
 Exposure $f/10 - 1/100$ second



10

Reflected Light Reading
 Light Value 31
 Film Speed 100
 Exposure $f/14 - 1/200$ second



11





Incident Light Reading
Light Value 22
Film Speed 64
Exposure $f/11 - 1/25$ second



Incident Light Reading
Light Value 31
Film Speed 50
Exposure $f/14 - 1/100$ second



Incident Light Reading
Light Value 26
Film Speed 50
Exposure $f/11 - 1/50$ second



12

Incident Light Reading
Light Value 29
Film Speed 50
Exposure $f/11 - 1/100$ second



13





Incident Light Reading
Light Value 28
Film Speed 50
Exposure $f/14 - 1/50$ second



Incident Light Reading
Light Value 30
Film Speed 50
Exposure $f/12.7 - 1/100$ second



Contents

PART II

To really enjoy picture taking success by getting the most out of your Weston Cadet Exposure Meter you must learn to appreciate its versatility and use it as you would any good tool.

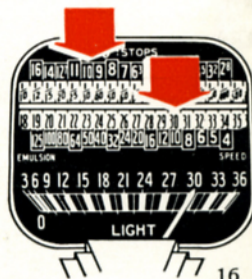
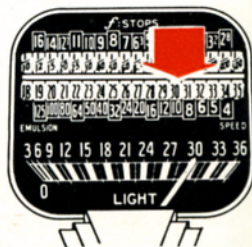
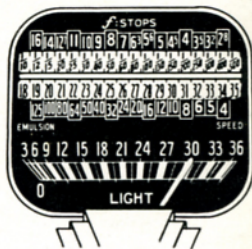
Part II of this booklet contains pertinent information concerning the use of your Cadet with movie cameras, a discussion of film speeds, care of the meter and other valuable data. It is recommended reading!

YOUR CADET WITH MOVIE CAMERAS

A motion picture camera is essentially a still camera capable of taking a series of still pictures in rapid succession. Use your Cadet in the normal manner however a definite shutter speed for the camera must be recognized in the selection of the proper f/stop.

1. From the film speed folder determine the equivalent shutter speed of the camera operating at 16 frames per second. Assume that it has an equivalent shutter speed of 1/30 second.
2. Aim the meter, note reading on light scale.
3. Turn the knob and set the light value directly over the speed of the film in use.
4. Above the shutter speed of 1/30 will be found the proper f/stop.

EXAMPLE:—Assume a shutter speed of 1/30 second, a light value of 30 and a film speed of 10. The camera setting will be found to be 16 frames per second at f/10.



YOUR CADET WITH THE POLAROID LAND CAMERA

The Polaroid Land Camera has eight exposure settings. Unlike most high grade cameras, the Exposure Settings consist of definite combinations of f/stops and shutter speeds, hence for Polaroid Land film the Exposure Setting is governed entirely by the scene brightness. Your meter is calibrated to indicate scene brightness and therefore, can readily and easily be used with the Polaroid Land Camera in the following manner:—

1. Determine the scene or subject brightness in the usual manner and note the meter reading.
2. Locate the film speed in the first vertical column of the table below.
3. Now locate the meter reading obtained in the same horizontal line.
4. At the bottom of this vertical column will be found the correct exposure setting.

POLAROID LAND
FILM SPEED READING ON YOUR WESTON CADET

200	—	13	16	20	24	27	30	33
160	—	14	17	21	25	28	31	34
125	—	15	19	23	26	29	32	35
100	13	16	20	24	27	30	33	36
80	14	17	21	25	28	31	34	37
64	15	19	23	26	29	32	35	—
50	16	20	24	27	30	33	36	—
Exposure Setting	1	2	3	4	5	6	7	8



CALIBRATION OF EQUIPMENT

It is not uncommon for slight errors in camera shutters, calibration of lenses as well as exposure meters to occur in additive fashion and cause under or over exposure.

Lenses coated to avoid reflections have increased transmission and frequently a higher than normal film speed value must be used to produce correct exposure. Remember, an exposure meter is essentially a tool and the user should learn to appreciate its versatility to thoroughly enjoy picture success.

Trial exposures at several film speed values will aid in calibrating equipment. Selection of the film speed providing the desired result with your equipment (and exposure technique) will aid in canceling out equipment errors.

When using lenses calibrated in "T" stops, allowance may be necessary for the increased transmission of the lens. This is accomplished by using the next higher film speed than indicated in the film speed folder.

A.S.A. CONSTANT OF THE CADET

The American Standards Association requirement for General Purpose Photographic Exposure Meters of the Photoelectric Type specifies that the instrument-computer combination shall have a constant (K) between the limits of 1.0 to 1.35 inclusive. Your Cadet has been designed so that $K=1.0$.

ZERO CORRECTION

Severe vibration or shock may cause failure of the pointer to return to the zero position when all light is excluded from the photoelectric cell. This normal occurrence in an electrical instrument can be readily corrected by operating the zero corrector.

Exclude all light from the photoelectric cell opening, hold the meter in normal operating position and turn the zero corrector until the pointer is directly over the zero position on the light scale.



WESTON FILM SPEEDS

The Weston Film Speeds supplied with your Cadet are the results of the continuous testing of film, purchased from retail photographic outlets, by the Weston Sensitometric Laboratory. These independently determined values correlate scene brightness with camera settings assuring correct exposure.

The constant for which your meter has been designed, while typical of the modern thinking of both manufacturers and photographers, does however, require that the film speeds listed differ in some respects from values published for other Weston meters.

CARE OF YOUR CADET

Your Cadet, as any other precision instrument, should receive the same careful handling that would be accorded any good camera.

Normal temperatures and humidity do not harm the meter. Temperatures in excess of 130F may affect the accuracy of the meter.

SERVICE FACILITIES

Over sixty years of electrical instrument design and manufacturing experience is behind the Cadet. Your meter is rugged and designed to give you many years of splendid service. It is one of the many fine measuring devices developed in the Weston Laboratories.

Should your Cadet become damaged or fail to operate return it to your dealer or, if not convenient, send it directly to the

Service Division
Weston Electrical Instrument Corp.
614 Frelinghuysen Avenue
Newark 5, New Jersey.

Attach an identification tag clearly showing your name and address. Careful packing is important to avoid further damage during shipment.

To avoid delays in handling please do not send instruction books, carrying cases and other accessories with the meter.

The photographs used on pages nine through fourteen were selected to illustrate typical exposure problems encountered by camera fans.

They are by H. Armstrong Roberts and George H. Espy.

Weston Model 852 Exposure Meter is protected by the following U. S. Patents:

1,982,406

2,073,790

2,463,770

Canadian Patent

347,085

Other patents pending.

Additional copies of this Model 852 Instruction Book are twenty-five cents each and may be obtained by writing

Photographic Sales Division
Weston Electrical Instrument Corp.
614 Frelinghuysen Avenue
Newark 5, New Jersey.

