HOUSTON FORENSIC SCIENCE CENTER

Our mission is to receive, analyze and preserve physical and digital evidence while adhering to the highest standards of quality, objectivity and ethics.

Forensic Photography

“TAKING PICTURES IS ONE THING, PHOTOGRAPHICALLY DOCUMENTING A SCENE, IS DIFFERENT.”

Domingo Villarreal, CSCSA

"DOCUMENTATION"

There are three distinct ways to document crime scenes. Without any doubt; photography is the most powerful! To say that Crime Scene Investigators rely quite heavily on photography would be a vast understatement! Our criminal justice system relies on pictures to "tell the story" and to bring the crime scene into the court room. A picture impresses the court like no oral testimony ever could!

Importance of Photographic Documentation

CAPTURE REGISTER

CRIME SCENE

- Ambient Conditions
- Original
- Corroborative
- Objective, impartial, exact, focused
- Missing information
- Observation
- General to particular

COURT

"CORRELATION"

Photography should complement and correlate with notes and sketches from the crime scene investigation.

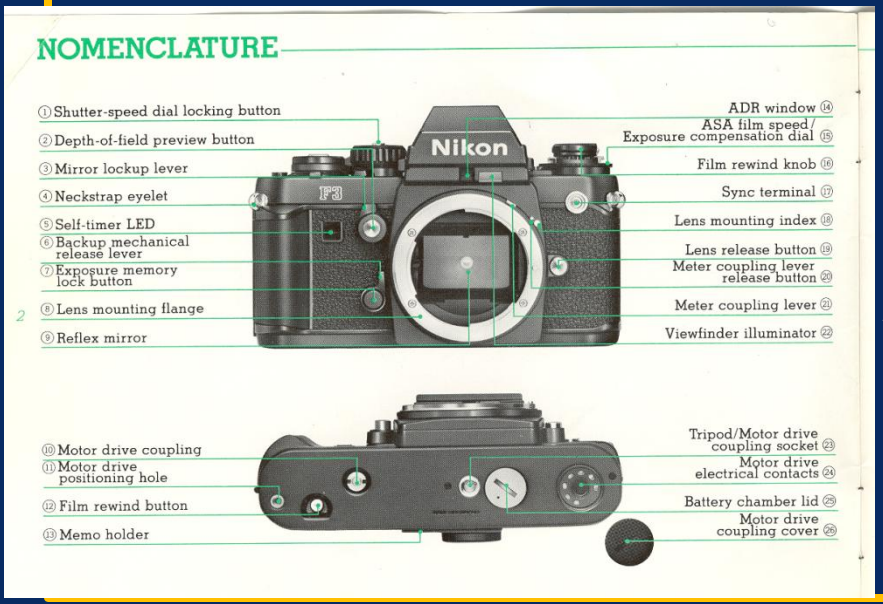
It should never be relied upon to totally replace good note taking skills or rough sketches created at the crime scene.

Important: At any serious crime scene, never, never, never destroy your field notes taken during your investigation. This action will come back to haunt you!

"BASIC TERMINOLOGY"

To start out; you need to know some basic photographic terminology.

The ***Aperture*** is the opening in the lens that allows light to enter the box. The aperture is controlled by a ring built into the camera lens.



Each setting is referred to as an ***"F-stop"*** and normally ranges from 2.8 up to 32!

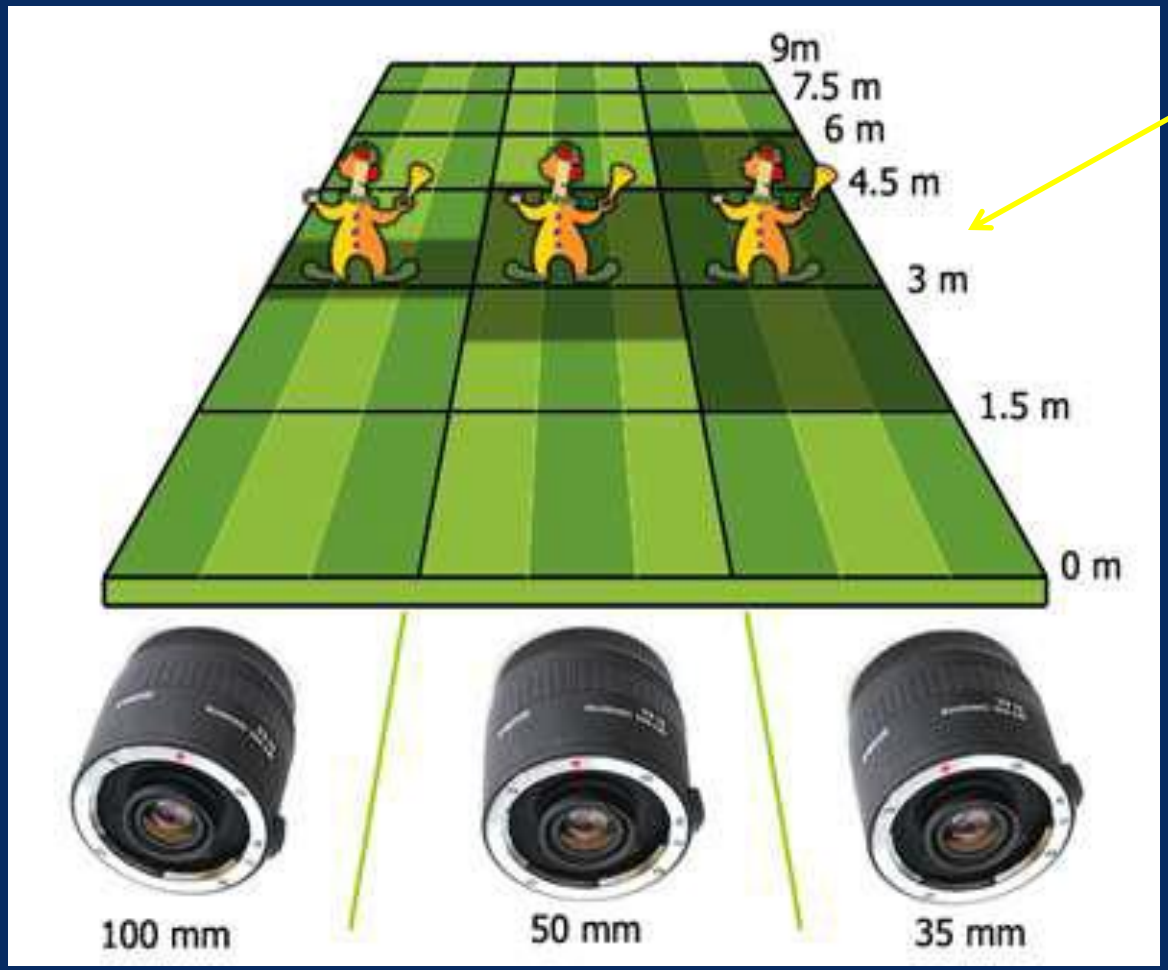
The aperture affects the *depth of field.*

"DEPTH OF FIELD"

The ***depth of field*** refers to focus on items depicted in the photo. If items in the foreground are in focus and items in the background appear fuzzy, the depth of field is shallow.

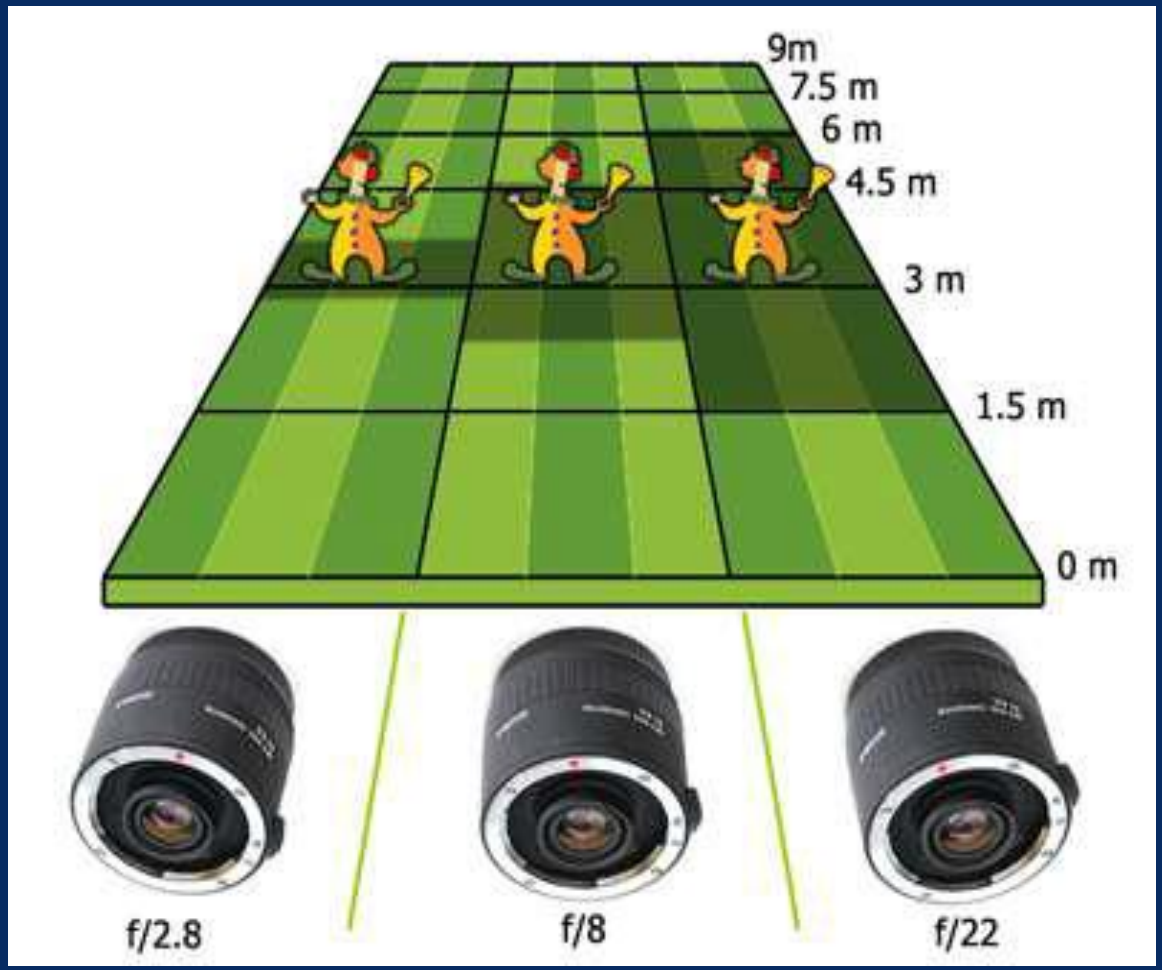
If all items appear clearly, you would have a greater depth of field. In order to increase the depth of field, you rotate the aperture ring to a higher number.

FOCAL LENGTH



Shorter focal lengths provide greater DOF

APERTURE



“APERTURE 5.6”

“APERTURE F-32”

WHICH IMAGE IS SHARPER?

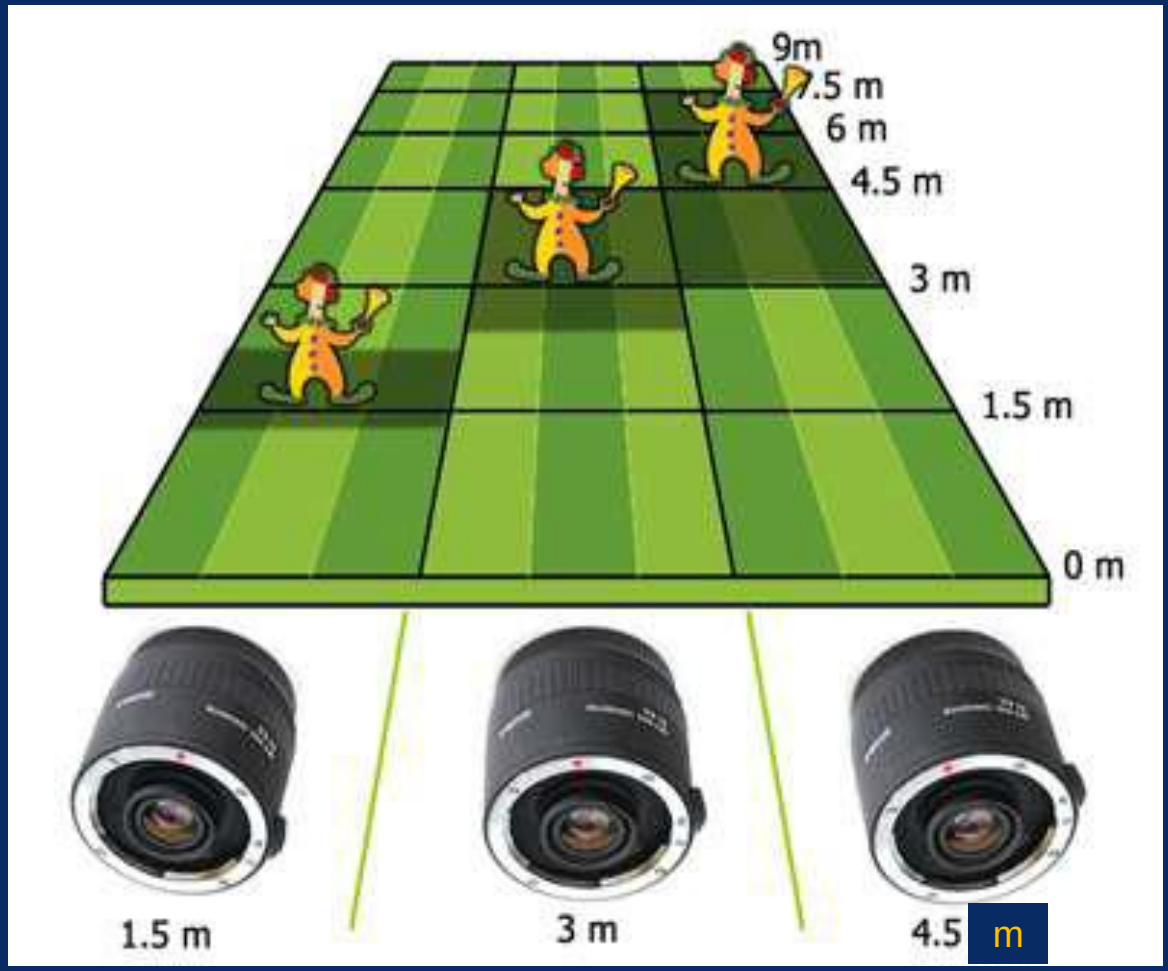
Larger aperture

Smaller aperture

http://www.secondpicture.com/blog/diffraction_with_small_apertures.html


1

DISTANCE TO SUBJECT



The working distance will be less than 6” when using a small focal length (30-50mm) macro lens for 1:1

"SHUTTER SPEED"

The camera *shutter* is a door or curtain located just behind the lens mount.

The **shutter** is responsible for controlling the length of time, light can enter the box, through the camera lens.

Shutter speed adjustments normally run from an eight-second duration down to 1/2000 of a second.

"FILM SPEED"

Normally referred to as the film's **"ISO"** rating; this number relates to how the film reacts to a standard amount of light.

For example; ISO 100 speed film doesn't contain as much light sensitive chemical as does the 400 speed film.

Therefore, 100 works best in brighter conditions, such as a sunny day or with a bright flash.

"THE FOCUS FACTOR"

Most cameras have auto focus and a manual mode.

For the majority of the pictures I take, I like the auto focus mode! That way I can shift my concentration to the **content** of the picture.

"EXPOSURE MODE SELECTION"

Most cameras have an "Auto" exposure mode, which selects the aperture and shutter speeds for you.

For Crime Scenes, the **Manual** mode works best.

While learning photography, I recommend the Manual Mode. It forces you to meter your photos and gives you the experience needed under most conditions.

"TRIPOD OR NOT?"

The use of a tripod will depend on many variables.

The photographer has to weigh out the options, and decide whether the tripod would be beneficial.

I strongly recommend tripod use for critical evidence photos and extended exposures!

Types of Photos

- Panoramic "Overall"
- Association
- Long Range
- Close Up
- Mid Range

"OVERALL PHOTOS"

Overall crime scene photos can be taken with a standard camera, even a point-n-shoot one. Initially shots should be taken from long range, to depict the area and surroundings.

ID Tents or **Placards** are great for pinpointing key items of evidence in the medium range shots.

*Don't forget the witness' perspectives

PANORAMIC

If possible, from the four cardenal points

OVERALL

“LONG-RANGE”

*NOTE CONES/LETTERS

"MIDRANGE PHOTOS"

The midrange photos should depict any **items of interest** within the scene.

Placards are helpful here. Save yourself time and effort by relating items of evidence to landmarks within the scene.

Placards tie everything together.

“MEDIUM RANGE”

ITEM ”N” DESIGNATES A TIRE IMPRESSION

“MEDIUM RANGE”

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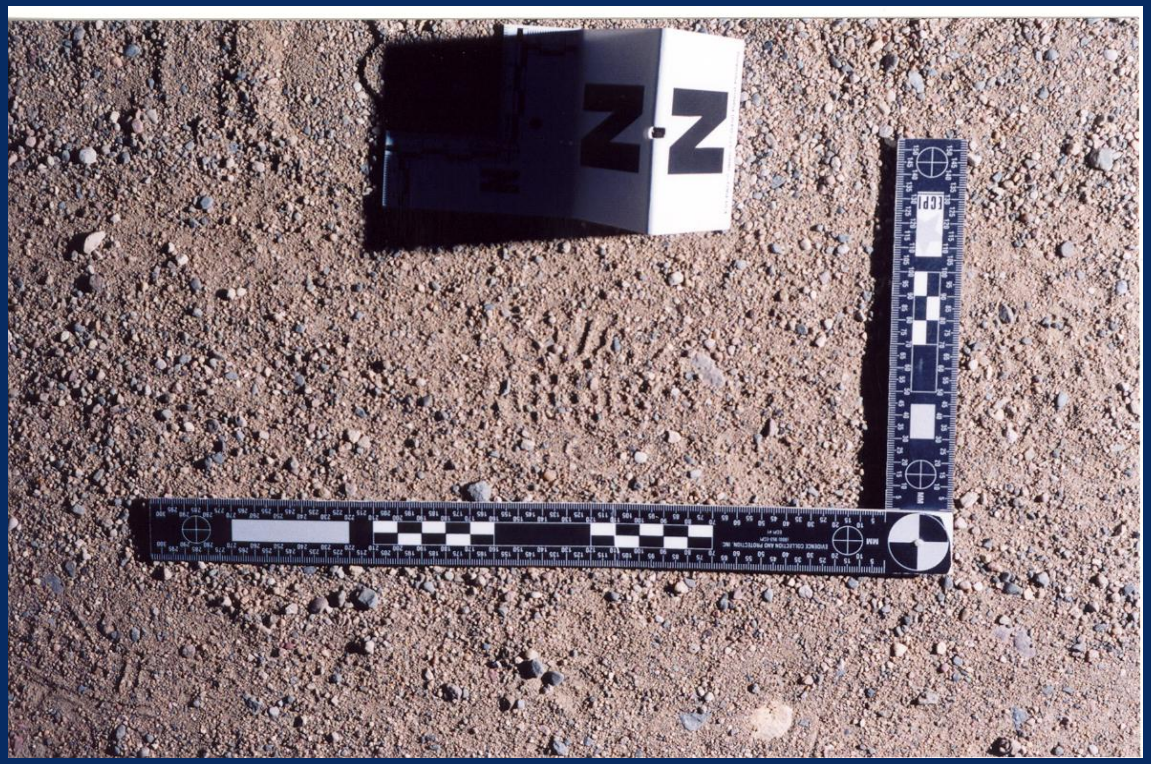
"CLOSE UP PHOTOS"

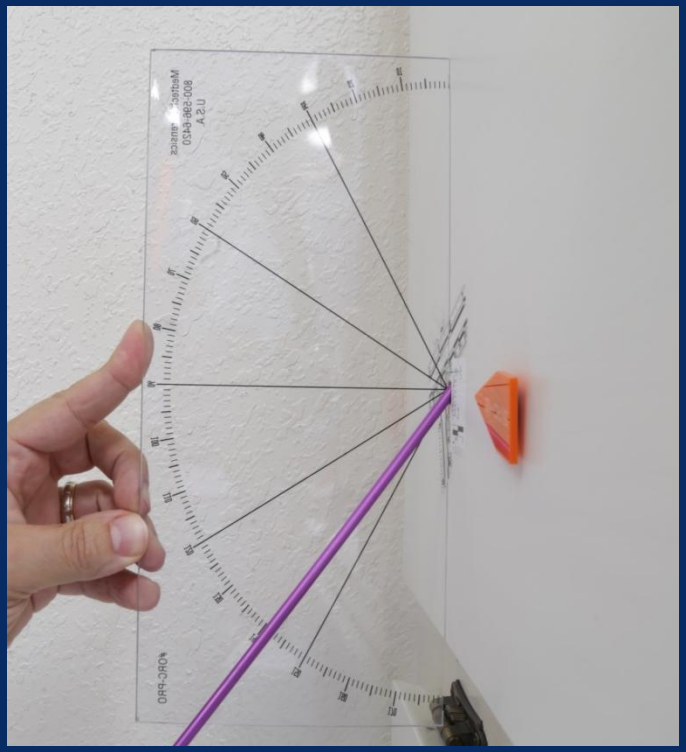
Close-ups are used to show individual items of evidence and usually include a scale of reference.

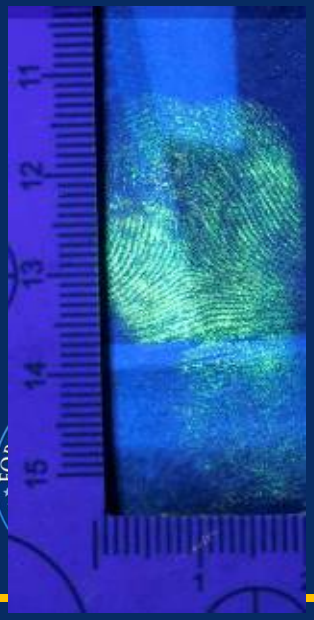
The scale is necessary for comparison purposes. Side-lighting or oblique lighting with a detachable flash unit adds contrast and detail to 3-D items, such as tire tracks and shoe impressions.

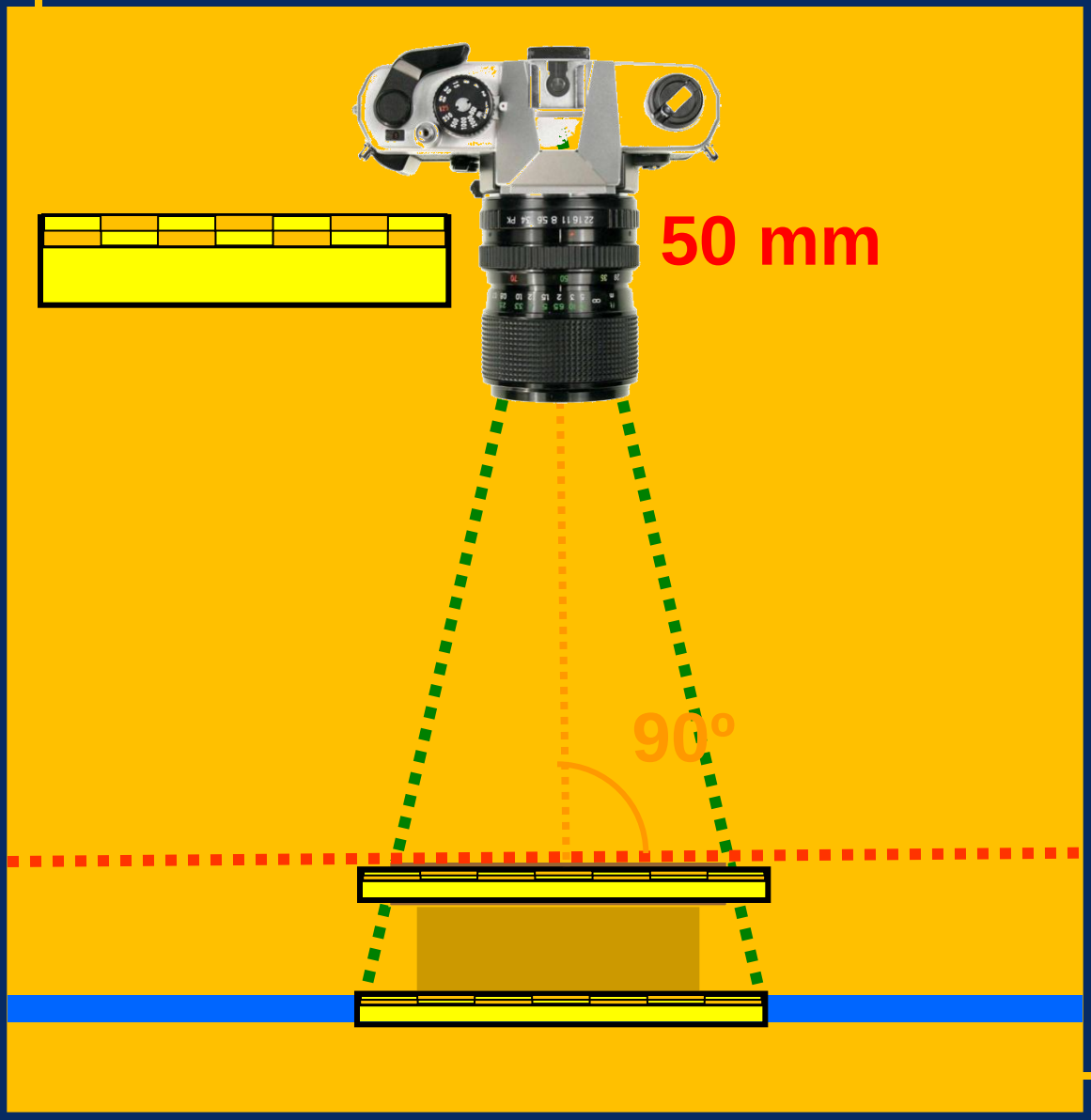
“CLOSE RANGE”

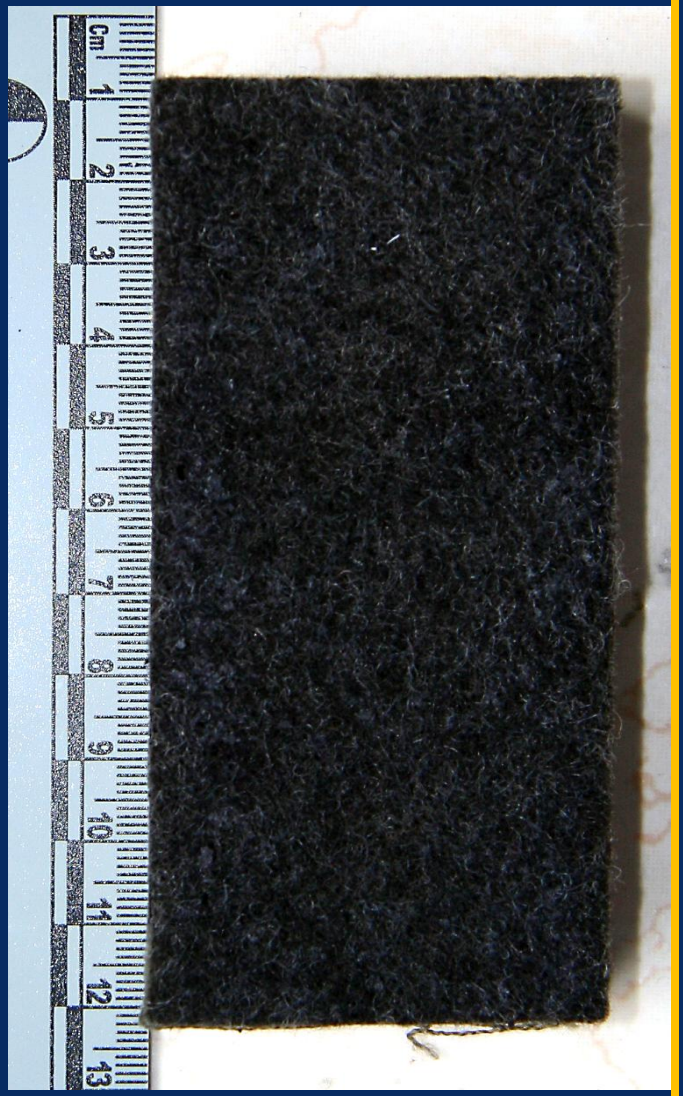



SPRINGFIELD ARMORY
MADE IN CHINA






50 mm
90°



"DIGITAL ADMISSIBILITY ISSUES"

1) Digital photography is not **novel**

2) Delay of the digital enhancement techniques is due to the high cost

3) Digital photos have an advantage over Analog film photos as they can capture **16 million** different colors and can differentiate between **256 shades** of grey

4) Like film based photos, digital images work with light sensitivity, using a chip and computer hard drive instead of film.

"DIGITAL PROTOCOL"

1) **Preserve** your original file as your negative, non-compressed

2) Use a CDR or preferably a **DVDR** for your archival medium

3) Do not fully rely on lower resolution cameras for crime scene work

4) Use an **SLR** for any images where comparisons could be required

“FLASH OR NOT”

Built in flash units are for close range only; max of 8-10 feet.

Auxiliary flash units can extend your reach out to 30+ feet depending on the background.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26
1 2 3 4 5 6
28 29 34 15 9 1
0 1 3 7 9 8


Canon
EOS-1
Ds
Mark II
EOS-1
D
Mark II
Canon
PowerShot A400
A400
A400


Canon
EOS
Canon
REBEL


Canon
SPEEDLITE 430EX


Canon
OFF-CAMERA
SHOE CORD 2

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CRIME SCENE UNIT/TRAINING

Crime Scene House

1620 Crocket St.

- Crime Scene Processing
- Photography
- Reconstruction
- Bullet Trajectory
- Bloodstain Pattern Analysis
- Latent Print Development
- Competency testing for investigators
- Motor Vehicle processing

CONTACT US

Houston Forensic Science Center

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Employment Opportunities

Forensic Services

www.houstonforensicscience.org