Standard Image
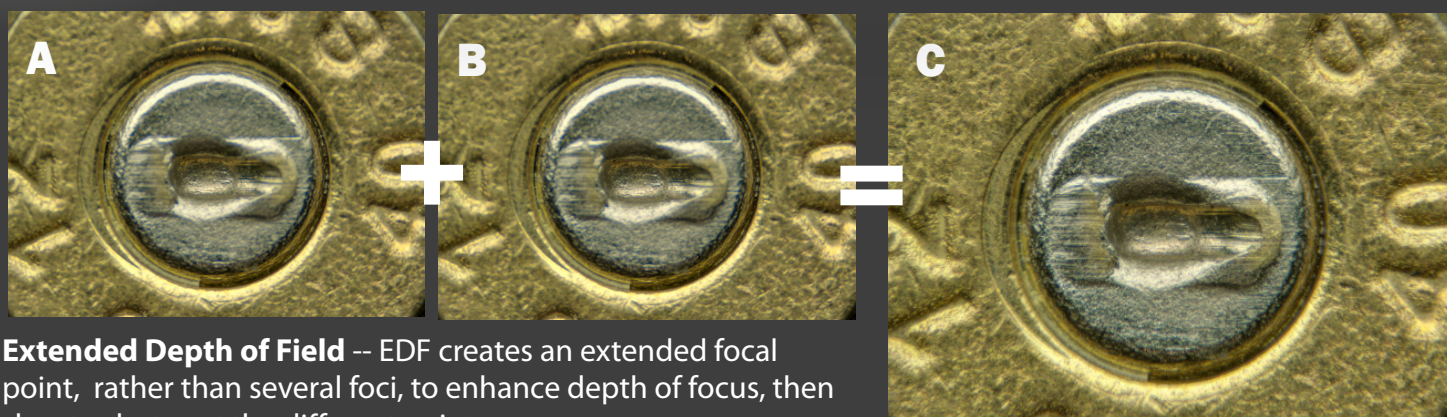
HDR Image

Standard Image

HDR Image

PROBLEM: The cylindrical shape of bullets and cartridge cases creates a challenge for illumination under the microscope. *SOLUTION:* Leeds CMOS5 **Camera Package**, available on new orders or as an upgrade to your current Leeds microscope.

High Dynamic Range (shown above) HDR algorithms compensate for the lighting differences by imaging *each area* of the sample with different camera exposures – then combining the best exposures for each region into a single image.

A

B

C

Extended Depth of Field -- EDF creates an extended focal point, rather than several foci, to enhance depth of focus, then shoots photos at the different points.
Photo A shows one of the images with the primer area in focus.
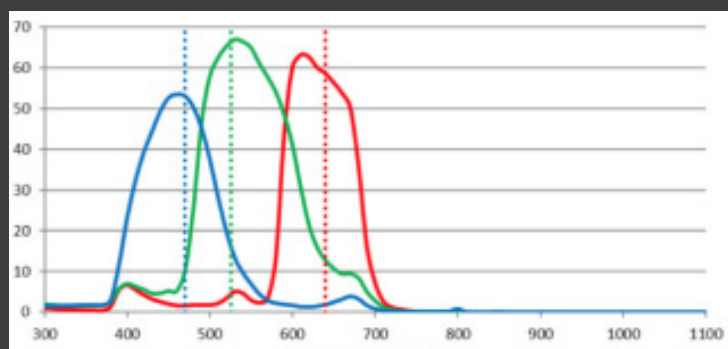*Photo B* shows one of the images with the firing pin impression in focus.
Photo C shows the final compilation of all of the images in one image -- sharp and complete.

LEEDS CMOS5 SPECIFICATIONS

Camera Model	CMOS5	CMOS12
Captured Image Resolution	5.0 Mp	12.3 Mp
Sensor Type	Color Mosaic	
Live Image Resolution	1080p HD (2 MP)	4K UHD (8 MP)
Live Image Frame Rate **	60+ fps	30+ fps
Live Full Image Resolution	5.0 MP	12.4 MP
Live Image Full Resolution Frame Rate **	45+ fps	29+ fps
Sensor P/N	Sony IMX250	Sony IMX253
H x V, Pixels	2448 x 2048	4096 x 3000
H x V, mm	8.47mm x 7.07mm	14.13mm x 10.35mm
Pixel Size	3.45 µm	3.45 µm
Sensor Diagonal	11.0mm	17.5mm
Optical Format	2/3"	1.1"
Standard Adapter Magnification	0.63x (17.4mm) FOV	1.0x (17.5mm) FOV
Lens Mount	C-mount	
Computer Interface	USB 3.0	USB 3.0

** Requires a PC with a CPU that has a 4+ physical cores and a GPU with 4 00+ GFLOPS to provide full frame rate

COLOR MOSAIC + IR FILTER QE

Wavelength (nm)

CAMERA DIMENSIONS

2.16"
2.82"
2.60"
1.51"

CAMERA FEATURES

- **High Dynamic Range and Extended Depth of Field:** HDR & EDF imaging fast & easy -- at the click of a button.

- **Speed/High Resolution:** $5.0Mp$ or $12.3Mp$ captured image resolution with over 60 frames per second (*fps*).

- **Measurements:** The software offers a menu of different measurement tools, all of which are supported by an ISO/IEC 17025:2017 accredited Certificate of Accuracy.

- **Annotations:** On-screen annotations for details such as case number, image capture date, etc. Software includes a notepad feature that is linked directly to the image for additional documentation.

Spot 5.6 HDR software is exclusive to Leeds CMOS5 and Leeds CMOS12 cameras