Reading Diagrams

xS10/20

xS40 SR/WA

xS70

Preliminary

Version June 10th, 2021

Disclaimer

The following reading diagrams are to be considered as reference and based on Code128 (1D Code) and Data Matrix ECC 200 (2D Code) theoretical reading range.

The charts provide information on the maximum Horizontal Field of View (FOV) and Working Distance for a given code size (mils). 1 mil = 0.0254mm

To calculate the Vertical FOV use the following formula's:

- xS10/20:
  FOV_vert = FOV_hor/1280 * 800
- xS40 / xS70-2MP:
  FOV_vert = FOV_hor/1920 * 1200
- xS40 / xS70-5MP:
  FOV_vert = FOV_hor/2592 * 1944

The minimal Working Distance for all scanners is 75mm or 3".

Code (print) quality, image acquisition settings, contrast and Depth of Field of the scanner have influence on the reading performance of the scanner and inherent influence the max FOV and Working Distance.

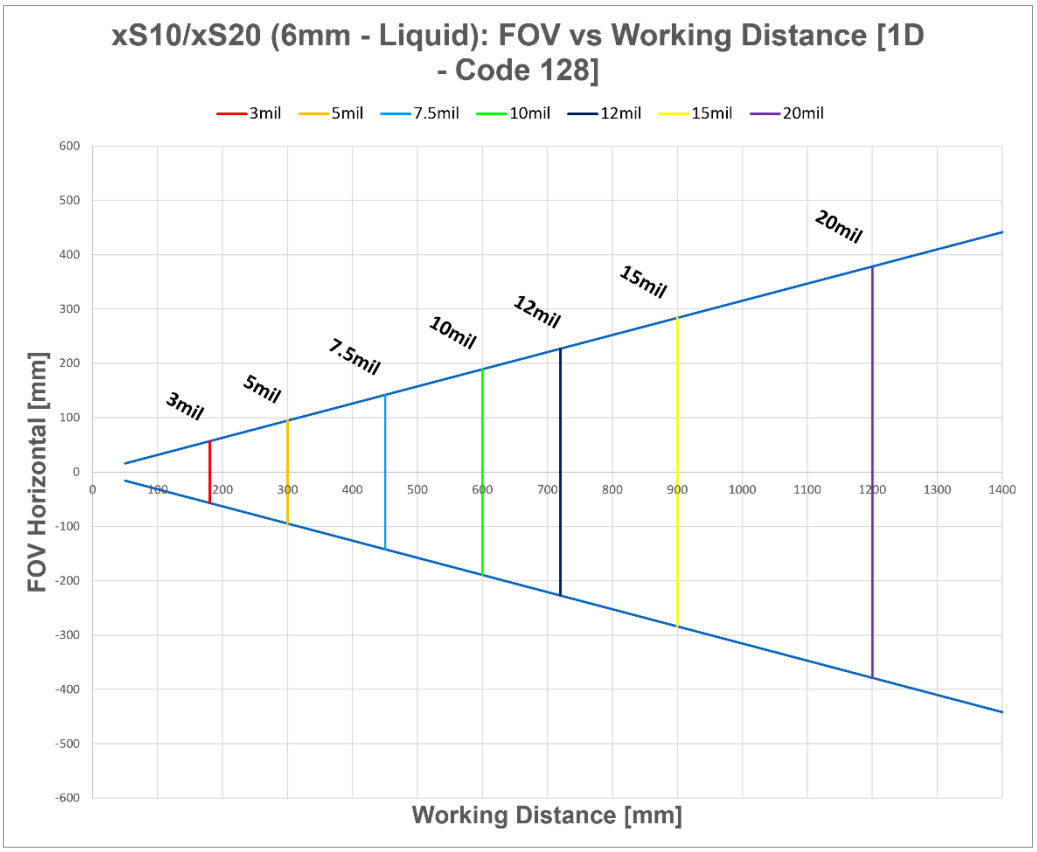
Note on xS10/20 Charts:

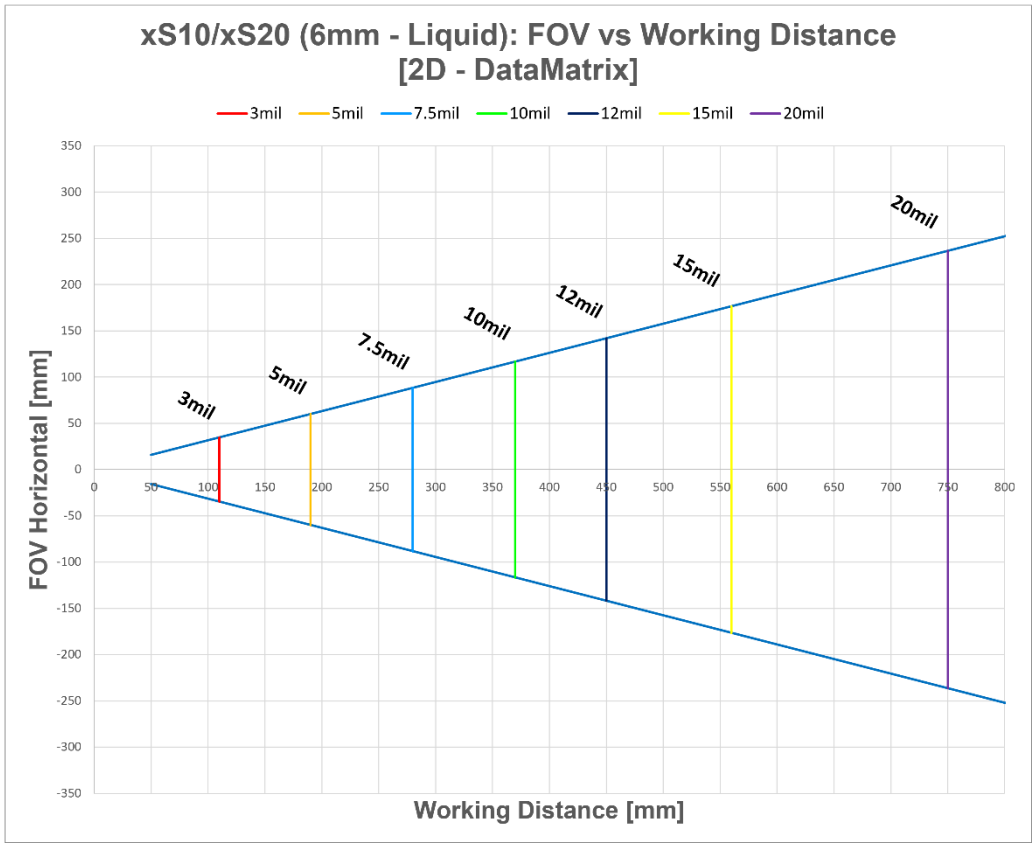
The Charts are all calculated on working distances up to 2mtr. The xS10/20 are intended to work on smaller working distances. At the release of these products (Q4-2021) the max capability will be added into these charts.

Note on xS40/70 5MP:

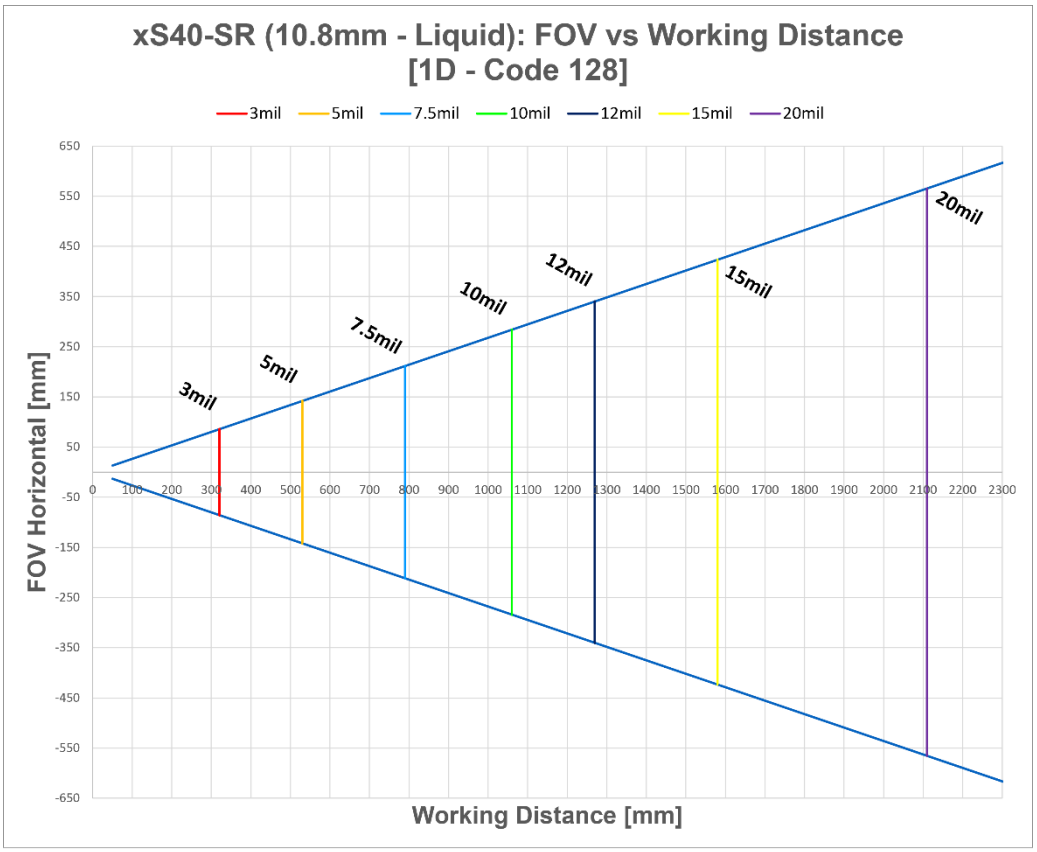
The 5MP resolution is not available yet, will be release 2H 2021.

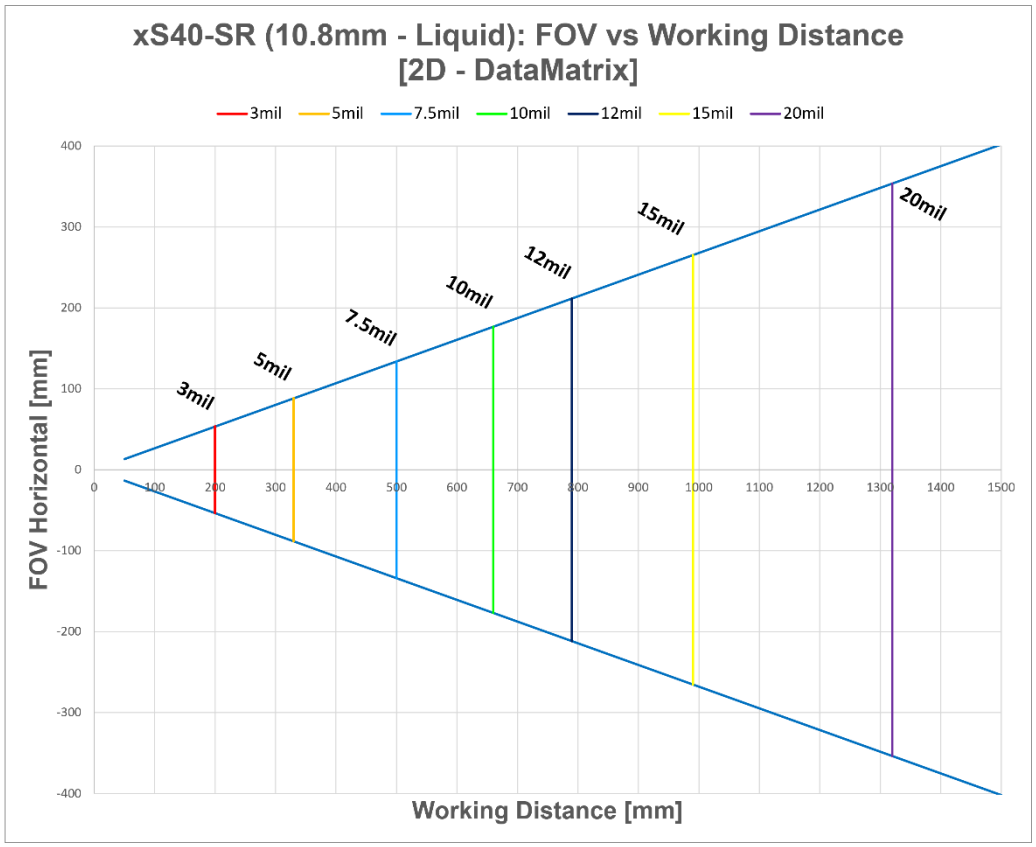
xS10 / xS20 Reading Diagrams



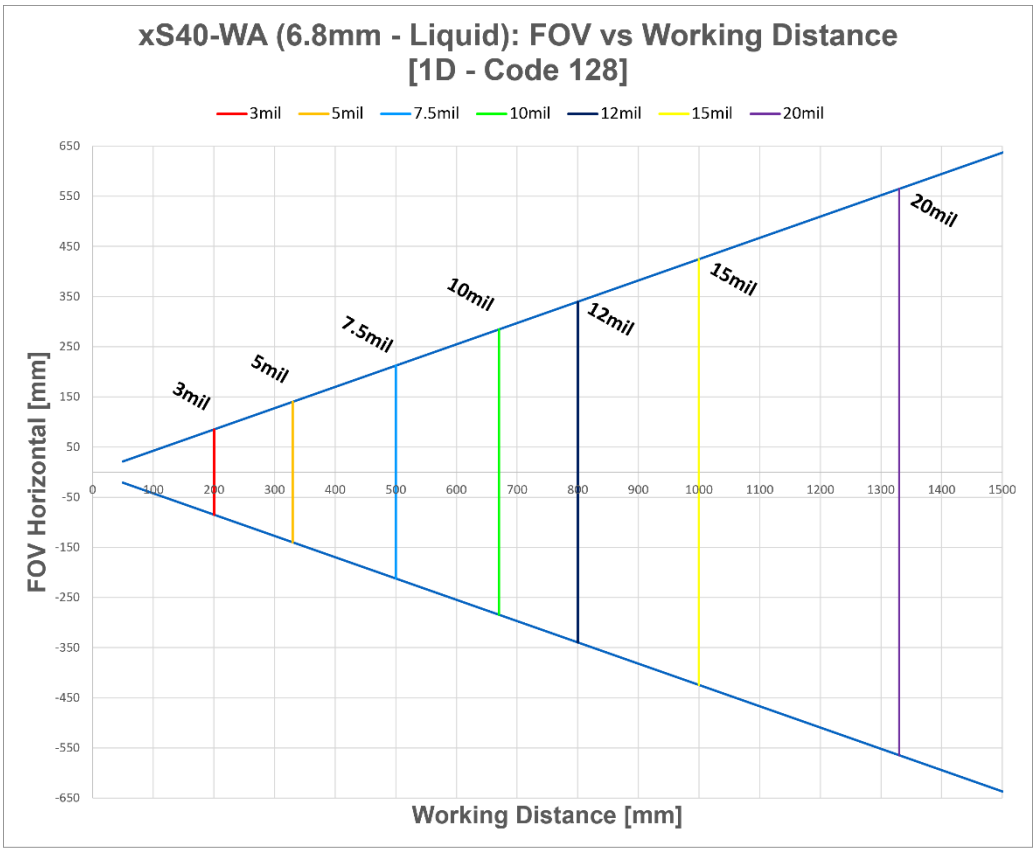


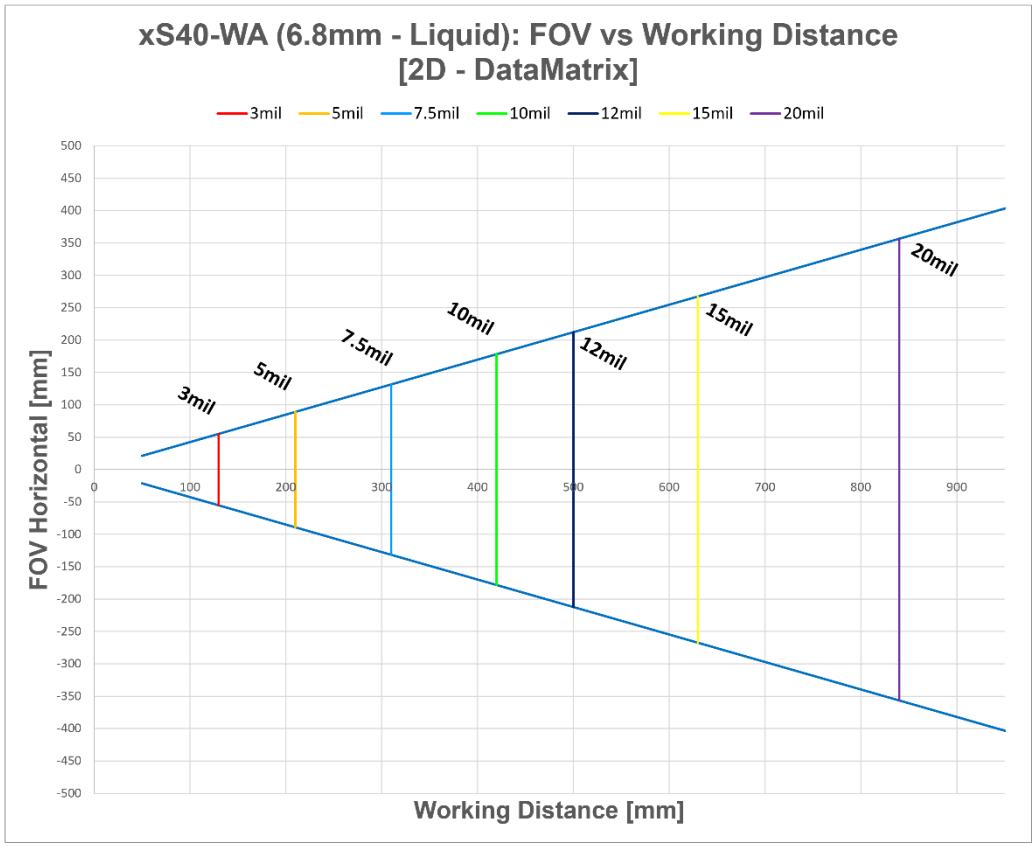
xS40 SR 2MP Reading Diagrams



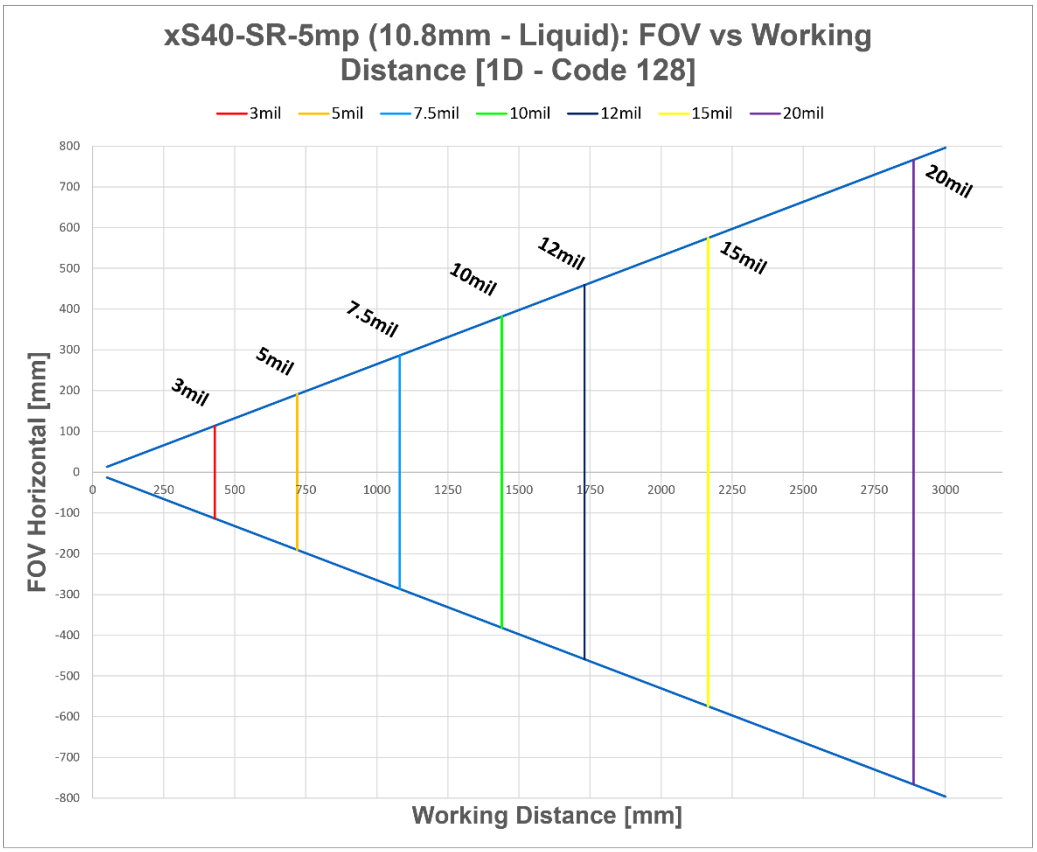


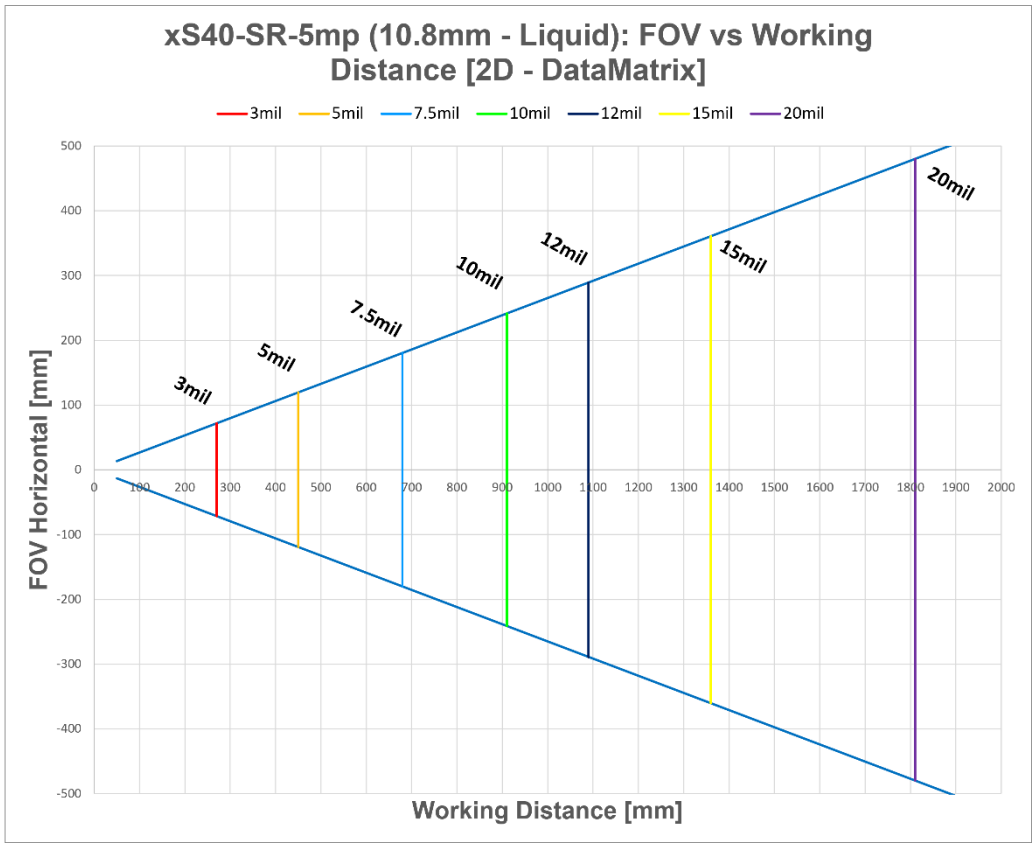
xS40 WA 2MP Reading Diagrams



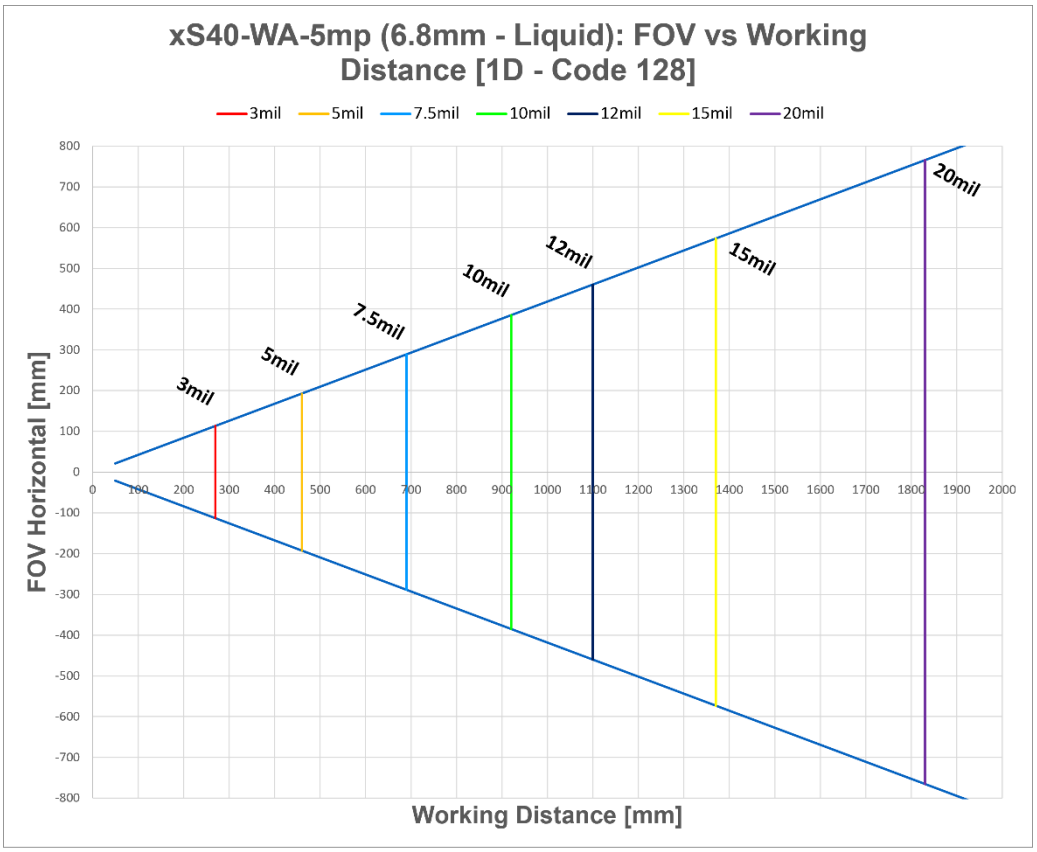


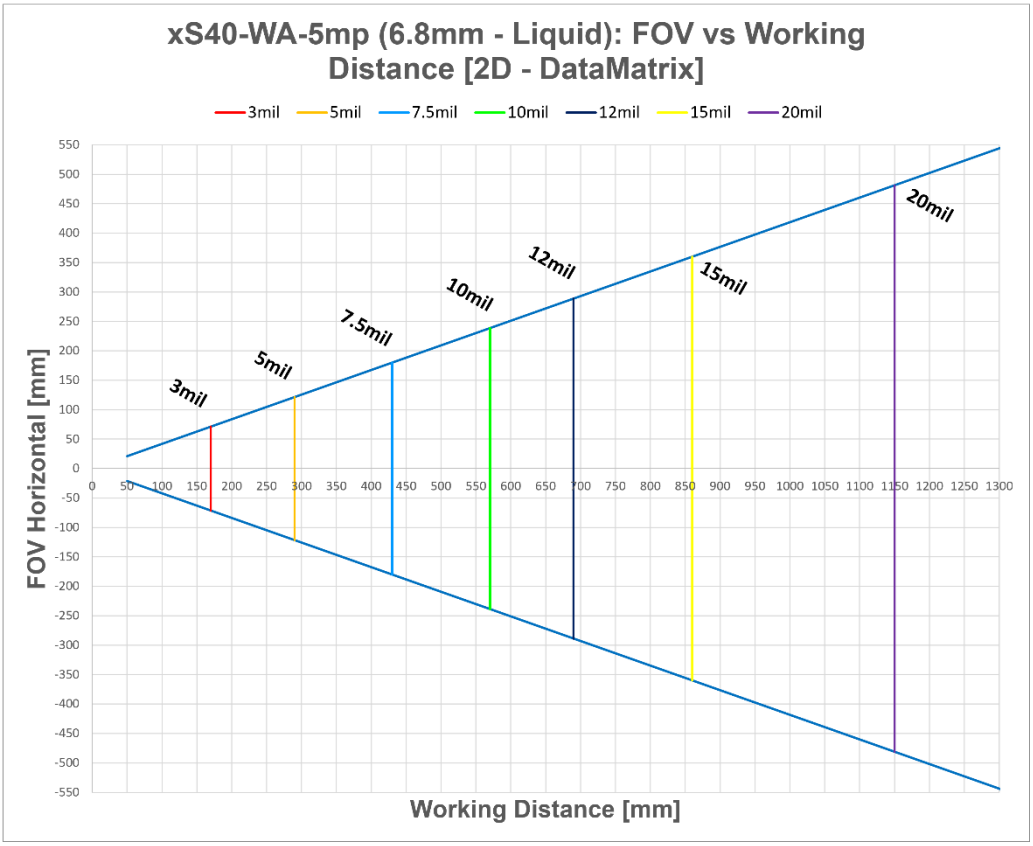
xS40 SR 5MP Reading Diagrams





xS40 WA 5MP Reading Diagrams



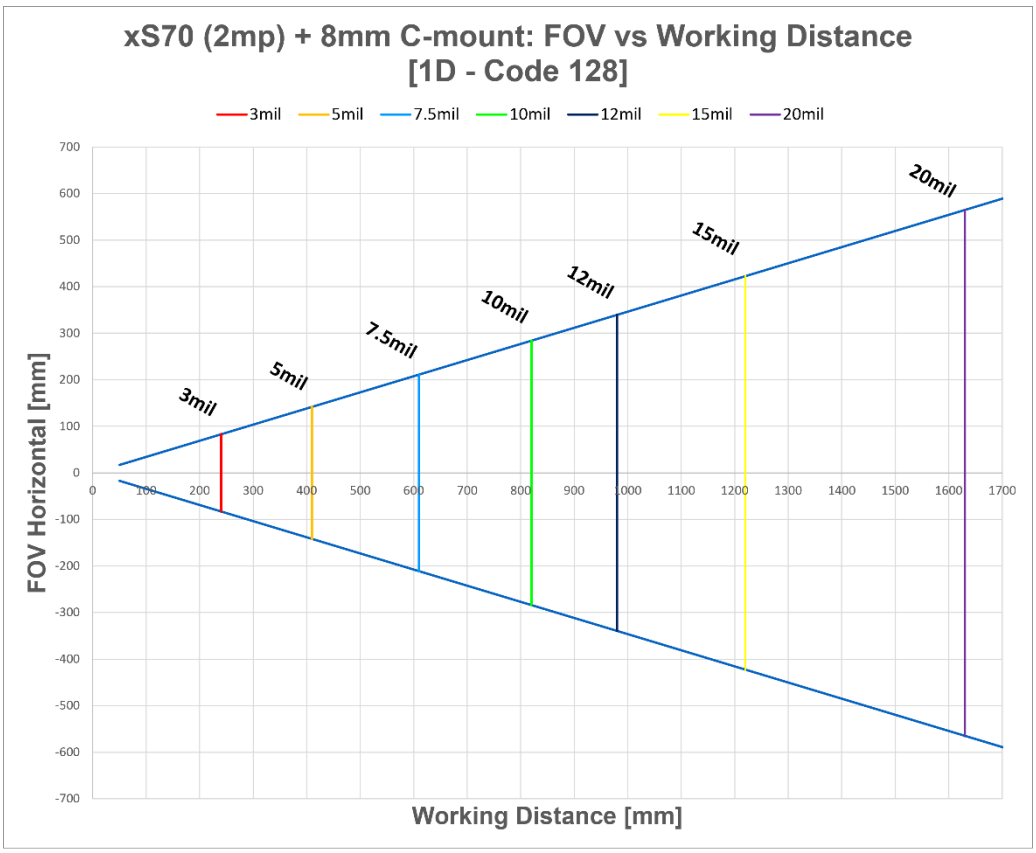


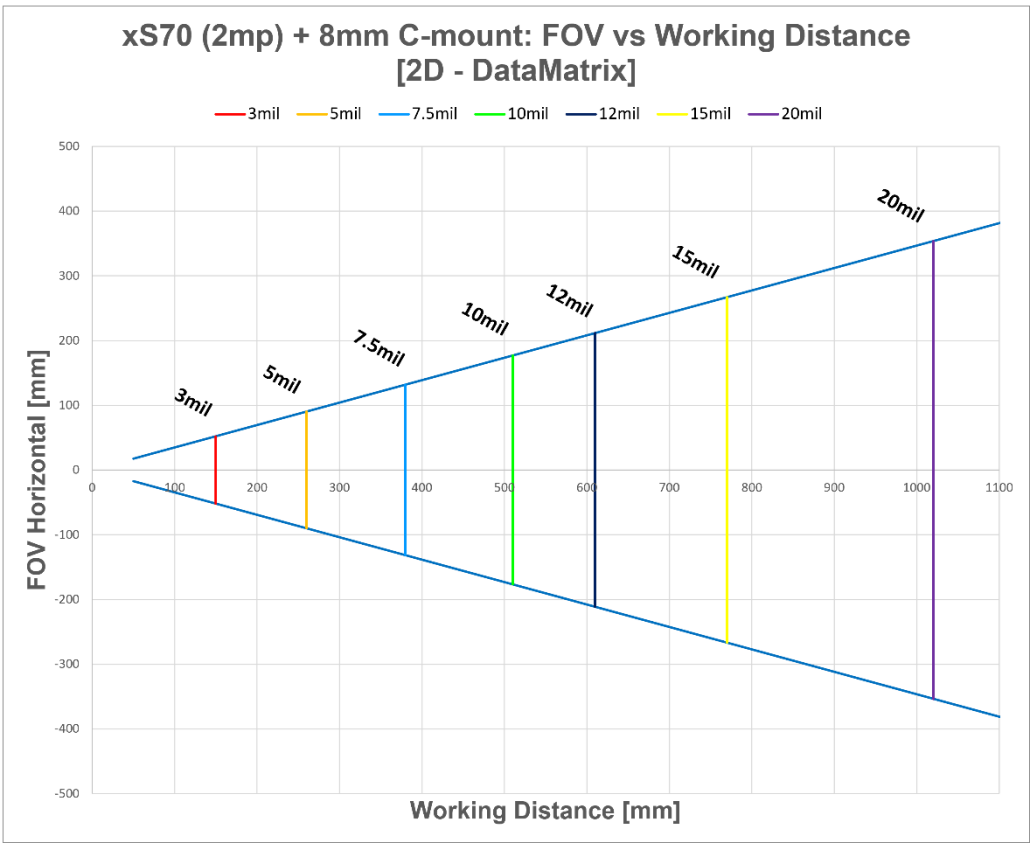
xS70 Reading Diagrams

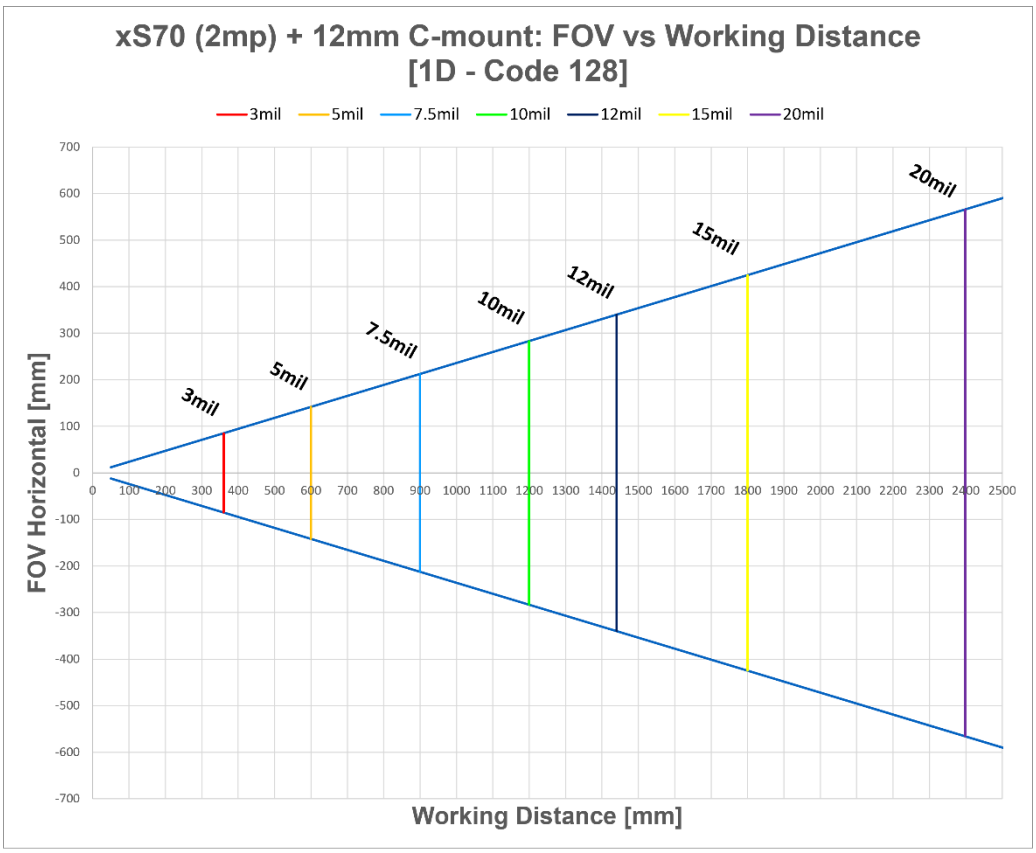
The xS70 requires C-mount lenses to acquire images. Zebra provides a full range of C-mount lenses:

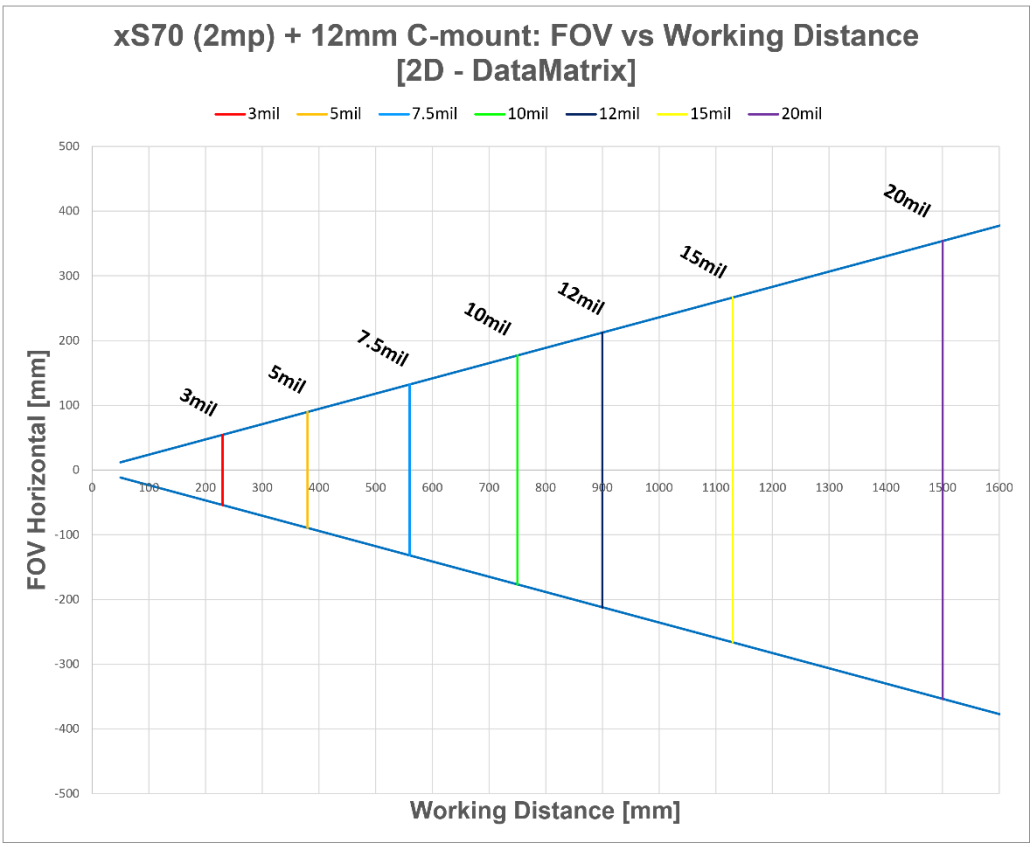
LENS-M0800-0100	C-MOUNT LENS, 8MM FOCAL LENGTH, 25.5 FILTER THREAD
LENS-M1200-0100	C-MOUNT LENS, 12MM FOCAL LENGTH, 25.5 FILTER THREAD
LENS-M1600-0100	C-MOUNT LENS, 16MM FOCAL LENGTH, 25.5 FILTER THREAD
LENS-M2500-0100	C-MOUNT LENS, 25MM FOCAL LENGTH, 25.5 FILTER THREAD
LENS-M3500-0100	C-MOUNT LENS, 35MM FOCAL LENGTH, 25.5 FILTER THREAD

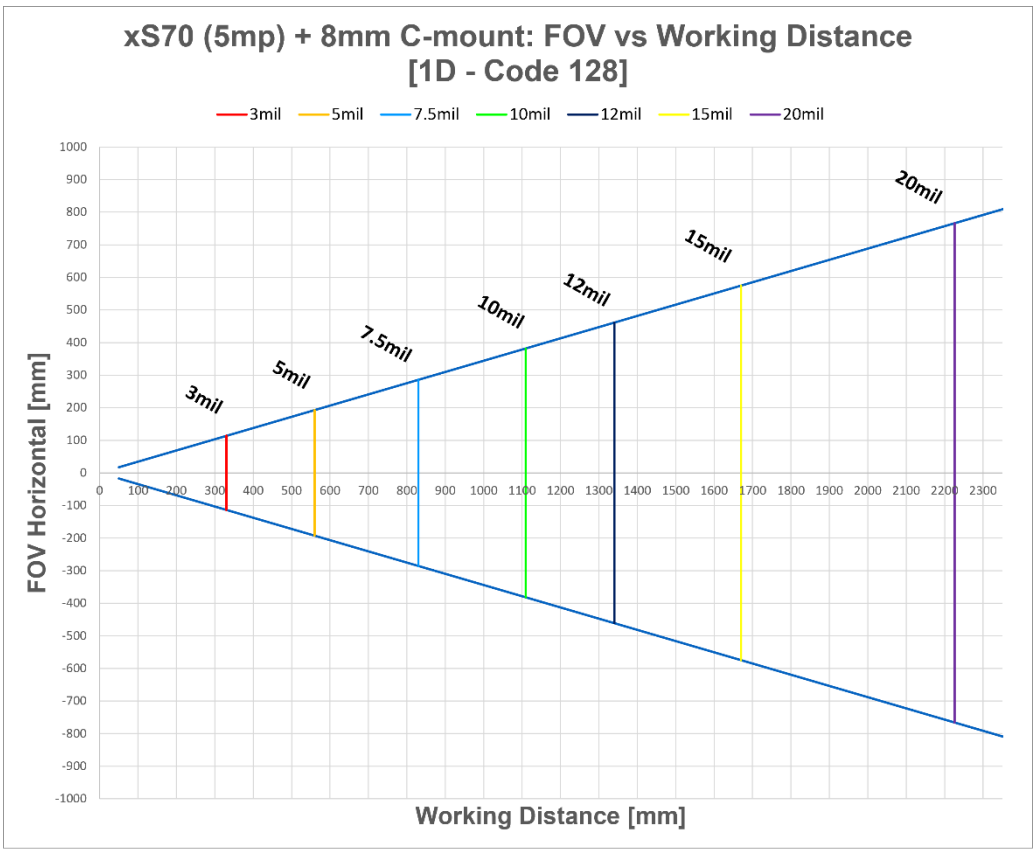
On the following pages the reading diagrams are provided for the 8mm and 12mm lens.

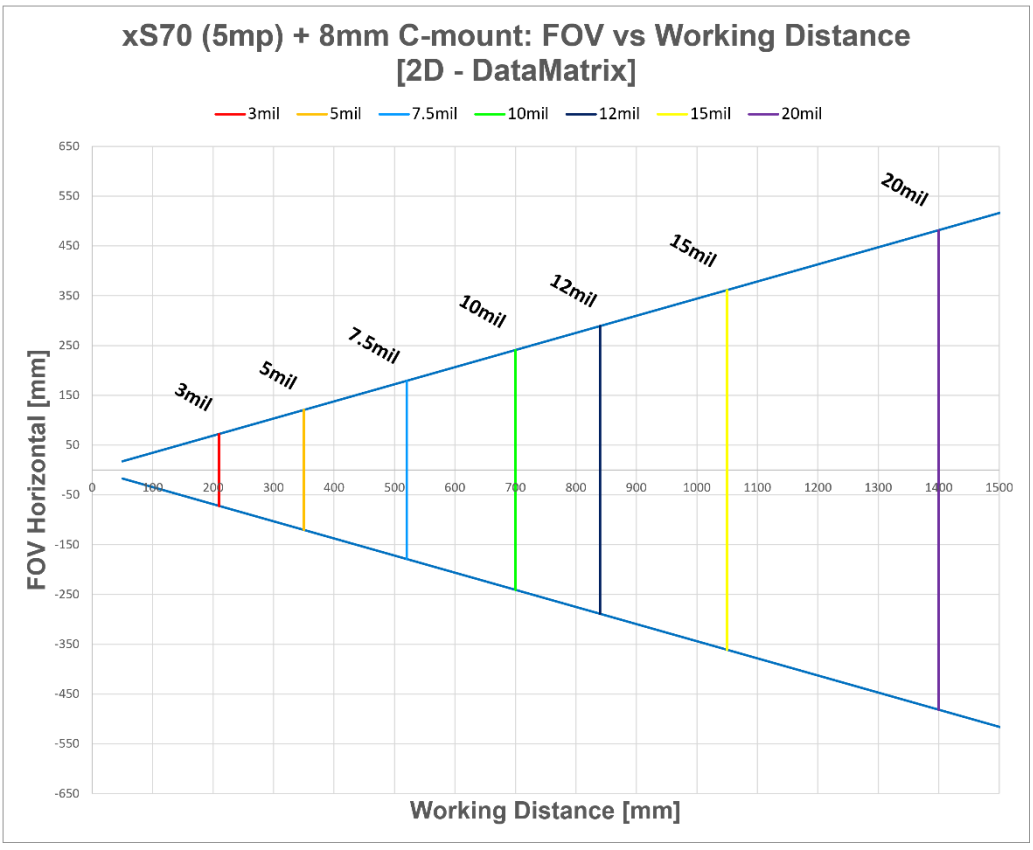

xS70 (2mp) + 8mm C-mount: FOV vs Working Distance
[1D - Code 128]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]

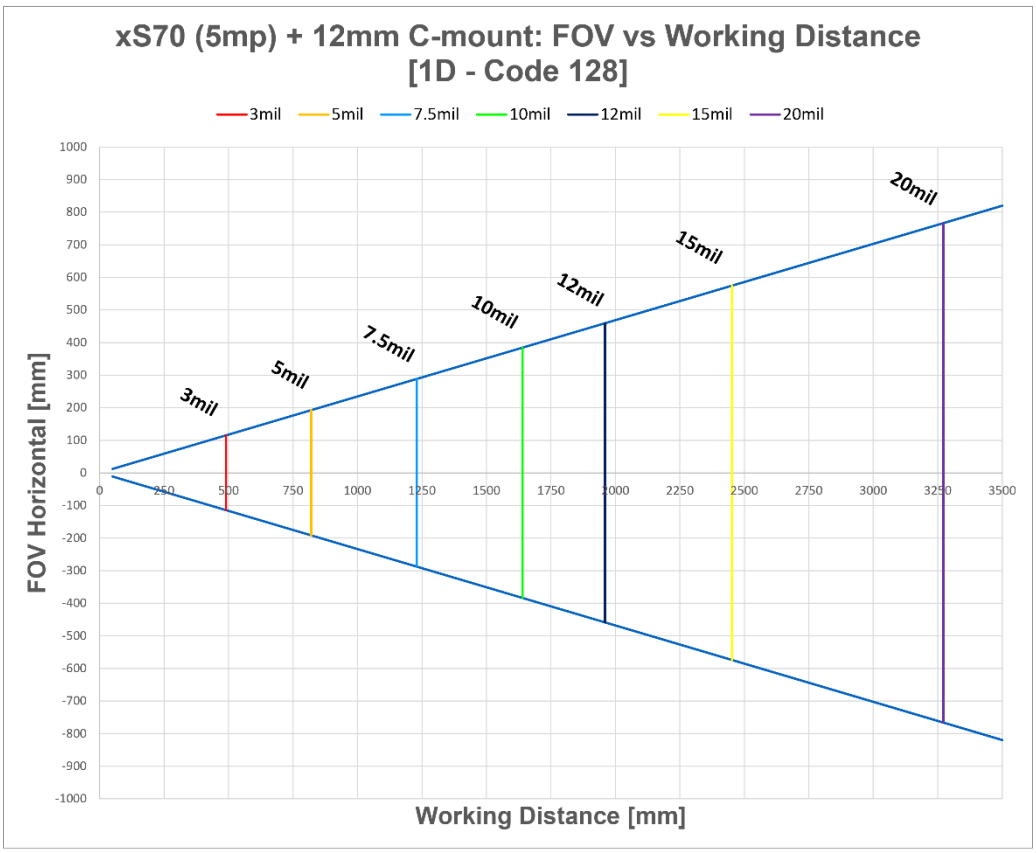

xS70 (2mp) + 8mm C-mount: FOV vs Working Distance
[2D - DataMatrix]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]

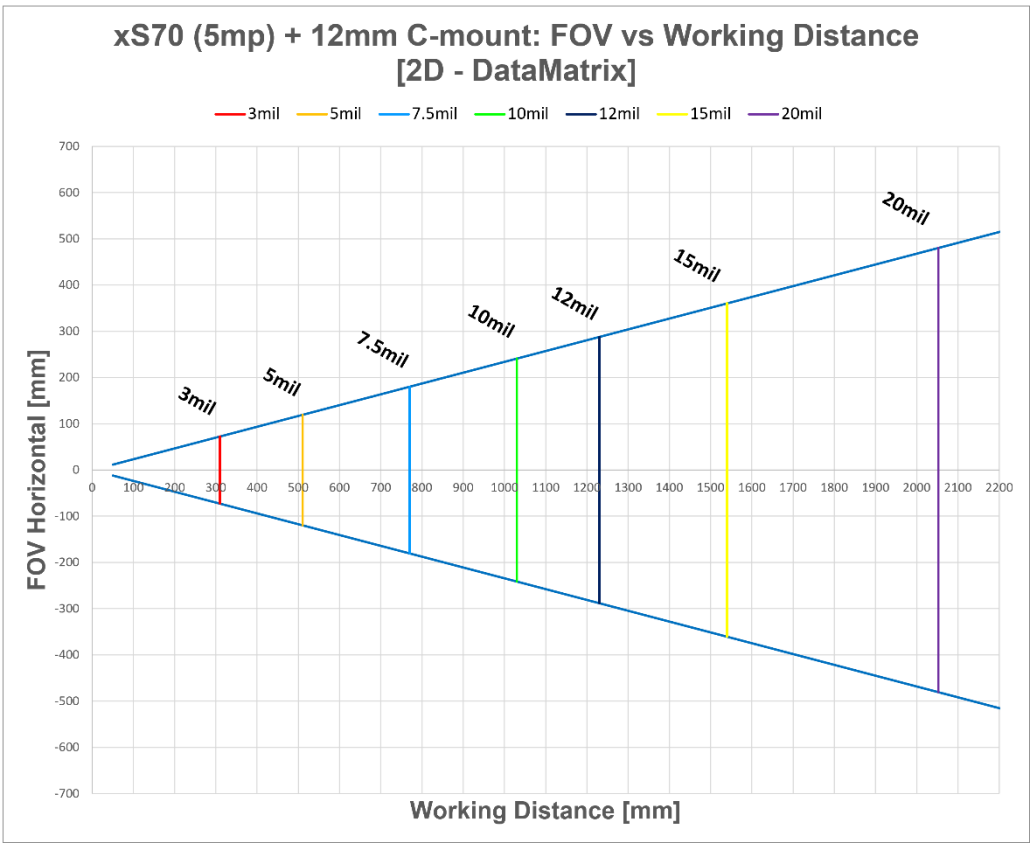

xS70 (2mp) + 12mm C-mount: FOV vs Working Distance
[1D - Code 128]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]


xS70 (2mp) + 12mm C-mount: FOV vs Working Distance
[2D - DataMatrix]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]


xS70 (5mp) + 8mm C-mount: FOV vs Working Distance
[1D - Code 128]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]


xS70 (5mp) + 8mm C-mount: FOV vs Working Distance
[2D - DataMatrix]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]


xS70 (5mp) + 12mm C-mount: FOV vs Working Distance
[1D - Code 128]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]


xS70 (5mp) + 12mm C-mount: FOV vs Working Distance
[2D - DataMatrix]
3mil
5mil
7.5mil
10mil
12mil
15mil
20mil
FOV Horizontal [mm]
Working Distance [mm]