

Lu120 & Lu125 Sensor Modification – Technical Brief

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Background

Due to a manufacturer modification of the current CMOS sensor designed into the Lu120 and Lu125 cameras, we have identified some subtle differences in the behavior of the new sensor for these cameras, now referred to as the Lu120B and Lu125B.

Analysis

The main differences are as follows:

1) **Repaired ADC sensor noise issue.**

This issue manifested itself as flickering hot pixels throughout the image. The newer version of the sensor corrects this issue, thus improving the quality of the images captured by the Lu120B and Lu125B cameras.

2) **Horizontal banding noise present in images.**

There is now a subtle horizontal banding effect, which is more predominant when imaging a flat field. Comparing figures 1 and 2 with figures 3 and 4, respectively, horizontal banding is present with the newer version of the camera. This is an issue with the sensor and there is no known work-around as of yet.

Note: all images were taken with an exposure of 16.66ms and a gain of 2.



Figure 1: Lu120/Lu125 test image (No Horizontal Banding)

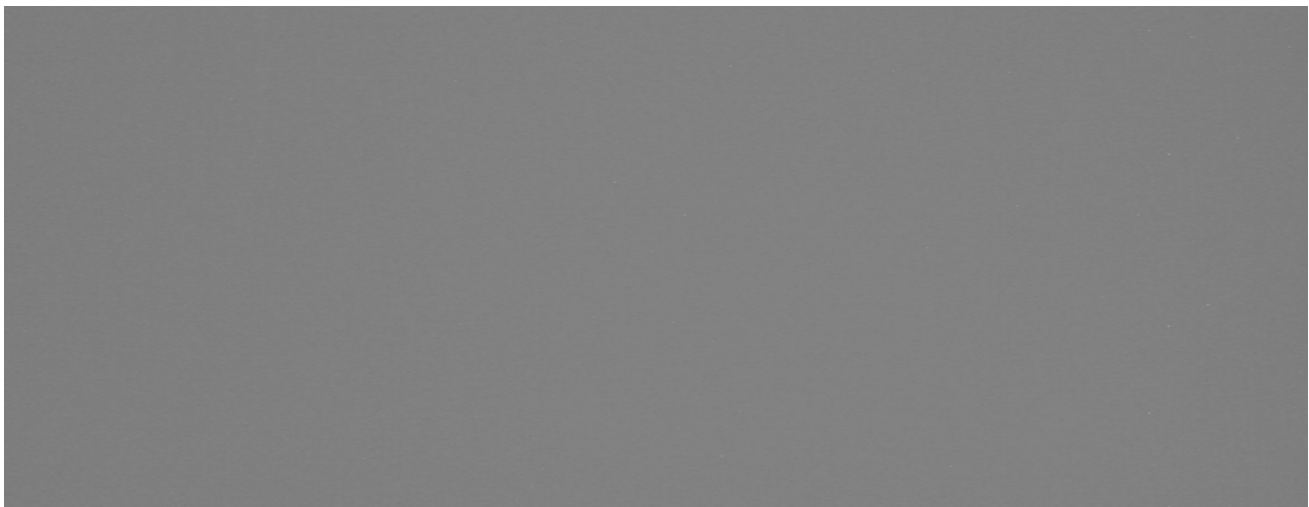


Figure 2: Lu120/Lu125 flat field (No Horizontal Banding)



Figure 3: Lu120B/Lu125B test image (Horizontal Banding)



Figure 4: Lu120B/Lu125B flat field (Horizontal Banding)

Conclusion

The Lu120B and Lu125B cameras perform similarly to their predecessors (the Lu120 and Lu125 cameras), and under most conditions the newer versions will not show any noticeable differences.

Evaluation Cameras

Samples of the Lu120B and Lu125B camera models are now available for evaluation. Lumenera recommends that the new Lu120B and Lu125B cameras be tested within your present operating environment, and any concerns or questions should be forwarded to the Technical Assistance Centre (TAC) team at support@lumenera.com, or your Business Development Representative at sales@lumenera.com.