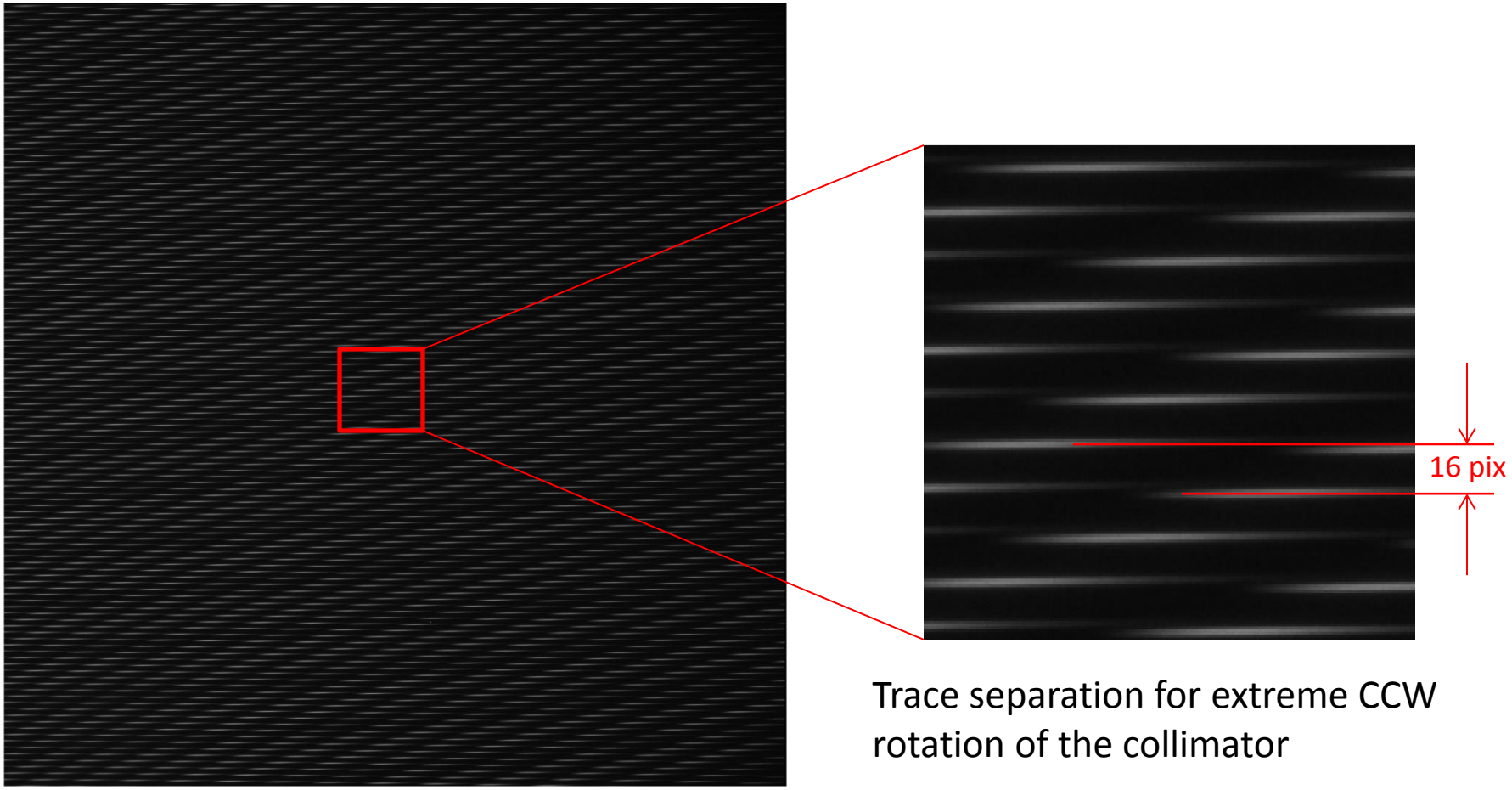
Collimator rotation done on 5/12/2016 (J. Eriksen and S. Wieman)

Collimator assembly can rotate over a range of about 15deg before flange lobes come in contact with the v-block (extreme CW direction shown by red arrow) or the shutter (extreme CCW direction shown by blue arrow) .

CCW rotation limited by contact with lobe on collimator housing

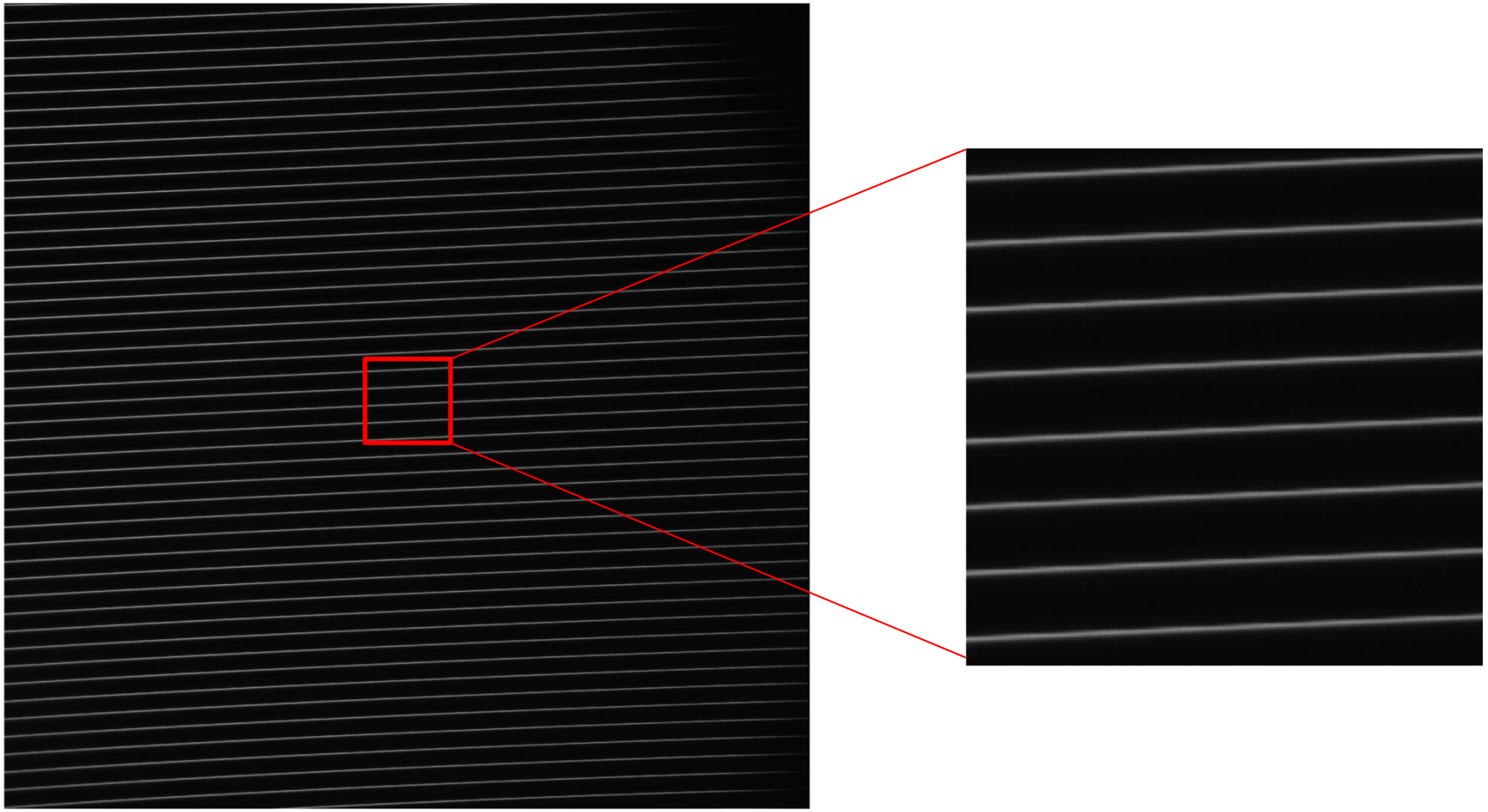
Rotation from the extreme CCW to the extreme CW orientation decreases the trace separation from ~16 pixels (image on slide 2) to a trace separation of <5 pixels (although trace overlap at this close proximity makes it difficult to distinguish individual traces as shown on slide 3). This decrease appeared monotonic with no intermediate maxima or minima.

20 second exposures were taken with the Halogen lamp. Typical peak pixel values near the center of the image were ~ 2200 DN (remained within +/- ~ 100 DN of this value for all rotations). Trace separation was determined as the number of vertical pixels between the peak in one trace and that in an adjacent trace near the middle of the image (PosX ≈ PosY ≈1000).

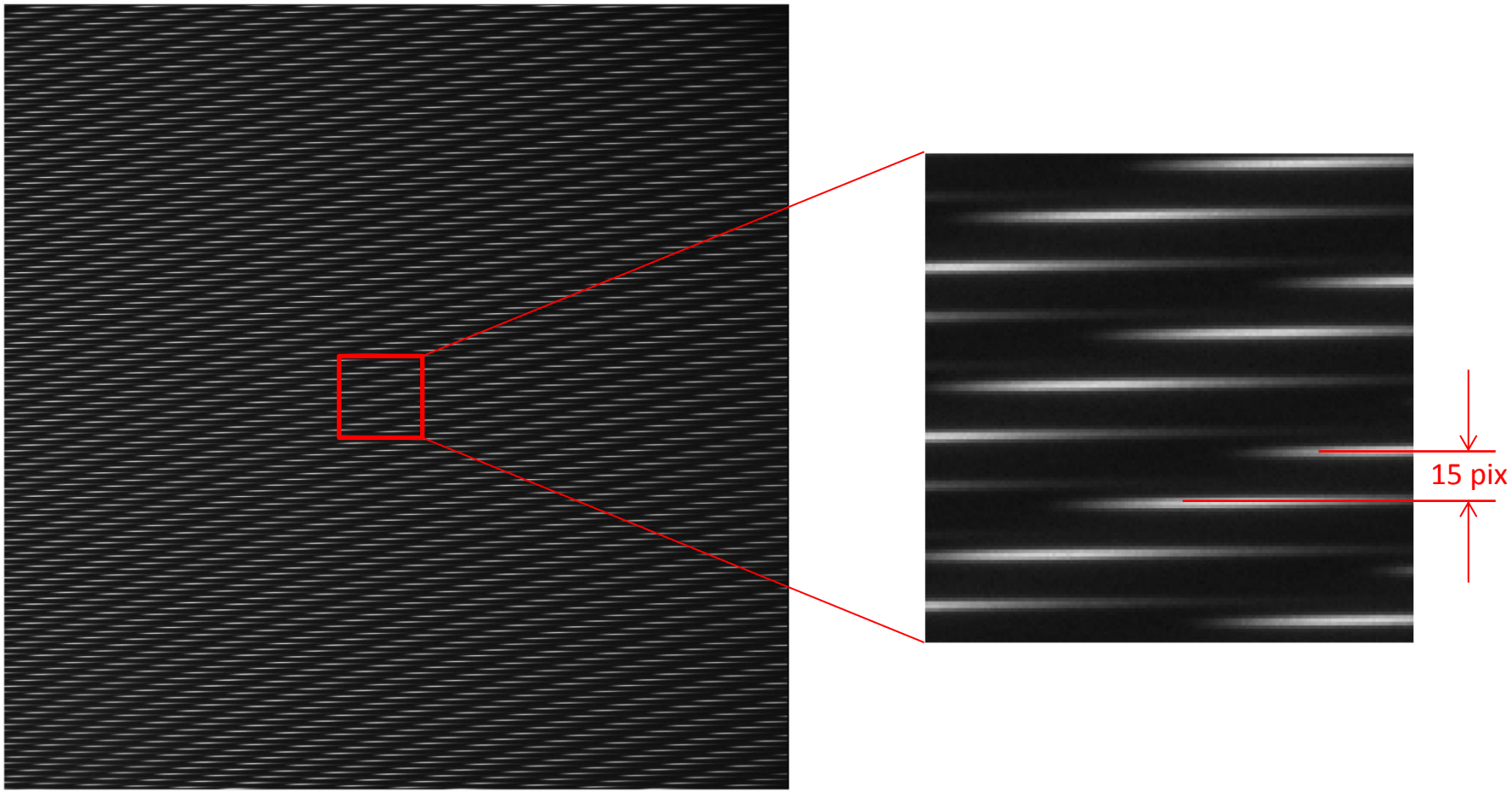


Trace separation for extreme CCW rotation of the collimator

Traces with the collimator in the extreme CW position



For the test exposure (~11am on 5/12/2016) the collimator was oriented near the CCW limit to provide a separation of about 15 pixels (Halogen lamp image below) required for data pipeline background subtraction to work.



Halogen lamp image for the orientation in which the collimator was left (5/12/16 ~11am)