



The FOIL Detector for Accurate and Efficient QA of the CyberKnife



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DISCLOSURES



Speaker is the owner of Spectrum Medical Physics, LLC, a company which has contracts with;

- Standard Imaging, Inc
- Siemens Healthcare USA





Field - Output - Image Localization

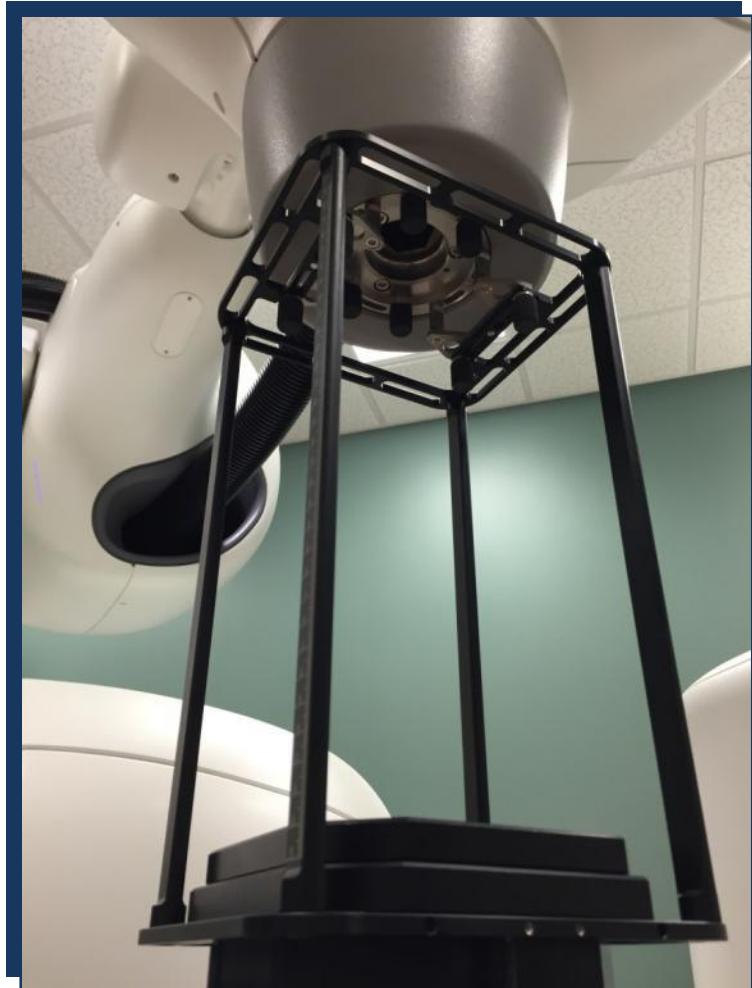
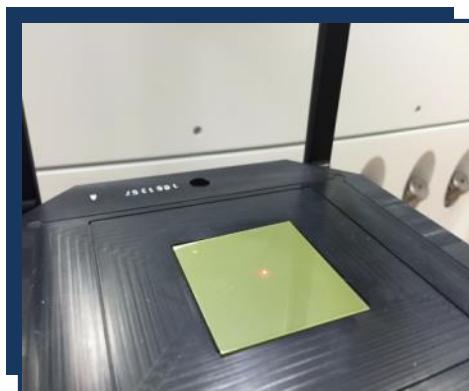


The Iris Collimator





Iris QA (Current Methods)

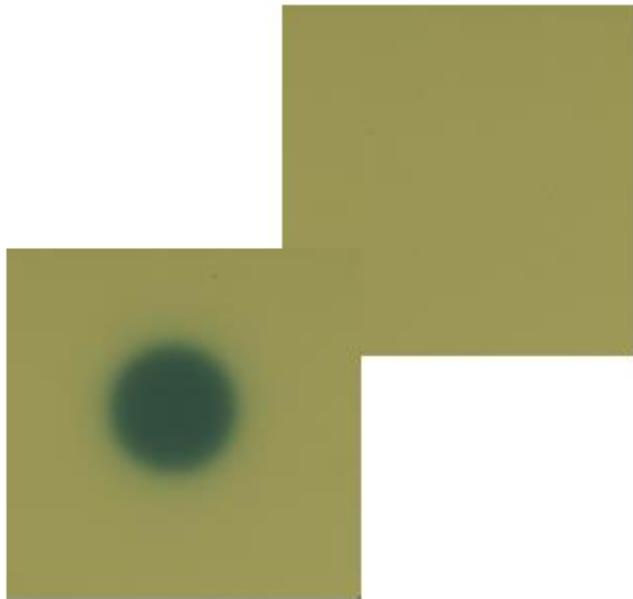




MU=00000
min=00005



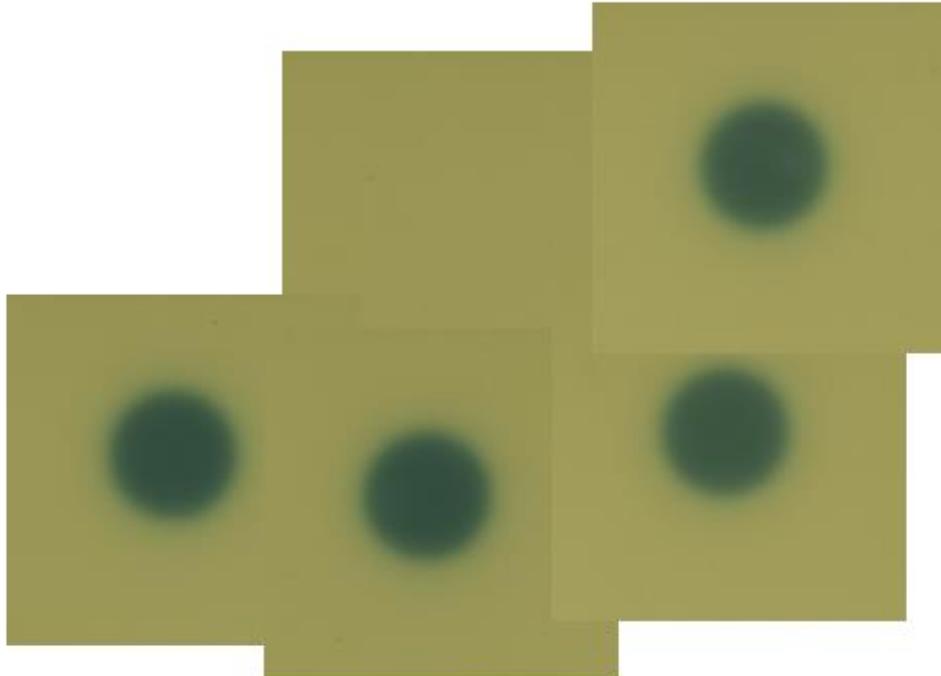
Iris QA (Current Methods)



MU=00500
min=00022



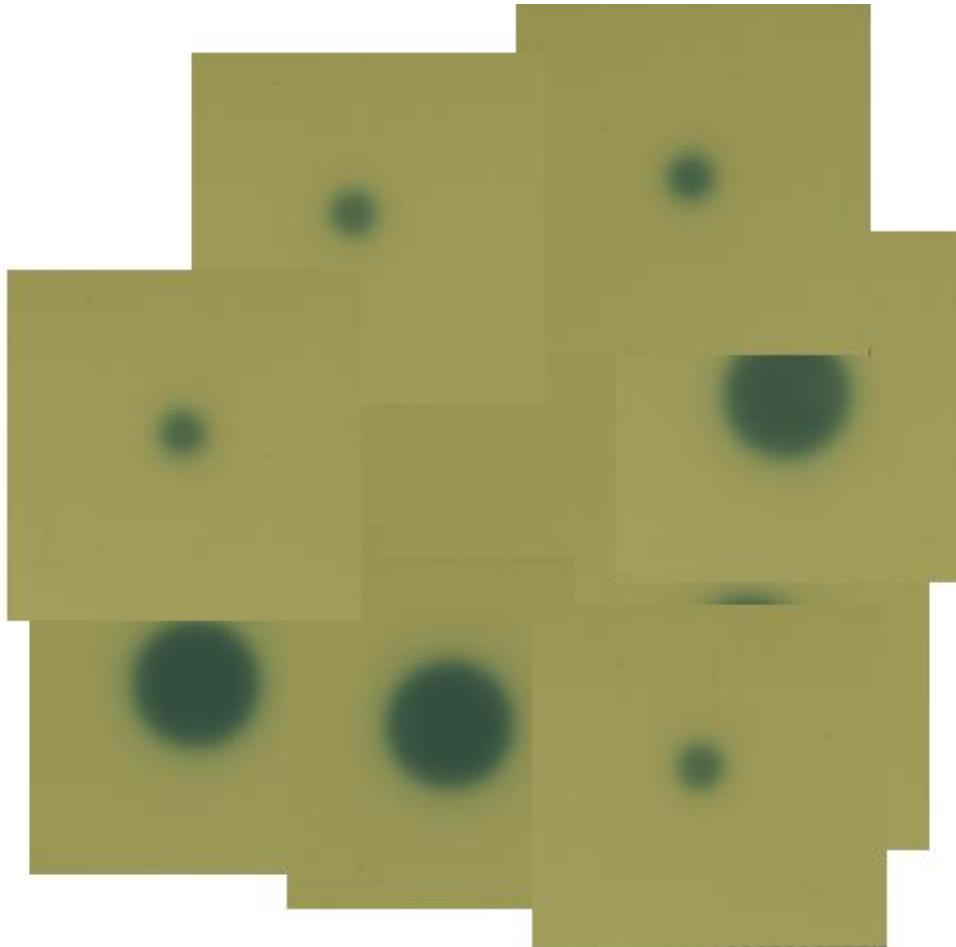
Iris QA (Current Methods)



MU=02000
min=00032



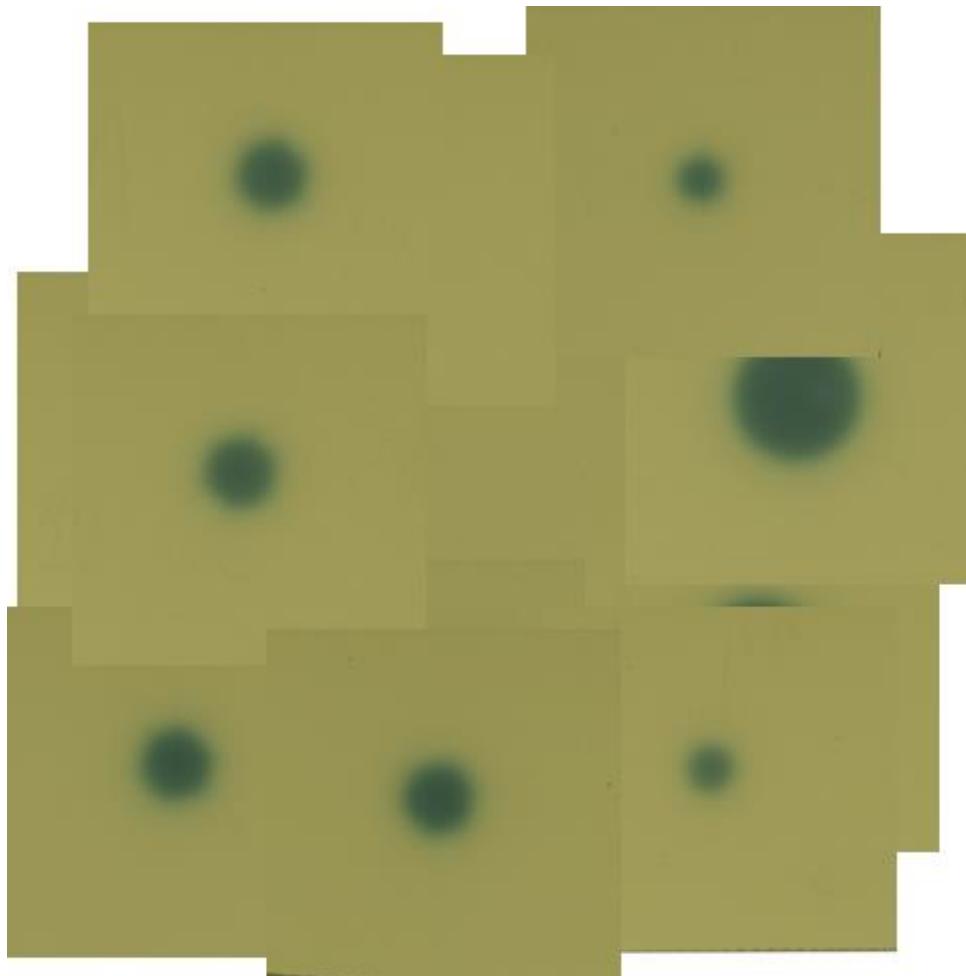
Iris QA (Current Methods)



MU=04000
min=00042



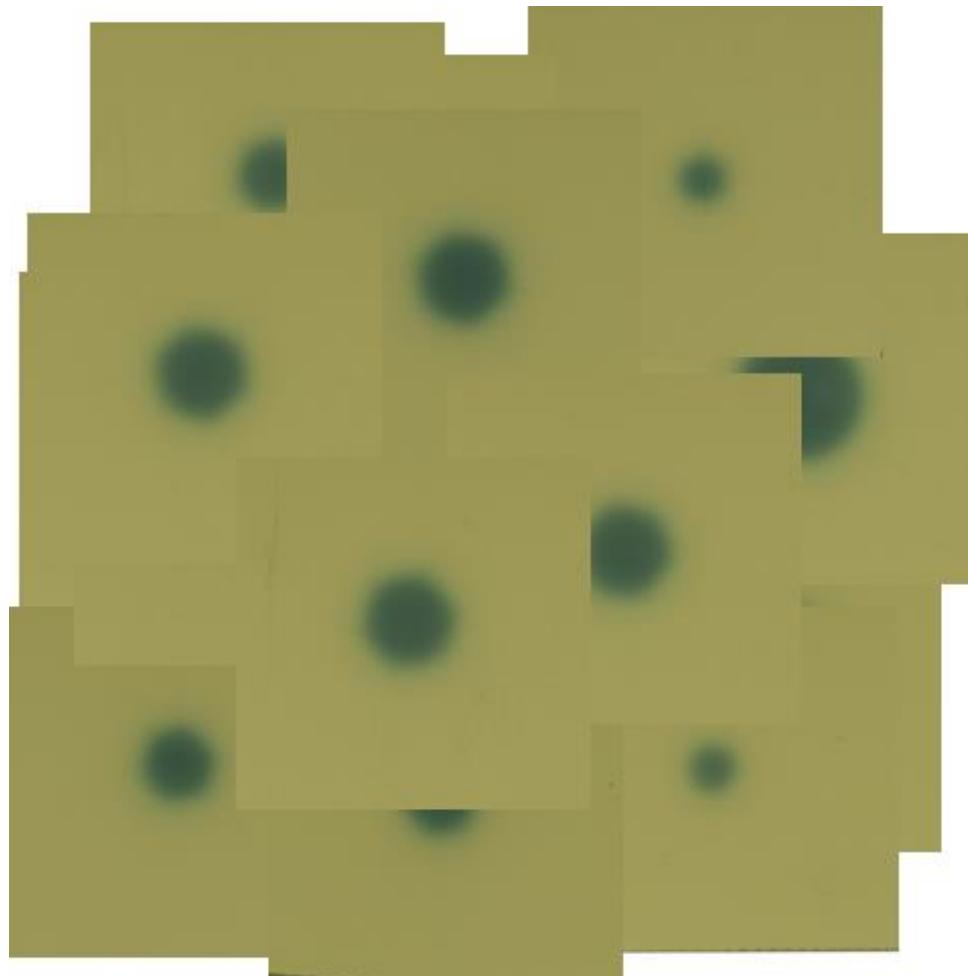
Iris QA (Current Methods)



MU=08000
min=00052



Iris QA (Current Methods)



MU=12000
min=00062



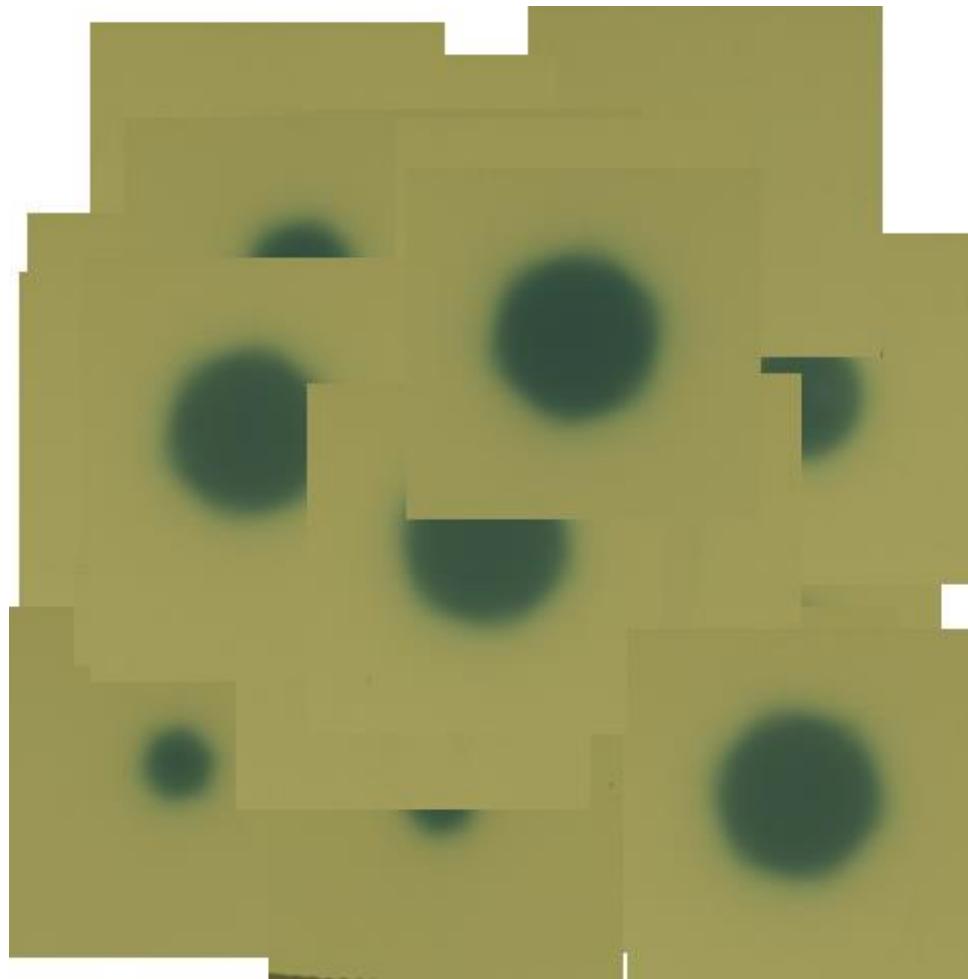
Iris QA (Current Methods)



MU=16000
min=00072



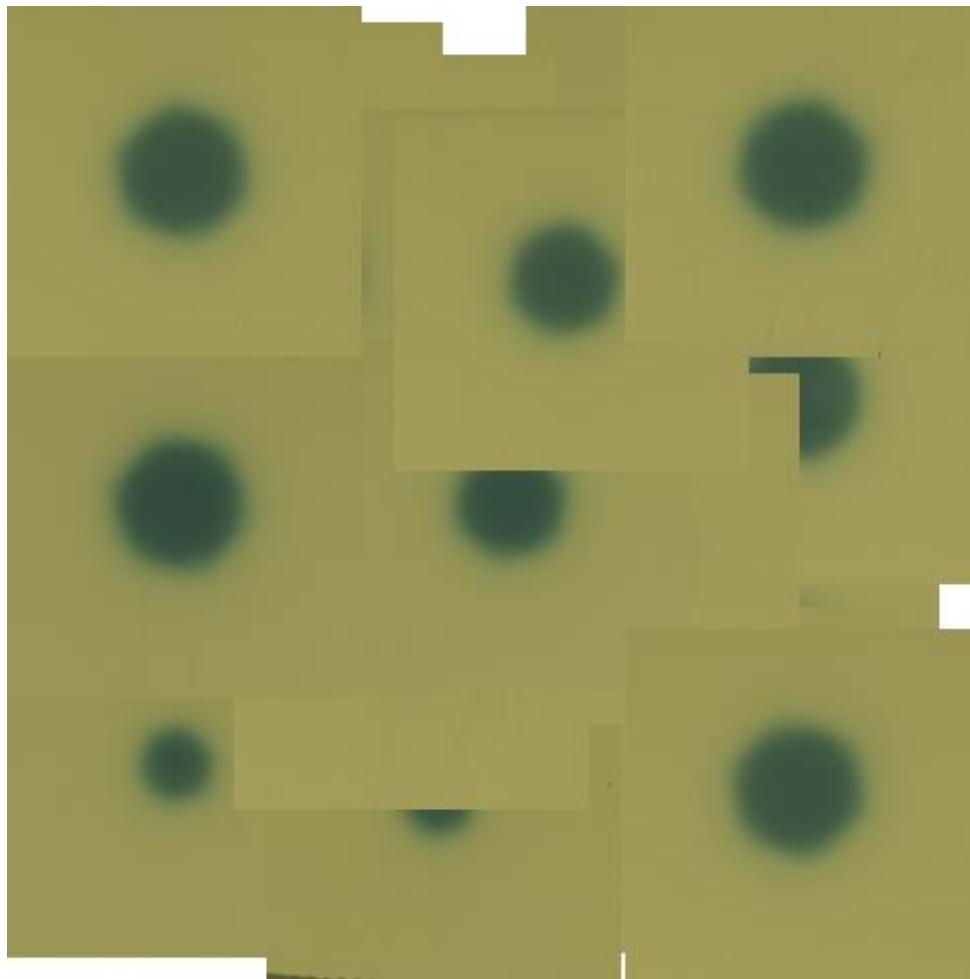
Iris QA (Current Methods)



MU=20000
min=00082



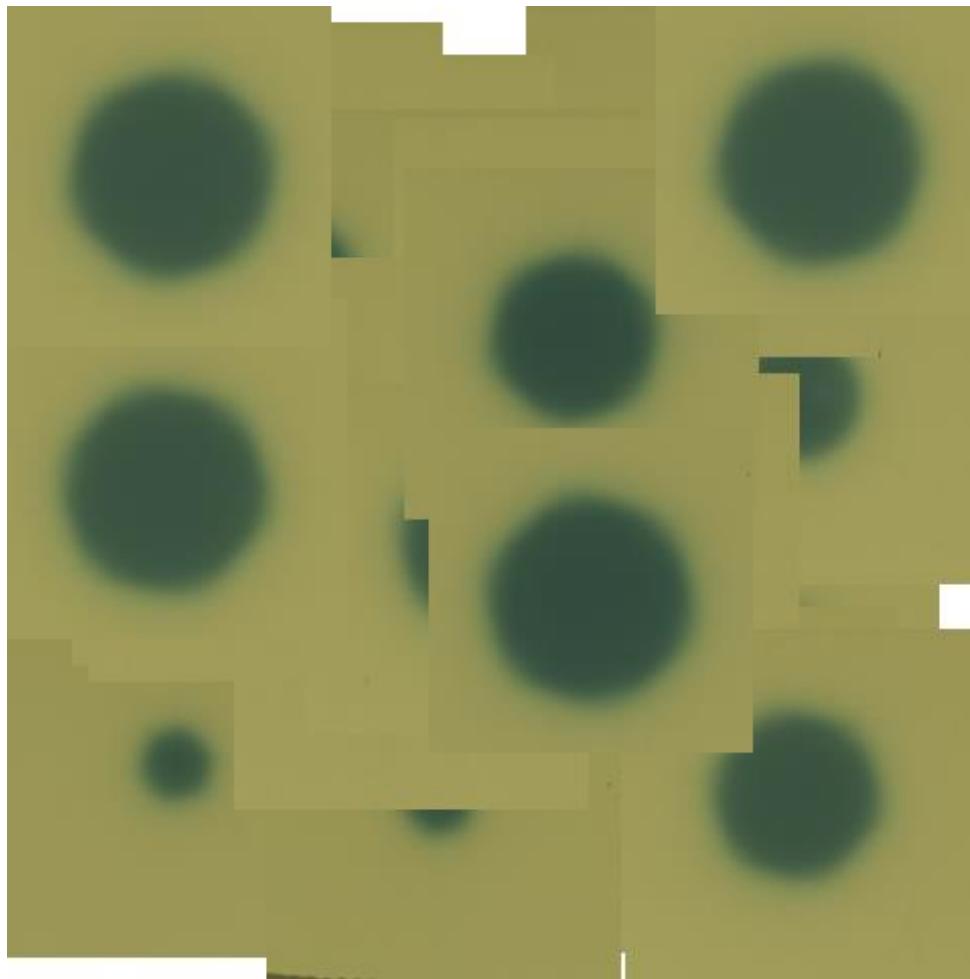
Iris QA (Current Methods)



MU=24000
min=00092



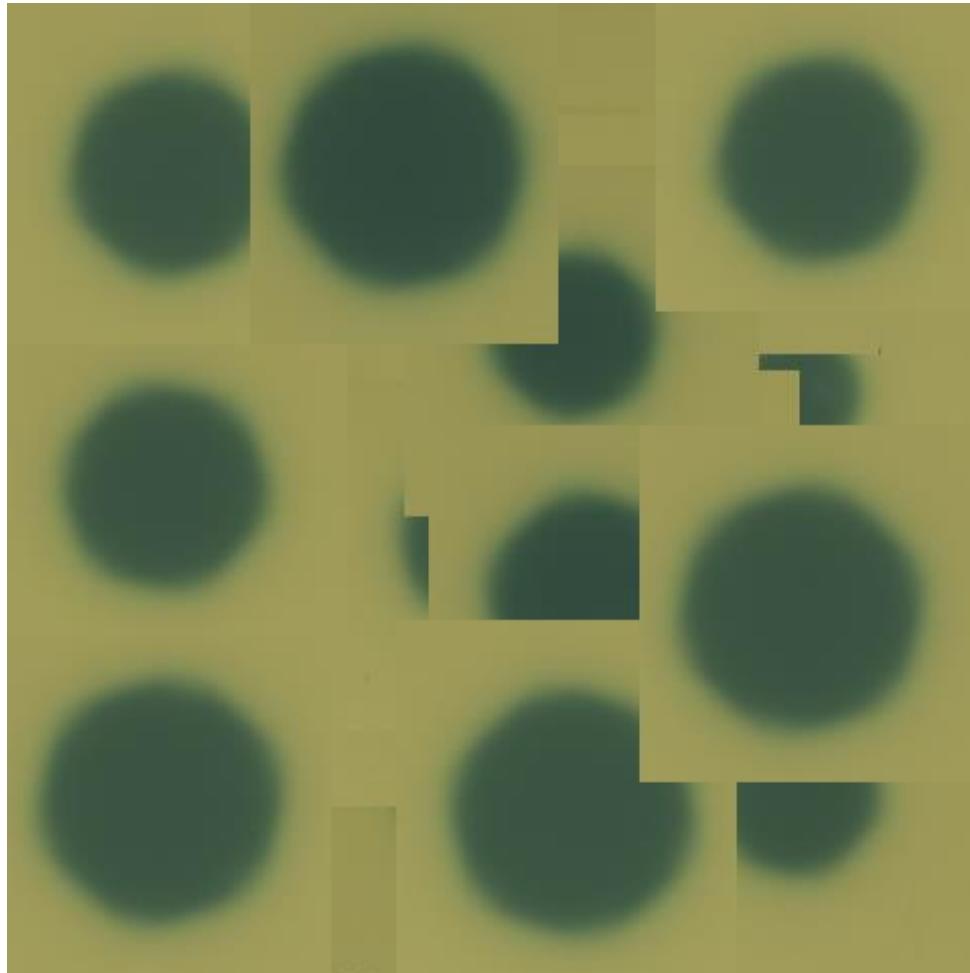
Iris QA (Current Methods)



MU=28000
min=00102



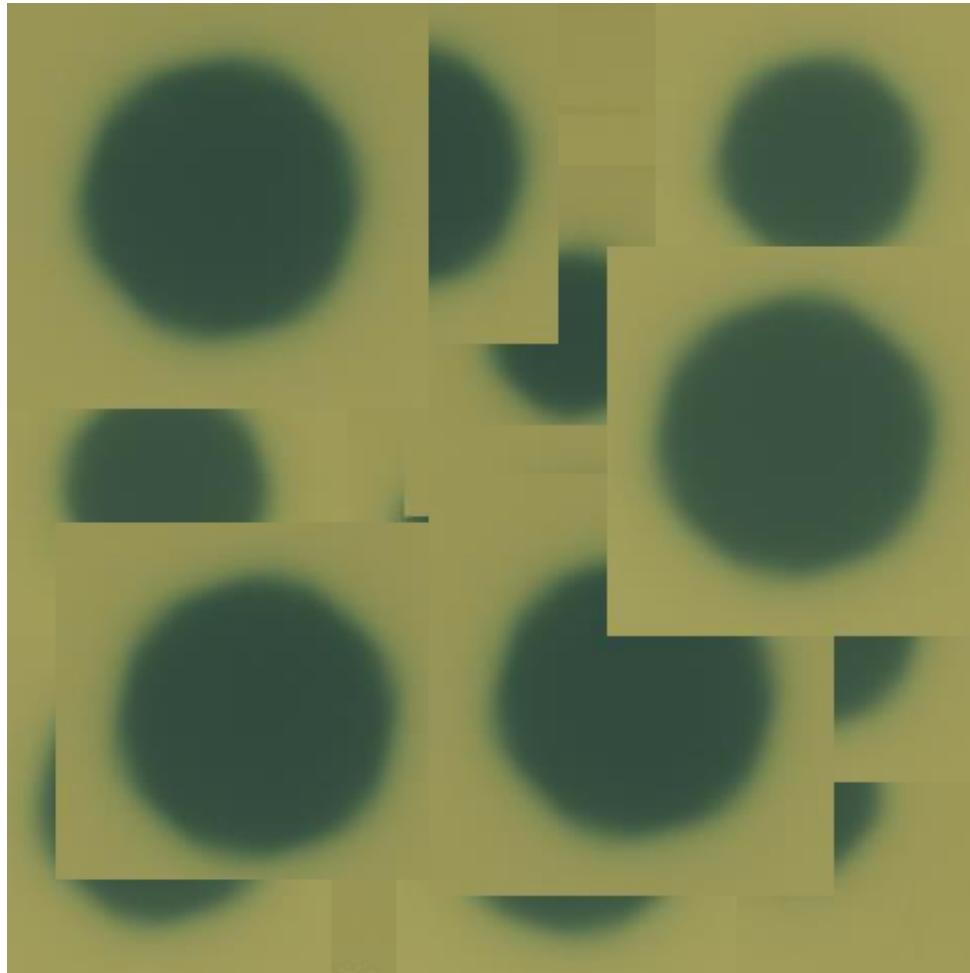
Iris QA (Current Methods)



MU=32000
min=00112



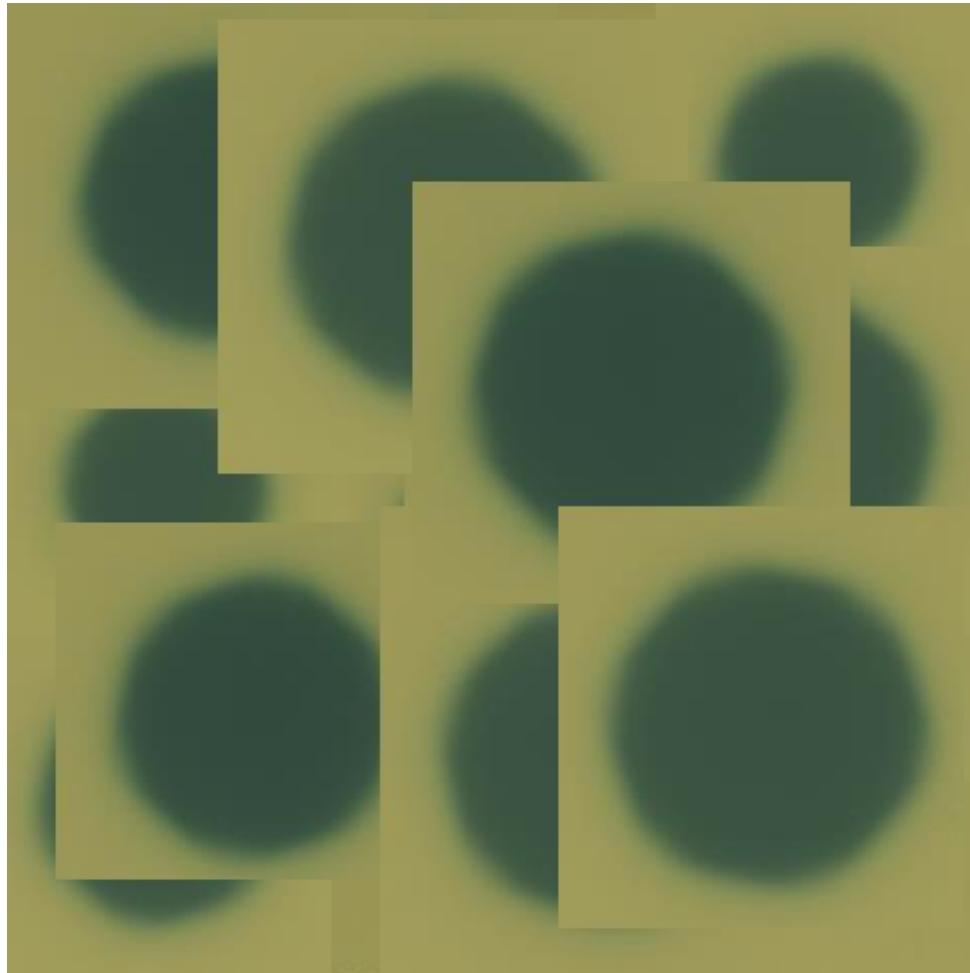
Iris QA (Current Methods)



MU=36000
min=00122



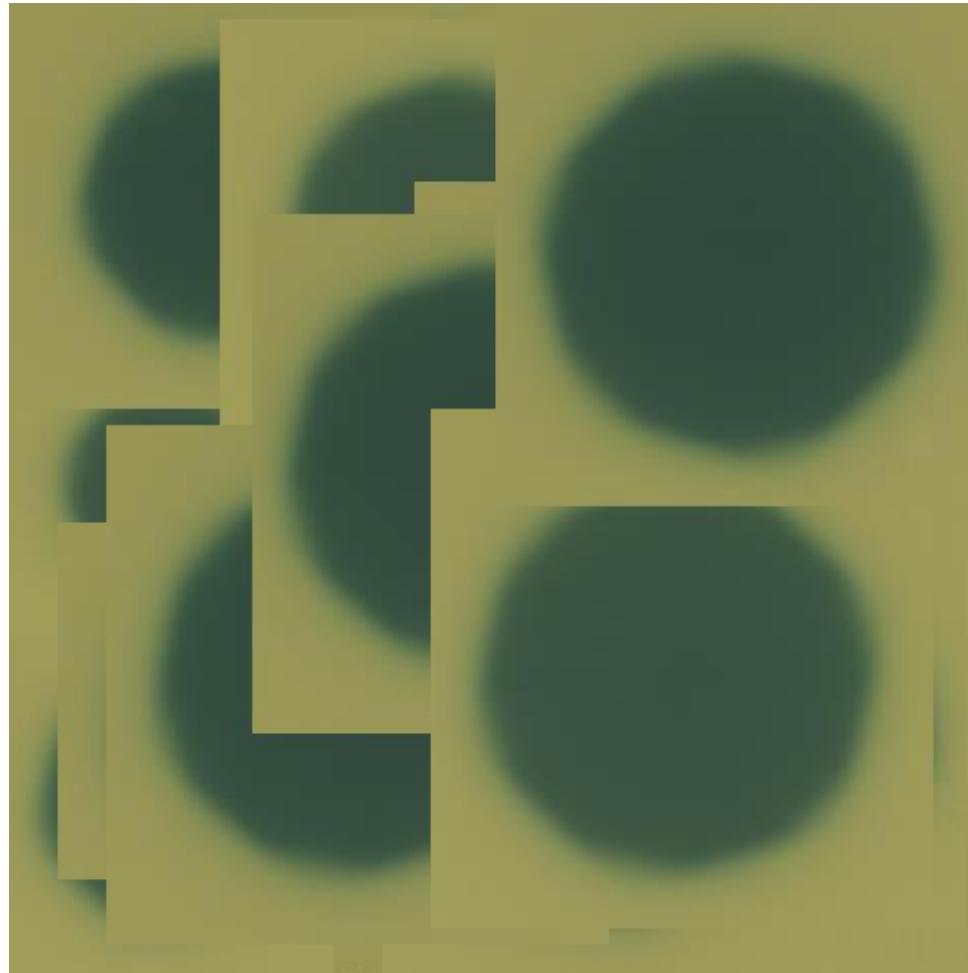
Iris QA (Current Methods)



MU=40000
min=00132



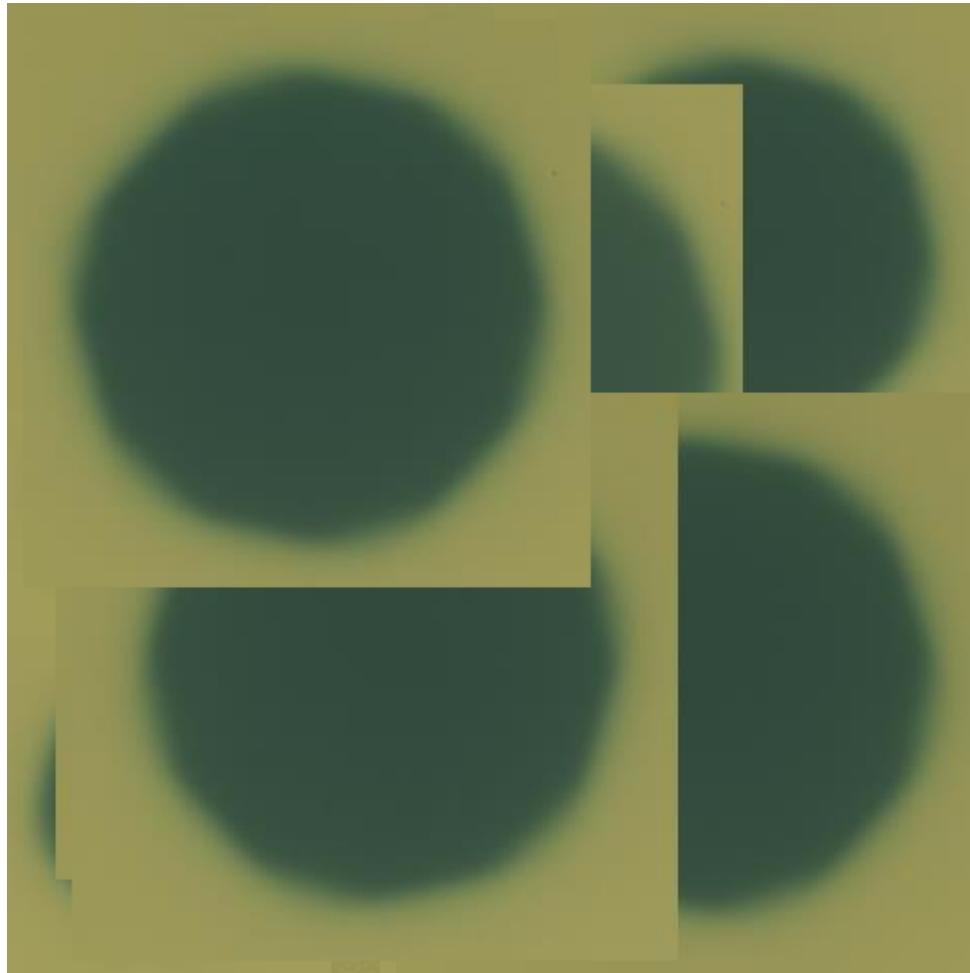
Iris QA (Current Methods)



MU=44000
min=00142



Iris QA (Current Methods)



MU=48000
min=00152



Iris QA (Current Methods)



MU=48000
min=00182

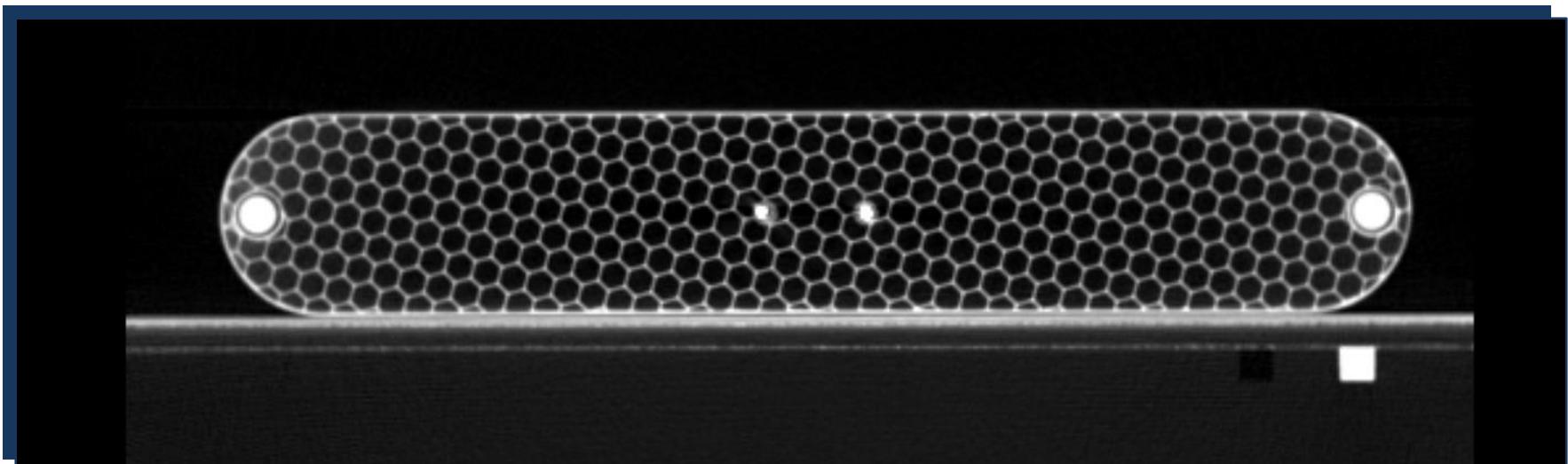


Iris QA (FOIL Detector)



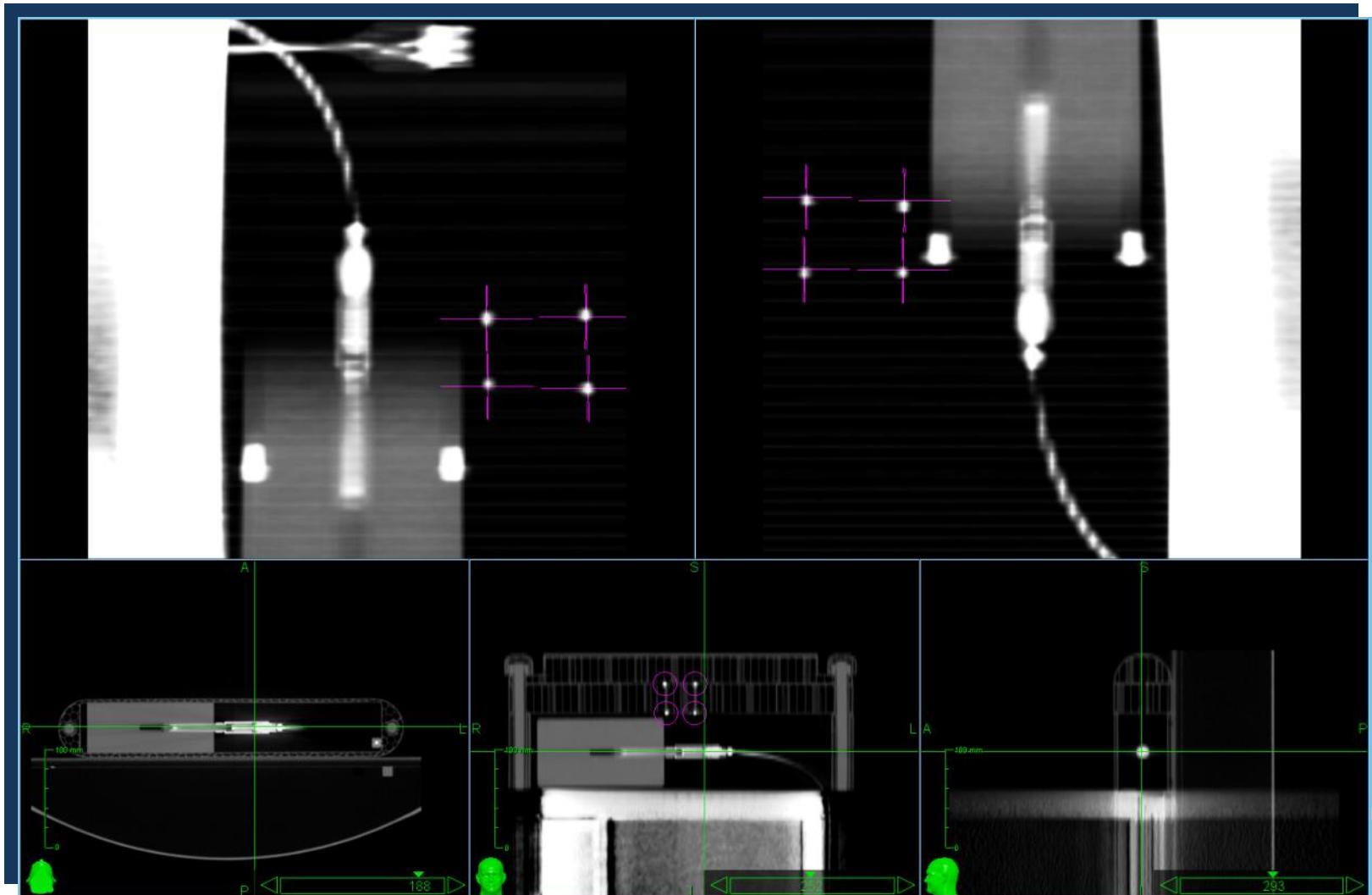


Iris QA (FOIL Detector)





Iris QA (FOIL Detector)





Iris QA (FOIL Detector)

Overview Alignment Readiness **Delivery**

130 kV 100 mA 100 ms B

130 kV 100 mA 100 ms A

Offsets

Axis	Calculated	Applied
↓	0.0 mm	0.0 mm
→	0.0 mm	0.0 mm
↑	-0.1 mm	-0.1 mm
←	0.2 deg	0.2 deg
↶	0.1 deg	0.1 deg
↷	0.0 deg	0.0 deg

Acquire an Image

LASER is ON

Beam ID:
Image taken at:
Robot at: Perch

Start

Fiducial Position Orientation

Inf/Sup (mm) Left/Right (mm) Ant/Post (mm) Position Delta (mm)

Automated Imaging Disabled

Estimated Imaging Dose (cGy)

Acquired 52 Expected 54 Exposed 0.7 Expected 0.8

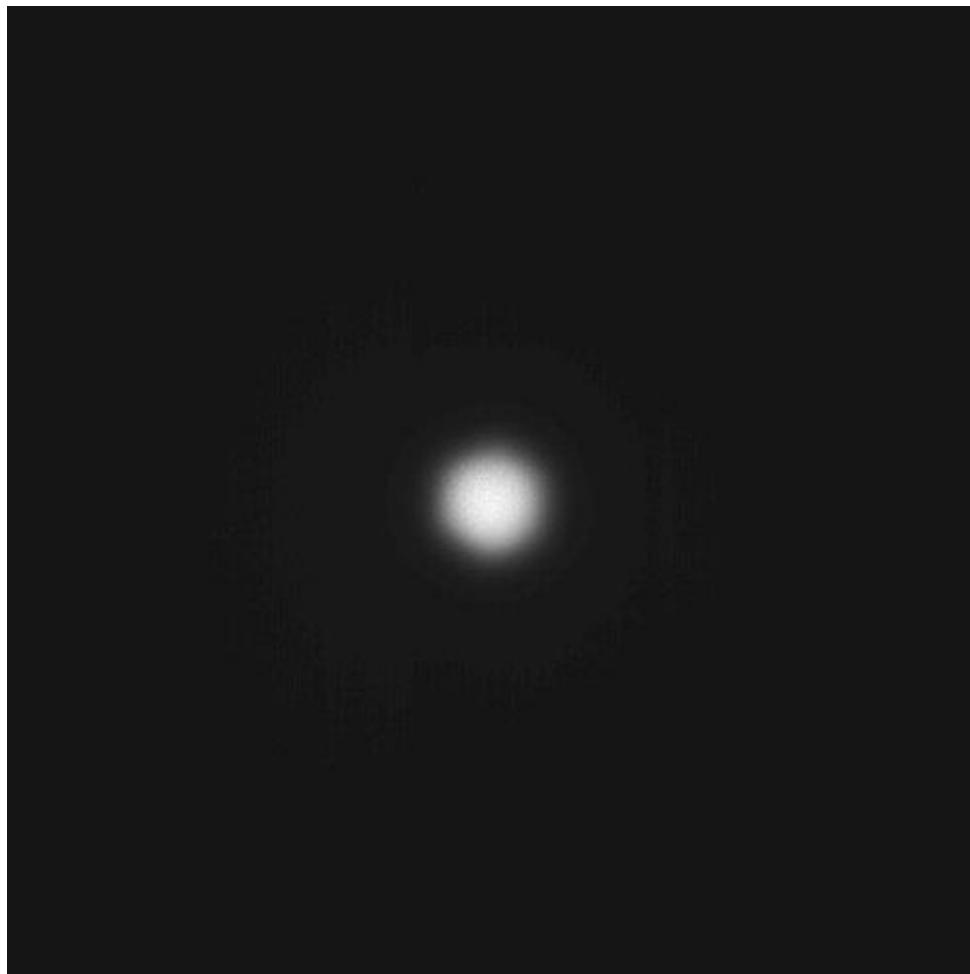
Images

Gibbs Cancer Center & Research Institute

SPECTRUM
Medical Physics, LLC

Icons: Beam On/Off, Beam Position, Beam Orientation, Beam Status, Beam Log, Beam History, Beam Report, Beam Audit, Beam Configuration, Beam Calibration, Beam Verification, Beam Validation, Beam Stop.

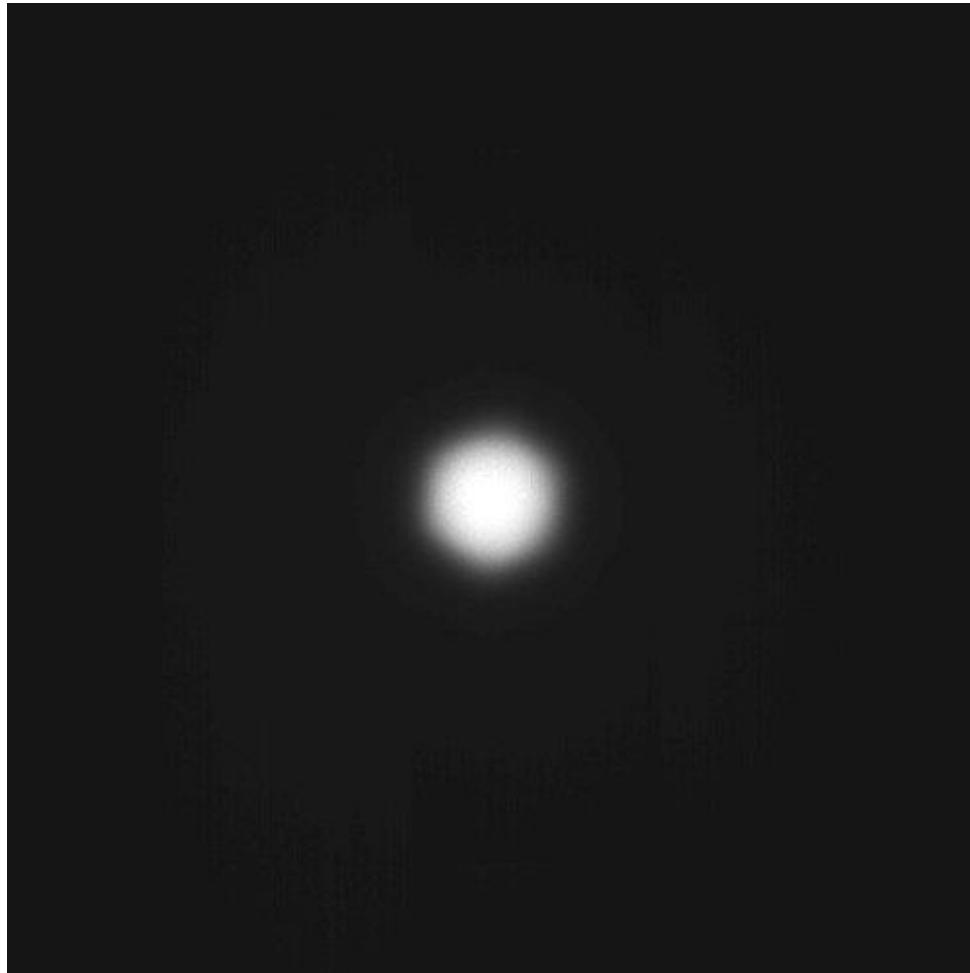
Iris QA (FOIL Detector)



MU=00050
min=00005



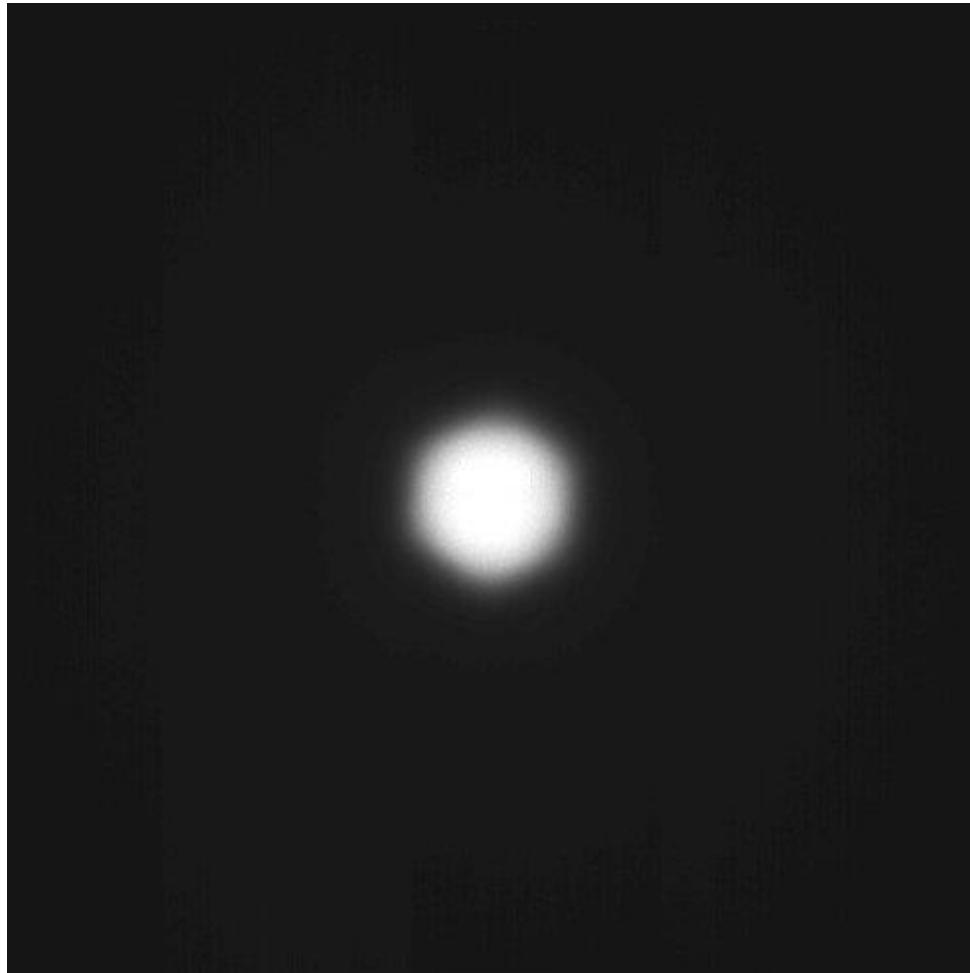
Iris QA (FOIL Detector)



MU=00100
min=00005



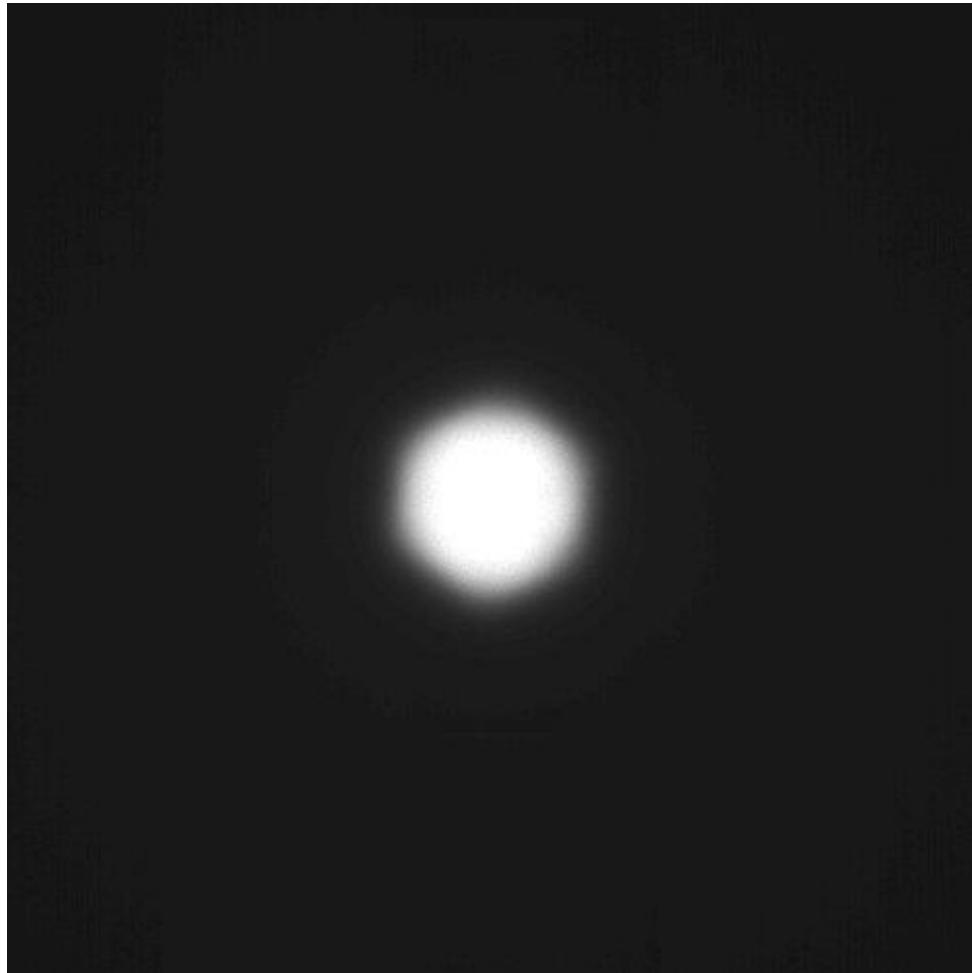
Iris QA (FOIL Detector)



MU=00150
min=00005



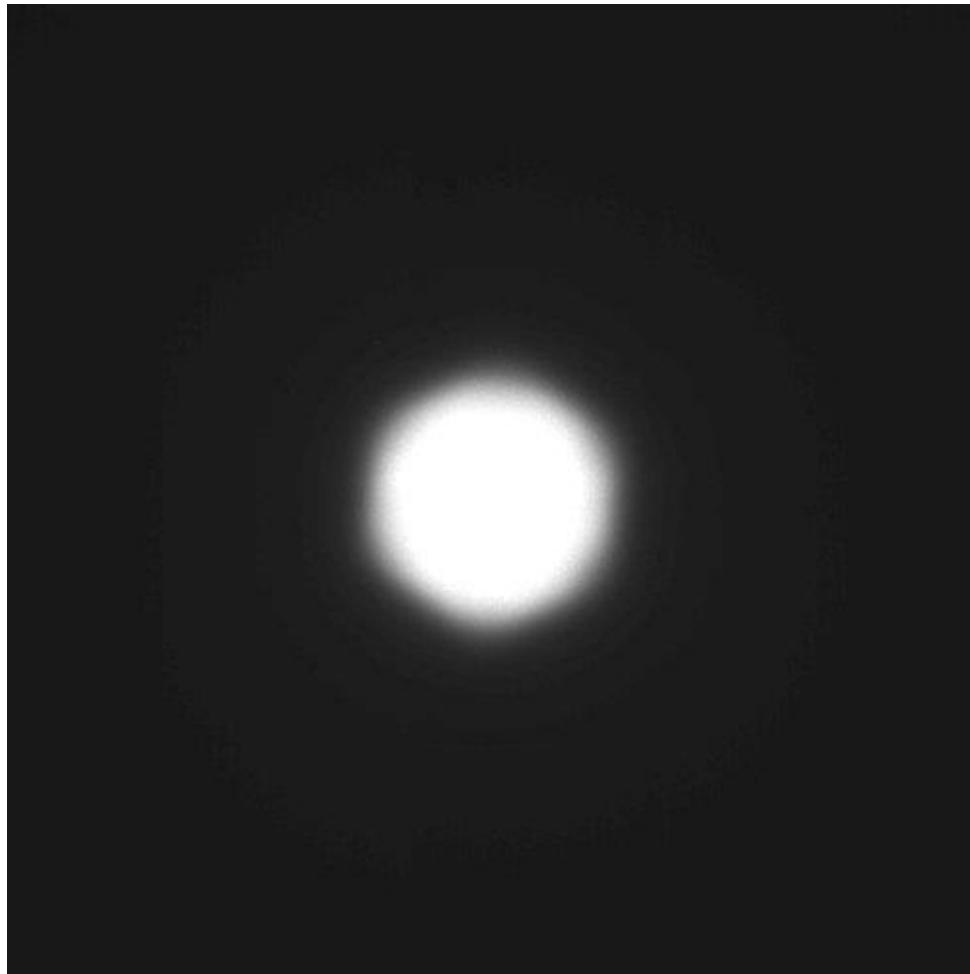
Iris QA (FOIL Detector)



MU=00200
min=00006



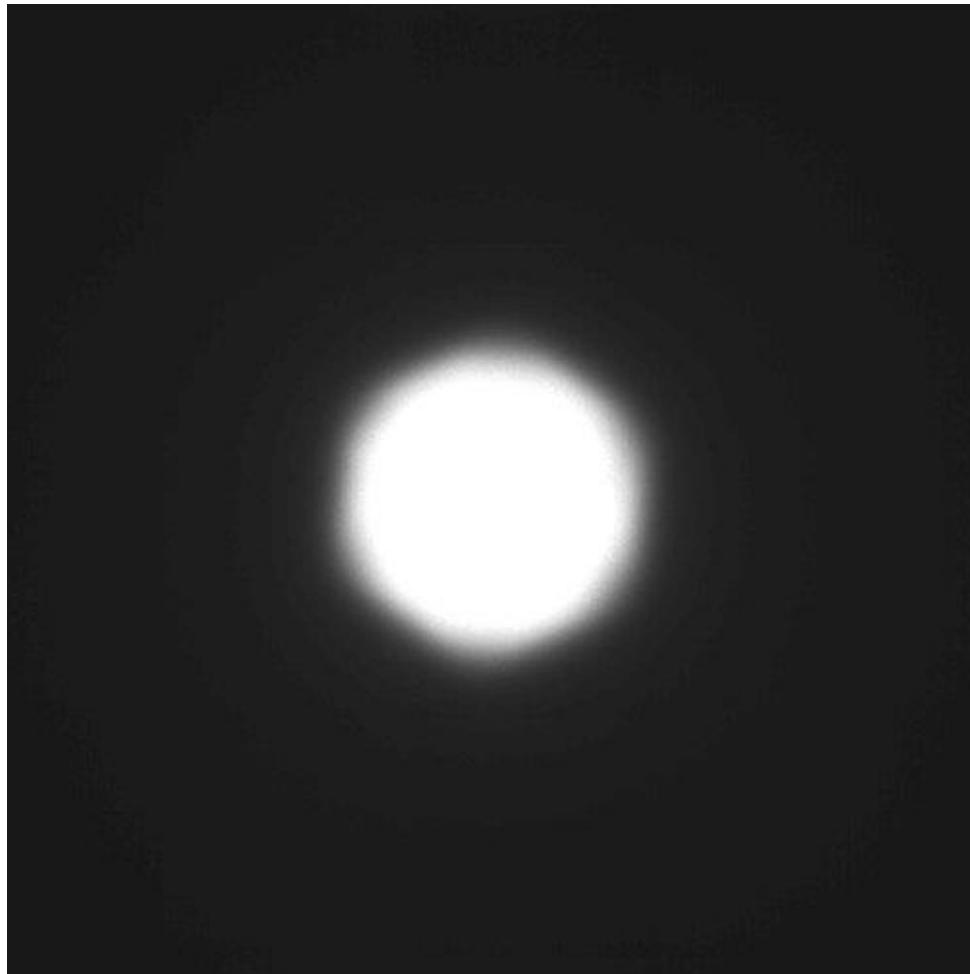
Iris QA (FOIL Detector)



MU=00250
min=00006



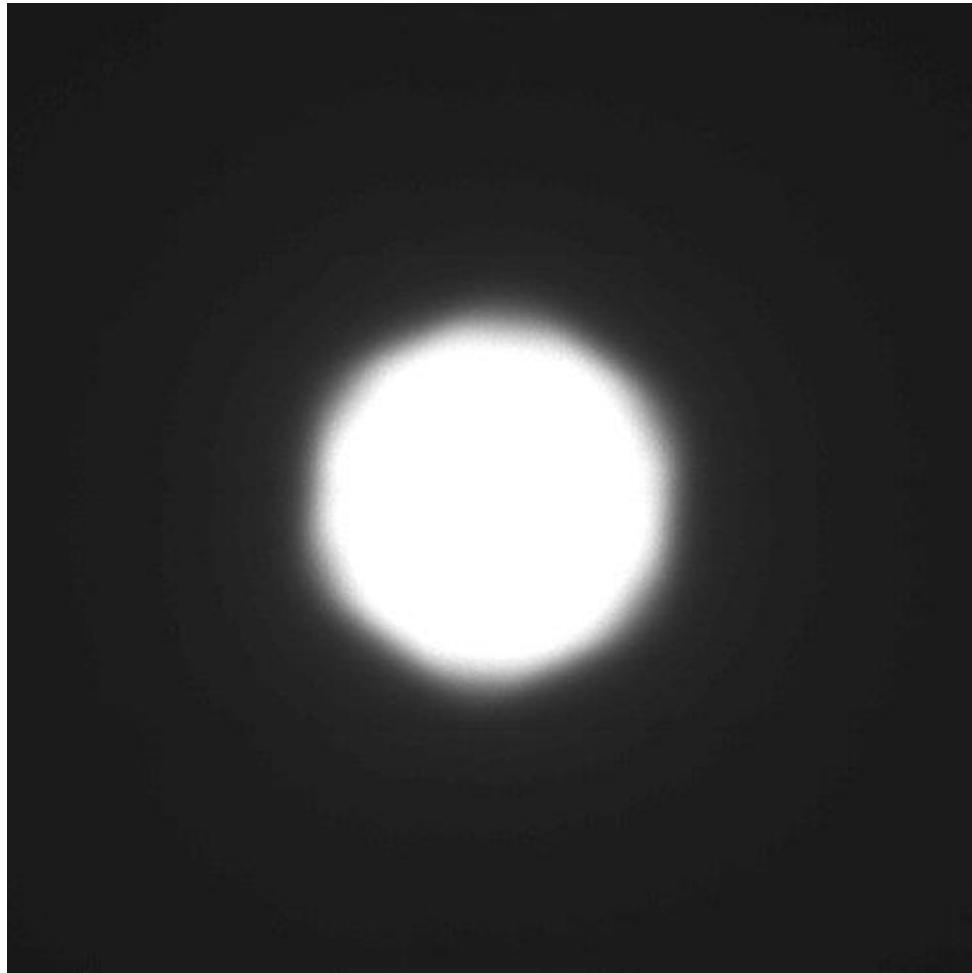
Iris QA (FOIL Detector)



MU=00300
min=00006



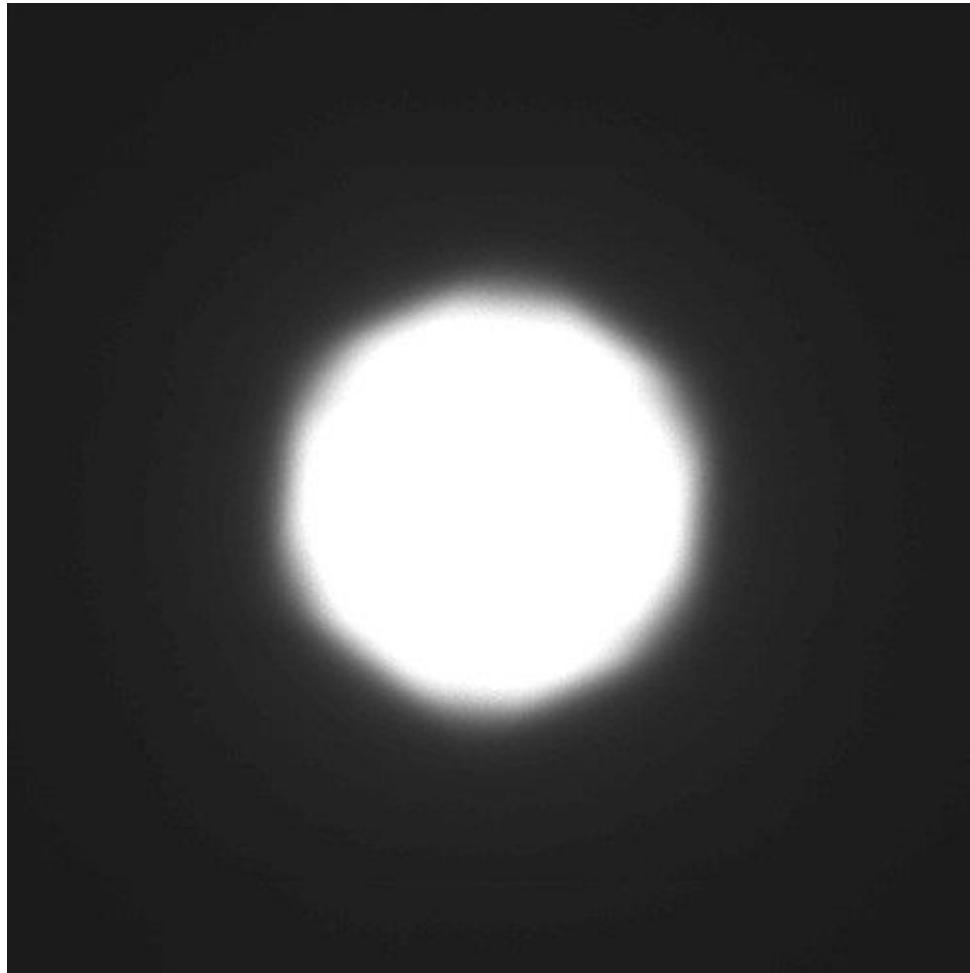
Iris QA (FOIL Detector)



MU=00350
min=00006



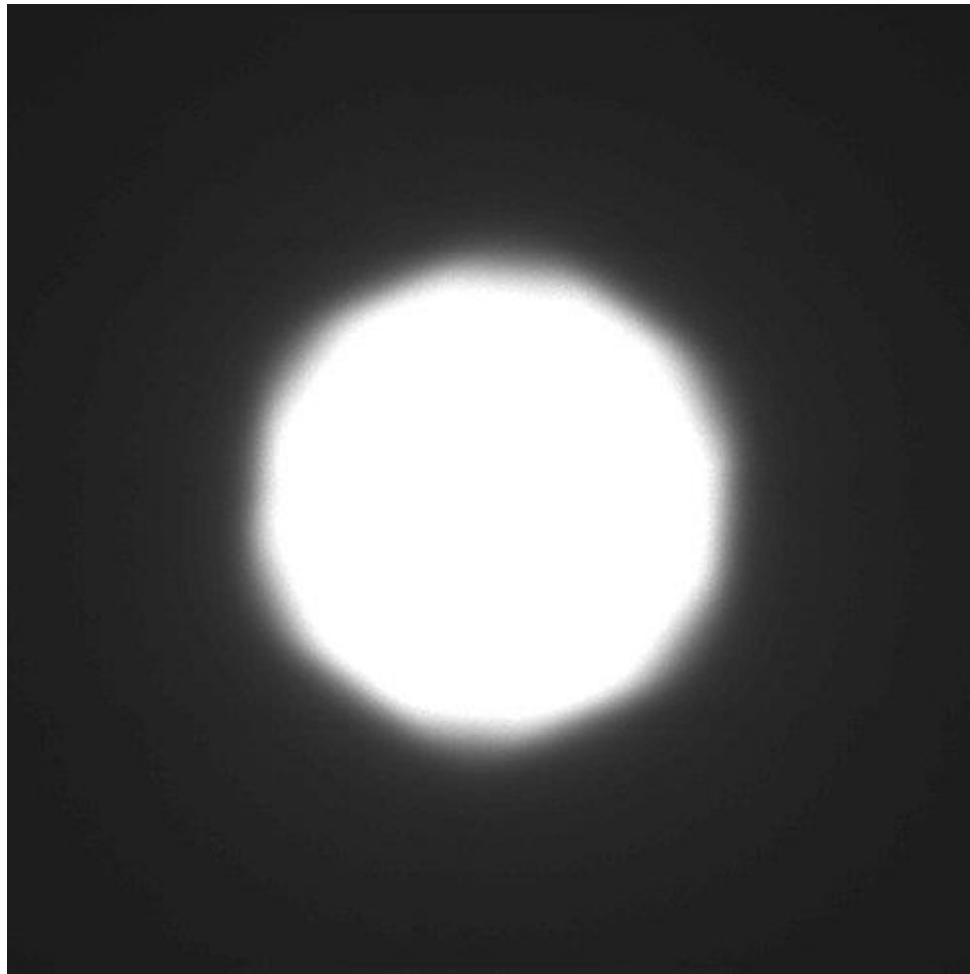
Iris QA (FOIL Detector)



MU=00400
min=00006



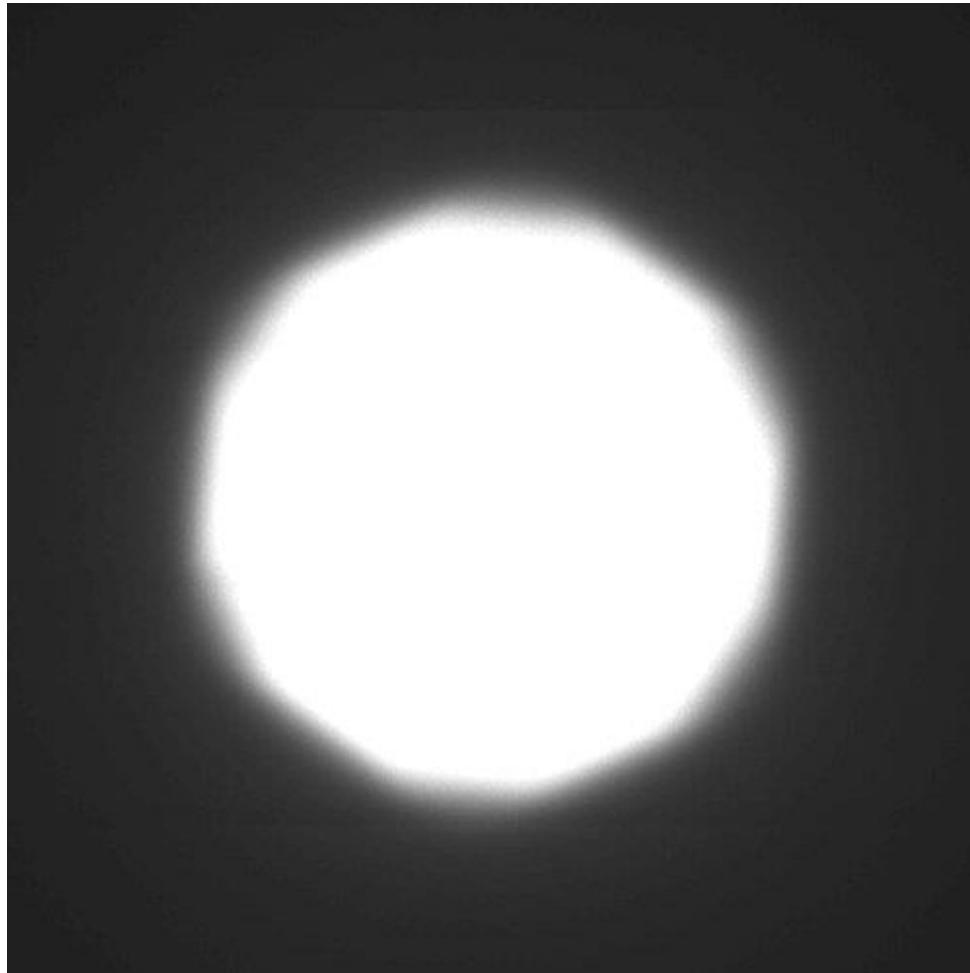
Iris QA (FOIL Detector)



MU=00450
min=00006



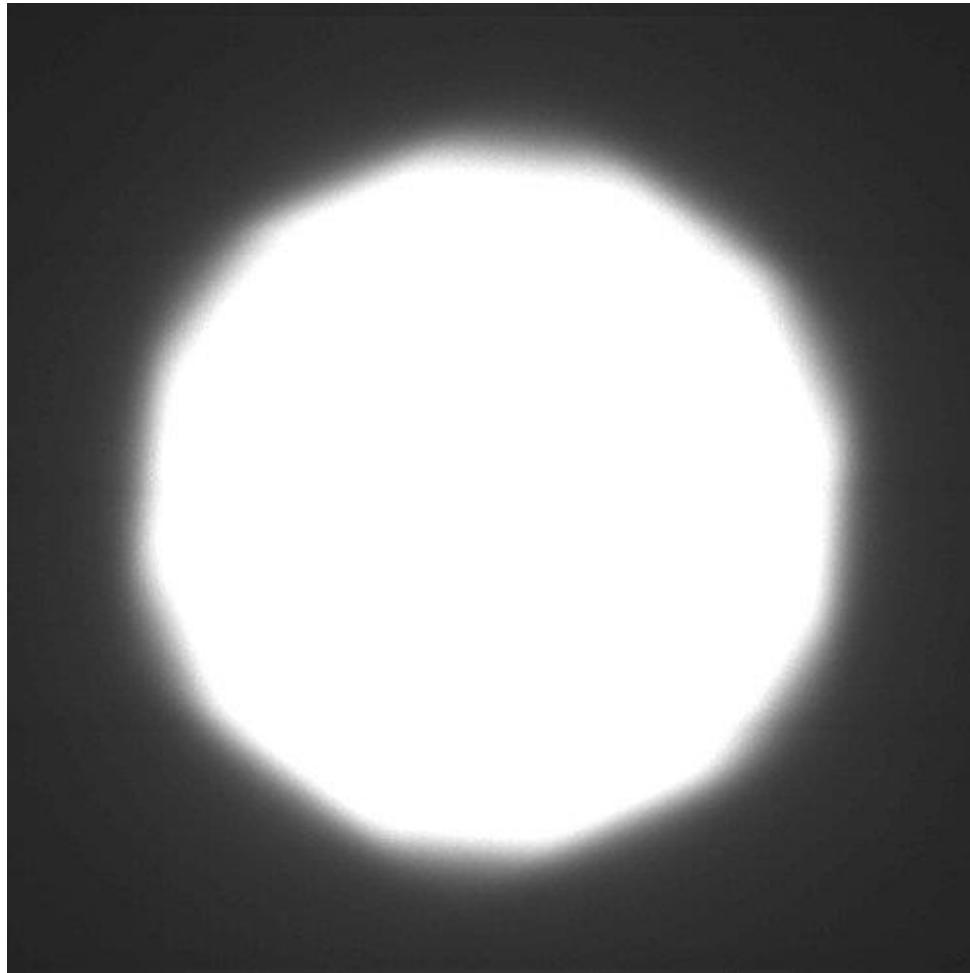
Iris QA (FOIL Detector)



MU=00500
min=00006



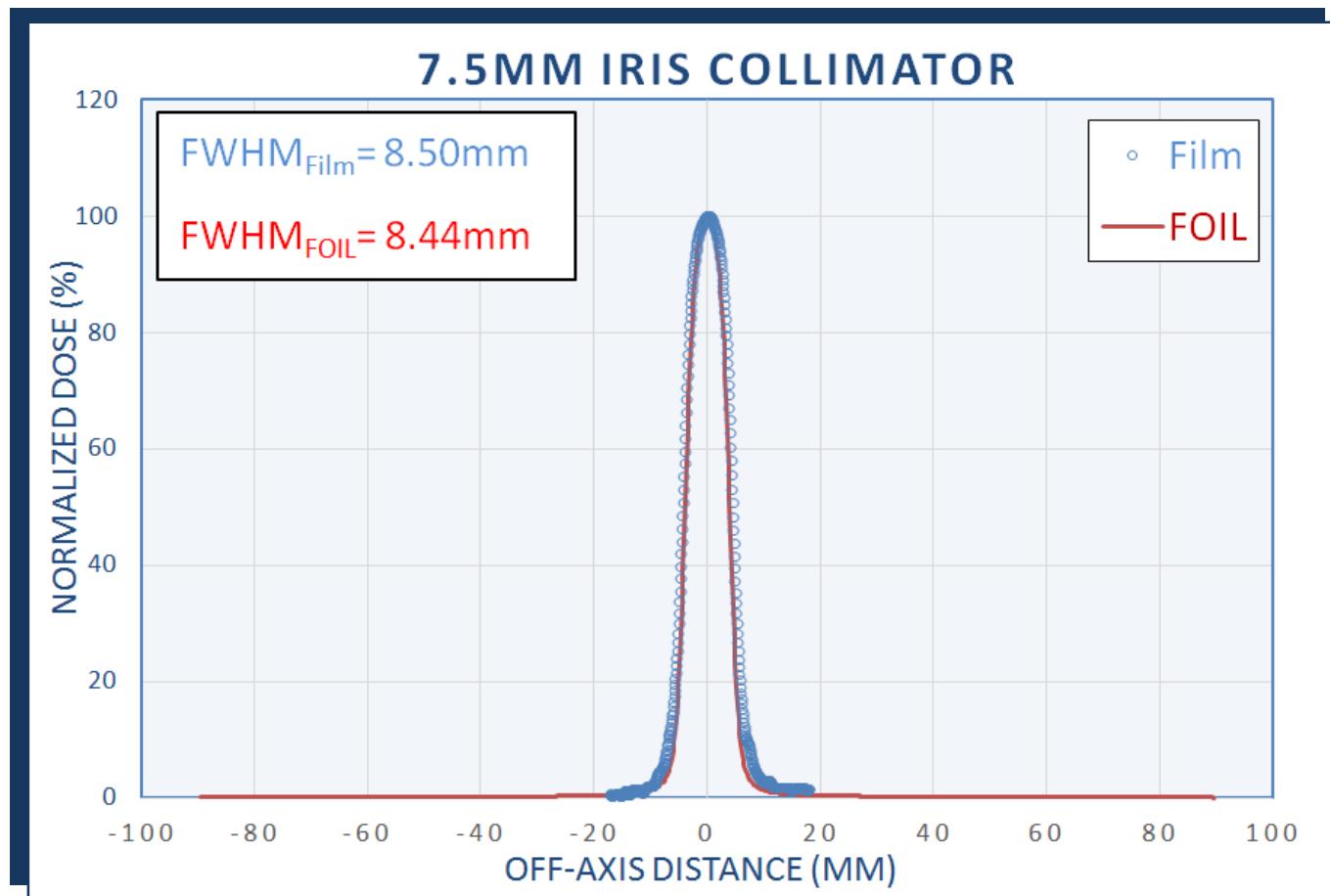
Iris QA (FOIL Detector)

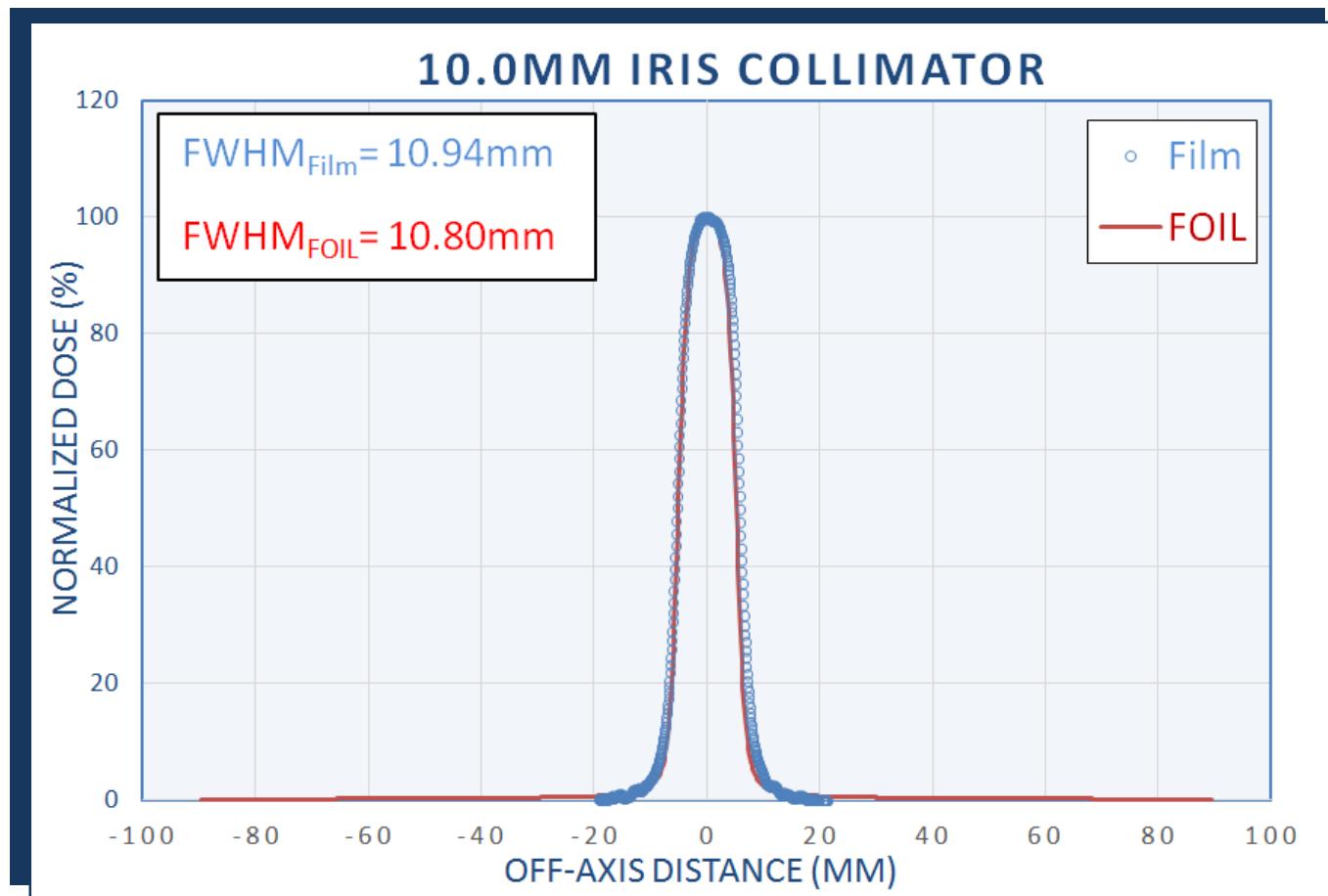


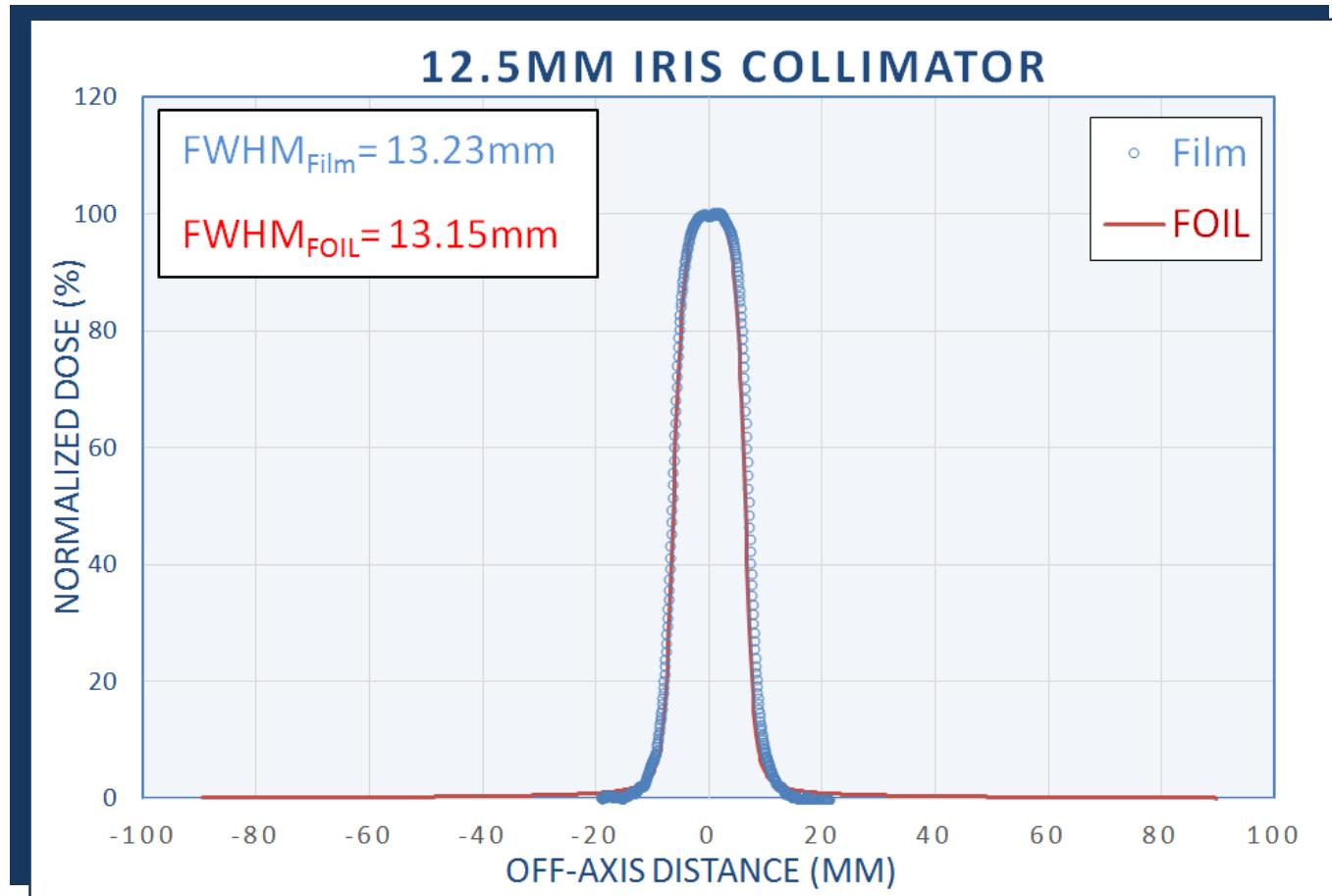
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min=00007



Iris QA (FOIL Detector)

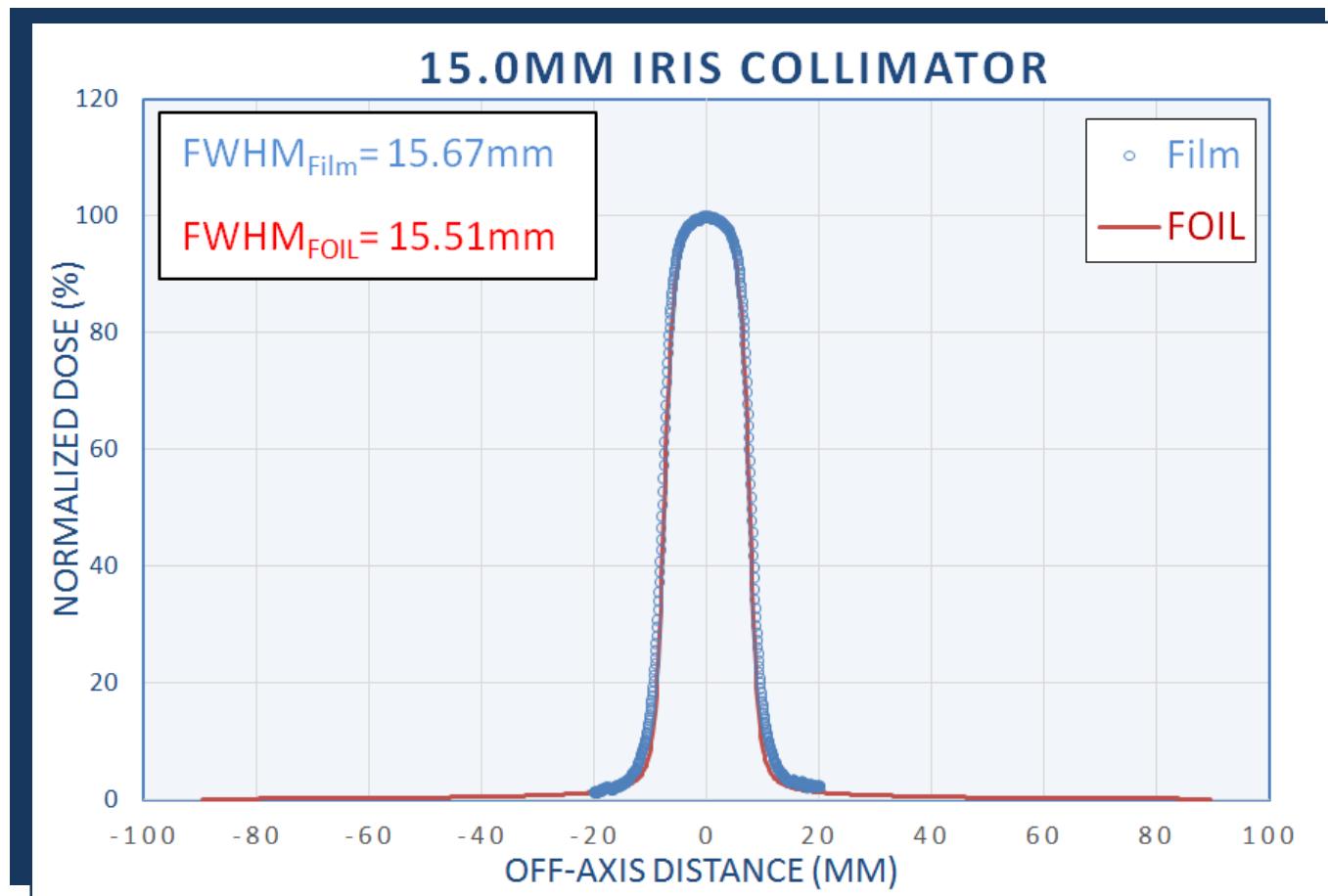






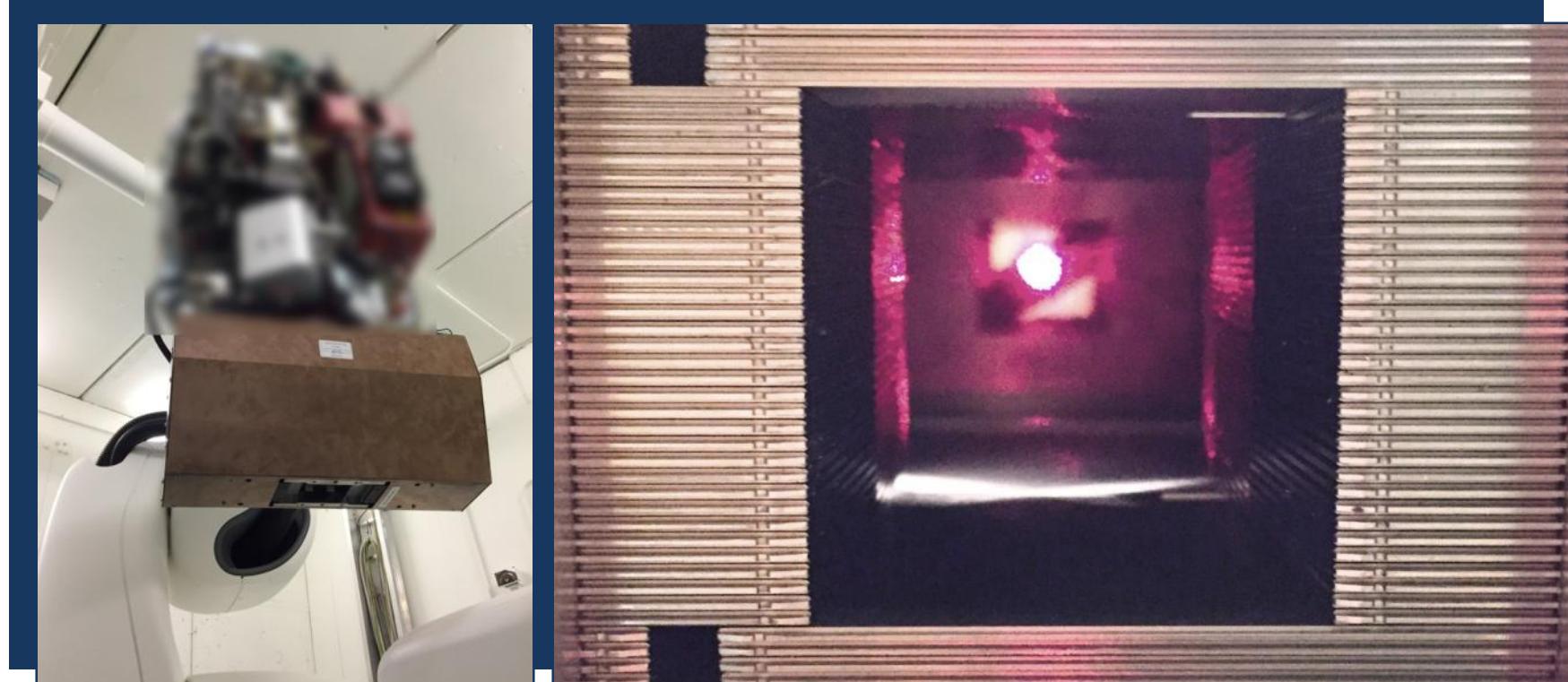


Iris QA (FOIL Detector)



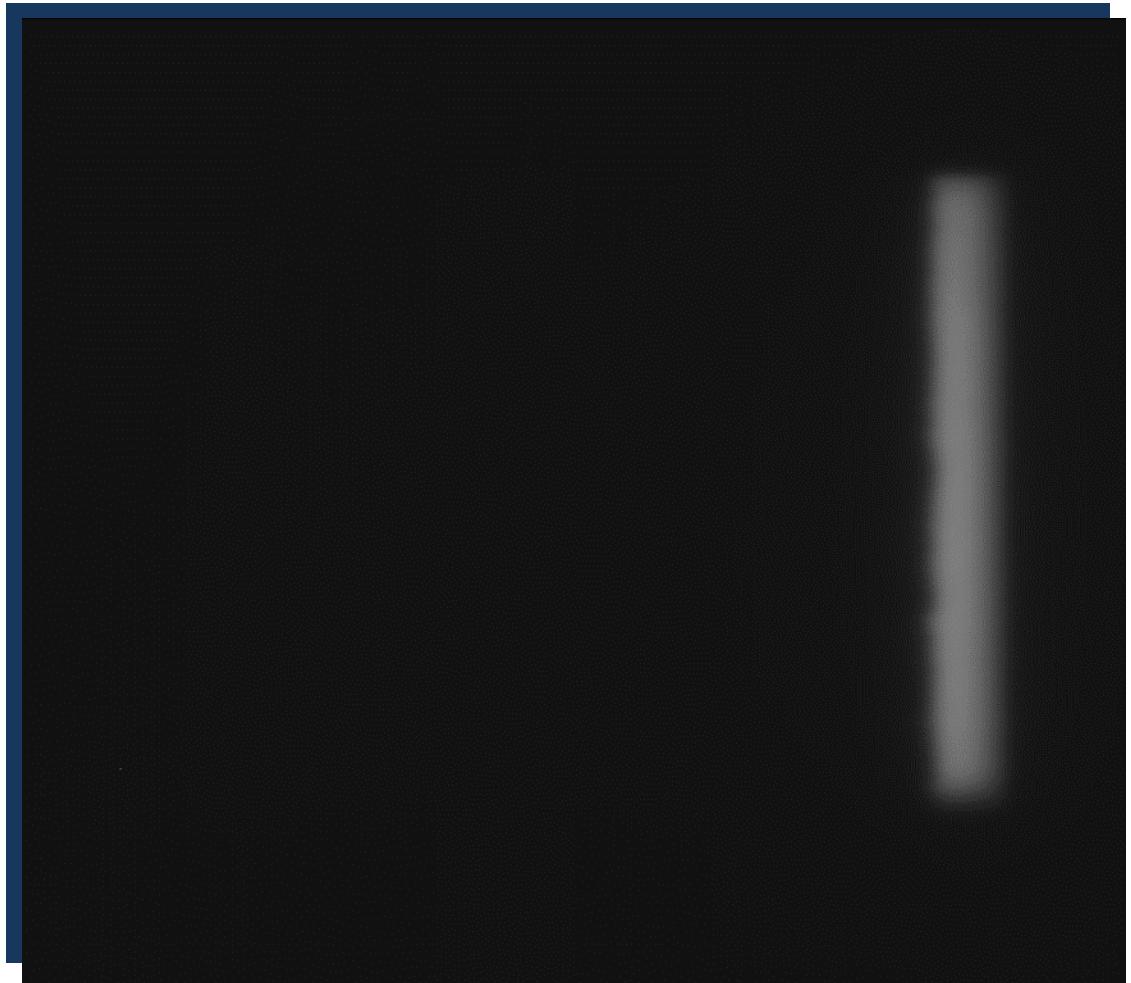


The InCise Collimator



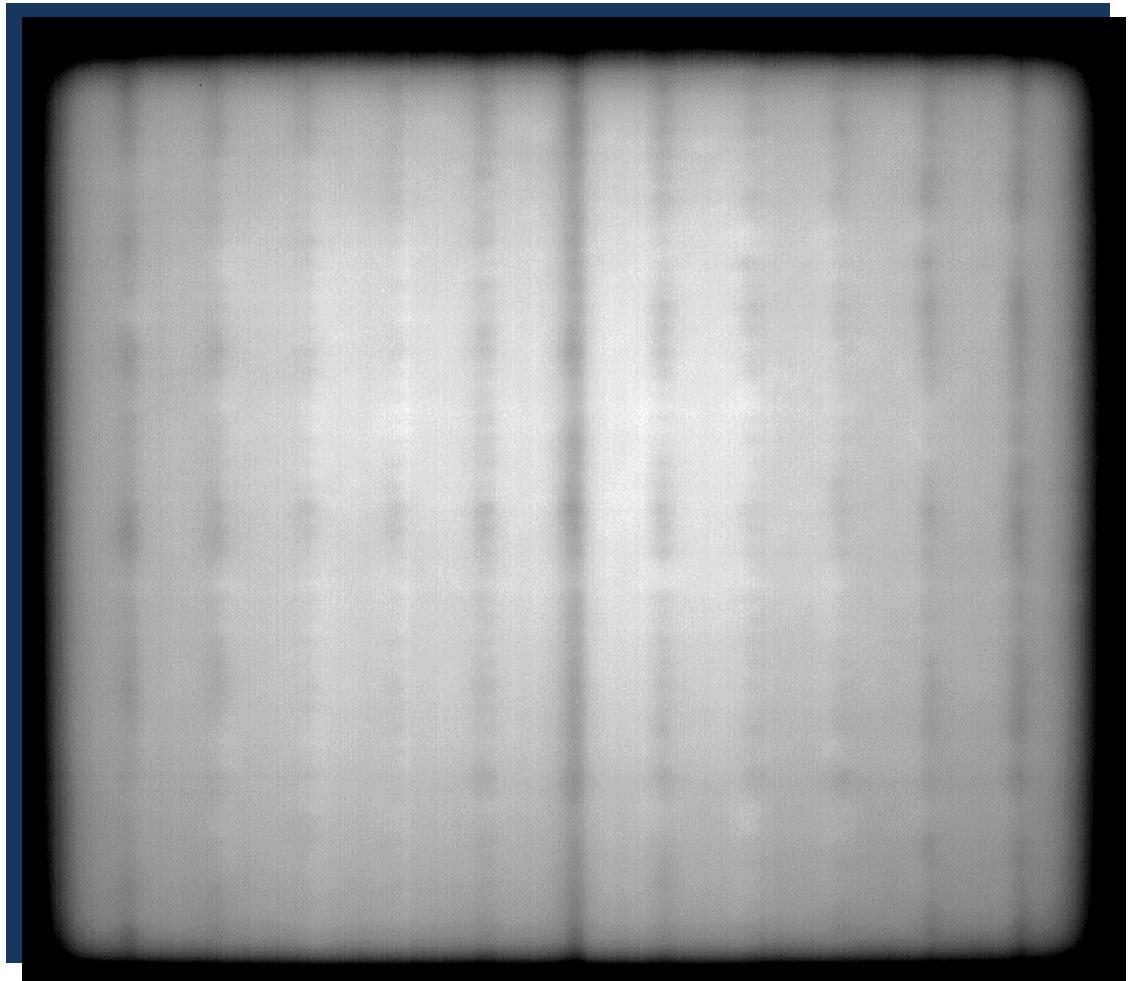


MLC Evaluation (FOIL Detector)





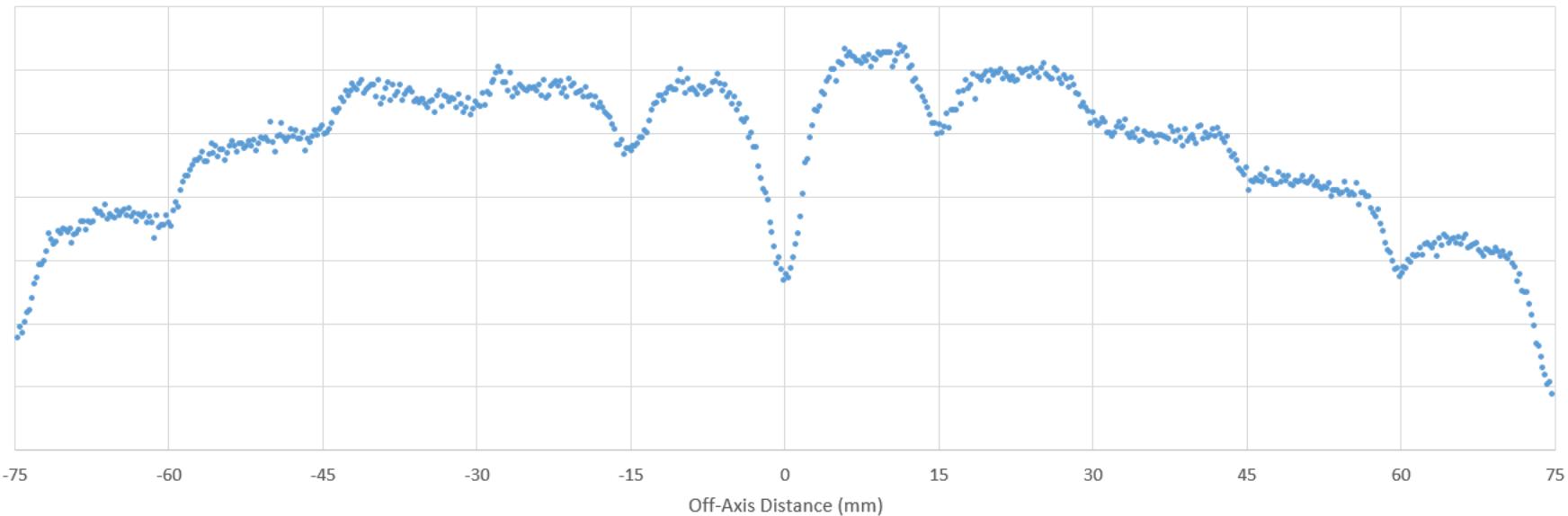
MLC Evaluation (FOIL Detector)





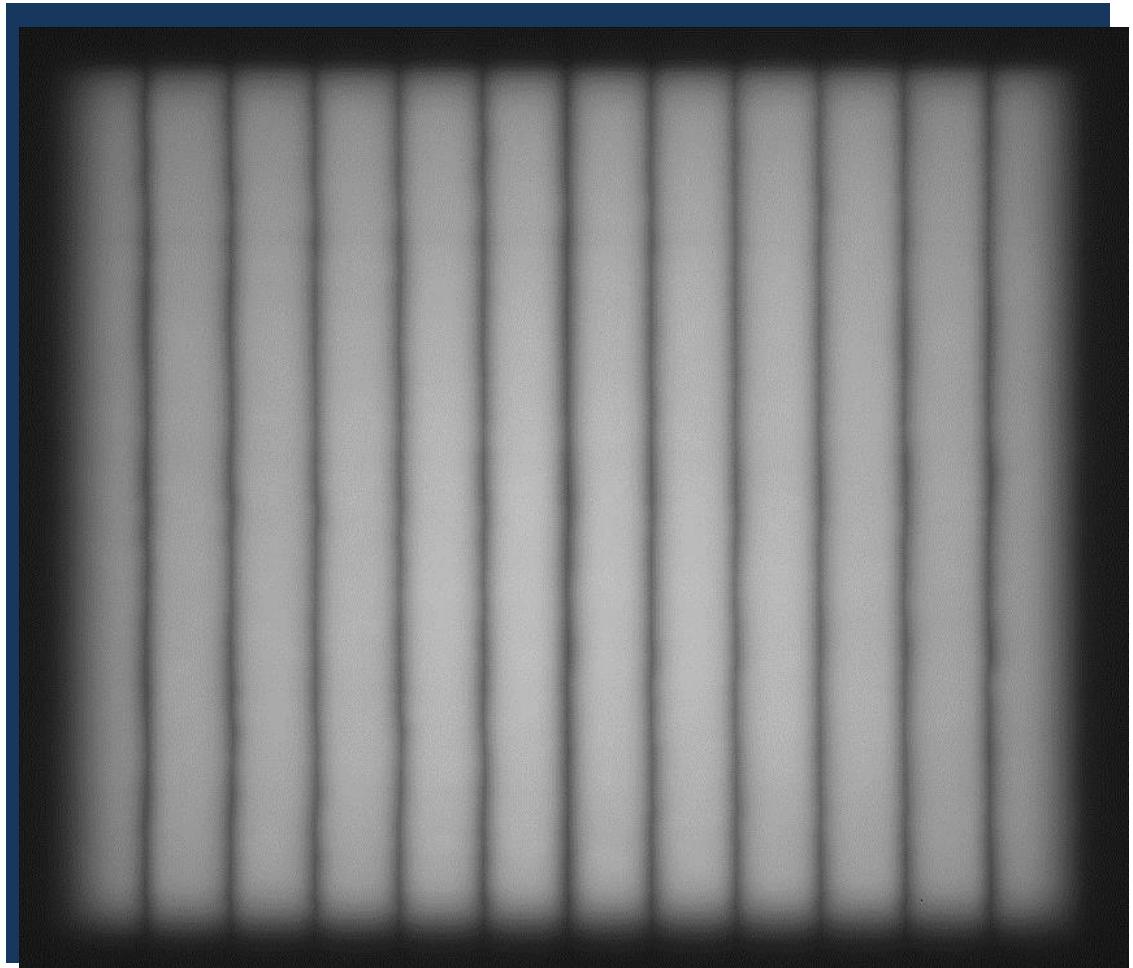
MLC Evaluation (FOIL Detector)

Pixel Intensity Profile - Picket Fence Composite





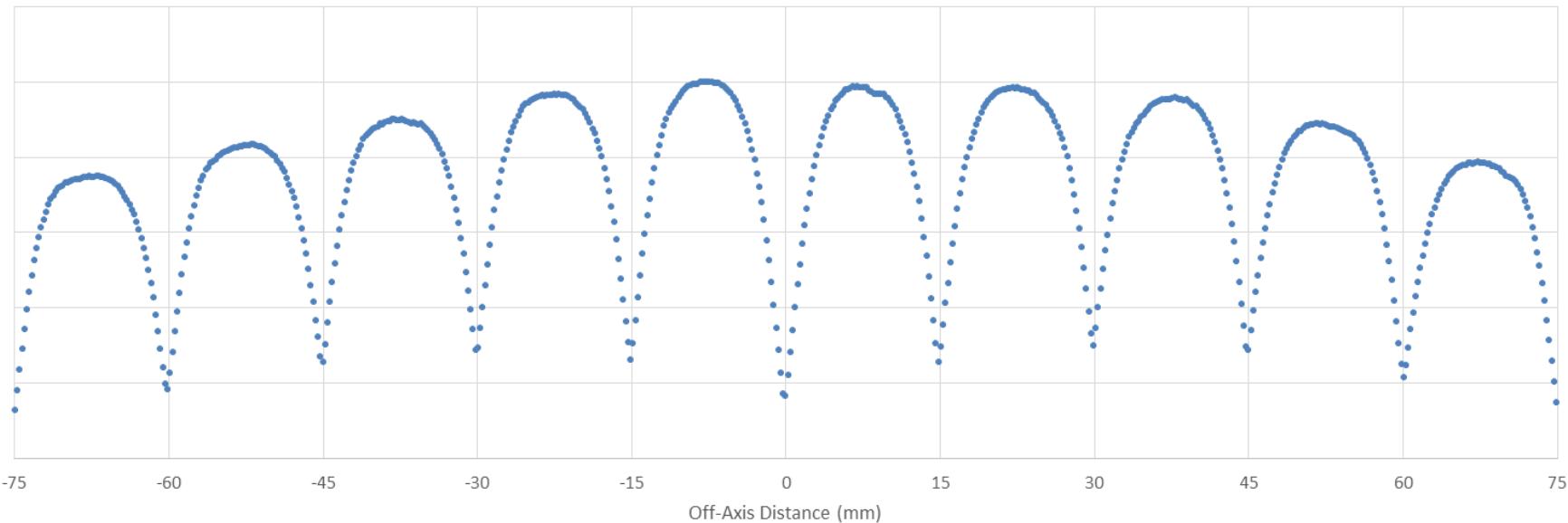
MLC Evaluation (FOIL Detector)





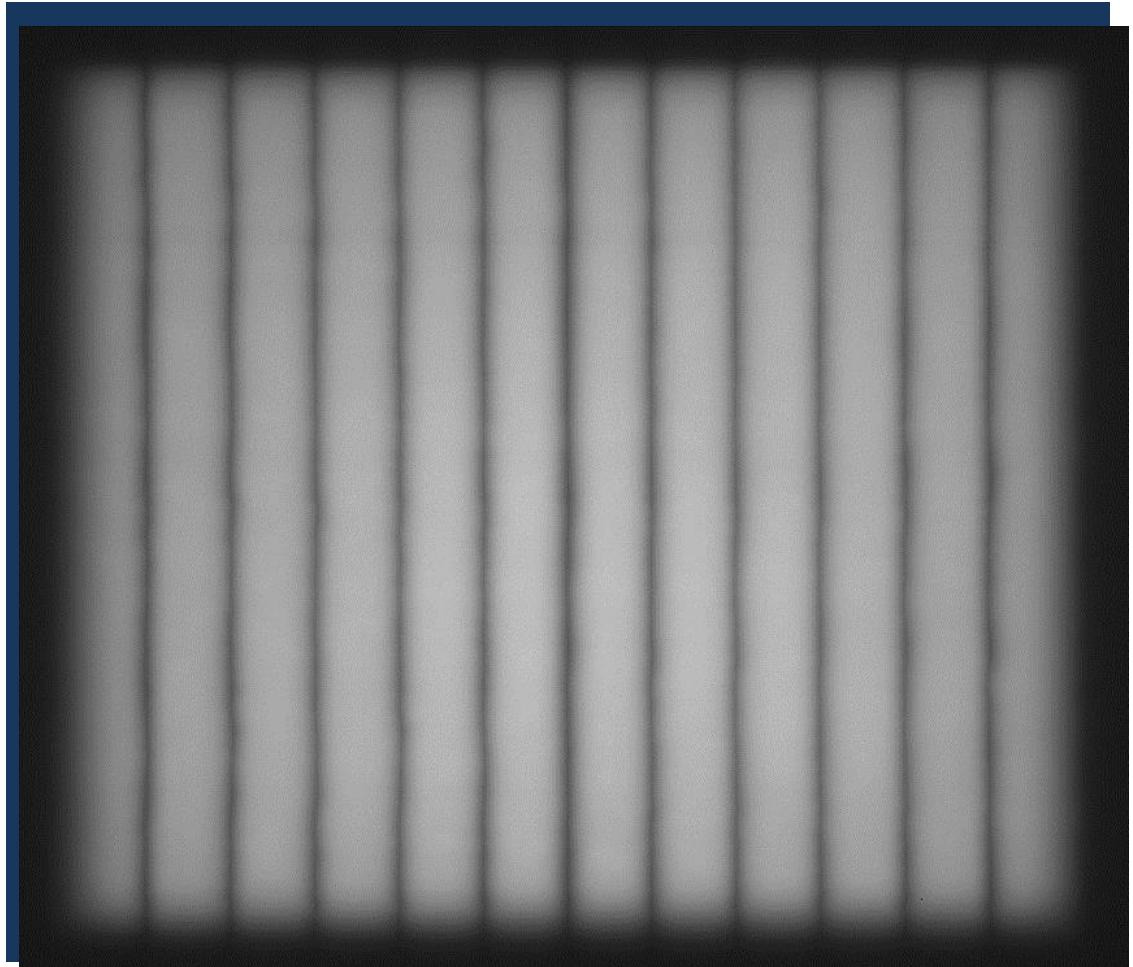
MLC Evaluation (FOIL Detector)

Pixel Intensity Profile - Picket Fence MIP



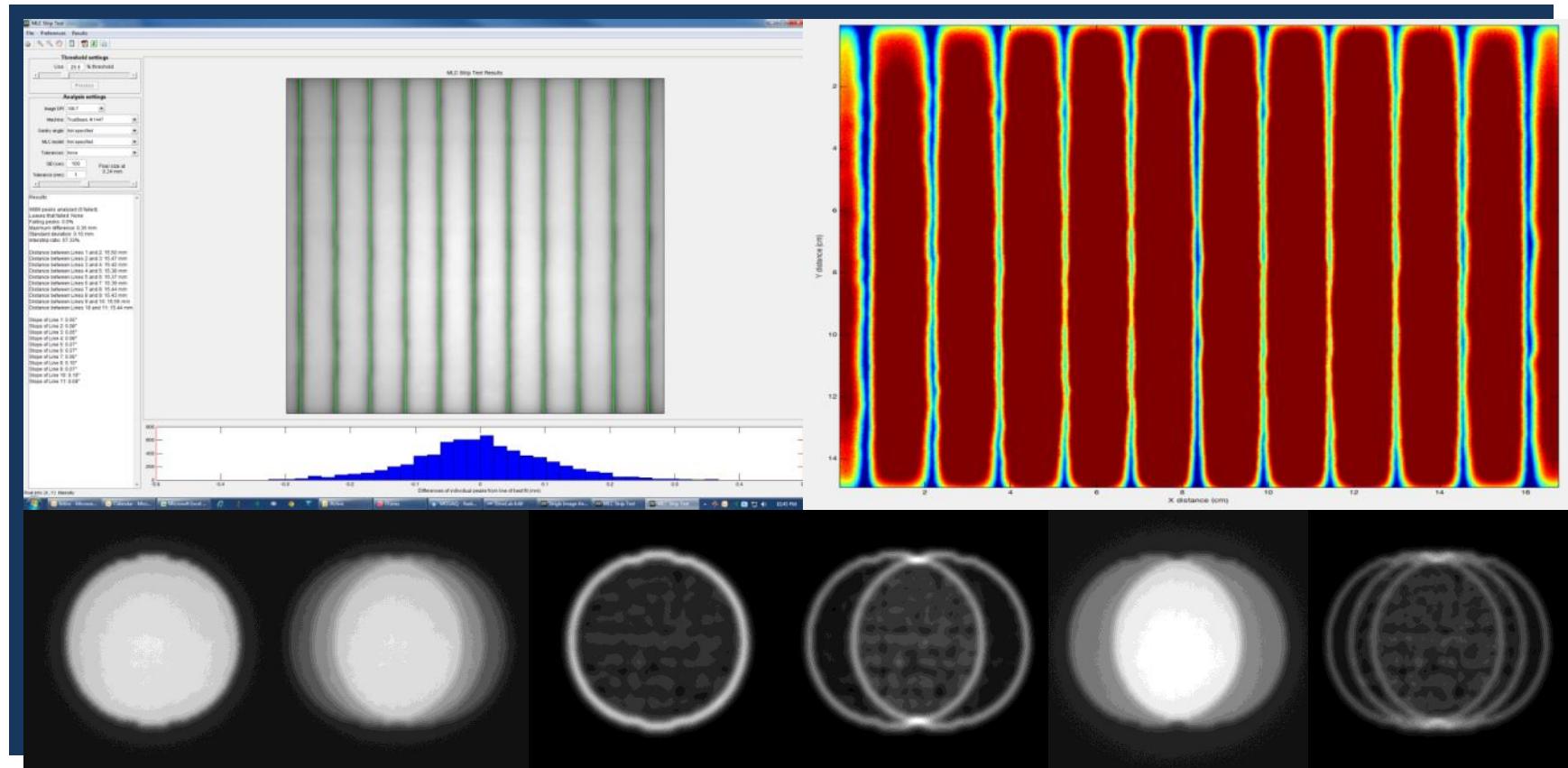


MLC Evaluation (FOIL Detector)



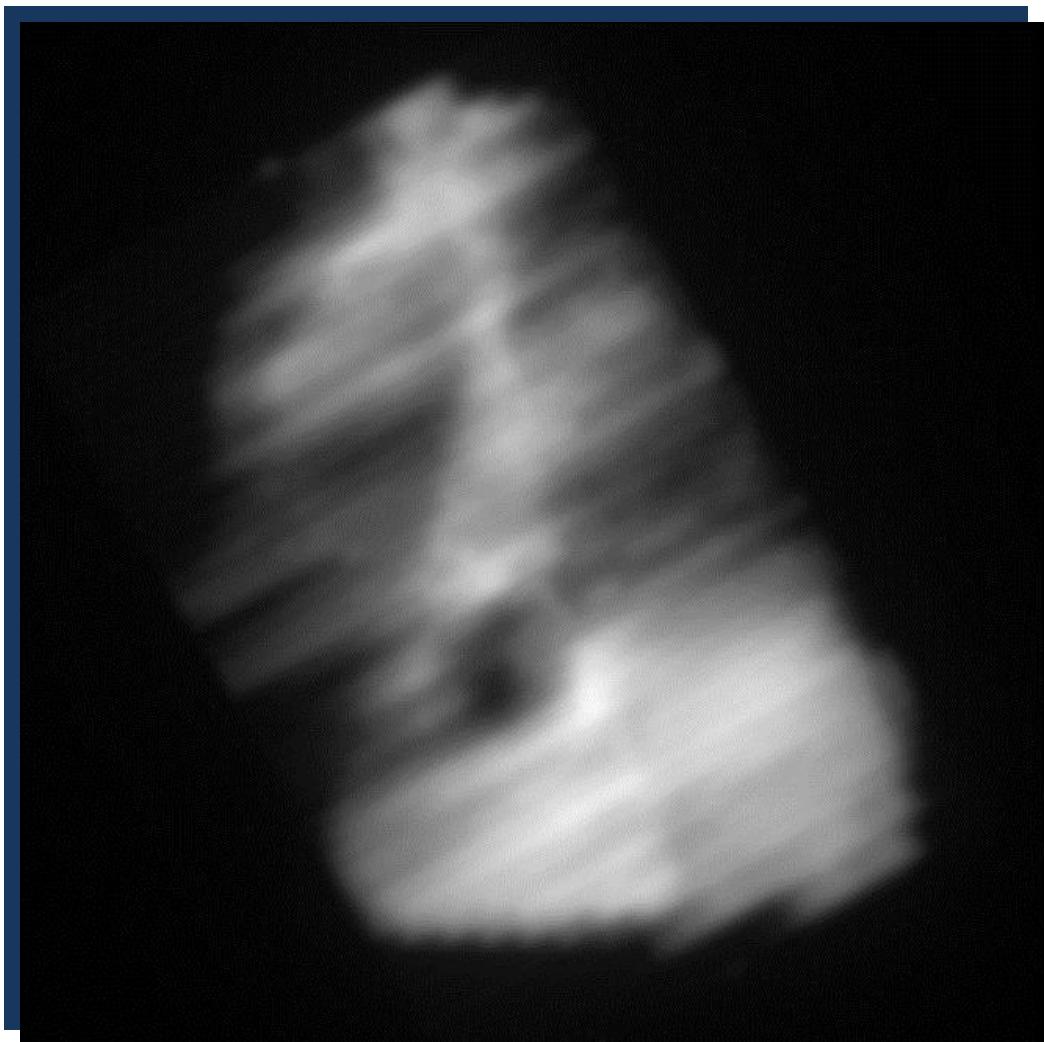


The FOIL Detector



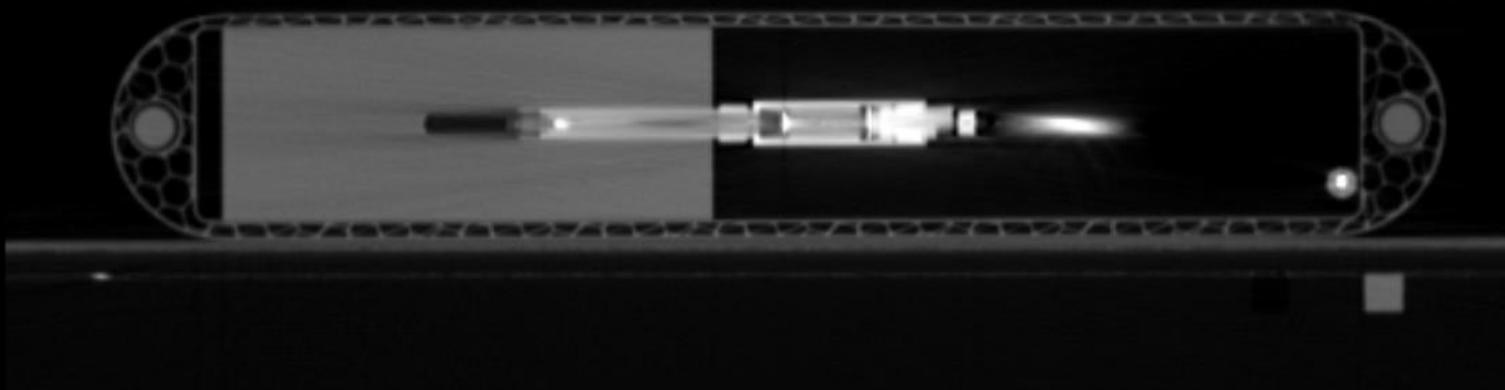


Patient-Specific QA (FOIL Detector)





Output Verification (FOIL Detector)





Thank You

