

FLUKE®

Biomedical

Nuclear Associates 18-303

Mammography Collimation Assessment Test Tool

Users Manual

March 2005

Manual No. 18-303-1 Rev. 2

©2004, 2005 Fluke Corporation, All rights reserved. Printed in U.S.A.

All product names are trademarks of their respective companies

**Fluke Biomedical
Radiation Management Services**

6045 Cochran Road
Cleveland, Ohio 44139
440.498.2564

www.flukebiomedical.com/rms

Table of Contents

Section 1:	General Information.....	1-1
1.1	Procedure	1-1
1.2	Date Analysis and Interpretation.....	1-1

(Blank page)

Section 1

General Information

1.1 Procedure

1. Place an appropriately sized cassette loaded with film in the normal orientation in the image receptor holder.
2. Load film in the large cassette with the emulsion side of the film away from the intensifying screen.
3. Place the large cassette on top of the image receptor holder with the back of the cassette toward the x-ray source, and ensure that the large cassette extends beyond the image receptor holder on the chest-wall side by about 1 cm.
4. Place the collimator to be evaluated in position.
5. Remove the compression paddle. (The compression paddle should be removed before placement of the collimation template to ensure sharp demarcation at the edges of the light field.)
6. Turn on the collimator light and align the rulers so that the “O” mark is on the edge of the light field on all four sides. Position the AEC detector so the metal ruler at the chest wall is not covering it.
7. Replace the compression paddle. Position it so it just rests on the top of the peg holding the ruler for the compression paddle edge alignment. This will set the height of the compression paddle 4.2 cm above the image receptor. (If using thin cassettes use the 2.2 cm peg, if using the thicker cassettes use the 1.7 cm peg.)
8. Place the right angle edge of the metal ruler snugly against the outside edge of the compression paddle.
9. If necessary, to achieve an adequate exposure place a sheet of acrylic or BR-12 attenuating material on top of the paddle, so that all radiation reaching the cassettes must pass through the attenuator. Make an exposure using AEC.
10. Repeat steps 1 through 9 for all routinely used collimator/bucky/compression paddle combinations and target materials. When testing the large image receptor, the top cassette may be positioned diagonally to capture all four edges of the x-ray field, or two large cassettes may be used on top of the image receptor holder. (The collimator test may also be done using a non-screen cassette on top of the breast support, no attenuator, and a manual technique of approximately 26 kVp and 12 mAs.) When measuring collimation in the magnification or spot compression mode, the peg used for the compression paddle edge should be moved to the inner position of the template.

1.2 Data Analysis and Interpretation

When analyzing your image, follow the guidelines in the Medical Physicists section of the ACR manual. The only difference is that you will not need to measure anything. You can simply view your image and record the deviation.

**Fluke Biomedical
Radiation Management Services**

6045 Cochran Road
Cleveland, Ohio 44139
440.498.2564

www.flukebiomedical.com/rms