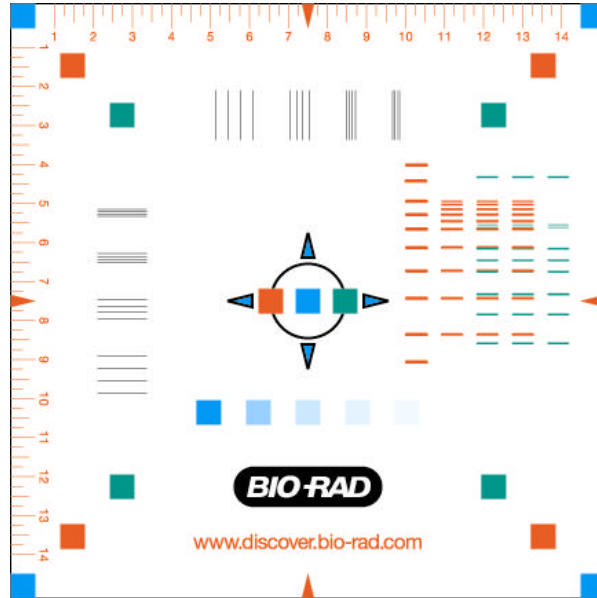


Multi-Color Imaging Target



Catalog Number: 8000142

IPD Multi-Color Imaging Target

Please find attached Bio-Rad's new Multi-Color Imaging Target and suggested protocol. The Multi-Color Imaging Target has been designed for use with all IPD instruments. The target was developed so that you can quickly demonstrate the performance capabilities of all IPD instruments without a biological sample. **THIS TARGET IS NOT INTENDED FOR QUANTITATIVE (QC) USE BUT RATHER AS A QUALITATIVE TOOL.** It can be applied for some general quantitation, but the inks are not uniformly printed and will yield variable results. The main advantage of the imaging target is that you may no longer need to have the customer run samples in order to acquire a quick image and show off the system. This target supports 4 different imaging modes (psuedo-applications) allowing reps. to show customers various features of the system being demonstrated.

I. Green-Fluorescence (emission peak at 534 nm)

- **single channel fluorescence can be shown using the FITC or other green fluorescence applications on the Fluor-S, Fluor-S MAX or Molecular Imager FX.**
- **multi-color fluorescence can be shown by first scanning with a green application and then scanning with a red application using the Fluor-S or Fluor-S MAX. For the FX, both the red and green will be excited and exhibit fluorescence using either the 488 or 635 nm laser lines.**
- **uniformity of fluorescence image collection can also be shown (qualitatively) by doing a profile (or volume box) analysis on all green squares after acquisition.**
- **NOTE: The ChemiDoc and Gel Doc systems will show both red and green fluorescence with the EtBr filter.**

II. Red-Fluorescence (emission peak at 637 nm)

- **single channel fluorescence can be shown using the Texas Red application.**
- **multi-channel fluorescence can be shown in scanning first with Texas Red and then switching to the FITC or other green fluorescence application.**
- **fluorescence image collection can also be shown (qualitatively) by doing a profile analysis on all red squares after acquisition.**
- **customers can use the fluorescent red ruler for gel measurements and alignment.**
- **NOTE: The ChemiDoc and Gel Doc systems will show both red and green fluorescence with the EtBr filter**

III. Phosphorescence (chemiluminescent applications)

- **phosphorescence can be shown using the chemiluminescence mode(s).**
- **relative lens uniformity can also be shown using profile (or volume box) analysis of all the square blocks.**

IV. Resolution (colorimetric applications)

- **resolution scanning can be shown using profile and zoom analysis of 4-set line sequences on all IPD systems.**

Imaging Target Protocol

The following protocol is recommended for the Multi-Color Imaging Target. The target should be used for qualitative, not quantitative (QC) analysis.

I. For Chemiluminescence

- a) Place target in light free (dark) environment for 2 minutes. Target can be placed inside instrument or covered with a dark material to accomplish this.
- b) Remove target from dark environment and expose to fluorescent white light for 2 minutes by lying target flat perpendicular to light source. When using a fluorescent white light source place the target directly against source. For fluorescent room lighting place target on tabletop.
- c) Quickly place target in imaging instrument and center using “position” and/or “focus”. The target’s outer most four white-colored corners should be seen in entire image. Then close instrument door. Wait for 20 seconds.
- d) Following the 20 seconds, acquire a 5 second image using appropriate application(s).

Analysis:

Uniformity can be done using the profile or volume box tools in Quantity One.

II. For Fluorescence

- a) Place target on platen, center and focus so that the target’s outer most four white-colored corners are seen in entire image.
- b) Acquire image using either trans-UV or epi-UV (or laser line) using the appropriate fluorescent application.

Analysis:

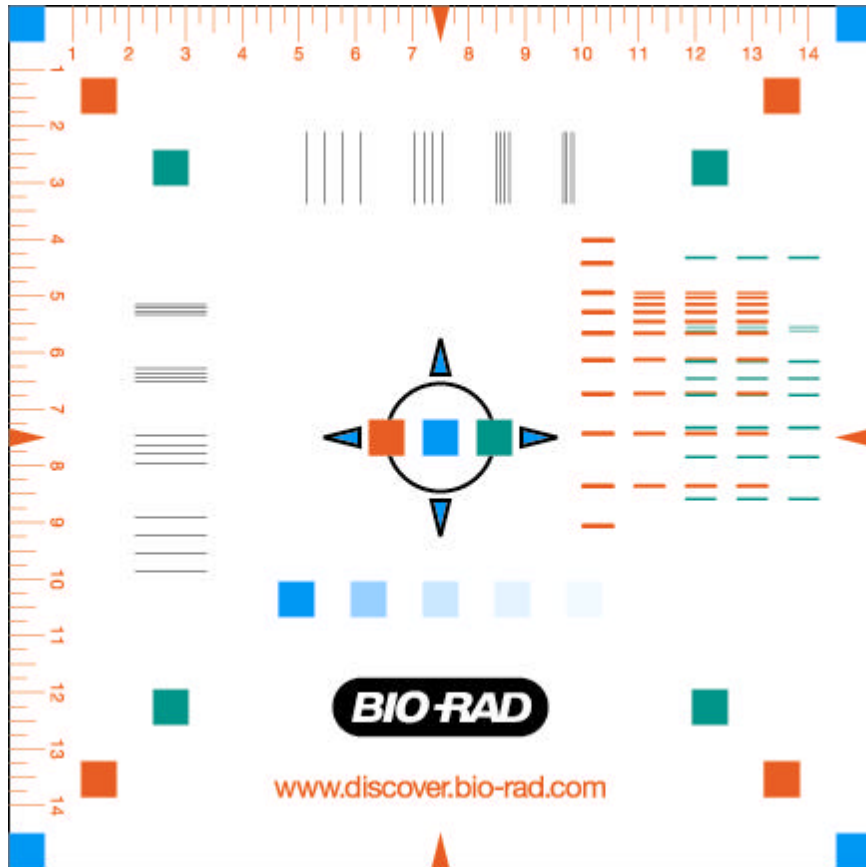
Uniformity can be done using the profile or volume box tools in Quantity One.

III. For Densitometric Analysis

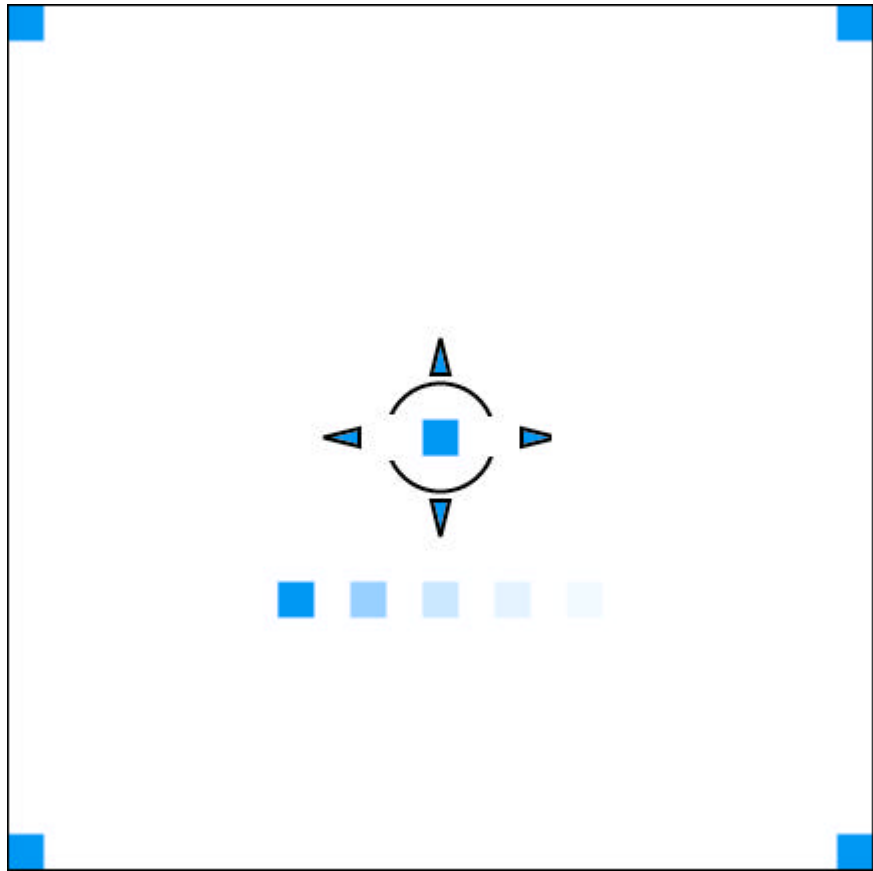
- a) Center and focus the imaging target on the instrument platen.
- b) Select the appropriate application (x-ray film)
- c) Use either trans or epi white light for illumination and image capture.

Analysis:

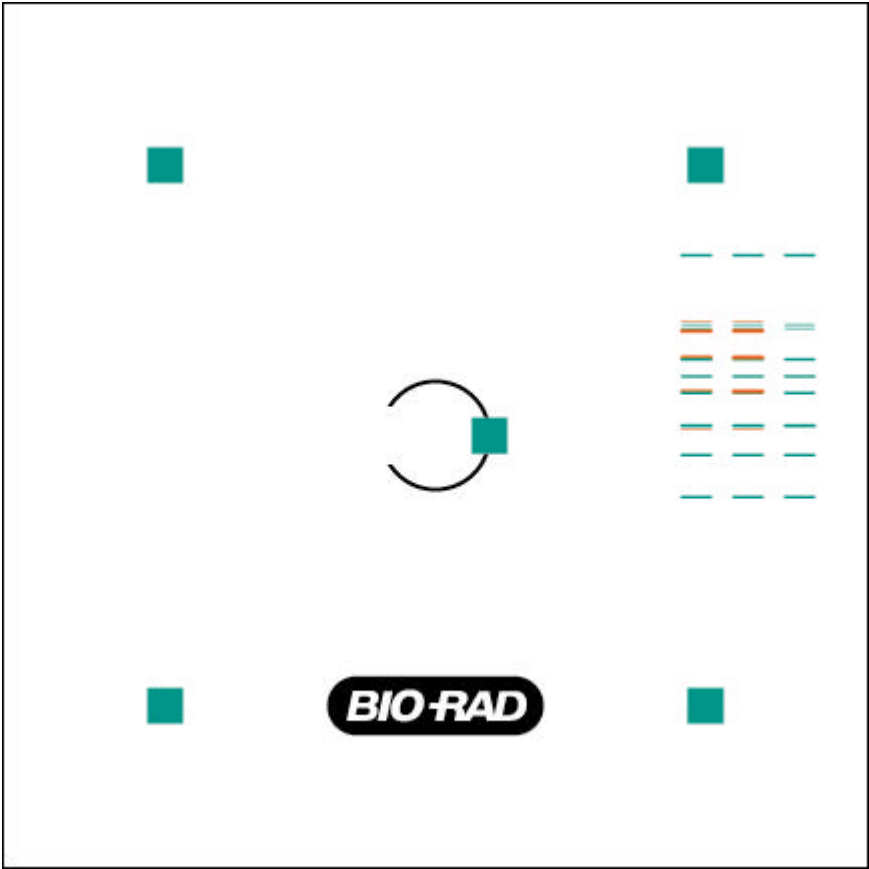
Resolution can be shown by zooming in to the 4-line segments of the imaging target.



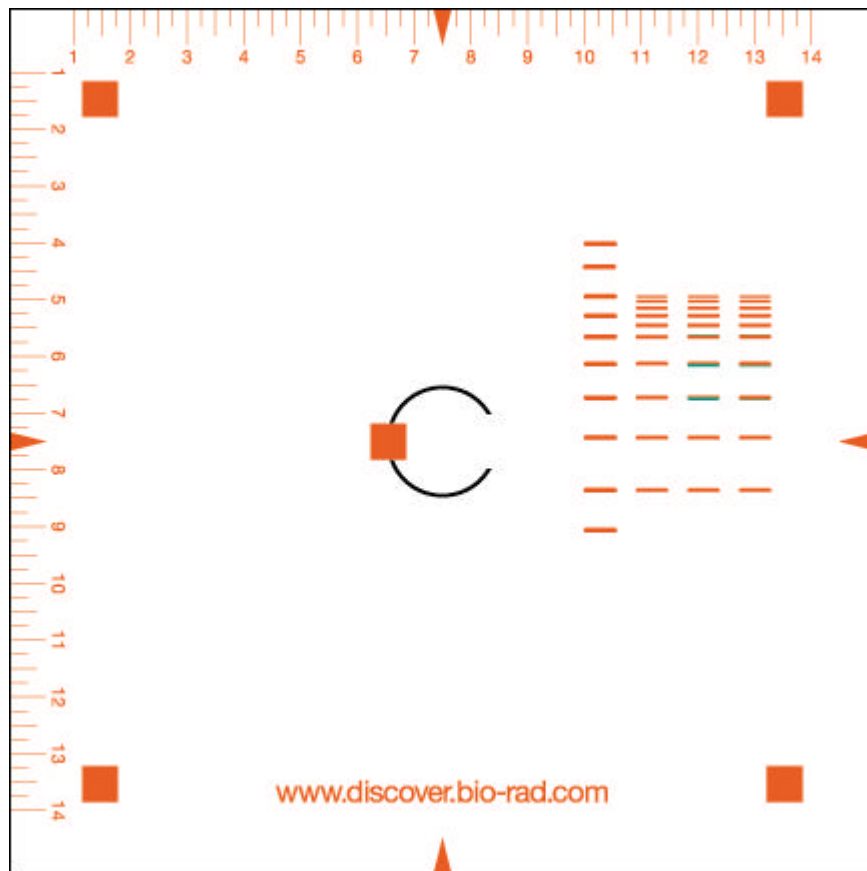
(master copy multi-color appearance)



(phosphorescent ink appearance)



(green fluorescence ink appearance)



(red fluorescence ink appearance)



(black ink appearance)