

## PTW NORMI 4 Phantom Report

### OVERALL RESULTS



ONE OR MORE TOLERANCE(S) FAILING

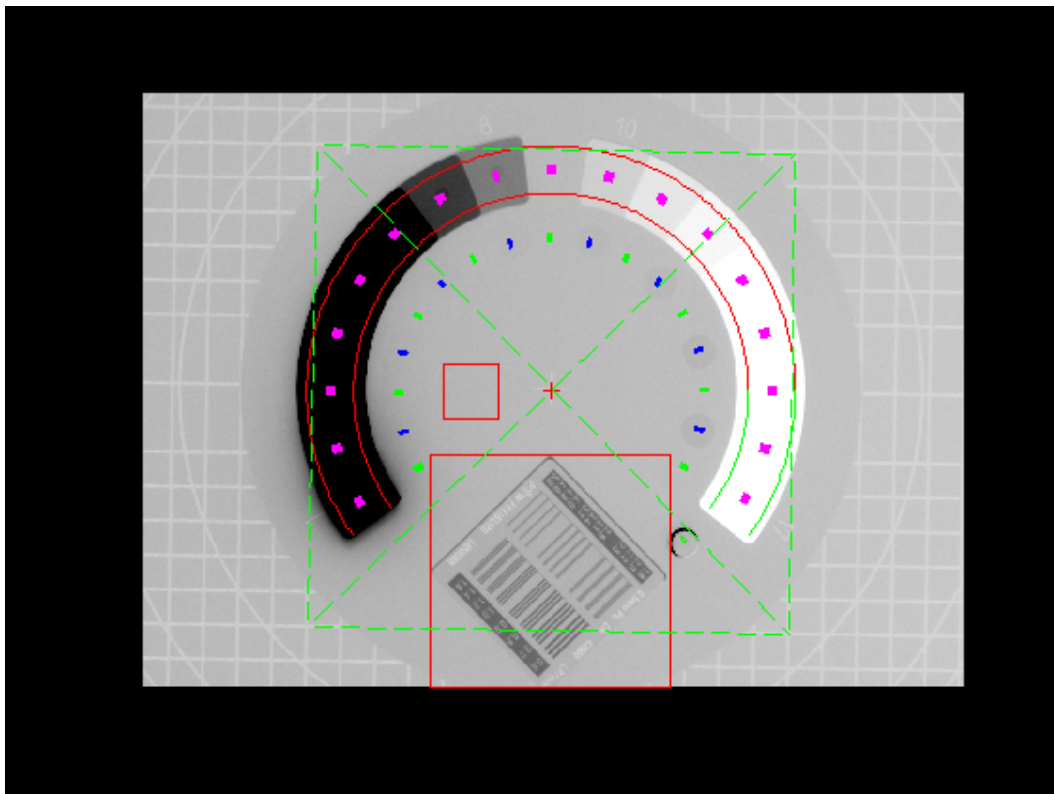


ANALYSIS COMPLETE

### Image Information

Filename	C:\RIT\RIT113V4\Demo Images\Radia Demo Images\NORMI4\NORMI4.dcm
Institution	
Station	OBIWS
Image Type	ORIGINAL\PRIMARY\PORTAL\OBI
Acquisition Date	
Acquisition Time	
mA	
kVp	
Exposure Time	
SOP Instance UID	1.2.246.352.61.3.4697876100419600915.4896395904153116555

### Analysis Image

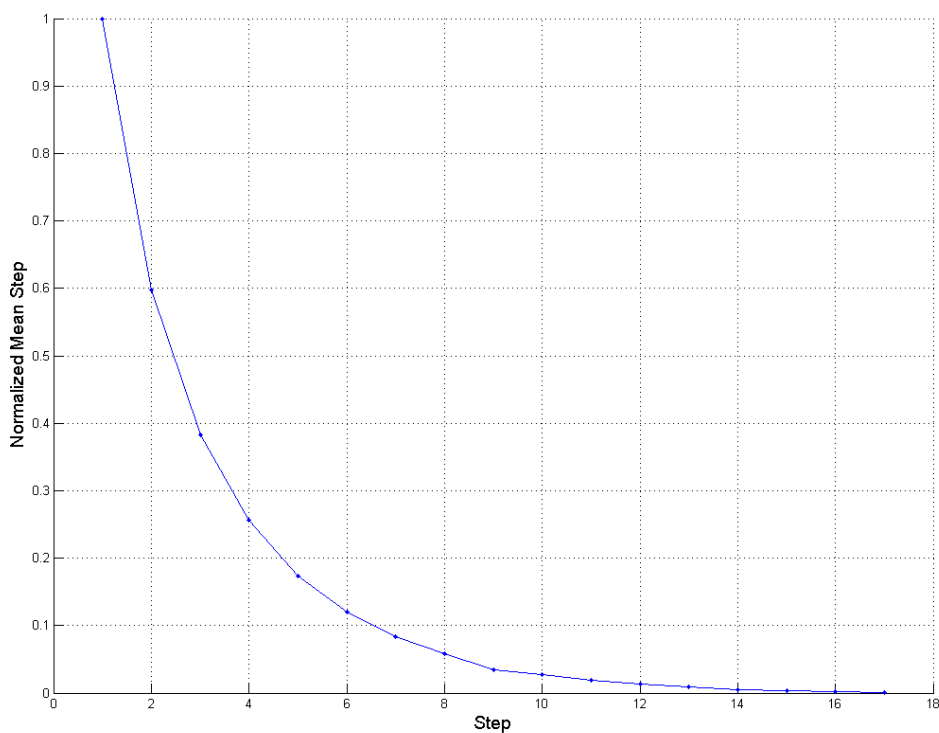


### Dynamic Step Wedge

Step	Mean	Standard Deviation	Normalized Mean	Normalized SD	CNR
1	19122.37	373.44	1.00	0.02	NA
2	11431.81	704.66	0.60	0.06	0.00
3	7329.27	488.73	0.38	0.07	0.00
4	4908.36	364.86	0.26	0.07	0.00
5	3327.40	206.51	0.17	0.06	0.00
6	2301.78	60.90	0.12	0.03	0.94
7	1593.98	35.35	0.08	0.02	0.33
8	1108.07	20.78	0.06	0.02	0.46
9	669.37	11.36	0.04	0.02	NA
10	523.74	10.61	0.03	0.02	0.94
11	363.14	8.10	0.02	0.02	0.84
12	245.38	6.61	0.01	0.03	1.67
13	163.18	5.64	0.01	0.03	1.13
14	99.58	5.27	0.01	0.05	1.06
15	55.72	4.52	0.00	0.08	0.90
16	29.62	4.37	0.00	0.15	0.00
17	19.59	7.16	0.00	0.37	0.00

17 of 17 unique steps detected; Minimum required: 13 (Pass)

### Dynamic Step Wedge



## Contrast Objects

Contrast Object	Contrast to Noise Ratio
1	2.10
2	2.88
3	3.05
4	3.03
5	4.35
6	4.85
7	6.83
8	6.63

Minimum CNR (Adjacent) for detectability: 0.50

Minimum required passing objects: 6

8 of 8 contrast objects detected: (Pass)

## Ytterbium Indicator

Ratio Yb/Background	Yb Comment
1.089	Ytterbium ratio indicates kV < 70kV

## Central Area Uniformity

Mean	689.44
Standard Deviation	14.39
Normalized SD	0.02
Integral Non-Uniformity (0 is perfectly uniform)	0.07
Integral Non-Uniformity Tolerance	<= 0.10
Pass/Fail	Pass

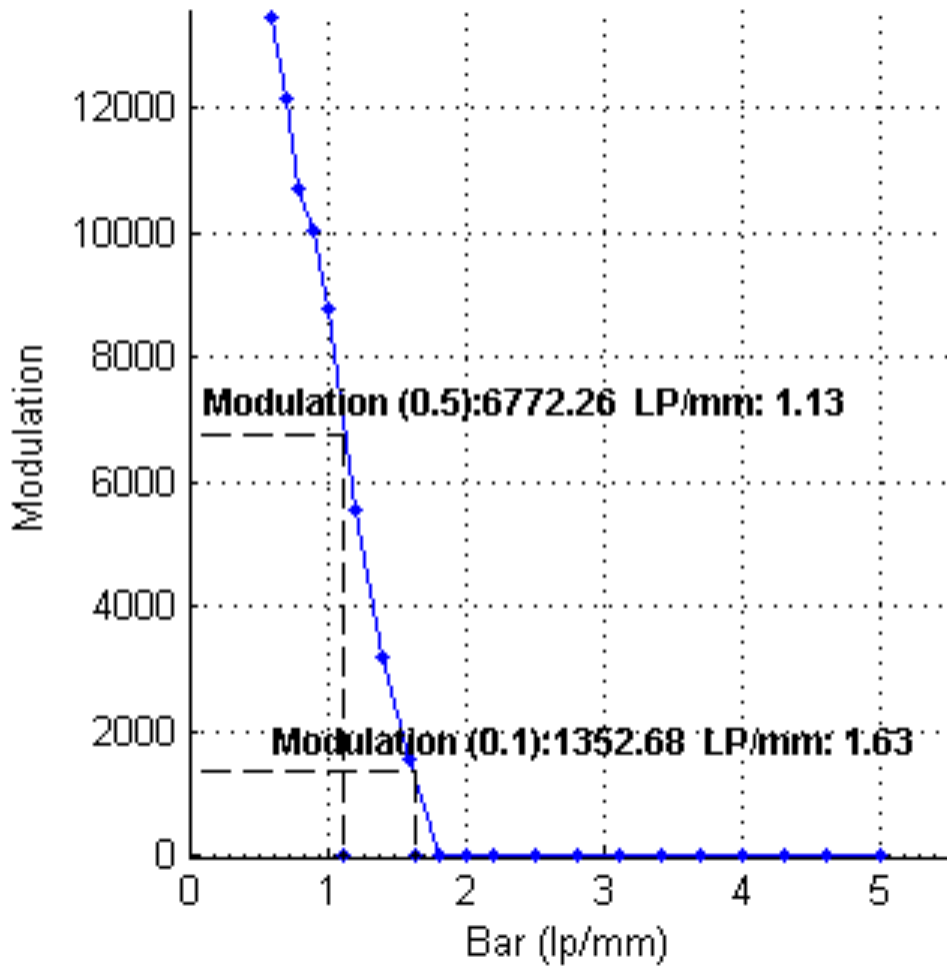
## Line Pairs Detected

Spatial Resolution (lp/mm)	Minimum Required	Pass/Fail
8 of 20 detected	13	Fail

## Modulation

Bar	Modulation	Comments
0.6 lp/mm	13479.00	
0.7 lp/mm	12145.00	
0.8 lp/mm	10716.00	
0.9 lp/mm	10028.00	
1.0 lp/mm	8779.00	
1.2 lp/mm	5585.00	
1.4 lp/mm	3188.00	
1.6 lp/mm	1550.00	
1.8 lp/mm	0.00	No bars or spaces detected.
2.0 lp/mm	0.00	Incorrect number of bars detected in this pattern.
2.2 lp/mm	0.00	No bars or spaces detected.
2.5 lp/mm	0.00	No bars or spaces detected.
2.8 lp/mm	0.00	No bars or spaces detected.
3.1 lp/mm	0.00	No bars or spaces detected.
3.4 lp/mm	0.00	No bars or spaces detected.
3.7 lp/mm	0.00	No bars or spaces detected.
4.0 lp/mm	0.00	No bars or spaces detected.
4.3 lp/mm	0.00	No bars or spaces detected.
4.6 lp/mm	0.00	No bars or spaces detected.
5.0 lp/mm	0.00	No bars or spaces detected.

## Modulation Diagonal Calculation



## Interpolated LP (normalized to 0.6 lp/mm)

Modulation	Interpolated lp/mm
6772.26	1.13
1352.68	1.63

## Geometry

Measurement	Nominal Distance (mm)	Difference from Nominal (mm)	Pass/Fail (-0.50 ≤ Difference ≤ +0.50)
Left	160	7.52	Fail
Right	160	6.34	Fail
Top	160	6.36	Fail
Bottom	160	7.50	Fail
Upper Left to Lower Right	226.27	10.07	Fail
Lower Left to Upper Right	226.27	9.52	Fail

## Radiation Field Size

Measurement	Distance (cm)
Width	35.85
Height	25.92

## Analysis Settings

First Step Threshold	0.8
Center Cross Threshold	0.35
First Step Min. Pixels	500
Center Cross Min. Pixels	40
0: Low Res. bars on Bottom 1: Low Res bars on Top	1
Line Threshold	0.5
Mag. Factor	0.83
1: Invert Image for Analysis	1
Trim Margin Pixels	50
Trim Threshold	1.1