

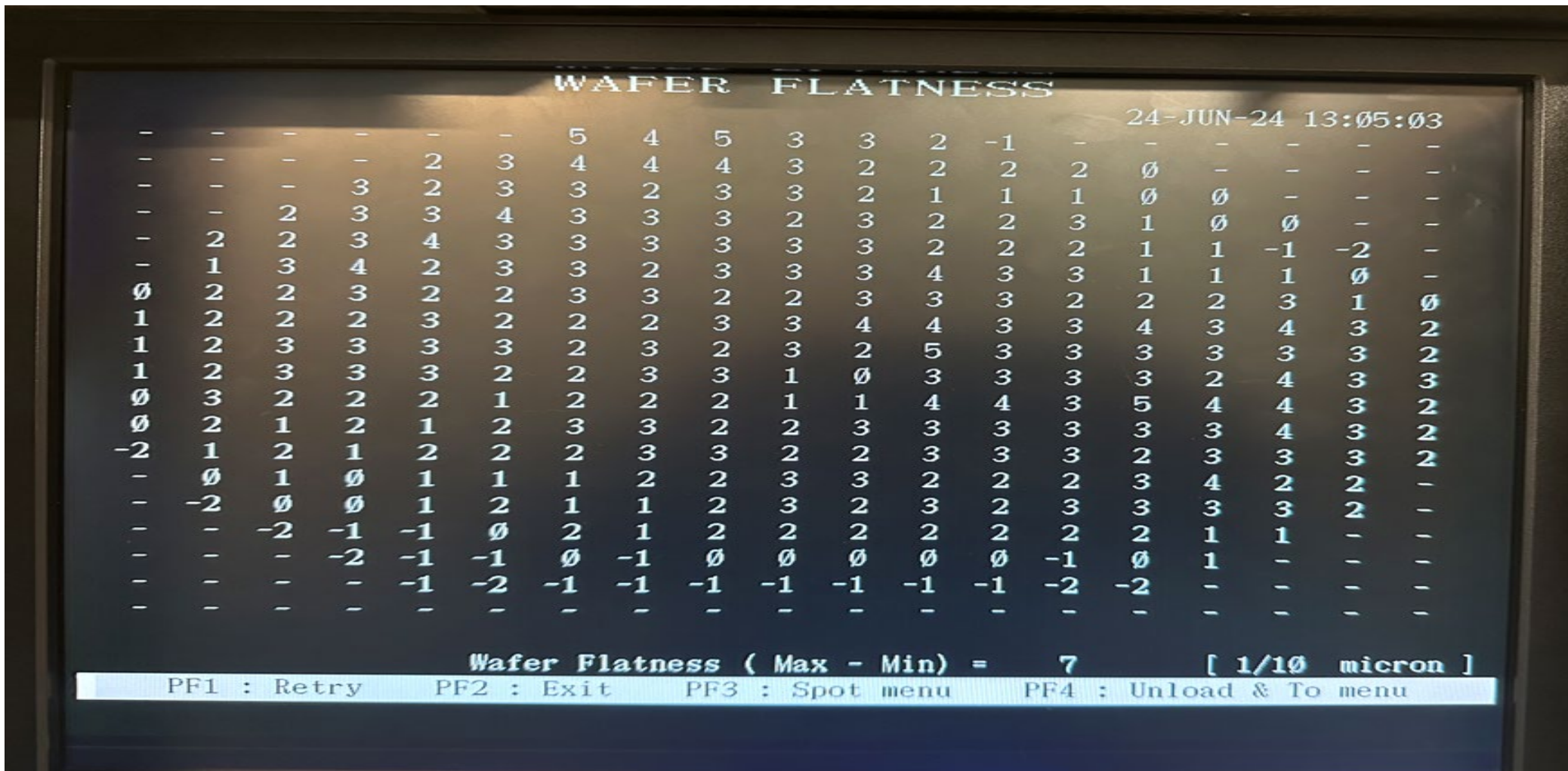
## NSR-2005i8A



## NSR-2005i8A

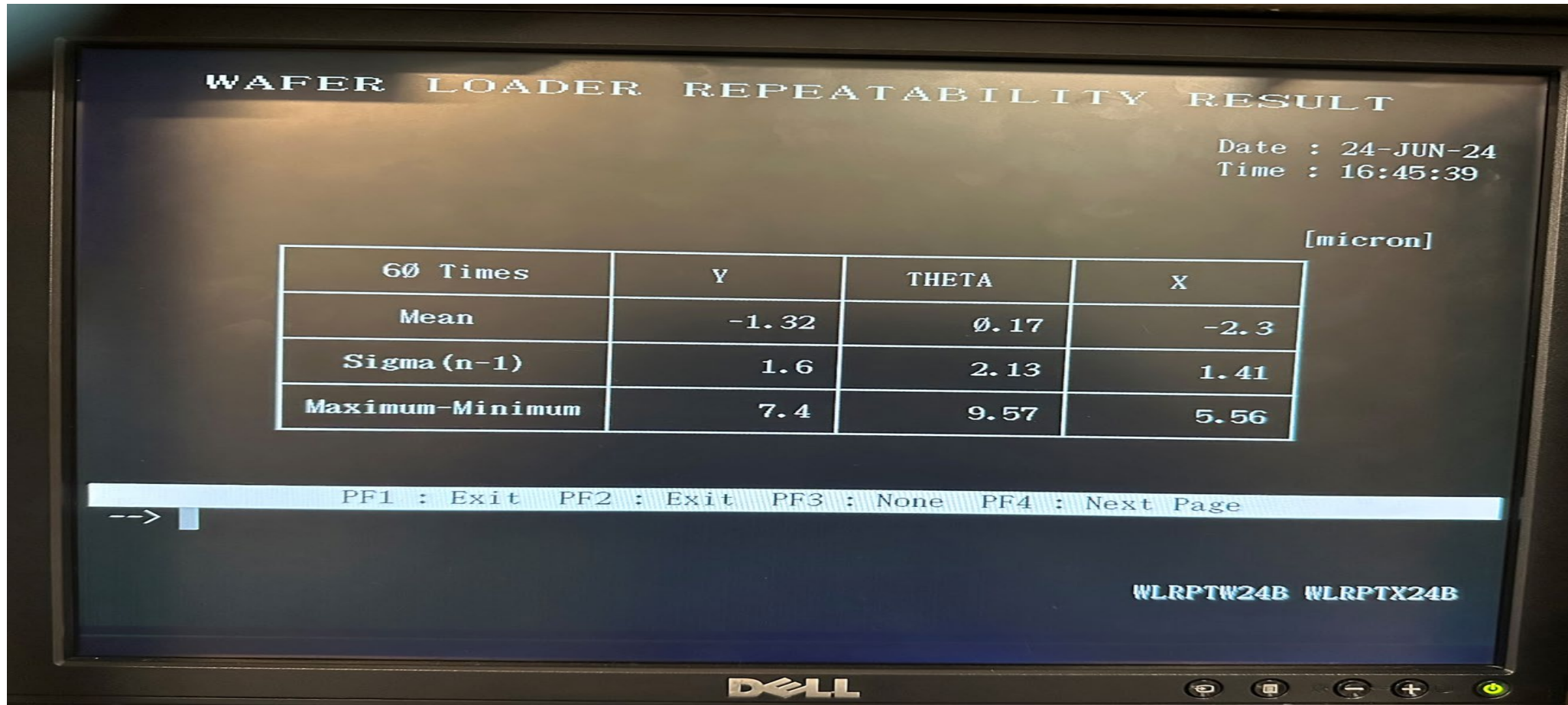
- Date of Manufacture: 01 August 1991
- Serial Number: 803001
- Resolution: 0.5 $\mu$ m
- Computer Type: PDP11
- Reticle Size: 5inch
- Field Sizes: 15 / 17.5 / 20mm
- Wafer Size: 6" Flat
- Reticle Libraries: 1
- Wafer Loader: Type 1
- Wafer Loader prealignment 2: Yes
- Barcode Reader: Yes
- Wafer Loader Indexers: 2
- FIA: Yes
- LSA: Yes
- LIA: Yes
- Autofocus: Single Point
- Levelling: Yes
- Chuck Type: Ceramic ring chuck
- Wafer Stage Ballscrew
- MCS2 Version: 2.4B
- PPD: No

## NSR-2005i8A Wafer Flatness



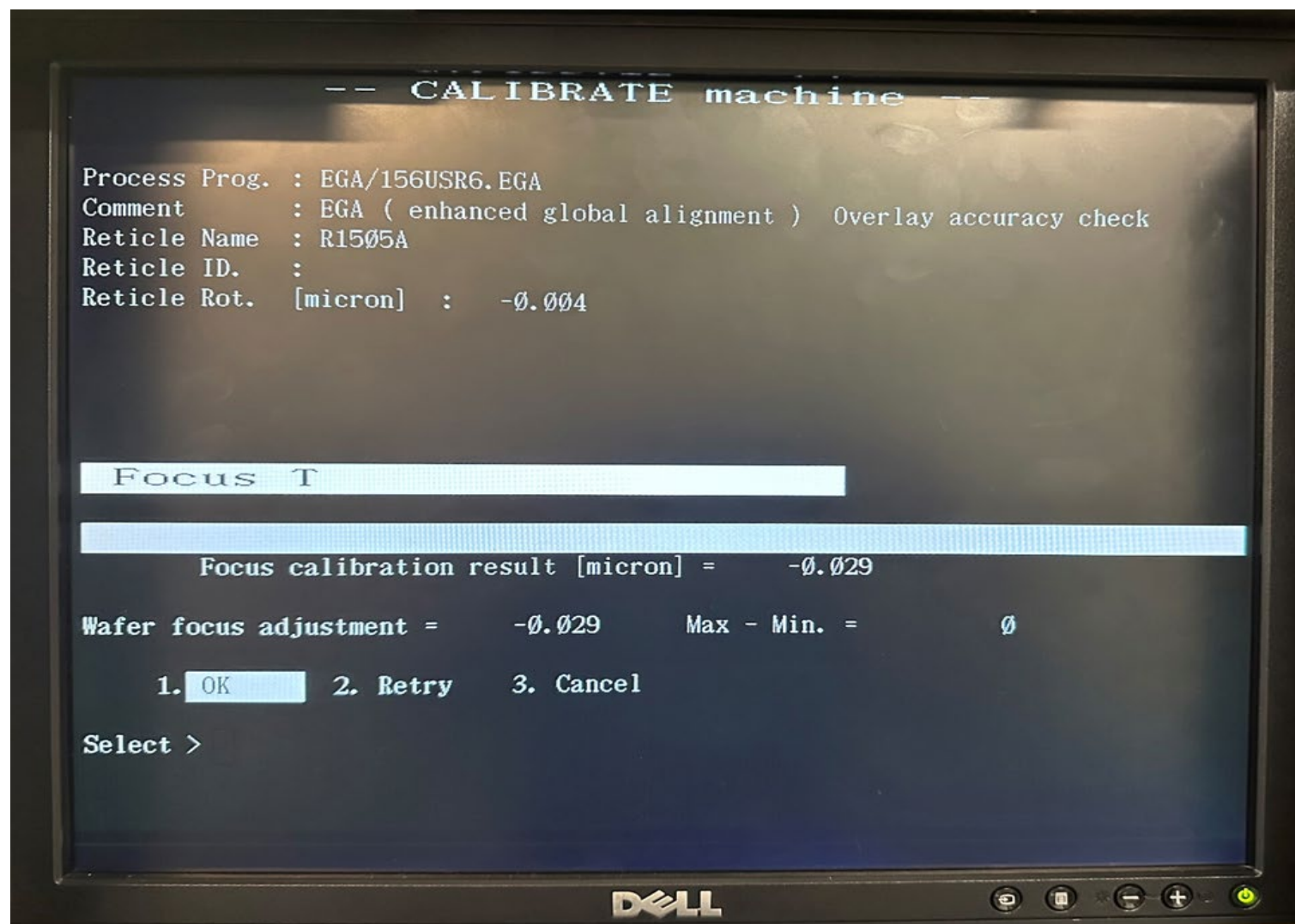
o Spec (Max - Min): ≤ 25

## NSR-2005i8A Wafer Loader Repeatability

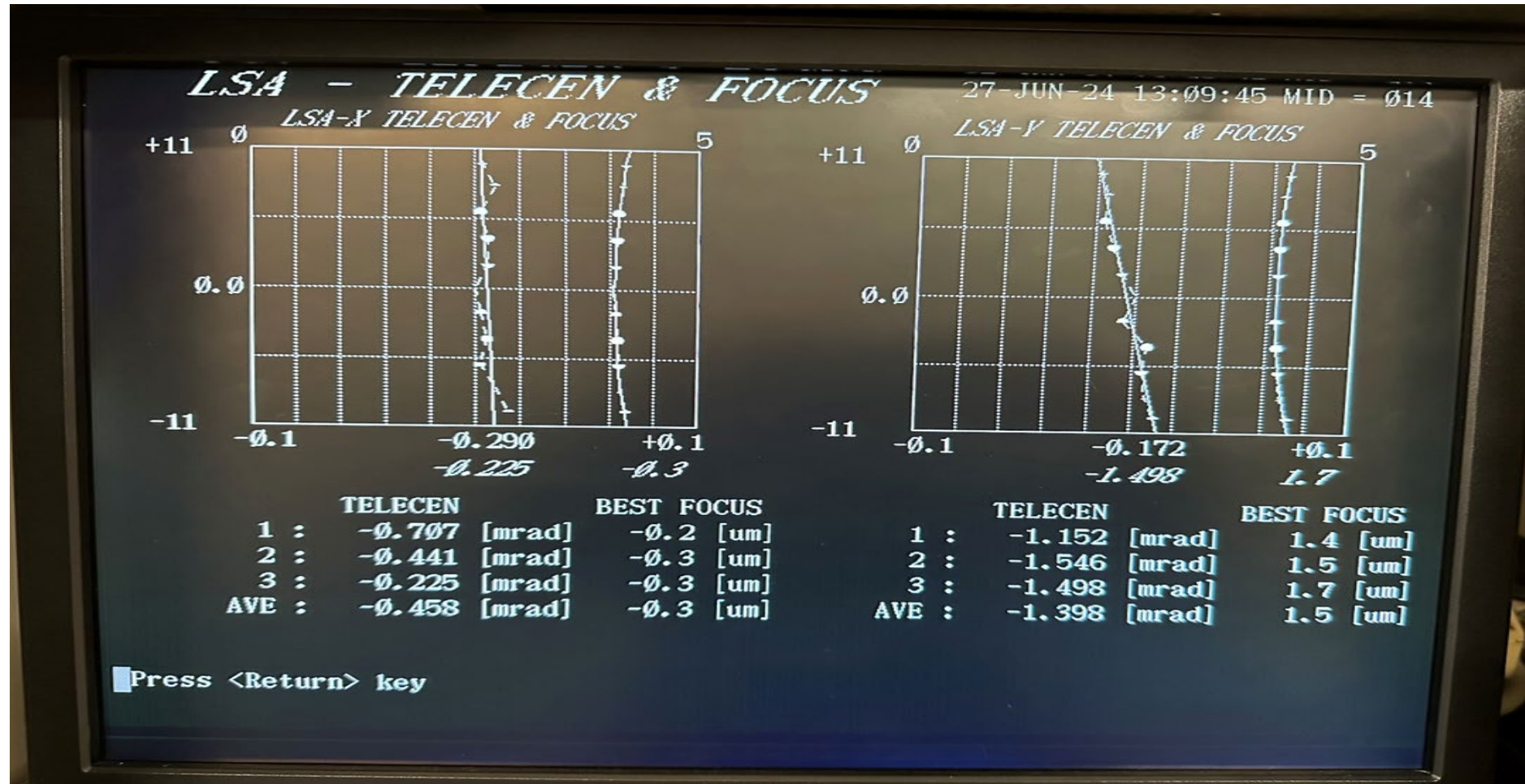


- Spec Sigma(n-1):  $\leq 5$  [micron]
- Spec Maximum-Minimum:  $\leq 15$  [micron]

## NSR-2005i8A Focus Calibration Operation



## NSR2005i8A LSA TELE & FOCUS



Spec: TELECEN  $\leq 2$  [mrad]

Spec: FOCUS  $\leq 2$  [ $\mu\text{m}$ ]

## NSR-2005i8A Stepping

-- AMS --

Operation mode	Wafer No.	Xsig	Xavr	Ysig	Yavr	Summary
Stepping	1	0.014	-0.091	0.011	-0.057	
	2	0.017	-0.085	0.012	-0.045	
	Total	0.016	-0.088	0.013	-0.051	

Press <RETURN> key !!

Spec: (3sigma)  $\leq 0.070\mu\text{m}$

## NSR-2005i8A Reticle Rotation

-- AMS --

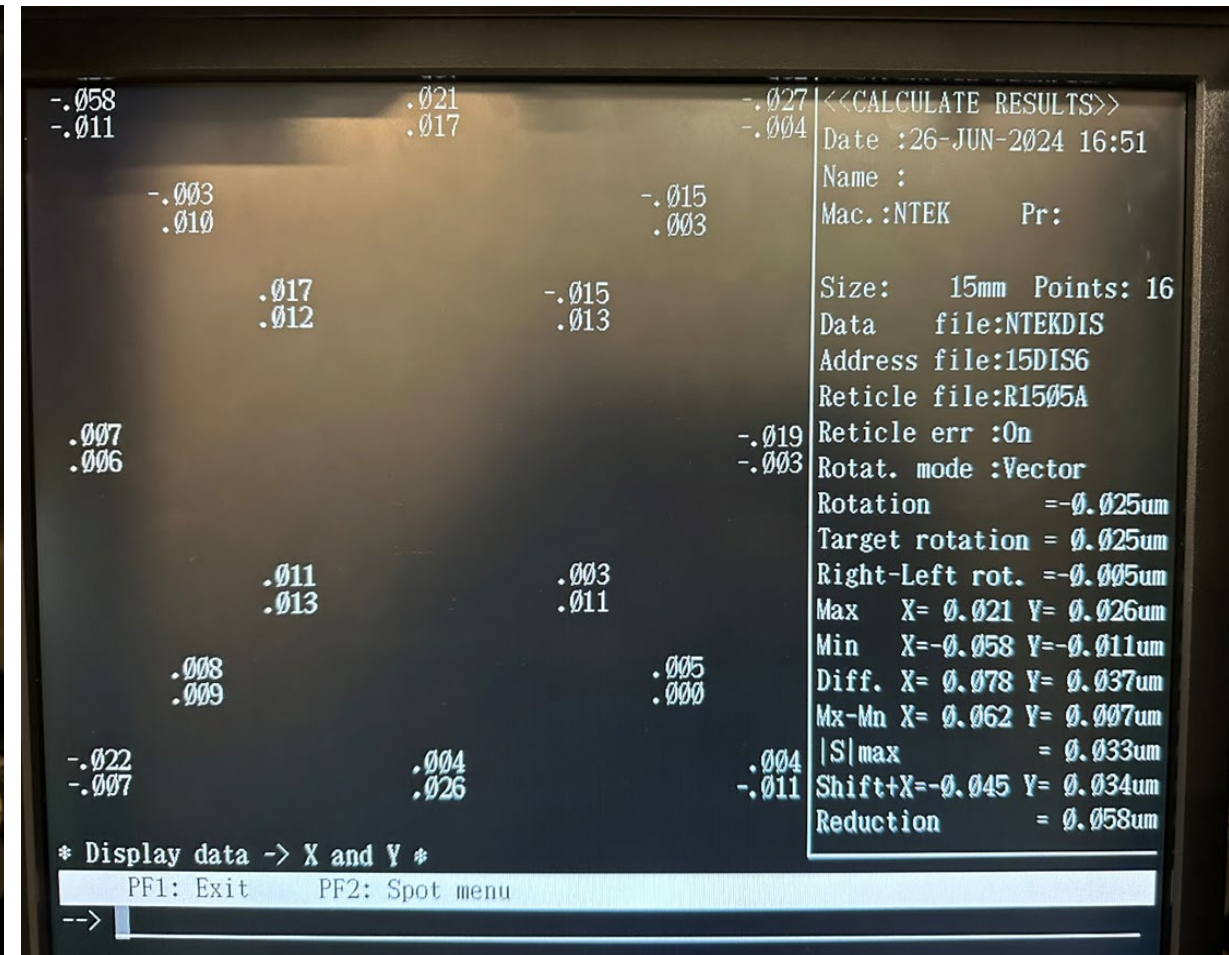
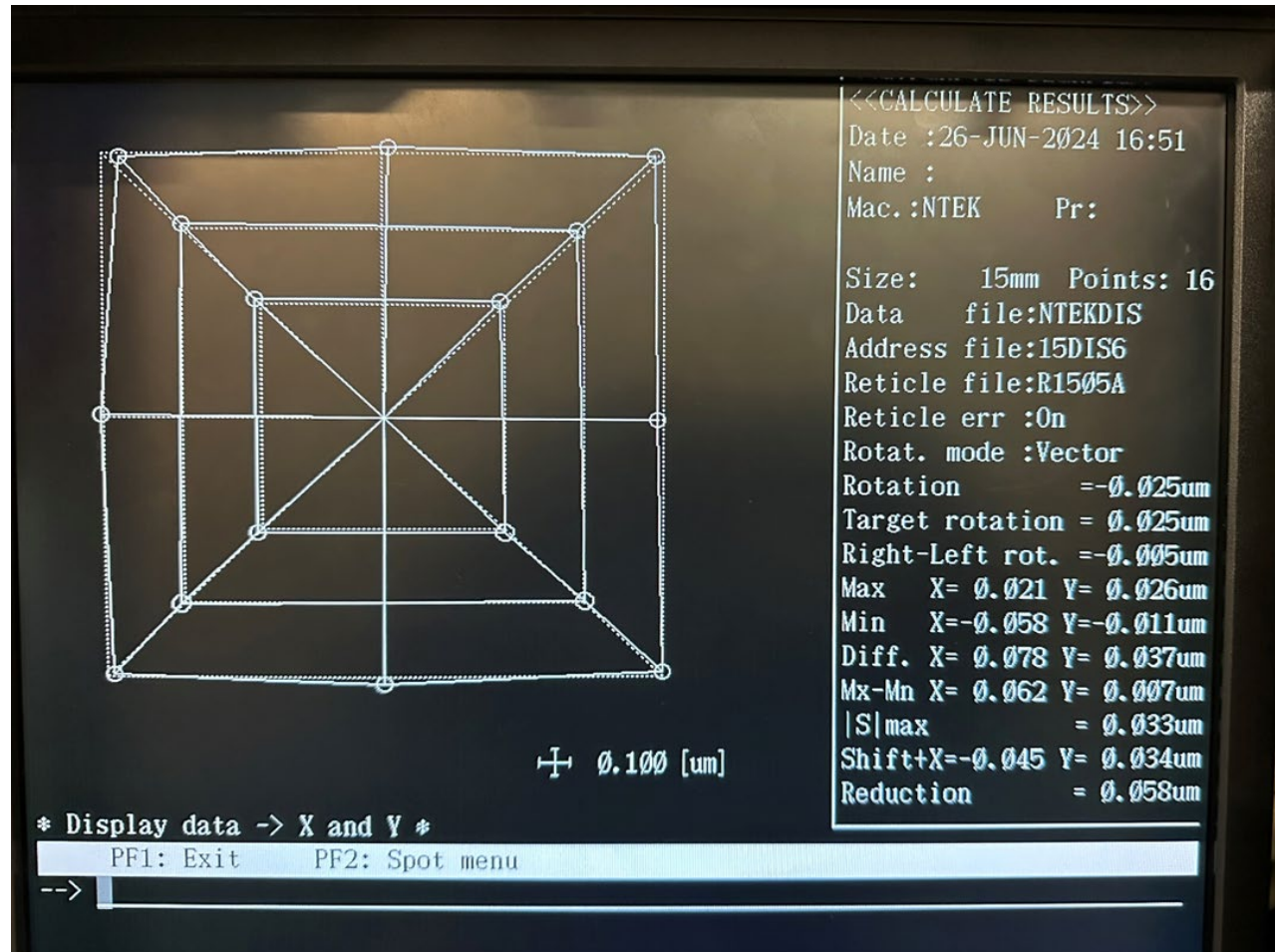
Operation mode	Wafer No.	Xsig	Xavr	Ysig	Yavr	Summary
Rotation	1			0.016	-0.026	
	1			0.011	-0.027	
	1			0.012	-0.048	
	1			0.017	-0.041	
	1			0.013	-0.047	
			Rrep = 0.011	Ravr = -0.019		

Press <RETURN> key !!

Spec: Ravr  $\leq$  +/- 0.020 $\mu$ m

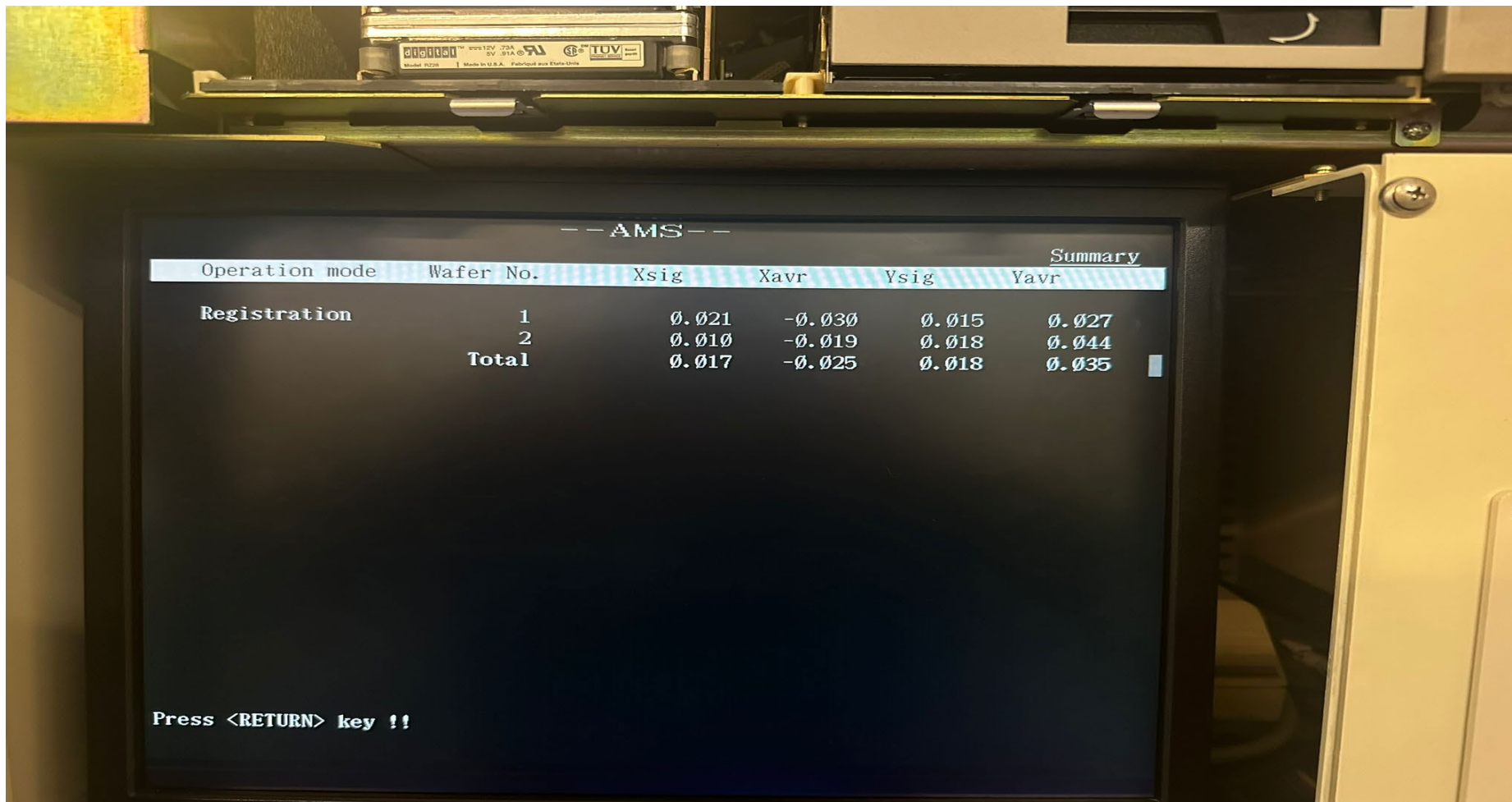
Spec: Rrep  $\leq$  +/- 0.020 $\mu$ m

## NSR-2005i8A Distortion



Spec:  $\leq \pm 0.070 \mu\text{m}$

## NSR-2005i8A Alignment Accuracy (EGA)



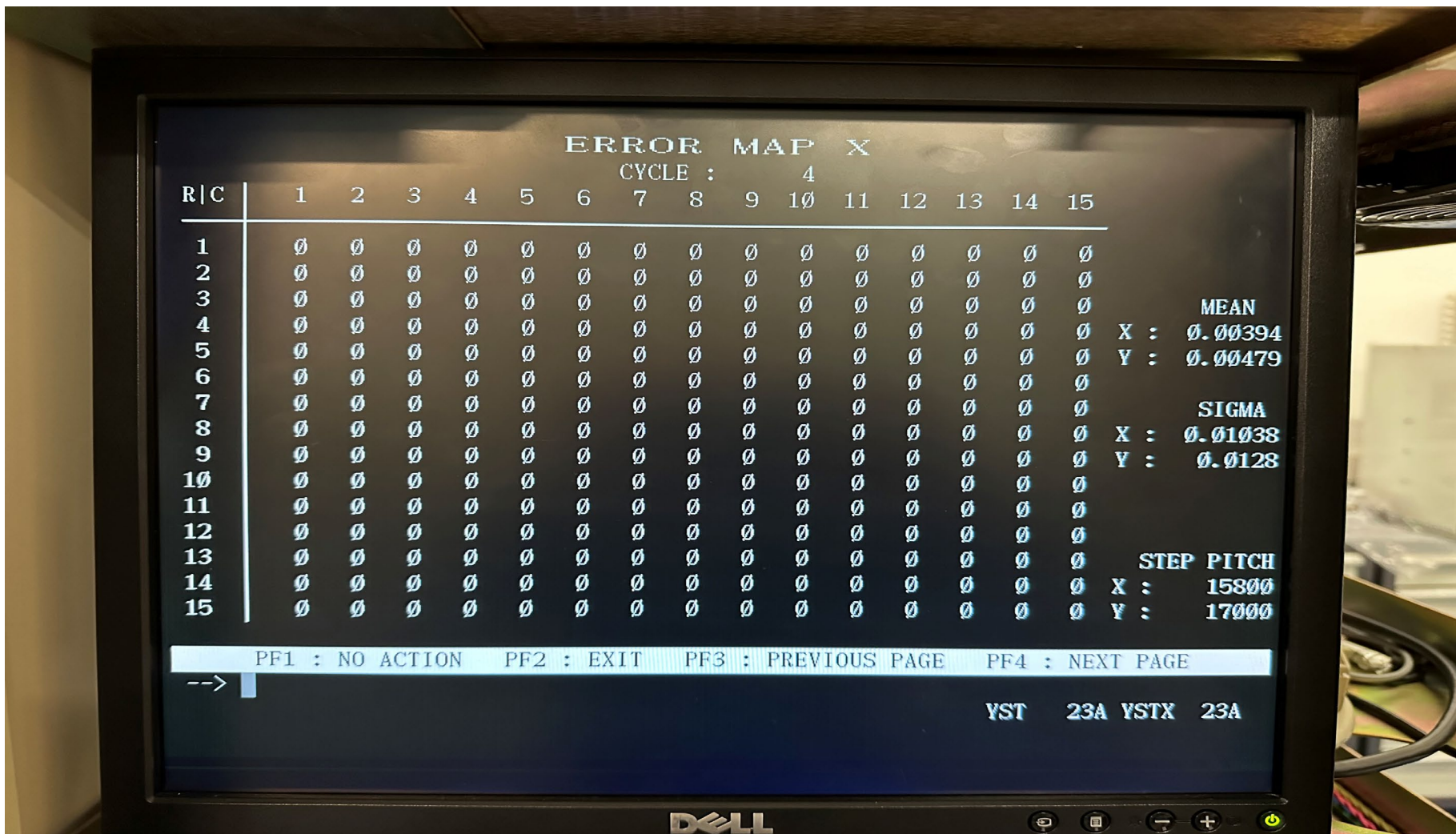
--- AMS ---

Operation mode	Wafer No.	Xsig	Xavr	Ysig	Yavr	Summary
Registration	1	0.021	-0.030	0.015		0.027
	2	0.010	-0.019	0.018		0.044
	<b>Total</b>		0.017	-0.025	0.018	

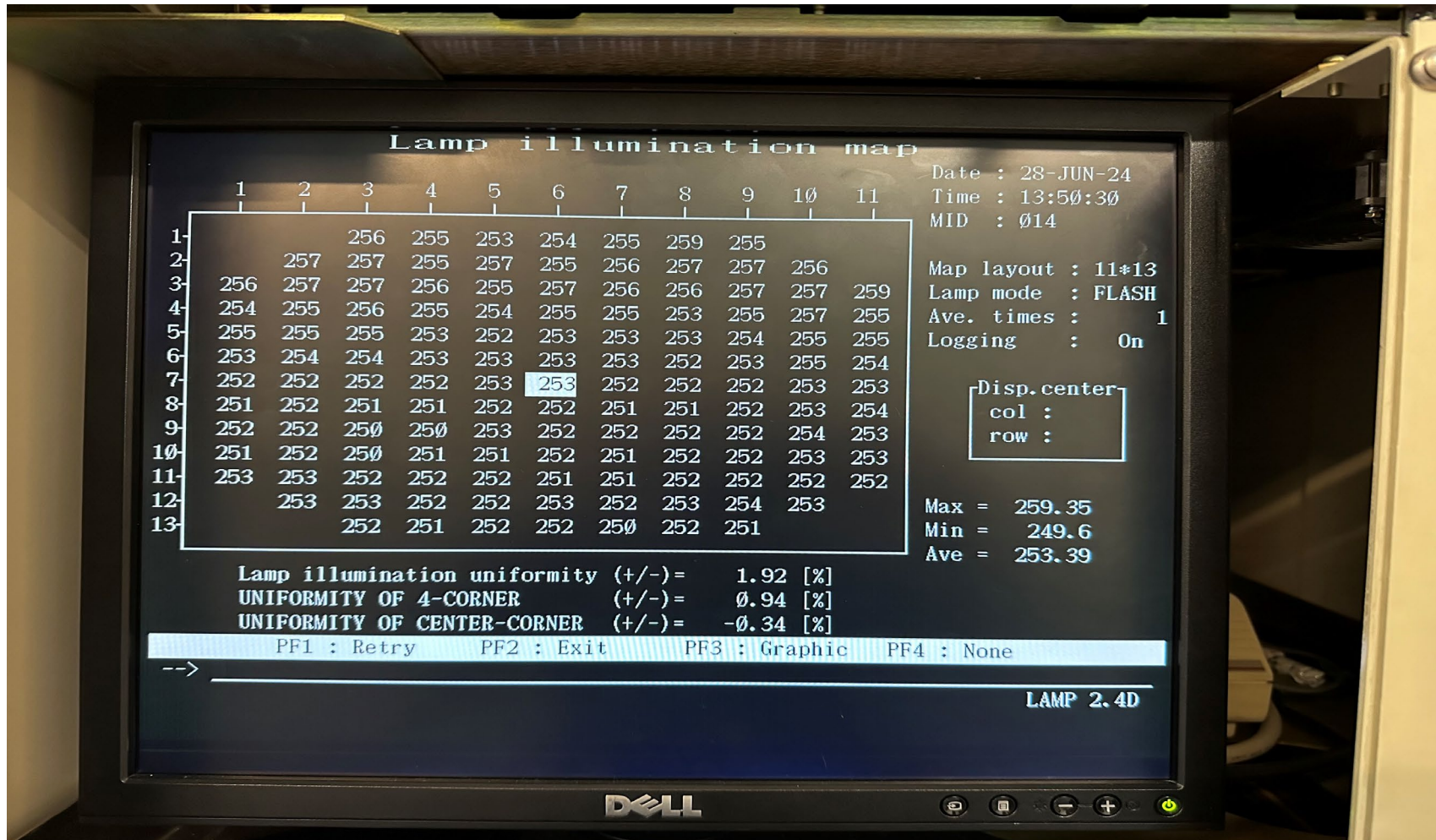
Press <RETURN> key !!

Spec: [Ave] + [3sig] ≤ ± 0.110μm

## NSR-2005i8A Stage Running



## NSR-2005i8A Uniformity & Power



## NSR-2005i8A Orthogonality

EGA MONITOR

	C	R	x	y	No.	C	R	x	y
1	8	5	0.04	0.00	17	6	5	0.03	-0.02
2	4	5	0.00	-0.02	18	7	4	0.05	0.02
3	4	4	0.03	-0.01	19	5	6	0.04	-0.05
4	5	4	0.02	-0.01	20	6	7	0.11	0.00
5	5	5	0.06	-0.04	21	5	7	0.15	-0.02
6	4	6	0.03	-0.07					
7	3	6	0.04	-0.04					
8	3	7	-0.03	-0.06					
9	4	8	0.02	-0.03					
10	4	9	0.00	-0.01					
11	6	9	-0.01	-0.02					
12	7	8	0.01	-0.02					
13	8	8	0.03	0.02					
14	8	7	0.05	0.04					
15	8	6	0.03	-0.04					
16	7	6	0.06	-0.03					

Scal. (x,y) = ( 0.31, 0.05) Orthog. = -0.91 Rot. = 0.64  
 Offset(x,y) = ( 0.04, -0.02)

g-EGA end Shot No. = 21

PF1: temp. exit PF2: perm. exit PF3: prev. page PF4: next page  
 -->

ORTM

EGA MONITOR

	C	R	x	y	No.	C	R	x	y
1	8	5	0.07	-0.10	17	2	6	0.13	-0.10
2	4	5	0.06	-0.09	18	4	6	0.08	-0.08
3	3	4	0.04	-0.09	19	5	6	0.09	-0.11
4	4	3	0.00	-0.08	20	6	5	0.11	-0.08
5	6	2	0.04	-0.03	21	7	6	0.11	-0.10
6	6	3	0.09	-0.08	22	6	7	0.14	-0.11
7	7	4	0.06	-0.04					
8	9	4	0.07	0.00					
9	10	6	0.12	-0.06					
10	9	6	0.13	-0.07					
11	9	8	0.10	-0.07					
12	8	9	0.13	-0.08					
13	6	10	0.50	-0.04					
14	6	9	0.14	-0.14					
15	4	9	0.12	-0.09					
16	4	8	0.07	-0.11					

Scal. (x,y) = ( 0.19, 0.35) Orthog. = 1.32 Rot. = 0.40  
 Offset(x,y) = ( 0.11, -0.08)

g-EGA end Shot No. = 22

PF1: temp. exit PF2: perm. exit PF3: prev. page PF4: next page  
 -->

ORTM90

Spec: ORTM+ORTM90 / 2 =  $\leq \pm 0.48\mu\text{m}$