

## ASML 100D RFQ

Item		Specification	FAT RESULTS
	<b>Uniformity</b>	%	
1	22x22 mm	$\leq 1.6$	0.98
2	14.7*27.4mm	$\leq 1.6$	1.67
3	<b>Intensity</b>	$\geq 850\text{mW/cm}^2$	879
4	<b>Lamp Life: 1500W</b>	$\leq 150$ hrs	250
5	<b>Dose repeatability and accuracy</b>	$\leq 1$	0.28
6	<b>Reticle Masking black border size</b>	$\leq 475$	350
	<b>Image Performance</b>		
7	Astigmatism	$\leq 0.35$	0.397
8	Focal Plane Deviation	$\leq 0.45$	0.505
9	UDOF @ 0.40 um lines	$\geq 1\mu\text{m}$	CD SEM
	<b>Focus/Leveling</b>		
10	Focus repeatability Focus	$\leq 50\text{nm}$	26.7
11	Rx	$\leq 3$ urad	0.96
12	Ry	$\leq 3$ urad	0.9
13	FOCAL	Valid positions $\geq 14$	
		Best focus $< \pm 0.2 \mu\text{m}$	-0.032
		Image Tilt Rx $< \pm 5$ urad	-1.88
		Image Tilt Ry $< \pm 5$ urad	1.83
	<b>Image Distortion (lens)</b>		
14	Max X (NCE)	$\leq 65\text{nm}$	99.7
15	Max Y (NCE)	$\leq 65\text{nm}$	108.3
16	Maginification	$\leq 2$ ppm	0.14
17	Rotation	$\leq 2$ urad	0.33
18	Symmetrical	$\leq 10$ nm/cm <sup>2</sup>	-2
19	Trapazoidal	$\leq 20$ nm/cm <sup>2</sup>	9
	<b>Overlay Performance</b>		
20	Stage Repeatability		
	Max X	$\leq 15\text{nm}$	4
	Max Y	$\leq 15\text{nm}$	4
21	Single Machine	$\leq 70\text{nm}$	14
	2-NA Gobal overlay NA=0.48 NA=0.57		
	<b>Prealigner Accuracy</b>	<b>Reticle Handling?</b>	
22	Edge Sensor		
	X (3sig)	$\leq 8.5\mu\text{m}$	4.9
	Y (3sig)	$\leq 8.5\mu\text{m}$	7.3
	Rotation (3sig)	$\leq 180$ urad	40
23	Edge sensor repro	1X25	
		SD X $< \pm 2.1 \mu\text{m}$	0.45
		SD Y $< \pm 2.1 \mu\text{m}$	0.68
		SD Rot $< 45$ urad	15
24	Mark sensor repro	1X25	
		SD X $< \pm 2.1 \mu\text{m}$	1.1
		SD Y $< \pm 2.1 \mu\text{m}$	0.75
		SD Rot $< 45$ urad	22
25	<b>Image Quality Control (3sig)</b>		

	Focus	</= 50 nm	40.6
	Image Rx	</= 2 urad	0.7
	Image Ry	</= 2 urad	1.2
	Translation	</= 20 nm	7.1
	Magnification	</= 2 ppm	0.4
	Rotation	</= 2 urad	0.4
	<b>Throughput</b>		
26	200 mm 70 shots at 200 mJ	>/= 70 wafers/hour	70.3
27	Reticle Exchange Time	</= 29 seconds	25.5
28	System Reliability	> 500 PCs	OK
29	Particle	0.2um < 10ea	ON SITE
	<b>Laser output</b>		
30	Alignmeng Laser	> 12 mw	12.9
31	Interferometer HP laser	> 220 μw	280