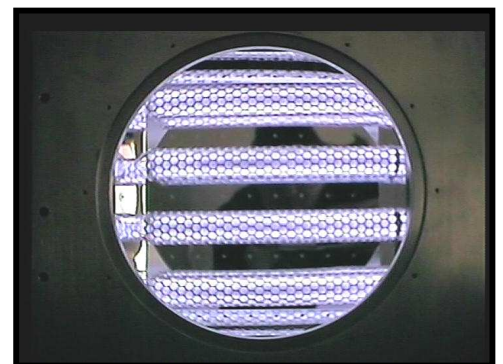
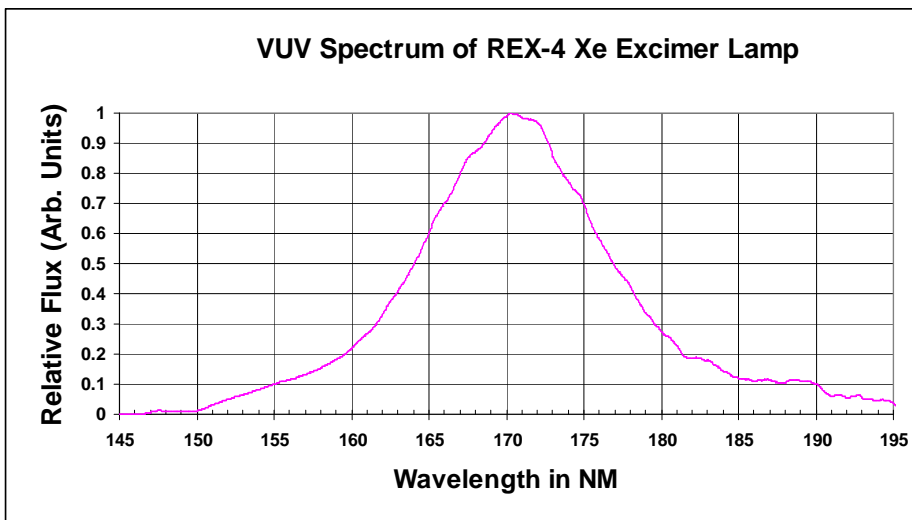


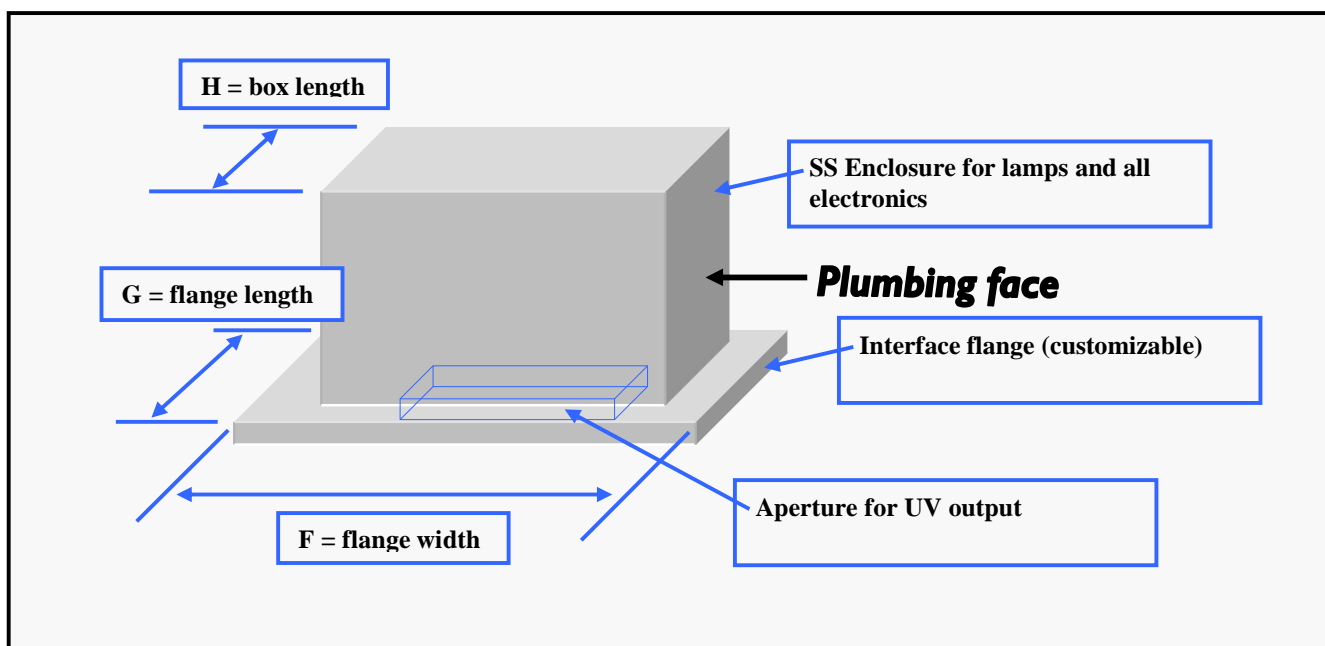
<b>Model No:</b>	<b>Description:</b>
REX-4	<p><b>High Power Xenon Vacuum Ultraviolet (VUV) Continuum Source</b></p> <p>This Xenon filled RF powered lamp system is a reliable and maintenance free high intensity source of deep VUV emissions from 158 to 190 NM. This source mounts to an easily customizable 350 x 400 MM flange for convenient connection to a HV or gas flow system. VUV fluxes greater than 10 milliwatts/cm<sup>2</sup> are delivered through the 230 MM output aperture for use in applications such as wafer cleaning and LCD panel cleaning.</p>

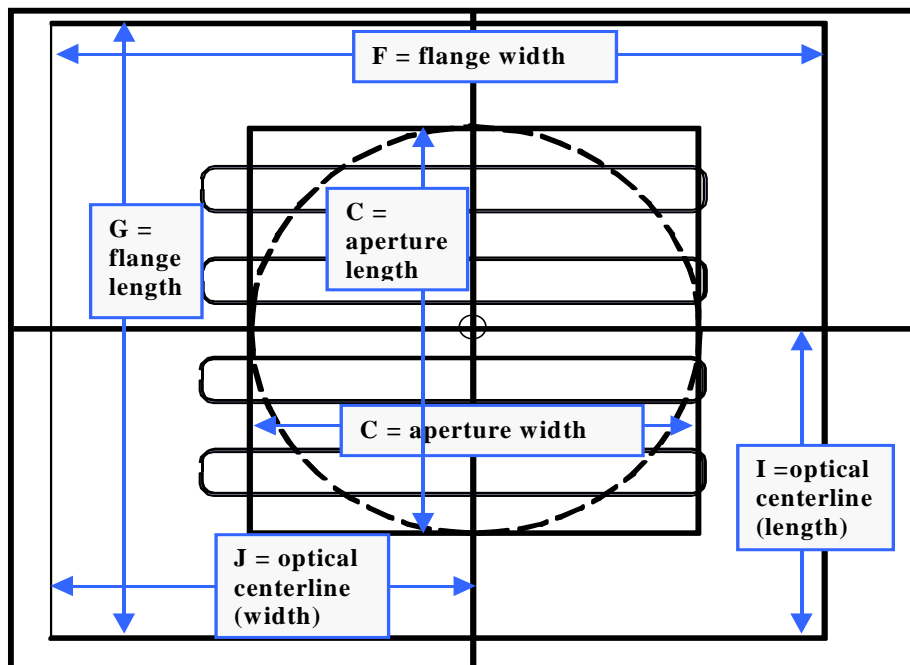
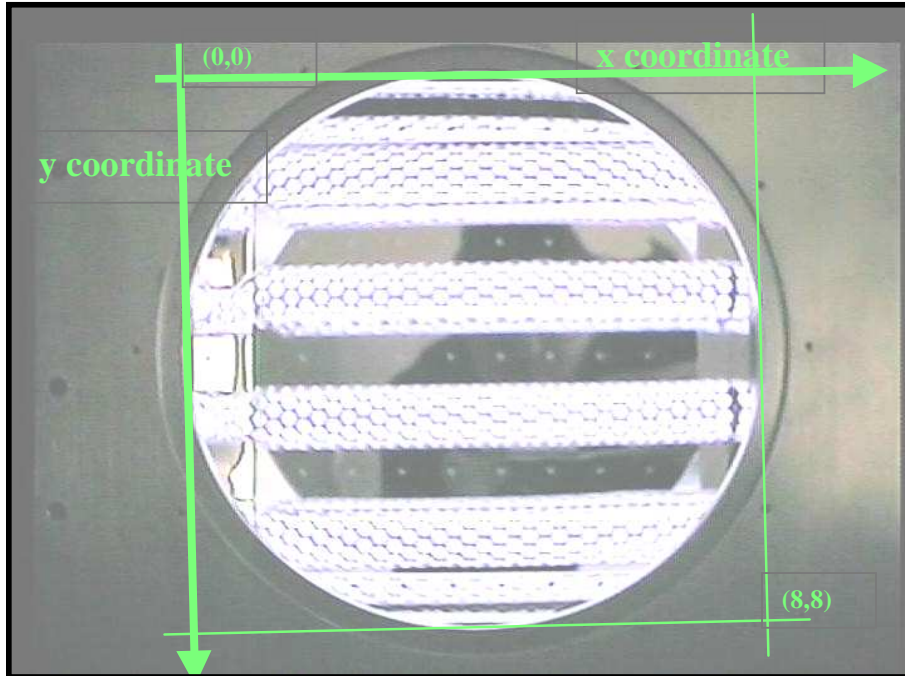
**Electrical /Optical Specifications/General:**

Specification	Minimum	Typical	Maximum	units
Gas Fill		Xenon		na
Window Material		SS Qtz		na
Number of Lamp tubes	na	4	na	
Clear Aperture of window		23 cm cir.	23 cm sq.	CM.
Plasma diameter inside lamp tubes	22	23	24	MM.
Plasma length inside lamp tubes	22	23	24	CM.
Spectral Output (half power points)	-	164-177	-	NM
<b>Peak wavelength</b>	-	<b>172</b>	-	<b>NM</b>
VUV average intensity across input aperture (207 W input)	8.5	12	15	mW per cm <sup>2</sup>
Certification	NIST Traceable Calibration of Intensity			
Output area		415.5	65	cm <sup>2</sup>
Input Power	200	210	220	Watts
Input voltage	95	115	125	VAC
Input Line Frequency	50	60	65	Hz
Mounting flange	Customizable Al plate with 8 inch aperture			
Cooling	Forced air			
Intensity monitor	Intensity monitor available as an option			
Thermal control	na			
Pulse	Modulation input			
System	Complete system includes power supply, EMI shielded enclosure, Vacuum flange and NIST Traceable calibration			

**VUV Spectrum of REX-4 Xe Excimer Lamp**

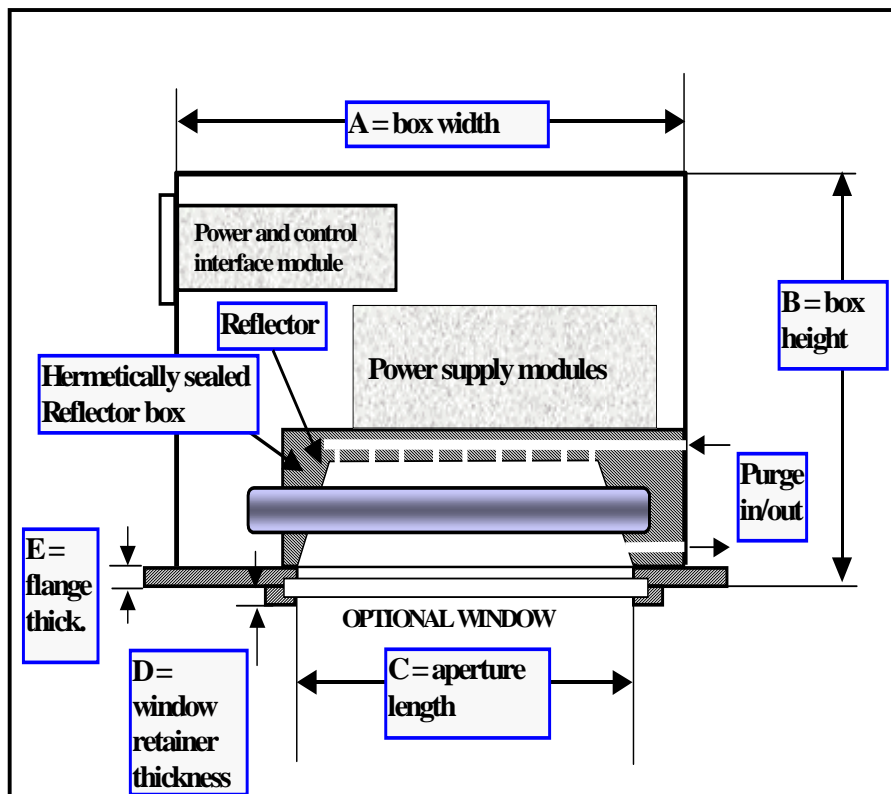






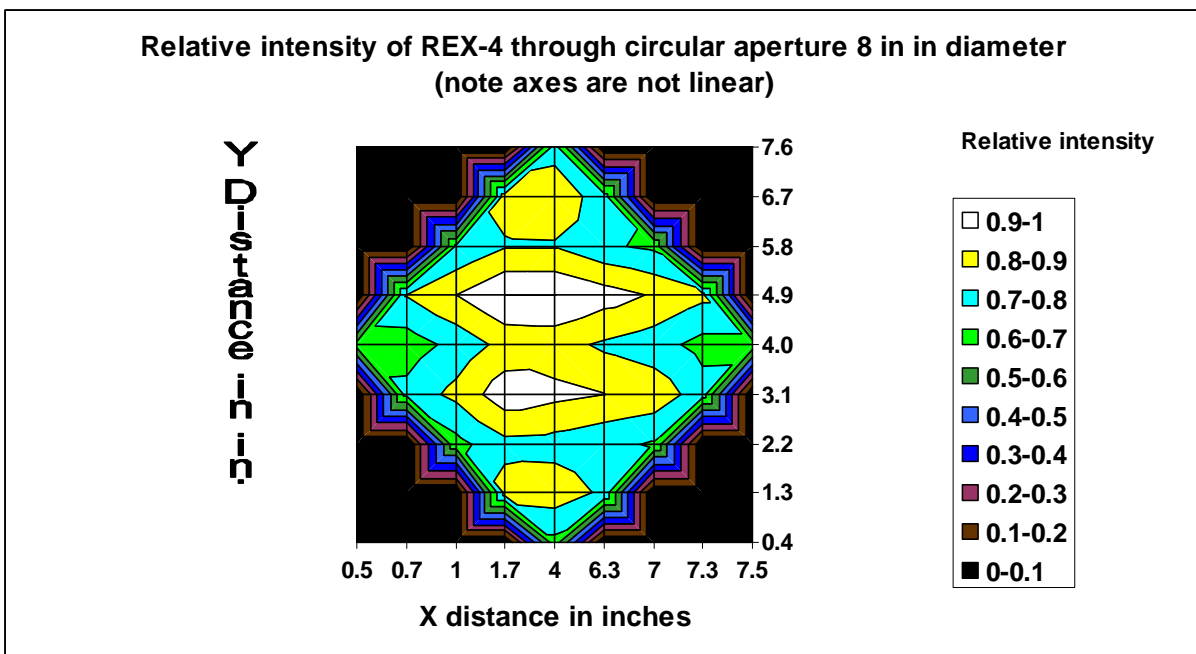
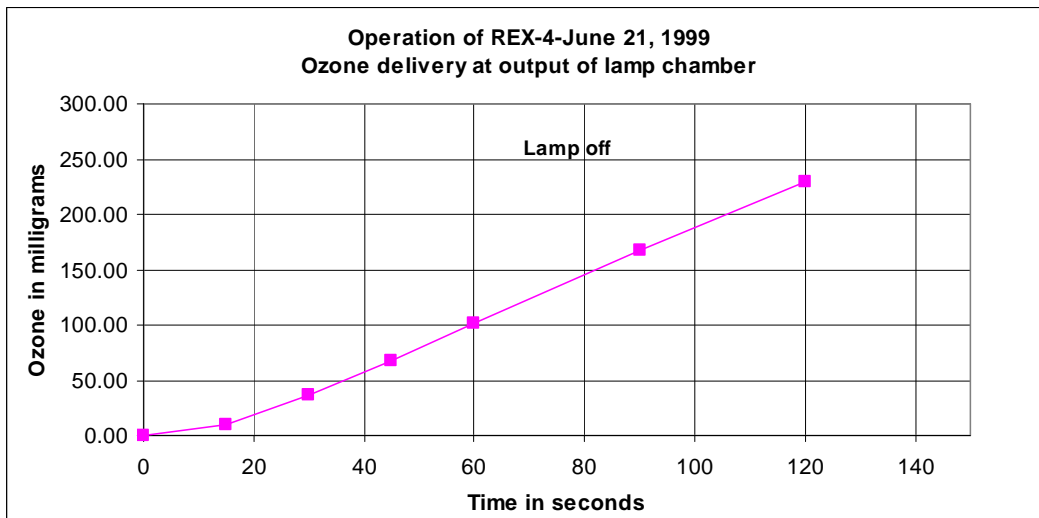
### Mechanical Specifications

Dimension	Description	Value	Unit
A	Stainless steel enclosure box width	382	MM
B	Stainless steel enclosure box height	250	MM
C	Optical aperture max. width, length or diameter	230	MM
D	Window retainer flange thickness	7	MM
E	Bottom flange thickness	10	MM
F	Flange width (customizable)	430	MM
G	Flange length (customizable)	380	MM
H	Stainless steel outer enclosure box length	290	MM
I	Location of optical centerline in length	190	MM
J	Location of optical centerline in width	240	MM
Tolerances		±.25	MM
Materials			
Window	Suprasil Quartz (optional)		
Body	Stainless Steel		
Mass	15 kg.		
Vacuum Adapters	6061 Al Interface plate (SS optional)		
Bolt pattern on main flange	Customizable		

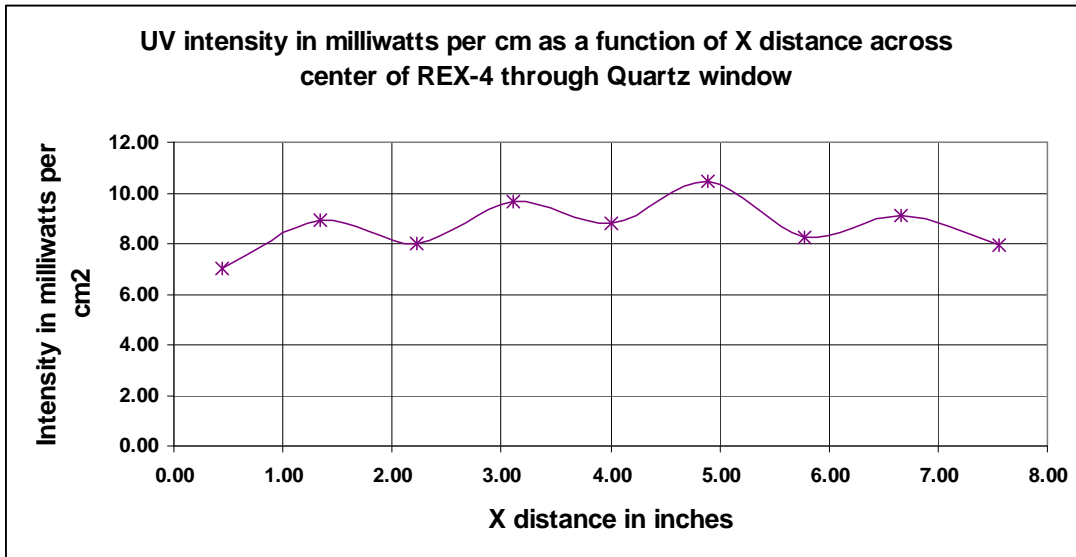


## Operational Specifications

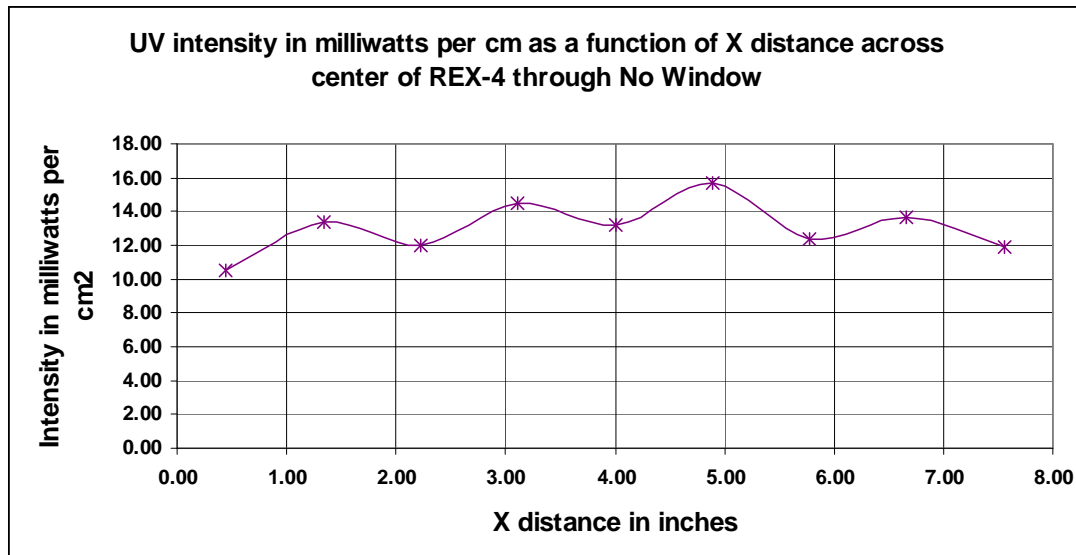
Ozone delivery is a measure of the total VUV flux generated by the excimer lamps. This chart shows the delivered ozone at the output purge line from the reflector box when UHP O<sub>2</sub> is flowed into the input purge on the reflector box. In approximately 400 seconds the unit delivers 1 gram of Ozone.



### Output with Quartz Window

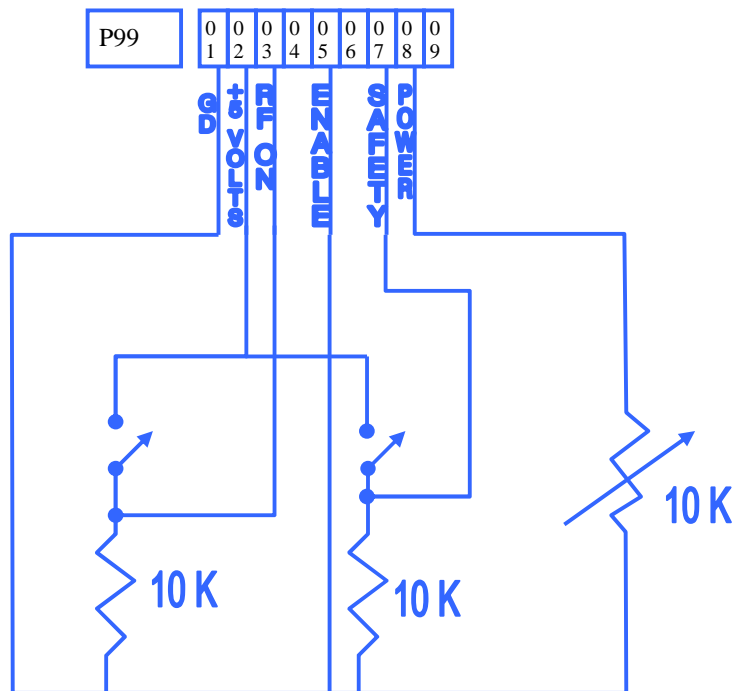


### Output through aperture without window



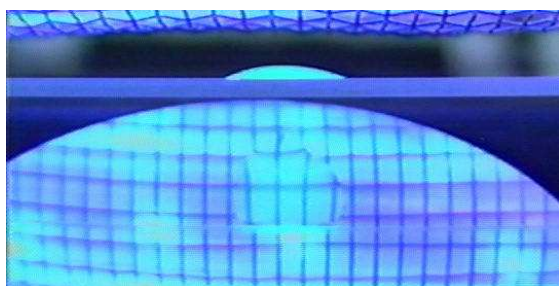
Electrical/Electronic Specifications:				
Specification	Minimum	Typical	Maximum	units
Input voltage	95	115	125	VAC
Input current	2	2.4	3.5	ACA
Input Line Frequency	50	60	65	Hz
<b>Control Inputs</b>				
Safety on/off				TTL
Power on/off				TTL
Intensity level adjust	0	na	10	K Ohms
<b>Computer interface (optional)</b>				
RS-232 (optional)				
<b>Sensor outputs (optional)</b>				
Lamp VUV and lamp intensity warning	Output through RS-232			

## External Control Circuit Requirements



**Contact Angle Data:**

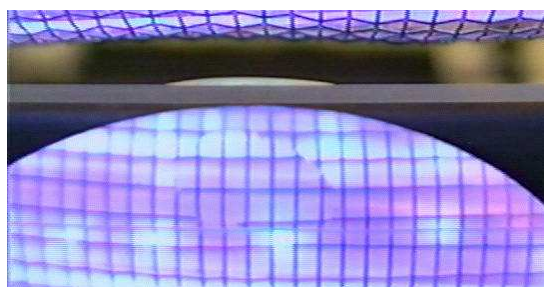
**This series of figures shows the spreading of a water droplet on a pyrex glass surface with exposure to UV flux at 172 NM from a REX-4 lamp bulb**



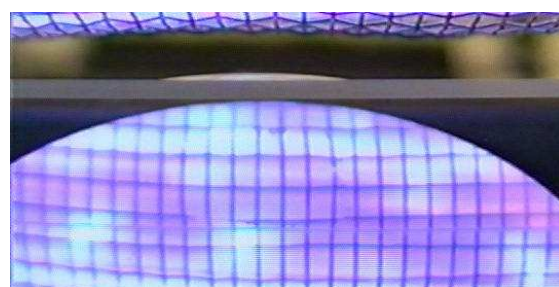
**0 seconds**



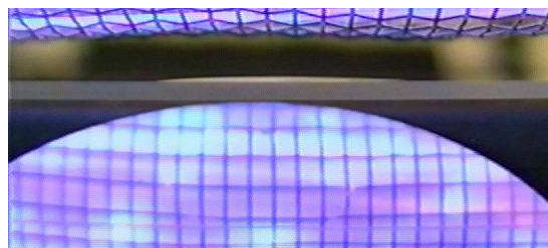
**12 seconds**



**19 seconds**



**28 seconds**



**39 seconds**

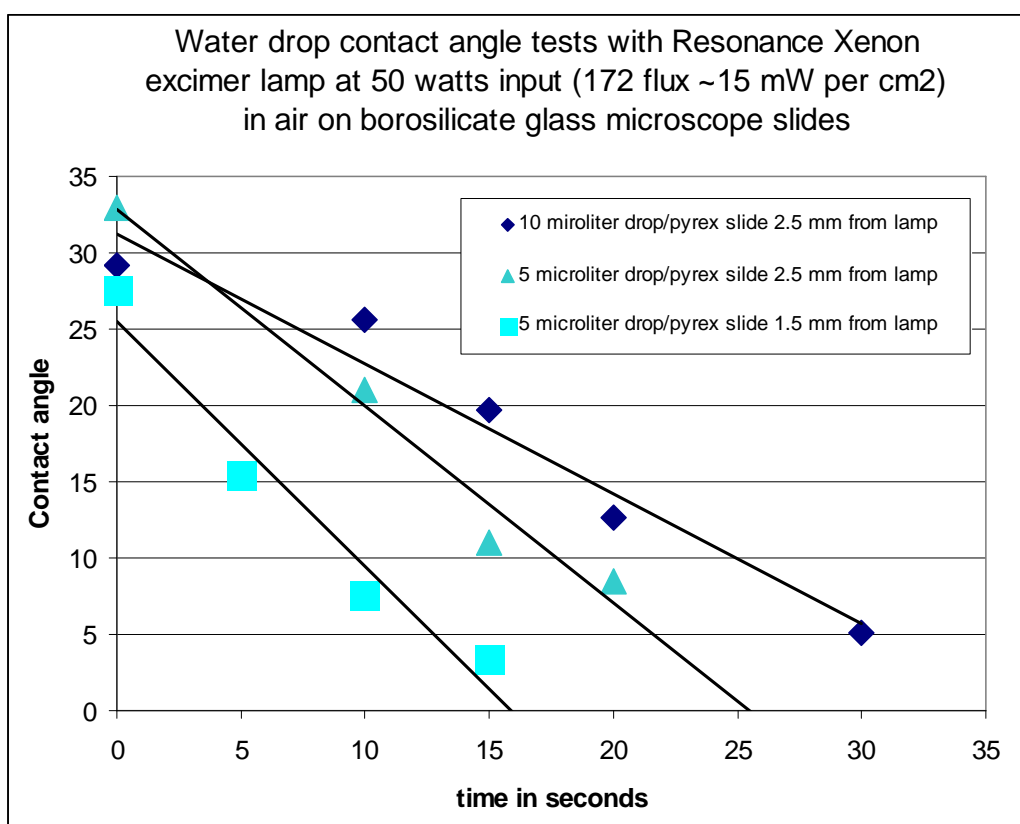


**48 seconds**

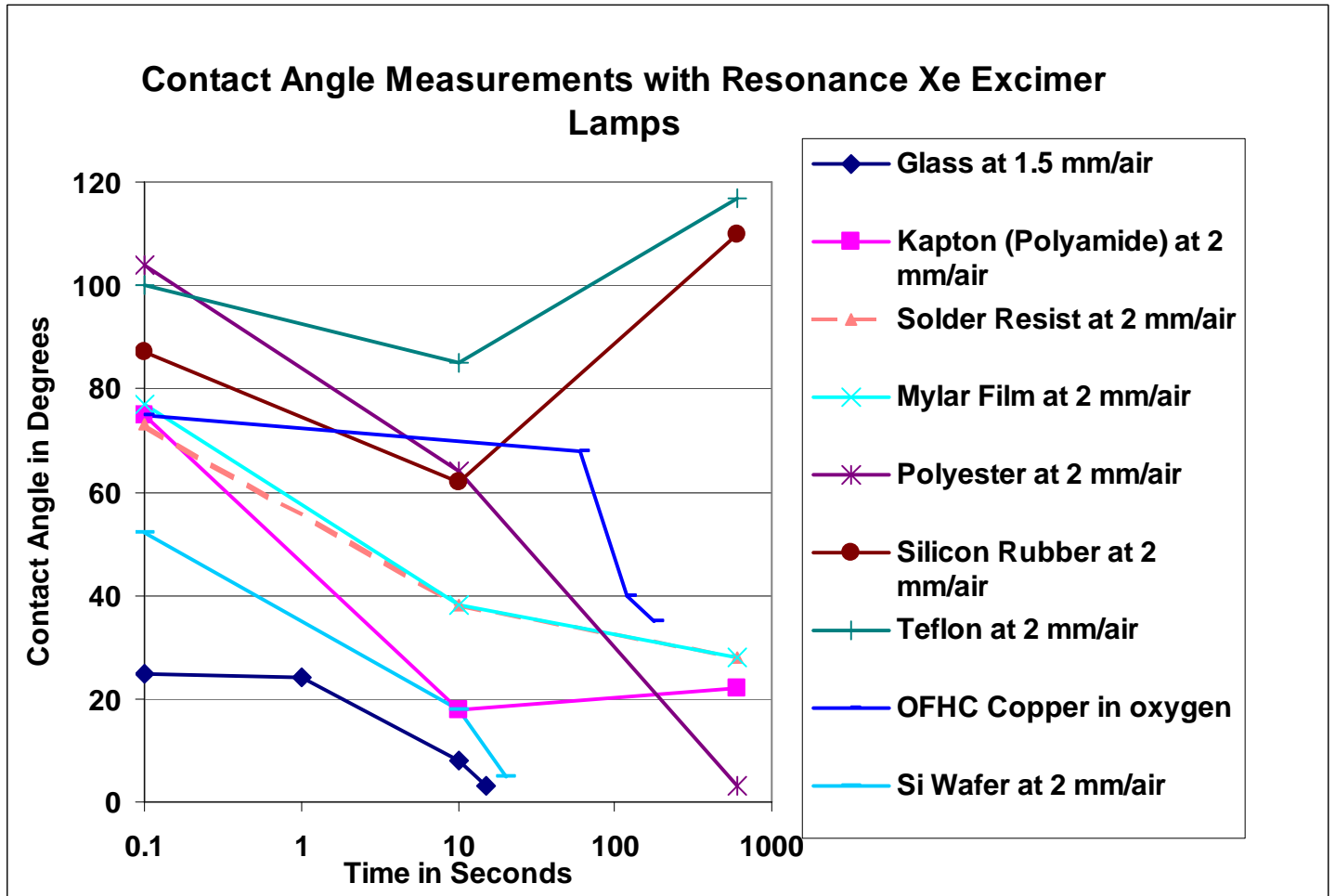


### Water Drop Contact Angle Data:

The following figure shows water drop data for borosilicate glass surfaces with varying drop size and lamp distance:



The following figure shows water drop data contact angle data for nine materials surfaces



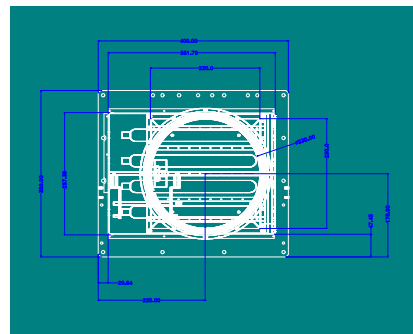
## Accessories and Options

- **Ozone Monitor with RS-232 output**
- **UV Intensity Monitor with fiber optic coupling**
- **VUV Diodes mounted to CF flanges**



- **Control Interface to PC**

- **Custom Flanges/windows/sizes**



- **Flow control and Ozone filter**
- **On site technical support**
- **Application engineering support**