



®

HAIDA

INTERNATIONAL

Xenon Arc Test Chamber



Haida International Equipment

-Accelerated Environmental Test Solution

Don't guess before you test

Equipment Description

The machine can simulate full sunlight spectrum to reproduce destructive light waves that exist in different environments.

General Specification:

Internal Dimensions: (W x D x H) 750*500*600mm (225L)

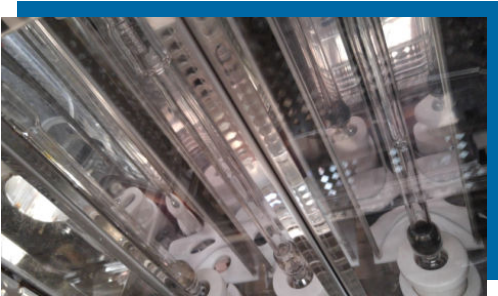
Irradiance range: 500~1120W/m²

Wavelength: 290~800nm

Humidity range: 55% ~ 90% RH

Black panel temperature 45 °C ~ 90 °C

Filter: daylight filter

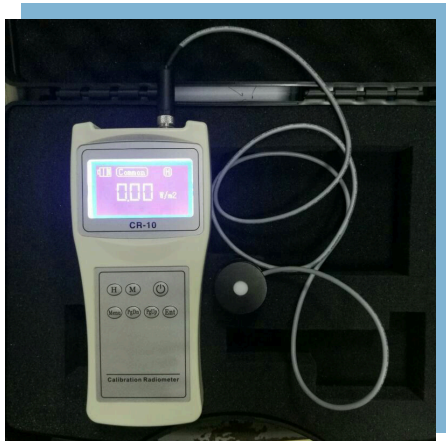


Xenon lamp

- 1.8KW * 3pcs = 5.4KW
- Life time: 1200 ~ 1600 hours
- Distance between each lamp: 100mm

Inside chamber

- Air-cooled type
- Adopts #304 stainless steel
- Conical structure on top of inside chamber, increasing irradiance uniform



Hand-held irradiance meter

- Calibrate irradiance automatically
- Optional

Application standards:

ASTM G 155; ASTM D2565; ASTM D4892-2...

Specific test articles:

ASTM G 155

TABLE X3.1 Common Exposure Conditions

Cycle	Filter	Irradiance	Wavelength	Exposure Cycle
1	Daylight	0.35 W/m ² · nm	340 nm	102 min light at 63°C Black Panel Temperature 18 min light and water spray (air temp. not controlled)

Note: this cycle as a very commonly used exposure cycle.

4	Window Glass	0.30 W/m ² · nm	340 nm	100 % light, 55 % RH, at 55° C Black Panel Temperature
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Note: This cycle has been used for indoor plastic.

ASTM D2565

TABLE 1 Test Cycles Commonly Used for Xenon-Arc Exposure Testing of Plastics^A

Cycle Number	Cycle Description ^B	Un-insulated Black Panel Temperature, °C ^C	Typical Irradiance	Typical Uses ^D
1	102 min light only followed by 18 min of light with water spray (102/18 cycle) ^E	63 ± 2	0.35 ± 0.02 W/m ² at 340 nm 41.5 ± 2.5 W/m ² from 300 to 400 nm	historical convention ^F
2	18-h, consisting of alternating intervals of 102 min light only followed by 18 min of light with water spray	63 ± 2	0.35 ± 0.02 W/m ² at 340 nm 41.5 ± 2.5 W/m ² from 300 to 400 nm	general plastics
	6 h dark, at 95 ± 4 % RH with no water spray [repeat]	38 ± 2		

ASTM 4892-2

Method A — Exposures using daylight filters (artificial weathering)

Cycle No.	Exposure period	Irradiance ^a		Black-standard temperature °C	Chamber temperature °C	Relative humidity %
		Broadband (300 nm to 400 nm) W/m ²	Narrowband (340 nm) W/(m ² ·nm)			
1	102 min dry	60 ± 2	0,51 ± 0,02	65 ± 3	38 ± 3	50 ± 10 ^b
	18 min water spray	60 ± 2	0,51 ± 0,02	—	—	—
2	102 min dry	60 ± 2	0,51 ± 0,02	65 ± 3	Not controlled	Not controlled
	18 min water spray	60 ± 2	0,51 ± 0,02	—	—	—
3	102 min dry	60 ± 2	0,51 ± 0,02	100 ± 3	65 ± 3	20 ± 10
	18 min water spray	60 ± 2	0,51 ± 0,02	—	—	—
4	102 min dry	60 ± 2	0,51 ± 0,02	100 ± 3	Not controlled	Not controlled
	18 min water spray	60 ± 2	0,51 ± 0,02	—	—	—

Note: It used for materials are exposed in actual end-use environments to daylight.

Method B — Exposures using window glass filters

Cycle No.	Exposure period	Irradiance ^a		Black-standard temperature °C	Chamber temperature °C	Relative humidity %
		Broadband (300 nm to 400 nm) W/m ²	Narrowband (420 nm) W/(m ² ·nm)			
5	Continuously dry	50 ± 2	1,10 ± 0,02	65 ± 3	38 ± 3	50 ± 10 ^b
6	Continuously dry	50 ± 2	1,10 ± 0,02	65 ± 3	Not controlled	Not controlled
7	Continuously dry	50 ± 2	1,10 ± 0,02	100 ± 3	65 ± 3	20 ± 10
8	Continuously dry	50 ± 2	1,10 ± 0,02	100 ± 3	Not controlled	Not controlled

NOTE The ± tolerances given for irradiance, black-standard temperature and relative humidity are the allowable fluctuations of the parameter concerned about the given value under equilibrium conditions. This does not mean that the value can vary by plus/minus the amount indicated from the given value.

Note: It used for materials are exposed in actual end-use environments to daylight through window glass.



Haida International Equipment Co., Ltd
 Contact person: Sandy Yuan
 Mobile/Whatsapp: +86 135 2853 1540
 E-mail: Sandy@qc-test.cn
 Web: www.haidatestequipment.com