Sensitometers and densitometers work in tandem. Sensitometers imprint a standard set of exposures on a photographic or x-ray film sample. When the film sample is developed, a densitometer is used to read the optical density of the exposures and chart a profile against a known set of standards. This profile alerts you to fluctuations in processing conditions and allows you to take corrective action.

### Functional Performance Specifications

#### 396 Sensitometer
- **Exposure Stability**: ±0.02 log exposure per year
- **Unit to Unit Repeatability**: ±0.02 log exposure
- **Temperature Sensitivity**: ±0.02 log exposure from 15°C; 59°F to 30°C 86°F
- **Power Requirement**: 9 volt alkaline battery (included) approx. 10,000 exposures/battery
- **Light Modulation**: 21-step Wedge, 0.15D per step
- **Blue Color Peak Wavelength**: 455nm ± 10nm
- **Green Color Peak Wavelength**: 512nm ± 10nm
- **Warm-Up Time**: None
- **Exposure Time**: 1 second typical regulated by light accumulation system
- **Recycle Time**: 2 seconds
- **Physical Dimensions**: 2.3" H (5.6cm) 3.375" W (8.6cm) 7.0" L (17.78cm)
- **Weight**: 9 lbs (4.1kg)
- **Features**: DIN v M68-55

#### 301 Densitometer
- **Measuring Range**: 0-5.0D with 2 and 3mm apertures 0-4.0D with 1mm aperture
- **Accuracy**: ±0.02D
- **Repeatability**: ±0.02D
- **Operating Temperature Range**: 10° - 40°C 50° - 104°F
- **Power Requirement**: P/N SE30-45 (240VAC) or P/N SE30-46 (230VAC) 50/60Hz
- **Warm-Up Time**: 60 seconds
- **Scale Factor (slope) Stability**: ±1% per 6 months
- **Null Drift**: ±0.03D max. ±0.01D typical
- **Options**: 360V, 200-240VAC power line and 300-450VAC
- **Measuring Area**: 1 & 2 mm
- **Measuring Length**: 5.5 inches
- **Power Supply**: 4 rechargeable AA Ni-Cad batteries and charger
- **Physical Dimensions**: 2.0" H (5.08cm) 2.9" W (7.46cm) 7.0" L (17.78cm)
- **Weight**: 1.5lbs (680g)

#### 310 Densitometer
- **Measuring Range**: 0-3.5D (1mm) 0-4.0D (2mm)
- **Accuracy**: ±0.02D
- **Repeatability**: ±0.01D
- **Operating Temperature Range**: 10° - 40°C 50° - 104°F
- **Power Requirement**: P/N SE30-45 (115VAC) or P/N SE30-46 (230VAC) 50/60Hz
- **Warm-Up Time**: None
- **Scale Factor (slope) Stability**: ±1% per 6 months
- **Zero Stability per 8 hours**: ±0.02D (.01 typical)
- **Measuring Area**: 1 & 2 mm
- **Measuring Length**: 5.5 inches
- **Power Supply**: 4 rechargeable AA Ni-Cad batteries and charger
- **Physical Dimensions**: 2.0" H (5.08cm) 2.9" W (7.46cm) 7.0" L (17.78cm)
- **Weight**: 1.5lbs (680g)

#### 390/391 Densitometer
- **Exposure Stability**: ±0.02 log exposure per year
- **Unit to Unit Repeatability**: ±0.02 log exposure
- **Temperature Sensitivity**: ±0.02 log exposure from 15°C; 59°F to 30°C 86°F
- **Power Requirement**: 9 volt alkaline battery (included) approx. 10,000 exposures/battery
- **Light Modulation**: 21-step Wedge, 0.15D per step
- **Blue Color Peak Wavelength**: 455nm ± 10nm
- **Green Color Peak Wavelength**: 512nm ± 10nm
- **Warm-Up Time**: None
- **Scale Factor (slope) Stability**: ±1% per 6 months
- **Zero Stability per 8 hours**: ±0.02D (.01 typical)
- **Measuring Area**: 1 & 2 mm
- **Measuring Length**: 5.5 inches
- **Power Supply**: 4 rechargeable AA Ni-Cad batteries and charger
- **Physical Dimensions**: 2.0" H (5.08cm) 2.9" W (7.46cm) 7.0" L (17.78cm)
- **Weight**: 1.5lbs (680g)

#### 331 Densitometer
- **Measuring Range**: 0-4.5D
- **Accuracy**: ±0.02D (0-3.0D) ±2% (3.0-4.5D)
- **Repeatability**: ±0.01D (0-3.0D), ±1% (3.01-3.5D), ±2% (3.51-4.0D)
- **Operating Temperature Range**: 10° - 40°C 50° - 104°F
- **Power Requirement**: 12V DC, Universal 100-240VAC adapter; 50/60 Hz P/N SE30-77
- **Spectral Response**: ANSI Visual
- **Reading Speed**: 1.2 inches per second
- **Accessories**: Operation manual, AC adapter, cable and interface adapter.
- **Data Storage**: 12 Channels / 31 readings per channel (391) 4 Channels / 1 reading per channel (390)
- **Features (391 Only)**: Aim Value Editor, Control Limit Editor

### Consistent quality images for diagnosis
- **Fewer retakes and less patient exposure to radiation**
- **Progress** in meeting standards requirements
In an industry that wakes up to change every morning, companies need to anticipate and exceed the expectations of hospital radiology departments, clinics, mobile units, and medical offices. X-Rite has been doing that for nearly half a century.

396 Sensitometer
Performance Features
Small and convenient, the 396 Dual-Color Sensitometer provides single-sided exposures and produces repeatable 21 step exposures on film.

Easy to Use
Set the battery operated 396 to the proper exposure, place the film inside, then firmly press down on the cover. When you hear the beep, the exposure is complete.

DIN Specifications
Designed and manufactured to comply with the calibration requirements described in DIN V 6868-55.

301 Densitometer
Performance Features
The 301 Densitometer provides highly repeatable and accurate measurements of black and white film densities up to 5.0 D – more subtle than can be seen by the naked eye. An optional RS232 output allows you to connect to your current computer.

Easy to Use
Operation is as simple as “push and read,” and the large LED numerals can be read easily in bright or dim light. Internal memory and the null button allow the operator to make comparative density measurements across a piece of film.

331 Densitometer
Performance Features
Though the 331 Densitometer is portable and compact, it has the same accuracy and repeatability as larger countertop units, measuring densities up to 4.0 D.

Easy to Use
The built-in light table eliminates the need for an external light source and easily accommodates film up to eleven inches wide. The 331 has push-button zeroing, an on/off switch to prevent battery drainage, a certified step wedge, a low-battery indicator, and instrument carrying case.

390 Densitometer
Performance Features
The 390 Densitometer can read and calculate a complete set of control strip data in under a minute, saving you time and virtually eliminating data-taking errors. The 390 easily interfaces with quality control software such as x-Read QC Analysis software.

Easy to Use
The 390 automatically reads, calculates, stores, and displays data. With the push of a button, you can view the measurements just taken.

391 Densitometer
Performance Features
The 391 includes all of the capabilities of the 390 and automatically establishes aim values and control limits, calculates cross-over values, and plots monthly control charts – freeing the technologist to focus on patient care. Thirty-one daily readings for up to twelve processors can be stored in the internal memory.

Networking capabilities of the 391 enable facilities with multiple processor sites to communicate processor quality control information across phone lines.

Easy to Use
The 391 reads and stores densities in less time than it takes to measure manually. Immediately after completing a measurement, the 391 displays the 21 density readings in addition to QC parameters, such as base plus fog, speed, contrast index, average gradient, D-Max, and gamma.

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x-Read QC Analysis Software
Performance Features
x-Read, from Medical Cost Containment Consultants, Inc., sets standards and user-defined high/low allowances for each processor. Create history graphs, store unlimited number of readings, and monitor an unlimited number of processors.

Specifications
Windows 95, 98, 2000, or NT compatible. Connects to X-Rite 390, 391, 380, and 381 densitometers.

Cost Saving Packages

Package 1:
- 390 densitometer,
- 396 sensitometer,
- x-Read QC Analysis Software, cable

Package 2:
- 390 densitometer,
- x-Read QC Analysis Software, cable