RHOPOINT Qs

IQ-S 20/60° · IQ-S 20/60/85° Glossmeter
DOI Meter
Haze Meter
Goniophotometer

The Rhopoint IQ-S is a specially designed instrument built specifically to match automotive interior gloss measurement standards.

IQ-S GLOSS measurements are fully compatible with existing Micro-TRI-gloss - S results. Dualgloss 20/60° or Trigloss 20/60/85° versions are close tolerance selected for maximum accuracy and resolution in all gloss applications.

The Rhopoint IQ-S quantifies surface quality issues invisible to normal glossmeters

The Rhopoint IQ-S is the ultimate glossmeter upgrade
IQ GLOSS measurements are fully compatible with existing Micro-Tri-gloss-S results.

Dualgloss 20/60° or Trigloss 20/60/85° versions are for maximum accuracy and resolution in all gloss applications.

The Rhopoint IQ-S measures image quality and is the only hand held instrument that not only measures gloss but profiles how light is reflected from a surface. Standard glossmeters only measure how much light is reflected and are not sensitive to effects which dramatically reduce appearance quality.

The Rhopoint IQ-S measures

20/60/85° Gloss • Haze • Distinctness of image • Rspec • Goniophotometric curves

▶ **GLOSS**
  A measurement proportional to the amount of light reflected from a surface.

  Geometry: For best results the correct measurement geometry should be chosen based on the reflectance of the material: Matt Finish 85°, Mid Gloss 60°, High Gloss and Metallics 20°.

  Measurement Unit: GU

▶ **RSPEC**
  The peak gloss value over a very narrow angle.

  Usage – RSPEC is very sensitive to small changes in texture and is used to identify subtle differences in surface smoothness.

  Measurement Unit: GU

▶ **REFLECTANCE HAZE**
  An optical effect caused by microscopic textures or residue on a surface.

  Visible Symptoms: Milky finish apparent on surface, loss of reflected contrast, halos and patterns seen around reflections of high intensity light sources. Specifically pertains to high gloss on materials such as metallic and mirrors.

  Causes: Poor dispersion, raw material incompatibility, additive migration, vehicle quality, stoving/drying/curing conditions, polishing marks, fine scratches, aging, oxidation, poor cleanliness/surface residue.

  Measurement Unit: LogHU
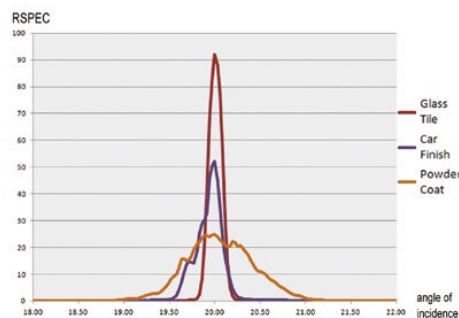
Example of a coated and polished surface without and with Reflected Haze

▶ **DISTINCTNESS OF IMAGE (DOI)**
A measure of how clearly a reflected image will appear in a reflective surface.

Symptoms of Poor DOI: Orange peel, brush marks, waviness or other structures visible on the surface. Reflected images are distorted.

Causes: Application problems, incorrect coating flow, coating viscosity too high/low, sag or flow of coating before curing, incorrect particle size/distribution, overspray, improper flash/recoat time, inter coat compatibility, incorrect cure times and cure temperature.

Measurement Scale: 0-100, 100 is a perfect smooth surface.

Reflected image quality can be expressed as
Orange peel (DOI) or Reflected Image Quality (RIQ)

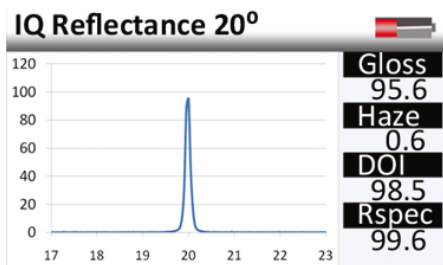▶ **REFLECTED IMAGE QUALITY (RIQ)**
Same as DOI, Reflected Image Quality (RIQ) is used to detect Orange peel effects. However, the RIQ value provides high resolution results with better correlation to the human perception of surface textures, especially on high quality surfaces such as automotive paints.

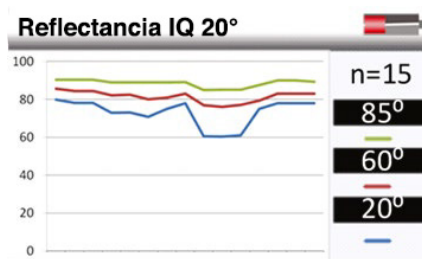Measurement Scale: 0-100 whereas 100 represents a perfect smooth surface.

▶ **GONIOPHOTOMETRIC PROFILE**
The instrument displays surface reflectance profiles 17-23°. The shape of the curve describes how the light has interacted with the surface.

Sharp curves close to the specular direction indicate smooth highly reflective surfaces.

Different textures and distortions produce identifiably shaped profiles depending on their size and frequency. Full goniophotometric information can be downloaded to PC for further analysis and comparison, without the need for interface software.

An on screen goniophotometric profile shows the distribution of the reflected light

On screen graphs highlight trends in the measured batch

Best in class accuracy and traceability

- ISO 17025 calibration certificate
- Advanced standard verification system guarantees error free calibration.

Specifications	Rhopoint IQ 20/60° and Rhopoint IQ 20/60/85°
Gloss Measurement Specification	
Measuring Angle 20°	Improved accuracy and resolution on high gloss & metallic samples (>70GU when measured at 60°)
Measuring Angle 60°	Universal angle– all gloss levels
Measuring Angle 85°	Improved Resolution for Matt Finishes (<10 GU when measured at 60°) (only for Rhopoint IQ-S 20/60/85°)
Measurement range	20º: 0-2000GU / 60º: 0-1000GU / 85º: 0-199GU
Resolution	0.1 GU
Standards	ISO 2813, ASTM D523, ASTM D2457, DIN 67530, JIS 8741 (Conforms 60° & 85° / Verified Performance 20°)

Measurement range	0-10GU / 10-100GU / 100-2000GU
Repeatability	±0.1GU / ±0.2GU / ±0.2%
Reproducibility	±0.2 GU / ± 0.5GU / ±0.5%

Gloss Calibration Standard	
Traceability	ISO 17025 Certified Laboratory, BAM Traceable
Uncertainty	0.4 GU

RSPEC Measurement Specification	
Peak Specular Reflectance	20° ±0.09905°
Measurement Range	0-2000 GU

Haze Measurement Specification	
Near Specular Reflectance	Measured at 17.2-19°, 21-22.8°; Switchable between Haze Units (HU) and Log Haze Units (LogHU)
Resolution	0.1HU
Repeatability	±0.5HU
Reproducibility	±1.5HU
Standards	ASTM E430, ISO 13803

DOI Measurement Specification	
Measurement range	0-100
Resolution	0.1
Repeatability	±0.2
Reproducibility	±0.5
Standards	ASTM D5767

RIQ Measurement Specification	
Measurement range	0-100
Resolution	0.1
Repeatability	±0.2
Reproducibility	±0.5

GONIOPHOTOMETRIC SPECIFICATION	
Measurement range	12.75-27.25°, reported 14-26°
Angular Resolution	Approx. 0.02832°
Resolution	0.1 GU

Instrument Specifications	
Color Screen	High resolution illuminated color display; Brightness adjustable
Construction	All aluminium construction – enclosure, optics, calibration holder; magnetic calibration holder with in position detector
Statistical Analysis	Max, Min, Mean, S.D.; all measured parameters
Graphical Analysis	On board trend analysis; Gloss and IQ Values
Power	Rechargeable Lithium Ion; >17 Hours operation; >20,000 Readings/Charge
Operate from	Internal Battery/USB/Mains Charger
Recharge Time	Mains charger: 4hrs
Data Memory	8 MB –> 999 Readings; User definable batching
Data Transfer	Bluetooth; PC & MAC compatible; USB Connection
Dimensions & Weight	65 x 140 x 50mm (H x W x D); 790g
Interface Languages	English, German, French, Spanish, Italian, Chinese, Japanese, Turkish

SAFETY PRECAUTIONS
For correct use and for your safety, be sure to read the instruction manual before using the instrument.
Always connect the instrument to the specified power supply voltage. Improper connection may cause a fire or electric shock.

Certificate No : LRQ 09600941A
Registration Date : March 3, 1995

Certificate No : JQA-E-80027
Registration Date : March 12, 1997