



SCOPE OF ACCREDITATION TO ISO 17025:2005

**X-RITE CHINA SERVICE CENTER**  
 Room 1802, Block B New Caohejing International Business Center, No.391  
 Gui Ping Road Shanghai, People's Republic of China 200233  
 Phone: (021) 644 81155  
 Fax: (021) 644 82468  
 David L. Harness      Phone: 616 803 2253

CALIBRATION

Valid To: June 30, 2018

Certificate Number: 2108.03

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1</sup>:

I. Optical Quantities

| Parameter/Equipment <sup>5</sup>                      | Range                                | CMC <sup>2,4</sup> ( $\pm$ ) | Comments <sup>6</sup>            |
|---|--------------------------------------|------------------------------|----------------------------------|
| Spectrophotometers –                                  |                                      |                              | White reflection standards with: |
| Model 962, 964, 939 (0/45 Optical Geometry)           | (400 to 420) nm<br>(> 420 to 700) nm | 0.67 %R<br>0.48 %R           | SPP X-it 962                     |
| Model SP6x (Sphere 0/8° Optical Geometry)             | (400 to 700) nm                      | 0.45 %R                      | SPP X-it SP                      |
| Model CI60, CI62, CI64, CI64 UV                       | 400 nm<br>(410 to 700) nm            | 0.94 %R<br>0.40 %R           | SPP CI6x                         |
| Model 504, 508, 518, 528, 530 (0/45 Optical Geometry) | (400 to 700) nm                      | 0.53 %R                      | SPP X-it 500                     |
| Model Exact (0/45 Optical Geometry)                   | 400 nm<br>(410 to 700) nm            | 2.0 %R<br>0.50 %R            | SPP exact                        |

| Parameter/Equipment <sup>5</sup>                                | Range   | CMC <sup>2,4</sup> ( $\pm$ )  | Comments <sup>6</sup>               |
|---|---|-------------------------------|-------------------------------------|
| Spectrophotometers –<br>(cont)                                  |   |                               | White reflection<br>standards with: |
| Model 7000A <sup>3</sup><br>(Sphere 0/8°<br>Optical Geometry)   | (360 to 390) nm<br>(400 to 740) nm                        | 0.72 %R<br>0.40 %R            | SPP CtestXP                         |
| Model Ci5/Ci7 <sup>3</sup><br>(Sphere 0/8°<br>Optical Geometry) | (360 to 390) nm<br>(400 to 740) nm                        | 0.75 %R<br>0.45 %R            | SPP CtestXP                         |
| Model MA68II<br>(Aspecular Optical<br>Geometry)                 |   |                               | SPP X-it MA62                       |
| 15 degree   | (400 to < 440) nm<br>(440 to 700) nm                      | 0.85 %R<br>0.50 %R            |                                     |
| 25 degree   | (400 to < 440) nm<br>(440 to 700) nm                      | 0.85 %R<br>0.45 %R            |                                     |
| 45 degree   | (400 to < 440) nm<br>(440 to 700) nm                      | 0.82 %R<br>0.42 %R            |                                     |
| 75 degree   | (400 to < 440) nm<br>(440 to 700) nm                      | 0.85 %R<br>0.45 %R            |                                     |
| 110 degree  | (400 to < 440) nm<br>(440 to 540) nm<br>(> 540 to 700) nm | 0.85 %R<br>0.75 %R<br>0.65 %R |                                     |
| Model MA9X<br>(Aspecular Optical<br>Geometry)                   |   |                               | SPP final 2<br>MA9x                 |
| -15 degree  | (400 to < 410) nm<br>(420 to 700) nm                      | 2.1 %R<br>0.58 %R             |                                     |
| 15 degree   | (400 to 700) nm   | 0.43 %R                       |                                     |
| 25 degree   | (400 to 700) nm   | 0.40 %R                       |                                     |
| 45 degree   | (400 to 700) nm   | 0.39 %R                       |                                     |
| 75 degree   | (400 to 700) nm   | 0.42 %R                       |                                     |
| 110 degree  | (400 to 700) nm   | 0.64 %R                       |                                     |



| Parameter/Equipment <sup>5</sup>               | Range                                     | CMC <sup>2</sup> ( $\pm$ ) | Comments                       |
|--|---|----------------------------|--------------------------------|
| Optical Radiation <sup>3</sup><br>(Lightbooth) | 2300 K (Horizon)<br>2856 K (Illuminate A) | 20 K<br>22 K               | X-Rite LightSpex<br>Radiometer |

<sup>1</sup>This laboratory offers commercial calibration service and field calibration services.

<sup>2</sup> Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

<sup>3</sup>Field calibration service is available for this calibration and this laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

<sup>4</sup>In the statement of CMC,  $R$  is the reflectance.

<sup>5</sup>The product families have the same optical geometries and calibration procedures. The features on the display and outputs are the only differences.

<sup>6</sup>White reflection standards apply to the calibration of approximately 80 % reflectance on a neutral white ceramic. Color calibration is mainly based on inter-instrument agreement.





## *Accredited Laboratory*

A2LA has accredited

### **X-RITE CHINA SERVICE CENTER**

*Shanghai, PEOPLE'S REPUBLIC OF CHINA*

for technical competence in the field of

## Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets any additional program requirements in the field of calibration. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 13<sup>th</sup> day of July 2016.

A handwritten signature in black ink, appearing to read "L. J. ...", positioned above a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 2108.03  
Valid to June 30, 2018  
Revised May 29, 2018

*For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.*