



校准证书

CALIBRATION CERTIFICATE

证书编号 HGX202520858
Certificate No.

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客户名称 深圳市三恩时科技有限公司
Name of the Customer

联络信息 深圳市南山区西丽街道阳光社区松白路1008号港鸿基高新智能产业
Contact Information 园B栋415

计量器具名称 色差仪
Description

型号/规格 NR200
Model/Type

制造厂 3nh
Manufacturer

出厂编号 2006301
Serial No.

设备管理编号 ----
Equipment No.

接收日期 2025 年 05 月 30 日
Receipt on Y M D

结论 见校准结果
Conclusion Shown in the results of calibration

校准日期 2025 年 05 月 30 日
Calibration on Y M D

发布日期 2025 年 06 月 03 日
Issue on Y M D

批准 卢德润
Authorized by

核验 宋贻武
Reviewed by

校准 朱启乐
Calibrated by

证书专用章
Stamp



扫一扫查真伪



说明

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DIRECTIONS

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1. 本中心是国家市场监督管理总局在华南地区设立的国家法定计量检定机构, 本中心的质量管理体系符合 ISO/IEC 17025:2017 标准的要求。

This laboratory is the National Legal Metrological Verification Institution in southern China set up by the State Administration for Market Regulation. The quality system is in accordance with ISO/IEC 17025:2017.

2. 本中心所出具的数据均可溯源至国家计量基准和/或国际单位制(SI)。

All data issued by this laboratory are traceable to national primary standards and/or International System of Units (SI).

3. 校准地点、环境条件:

Location and environmental conditions of the calibration:

地点 光参量实验室

Location (Optical Parameters Lab.)

温度 23 °C

Temperature

相对湿度 45 %

R.H.

4. 本次校准的技术依据:

Reference documents for the calibration:

JJG 595-2002 测色色差计检定规程 V.R. of Colorimeters and Colour Difference Meters

5. 本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

设备名称/型号规格/测量范围

Name of Equipment

/Model/Type/Range

编号

Serial No.

证书号/有效期/溯源单位

Certificate No./Due Date

/Traceability to

计量特性

Metrological

Characteristic

标准色板

Colour Standard Plates

/陶瓷/(0.0~100.0)Y

BTS913

GXfs2024-06091

/2025-10-08

/国家计量院

$U(Y) = (0.7 \sim 1.1) (k=2)$

注: 1. 本证书校准结果只与受校准仪器有关。The results relate only to the items calibrated.

Note: 2. 未经本机构书面批准, 不得部分复制此证书。This certificate shall not be reproduced except in full, without the written approval of our laboratory.

3. “客户名称”、“联络信息”由委托方提供, “制造厂”、“型号规格”、“出厂编号”以及“设备编号”为仪器上标注, 委托方对上面内容如有异议, 须在收到证书后二十个工作日内提出。

The information **Name of the Customer** and **Contact Information** are provided by client, and the **Manufacturer, Model/Type, Serial No. and Equipment No.** are marked on the items. Client shall submit any objection within 20 working days after receiving the certificate for the information above.



校准结果 RESULTS OF CALIBRATION

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1. 色度校准结果: 见表1。

The results of calibration: shown in table 1:

表 1
Table 1

颜色	标准值			示值			示值误差		
Colour	Reference Value			Indication Value			Error of Indication		
	L^*_0	a^*_0	b^*_0	L^*	a^*	b^*	ΔL^*	Δa^*	Δb^*
红	45.40	37.10	19.24	45.69	36.95	17.92	0.29	0.15	1.32
绿	55.40	-26.92	13.86	54.05	-25.77	11.70	1.35	1.15	2.16
蓝	28.62	9.13	-20.59	27.64	8.06	-18.90	0.98	1.07	1.69
黄	83.04	3.45	76.26	82.42	4.25	74.24	0.62	0.80	2.02
白	95.56	-0.18	2.91	95.53	-1.94	2.81	0.03	1.76	0.10
复现性					重复性				
Reproducibility					Repeatability				
$\Delta l(L^*)$	$\Delta l(a^*)$		$\Delta l(b^*)$		$s(L^*)$	$s(a^*)$		$s(b^*)$	
0.0	0.0		0.0		0.0	0.0		0.0	

根据规程的相关公式转换得到的Y、x和y值如表2所示:

表 2
Table 2

颜色	标准值			示值			示值误差		
Colour	Reference Value			Indication Value			Error of Indication		
	Y_0	x_0	y_0	Y	x	y	ΔY	Δx	Δy
红	14.83	0.4695	0.3341	15.04	0.4642	0.3314	0.2	0.005	0.003
绿	23.32	0.2916	0.4048	22.02	0.2884	0.3974	1.3	0.003	0.007
蓝	5.69	0.2549	0.2338	5.32	0.2575	0.2392	0.4	0.003	0.005
黄	62.24	0.4511	0.4644	61.08	0.4506	0.4613	1.2	0.000	0.003
白	88.95	0.3186	0.3364	88.88	0.3161	0.3374	0.1	0.003	0.001
复现性					重复性				
Reproducibility					Repeatability				
$\Delta l(Y)$	$\Delta l(x)$		$\Delta l(y)$		$s(Y)$	$s(x)$		$s(y)$	
0.0	0.000		0.000		0.0	0.000		0.000	

说明:

Note:

1. 结论: 以上校准结果符合JJG 595-2002(准确度: 一级)技术要求。

Conclusion: The data of instrument calibrated above comply with the technical characteristics in JJG 595-2002(for accuracy Garde 1)



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校准结果符合性判断依据JJF1094-2002《测量仪器特性评定》之5.3.1和JJG 595-2002。

Decision rules of conformity are in JJF1094-2002 *Evaluation of Characteristics of Measuring Instruments* (5.3.1) and JJG 595-2002.

2. 照明与观测条件: D65 10° d/0 SCI

The condition of illuminance & observation:

3. 色度测量结果的扩展不确定度: $U(Y)=1.7$, $U(x)=U(y)=0.007$, $k=2$ 。

The expanded uncertainty of error of indication: $U(Y)=1.7$, $U(x)=U(y)=0.007$, $k=2$ 。

4. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度评定与表示》评定, 由合成标准不确定度乘以包含概率约为95%时对应的包含因子 k 得到。

The expanded uncertainty given in this certificate is evaluated according to JJF 1059.1-2012

“Evaluation and Expression of Uncertainty in Measurement”, which is obtained by multiplying the combined standard uncertainty by the coverage factor k corresponding to the coverage probability of about 95%.

5. 按规程规定:

According to the verification regulation:

一级色差计:

重复性: $s(Y)$ 不超过0.3, $s(x)$ 和 $s(y)$ 不超过0.001。

复现性: $\Delta I(Y)$ 不超过1.0, $\Delta I(x)$ 和 $\Delta I(y)$ 不超过0.002。

示值误差: ΔY 不超过1.5, Δx 和 Δy 不超过0.020。

Grade 1 colorimeters and color difference meters' MPE:

Repeatability: $s(Y)$: 0.3, $s(x)$ and $s(y)$: 0.001.

Reproducibility: $\Delta I(Y)$: 1.0, $\Delta I(x)$ and $\Delta I(y)$: 0.002.

Error of Indication: ΔY : 1.5, Δx and Δy : 0.020.

二级色差计:

重复性: $s(Y)$ 不超过0.5, $s(x)$ 和 $s(y)$ 不超过0.003。

复现性: $\Delta I(Y)$ 不超过2.0, $\Delta I(x)$ 和 $\Delta I(y)$ 不超过0.006。

示值误差: ΔY 不超过3.0, Δx 和 Δy 不超过0.025。

Grade 2 colorimeters and color difference meters' MPE:

Repeatability: $s(Y)$: 0.5, $s(x)$ and $s(y)$: 0.003.

Reproducibility: $\Delta I(Y)$: 2.0, $\Delta I(x)$ and $\Delta I(y)$: 0.006.

Error of Indication: ΔY : 3.0, Δx and Δy : 0.025.

6. 该仪器的溯源日期为本证书的“校准日期”, 按照所依据技术文件的规定, 建议复校时间间隔不超过一年。更换重要部件、维修或对仪器性能有怀疑时, 应及时校准。

The traceability date of this instrument is the "Calibration Date" on this certificate, According to the demand of reference document, next calibration is proposed within one year. In case of replacement of important parts, maintenance or doubt on the performance of the instrument, it shall be calibrated in time.