

中国计量科学研究院

National Institute of Metrology, China



中国认可
国际互认
校准
CALIBRATION
CNAS L0502

校准证书

Calibration Certificate

证书编号 GXgd2025-03339
Certificate No.

客户名称 Client	Trinidad and Tobago Bureau of Standards
器具名称 Instrument	标准光源 Standard Light Source
型号/规格 Type/Model	SLS-100W
出厂编号 Serial No.	CAL03B0177, CAL03B0259
生产厂商 Manufacturer	LISUN GROUP
联络信息 Contact Information	1-2 Century Drive, Trincity Industrial Estate, Macoya, Tunapuna Trinidad and Tobago, W. I.
校准日期 Date of Calibration	2025 年 09 月 05 日
接收日期 Date of Receiving	2025 年 08 月 29 日
批准人: Approved by	刘慧
发布日期: Date of Issue	2025 年 09 月 12 日



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中国计量科学研究院

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中国计量科学研究院（NIM）是国家最高的计量科学研究中心和国家级法定计量技术机构。1999 年授权签署了国际计量委员会（CIPM）《国家计量基(标)准和国家计量院签发的校准与测量证书互认协议》（CIPM MRA）。The National Institute of Metrology (NIM) is China's national metrology institute (NMI) and a state-level legal metrology institute. NIM is China's signatory to the Mutual Recognition of National Measurement Standards and of Calibration and Measurement Certificates Issued by National Metrology Institutes (CIPM MRA) which is arranged by the International Committee of Weights and Measures (CIPM).

质量管理体系符合 ISO/IEC17025 标准，通过中国合格评定国家认可委员会（CNAS）和亚太计量规划组织（APMP）联合评审的校准和测量能力（CMCs）在国际计量局（BIPM）关键比对数据库中公布。NIM's quality management system meets requirements of the ISO/IEC 17025. Its Calibration and Measurement Capabilities (CMCs) that are peer reviewed both by China National Accreditation Service for Conformity Assessment (CNAS) and the Asia Pacific Metrology Programme (APMP) are published in the International Bureau of Weights and Measures (BIPM) Key Comparison Database (KCDB).

2020 年，NIM 和 CNAS 就认可领域的技术评价活动签署了谅解备忘录，承认 NIM 的计量支撑作用和出具的校准/检测结果的溯源效力。NIM and CNAS signed a Memorandum of Understanding (MOU) for Recognition of Technical Assessment in Laboratory Accreditation Field in 2020, in which CNAS recognizing the technical supporting role of NIM in laboratory accreditation and the traceability of NIM's calibration / test results.

校准结果不确定度的评估和表述均符合 JJF1059 系列标准的要求。The evaluation and expression of uncertainty of the calibration results are in line with the requirements of JJF1059 series standards.

校准所依据/参照的技术文件（代号、名称）Reference documents (Code,Name)

参照 JJF 1976-2022 平均颜色温度标准灯校准规范/Refer to JJF 1976-2022 Calibration Specification for Averaged Color Temperature Standard Lamp

参照 JJG 247-2008 总光通量标准白炽灯检定规程/Refer to JJG 247-2008 Verification regulation of Incandescent standard lamp for total luminous flux

校准环境条件及地点 Calibration place and environment

温度 Temperature: (24.0-25.0) °C 地点 Location: 和-13-115

湿度 Humidity: (58-60) % RH 其它 Others: /

校准使用的计量基（标）准装置(含标准物质)/主要仪器

Reference Standards (Including the Reference Material) / Instruments used

名称 Name	测量范围 Measurement Range	不确定度/ 准确度等级 Uncertainty/Accuracy	证书编号 Certificate No.	证书有效期至 Due Date (YYYY-MM-DD)
平均颜色温度标准灯校准装置 Measurement standard for averaged color temperature standard lamp	(2300~3000)K (3000~6500)K	$U = (7 \sim 10) \text{ K } (k=2)$ $U = (10 \sim 35) \text{ K } (k=2)$	[2023] 国量标 证字第 461 号	2028-10-21
标准光源 Standard lamp	(100 ~ 5×10^3) lm	$U_{rel} = 1.2 \%$ ($k = 2$)	Gxgd2025-00922	2026-02-28

证书编号 GXgd2025-03339
Certificate No.校准结果
Calibration Results

灯 号 Lamp No.	灯电流 Lamp Current (A)	参考灯电压 Reference Lamp Voltage (V)	色品坐标 Chromaticity Coordinate		平均颜色温度 Averaged Color Temperature (K)		
			<i>x</i>	<i>y</i>			
SLS-100W CAL03B0177	4.0200	21.52	0.4479	0.4080	2856		
以 5nm 为间隔的相对光谱功率分布数据 (380nm-780nm) : The relative spectral power distribution data (380nm-780nm) with interval 5nm:							
波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power
380	0.02591	385	0.03225	390	0.03866	395	0.04483
400	0.05259	405	0.06024	410	0.06784	415	0.07588
420	0.08398	425	0.09227	430	0.10072	435	0.10959
440	0.11900	445	0.12817	450	0.13763	455	0.14839
460	0.15855	465	0.16885	470	0.17978	475	0.19074
480	0.20172	485	0.21363	490	0.22570	495	0.23821
500	0.25064	505	0.26337	510	0.27680	515	0.28956
520	0.30334	525	0.31725	530	0.33135	535	0.34580
540	0.36064	545	0.37472	550	0.38979	555	0.40426
560	0.41952	565	0.43473	570	0.44976	575	0.46494
580	0.48019	585	0.49552	590	0.51044	595	0.52560
600	0.54078	605	0.55620	610	0.57067	615	0.58650
620	0.60145	625	0.61667	630	0.63100	635	0.64666
640	0.66089	645	0.67542	650	0.68951	655	0.70447
660	0.71846	665	0.73226	670	0.74635	675	0.76064
680	0.77347	685	0.78765	690	0.80105	695	0.81462
700	0.82607	705	0.83925	710	0.85196	715	0.86348

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Calibration Results

波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power
720	0.87506	725	0.88667	730	0.89823	735	0.91026
740	0.92135	745	0.93202	750	0.94232	755	0.95273
760	0.96222	765	0.97203	770	0.98182	775	0.99080
780	1.00000						

说明:

Specification:

1. 直流稳流、稳压电源供电, 校准时以控制灯电流为准。

During calibration use a constant current and voltage DC power supply, and control the current of the lamp.

2. 校准结果的不确定度: 平均颜色温度 $U=14\text{ K}$ ($k=2$), 色品坐标 $U=0.0015$ ($k=2$)。The uncertainty of calibration results: averaged color temperature $U=14\text{ K}$ ($k=2$), chromaticity coordinate $U=0.0015$ ($k=2$)。

3. 下次送检请带此证书复印件。

Please take a copy of the certificate at next calibration.

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证书编号 GXgd2025-03339
Certificate No.

校准结果

Calibration Results

灯 号 Lamp No.	灯电流 Lamp Current (A)	参考灯电压 Reference Lamp Voltage (V)	色品坐标 Chromaticity Coordinate		平均颜色温度 Averaged Color Temperature (K)		
			<i>x</i>	<i>y</i>			
SLS-100W CAL03B0259	4.0050	21.41	0.4479	0.4082	2856		
以 5nm 为间隔的相对光谱功率分布数据 (380nm-780nm) : The relative spectral power distribution data (380nm-780nm) with interval 5nm:							
波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power
380	0.02513	385	0.03121	390	0.03759	395	0.04411
400	0.05184	405	0.05985	410	0.06715	415	0.07541
420	0.08347	425	0.09190	430	0.10048	435	0.10931
440	0.11873	445	0.12818	450	0.13760	455	0.14854
460	0.15845	465	0.16888	470	0.18003	475	0.19099
480	0.20202	485	0.21416	490	0.22599	495	0.23848
500	0.25117	505	0.26394	510	0.27728	515	0.29035
520	0.30387	525	0.31785	530	0.33185	535	0.34646
540	0.36120	545	0.37577	550	0.39052	555	0.40567
560	0.41994	565	0.43561	570	0.45067	575	0.46614
580	0.48123	585	0.49652	590	0.51170	595	0.52660
600	0.54158	605	0.55721	610	0.57147	615	0.58716
620	0.60213	625	0.61739	630	0.63177	635	0.64762
640	0.66180	645	0.67598	650	0.69042	655	0.70489
660	0.71920	665	0.73317	670	0.74699	675	0.76116
680	0.77410	685	0.78847	690	0.80144	695	0.81507
700	0.82644	705	0.83993	710	0.85277	715	0.86397

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Calibration Results

波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power	波长 Wavelength (nm)	相对光谱 功率 Relative Spectral Power
720	0.87483	725	0.88717	730	0.89852	735	0.91086
740	0.92144	745	0.93220	750	0.94221	755	0.95306
760	0.96243	765	0.97243	770	0.98208	775	0.99124
780	1.00000						

说明:

Specification:

1. 直流稳流、稳压电源供电, 校准时以控制灯电流为准。

During calibration use a constant current and voltage DC power supply, and control the current of the lamp.

2. 校准结果的不确定度: 平均颜色温度 $U=14\text{ K}$ ($k=2$), 色品坐标 $U=0.0015$ ($k=2$)。The uncertainty of calibration results: averaged color temperature $U=14\text{ K}$ ($k=2$), chromaticity coordinate $U=0.0015$ ($k=2$)。

3. 下次送检请带此证书复印件。

Please take a copy of the certificate at next calibration.

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Certificate No.

校准结果 Calibration Results

灯号 Lamp No.	灯电流 Lamp Current (A)	参考灯电压 Reference Lamp Voltage (V)	总光通量 Total Luminous Flux (lm)
SLS-100W CAL03B0177	4.0200	21.52	1393
SLS-100W CAL03B0259	4.0050	21.41	1402

说明: Specification:

1. 直流稳流、稳压电源供电, 校准时以控制灯电流为准。

During calibration use a constant current and voltage DC power supply, and control the current of the lamp.

2. 总光通量校准结果的不确定度为 $U_{rel} = 1.5\%$ ($k=2$)。

The uncertainty of total luminous flux calibration results is $U_{rel} = 1.5\%$ ($k=2$)

3. 下次送检请带此证书复印件。

Please take copy of the certificate at next calibration.

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建议 Suggestion:

根据校准规范 JJF1976-2022 的规定, 通常情况下 12 个月校准一次。

According to the calibration specification JJF1976-2022, the recommended calibration cycle is 12 months.

声明 Statement:

1. 我院仅对加盖“中国计量科学研究院校准专用章”的完整证书负责。

NIM is ONLY responsible for the complete certificate with the calibration stamp of NIM.

2. 本证书的校准结果仅对所校准的计量器具有效。

The certificate is ONLY valid for the calibrated instrument.

3. 本证书用中英文两种语言表达, 准确含义以中文为准。

The certificate is reported in both English and Chinese, with the Chinese version as standard.

校准员:

赵伟强

Calibrated by

核验员:

刘慧

Checked by