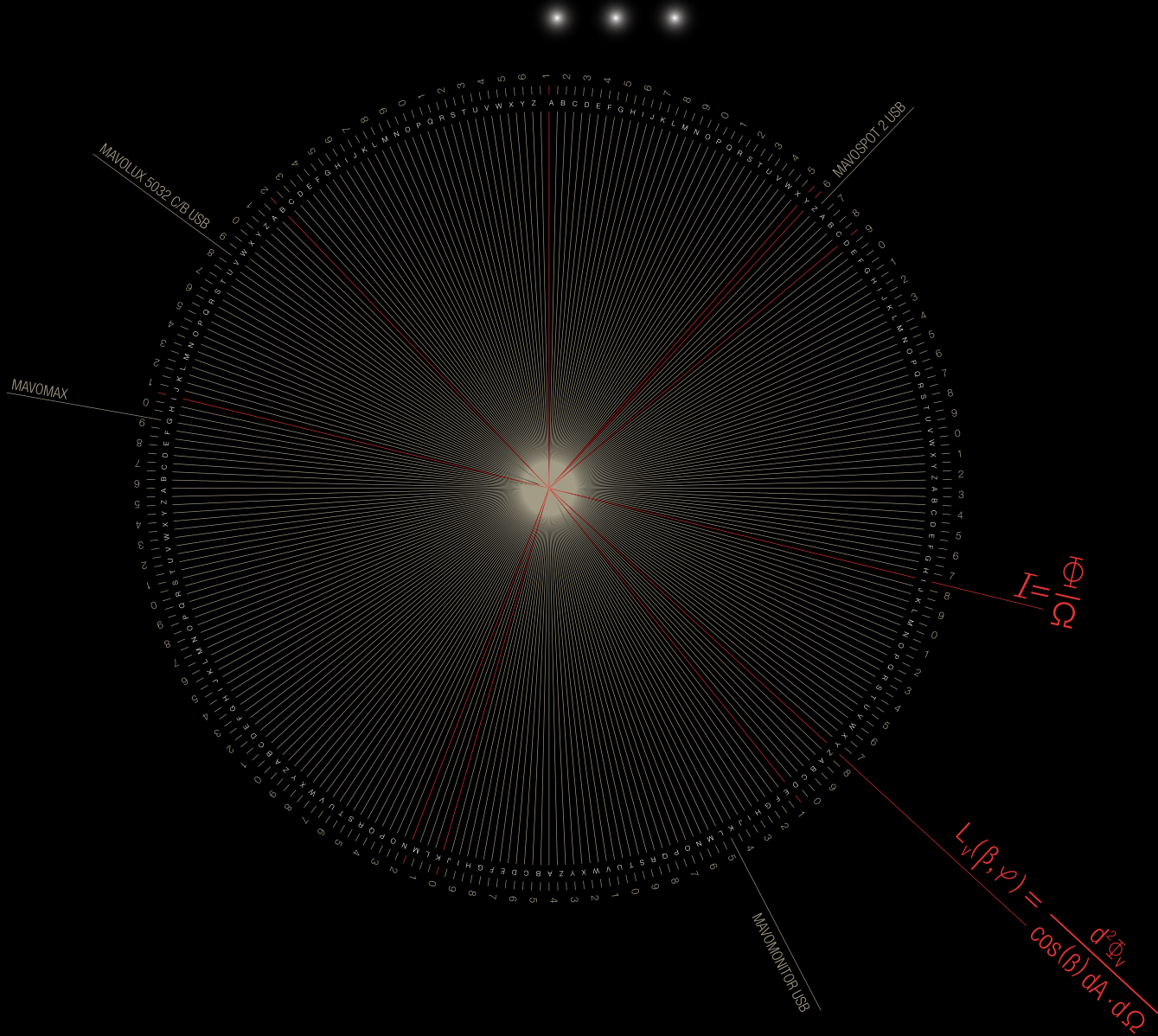


Light Measuring



PRECISION

GOSSEN Foto- und Lichtmesstechnik – Your Guarantee for Precision and Quality **MADE IN GERMANY**

GOSSEN Foto- und Lichtmesstechnik is specialized in the measurement of light, and has decades of experience in its chosen field. Continuous innovation is the answer to rapidly changing technologies, norms and markets. The outstanding quality of our products is assured by means of production in Germany and a certified quality management system in accordance with ISO 9001.

Reliable measurement results with defined error limits are guaranteed by luminance meters and luxmeters classified in accordance with DIN 5032-7 and DIN EN 13032-1. This ensures that quality inspections, reference measurements and assessments conducted with these meters deliver accurate statements.

Calibration certificates and recalibration at regular intervals are required for use in quality-relevant applications and for assessments. The GOSSEN Light Lab offers these services, even for products from other manufacturers, and issues factory calibration certificates. The optical bench used for this purpose is subject to strict test equipment monitoring, and is retraceable to the PTB

in Germany (Highest technical authority under the auspices of the Federal Ministry of Economics and Technology). Aside from the PTB, our lab is the first in Germany to be accredited for illuminance by DAkkS (German accreditation authority), and is thus authorized to issue internationally recognized DAkkS calibration certificates. This assures that acquired measured values comply with official regulations and norms, which also stand up to legal argumentation.

Longstanding customers from industry, the public authorities and the field of medical engineering hold the products and services offered by GOSSEN Foto- und Lichtmesstechnik in high esteem, are pleased to receive our expert advice, and ask us to implement their special requirements.

Illuminance (abbreviation: E, unit of measure: lux)



indicates with how much intensity an area is illuminated. It amounts to one lux when a luminous flux of one lumen illuminates a surface of one square meter. This corresponds roughly to a normal candle flame at a distance of one meter.

Luxmeters are used to measure illuminance at horizontal and vertical surfaces. However, illuminance does not indicate the brightness impression of a room, because this depends to a great extent on the room's reflective characteristics. A white room gives a much brighter impression than a dark room.

With normal lighting, uniform light distribution is not achieved as a rule, for which reason specifications in the standards usually make reference to average illuminance. This value is calculated as the weighted arithmetic mean of all illuminance values in the room.

Applications

GOSSEN's precision luxmeters are used for planning, installation, testing and monitoring of lighting systems, as well as for adhering to lighting conditions for hygienic, physiological, psychological and/or safety reasons. Scope of validity, terminology, responsibilities, requirements and practical guidelines are set forth to a great extent in the standards.

- Monitoring of workstations and public buildings, as well as compliance with regulations for working places, trade association directives and official norms
- Measurement of emergency lighting
- Repair and maintenance in production facilities, offices and hospitals
- Inspection of light sources for street lighting
- Monitoring of sports facilities and parks
- Quality assurance for manufacturers of illuminants and lamps
- Planning of lighting effects by light designers and architects
- Adherence to illuminance requirements in the fields of farming and forestry.
- Research and development at light engineering facilities

QUALITY



Luminance (abbreviation: L, unit of measure: cd per m²)

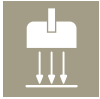


indicates the brightness impression perceived by the eye when positioned in front of a back-lighted or illuminated surface. It describes the physiological effect of light on the eye, and is used as a planning factor for outdoor lighting.

Applications

GOSSEN's precision luminance meters are used for distance and contact measurements for all types of light sources. For the purpose of adhering to applicable norms, this allows for testing of minimum and maximum luminosity, assurance of quality requirements specified for products with displays or lamps, ascertainment of maintenance requirements due to aging, and optimization of illumination uniformity. Scope of validity, terminology, responsibilities, requirements and practical guidelines are set forth to a great extent in the standards.

- Acceptance and constancy testing for image display devices in the field of medical engineering.
- Contrast measurements at workstations (work safety directives)
- Measurement of lighting for streets, tunnels, railways and airports, as well as signal systems
- Luminance measurements for CRTs, LCDs, LEDs and plasma displays.
- Lighting in museums and public buildings
- Lighting for sports facilities
- Testing for consistent lighting of projection screens
- Measurement of lighting installations, lightboxes and outdoor advertising



MAVOLUX 5032 C BASE

This precision luxmeter

is classified according class C in accordance with DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69. The high-end V(λ) matching and cosine correction guarantees the reliably measure for illuminance of daylight and artificial sources of light. Even in the case of very bright sunlight or illumination from headlights, no accessories are required.

MAVOLUX 5032 C BASE

Due to its class C accuracy, this meter is used primarily as an industrial measuring instrument for planning, installing, inspecting and monitoring lighting systems, as well as for the assurance of compliance with specified lighting conditions.

Its four measuring ranges with automatic or manual range selection cover a broad span from 0.1 to 199,900 lx with an accuracy level of $\pm 3\% \pm 1$ digit. V(λ) matching deviation, which amounts to $f1' < 7.5\%$, is considerably better than the permissible error limit for class C specified in the standards. At GOSSEN, great emphasis is placed upon reliability by means of calibration. For purposes of substantiation, a factory calibration certificate or a DAkkS calibration certificate can be ordered along. Depending on how the meter is used, we recommend a calibration interval of 12 to 24 months.





Specifications

Maximum reliability –

Classified measurement of illuminance in lx or fc in accordance with class C per DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69.

Precise Measured Values –

Accuracy amounts to $\pm 3\% \pm 1$ digit of the display value.

Broad measuring range –

High initial sensitivity and a resolution of 0.1 lx or 0.01 fc, right on up to large illuminance values of 199,900 lx or 19,990 fc.

Calibration Capability –

As an option, the accredited GOSSEN Light Lab can issue a factory or a DAkkS calibration certificate for measuring equipment monitoring in accordance with DIN EN ISO 9001:2008.

V(λ) matching –

The spectral sensitivity of the silicon photodiode is color corrected and corresponds to the spectral brightness sensitivity of the human eye V(λ).

Cosine correction –

The luminosity of a flat measuring surface is proportional to the cosine of the incident angle of light. This relationship is taken into consideration by the receiver during evaluation.

Non-volatile memory –

100 measured values can be saved and retrieved.

Convenient everyday use –

Simple operation, easy to read display, compact design. Optionally there is valuable plastic carrying case available.



MAVOLUX 5032 B/C USB

This high precision luxmeter

is available in class B and class C versions in accordance with DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69. Both variants are equipped with $V(\lambda)$ adaptation as well as cosine correction, and reliably measure the illuminance of daylight and artificial sources of light. Even in the case of very bright sunlight or light from headlights, no accessories are required.

Due to its outstanding accuracy in accordance with class B, the MAVOLUX 5032 B USB is used primarily for certification and inspection applications. An additional measuring range with high initial sensitivity of 0.01 lx makes it possible to measure extremely small light intensities. This even permits reliable measurement of emergency lighting. After pressing the HOLD key, the measured value is saved to memory and display illumination included with this version is activated, making it possible to read the display in dark environments. Adaptation to the spectral brightness sensitivity of the human eye $V(\lambda)$ is highly precise with minimal deviation of just $f1' < 3\%$.

With accuracy according to class C, the industrial luxmeter Mavolux 5032 C USB is primarily used for general applications. The smallest of four measuring ranges begins with an initial sensitivity of 0.1 lx. $V(\lambda)$ adaptation deviation,

which amounts to $f1' < 7.5\%$, is considerably better than the admissible error limit for class C.

Both variants can be used as unclassified luminance meters with the help of an optional luminance attachment with an acceptance angle of 15° . Luminance is measured in candelas per square meter (cd/m^2) or foot-lamberts (fL), and defines the perceived brightness of a back-lighted or reflecting surface.

At GOSSEN, great emphasis is placed upon reliability by means of calibration. For purposes of documented evidence, a factory calibration certificate or a DAKKS calibration certificate can be ordered along with either variant. Depending on how the meter is used, we recommend a calibration interval of 12 to 24 months.





Specifications

Maximum precision – Classified measurement of illuminance in lx or fc in accordance with class B or class C per DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69.

Broad measuring range – High initial sensitivity and a resolution of 0.01 lx or 0.001 fc for the MAVOLUX 5032 B USB, right on up to large illuminance values of 199,900 lx or 19,990 fc.

V(λ) adaptation – The spectral sensitivity of the silicon photodiode is color corrected and corresponds to the spectral brightness sensitivity of the human eye V(λ). The quality of this adaptation represents a significant difference between the class B and class C variants.

Cosine correction – The luminosity of a flat measuring surface is proportional to the cosine of the incident angle of light. This relationship is taken into consideration by the sensor during evaluation.

Simple expansion of functions – Unclassified measurement of luminance in cd/m^2 or fL is made possible by the optional luminance attachment. An additional adapter disc prevents erroneous measurements due to incidence of light from the side.

Convenient everyday use – Simple operation, easy to read display, compact design, protection during transport in a high quality aluminum case.

Non-volatile memory – 100 measured values can be saved, retrieved or transmitted to a PC via the integrated USB port. Average illuminance values can also be calculated as a result.

Computer-aided measurement – The meter's continuous operating mode is assured thanks to power supply via the USB port. Meter control, as well as reading, display and storage of measured values, is managed with GLUX 2 software, included in the delivery contents.



MAVO-MONITOR USB

MAVO-MONITOR

This high precision luminance meter for contact measurement is assigned to class B in accordance with DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69, and measures the perceived light of back-lighted surfaces in candelas per square meter (cd/m^2) or foot-lamberts (fL). It is the excellent adaptation to the spectral spectral brightness sensitivity of the human eye with a minimum deviation of only $f1' < 3\%$ that is significantly better than

the specifications demanded in the standard. After pressing the HOLD key, the measured value is saved to memory and display illumination is activated, making it possible to read the display in dark environments.

The included adapter disc protects the meter from incidence of light from the side during measurement, and the velvety coating prevents scratching of self-luminous and back-lighted surfaces. In industrial, commercial and service applications, luminance can be measured at monitors of any type, TV screens, lightboxes, illuminated advertising surfaces, traffic signs and focusing screens.

Special tests for proving and observing norms and standards for quality, general safety, work protection, as well as safety on monitors in the field of medical diagnostics and office technology may get its documented evidence by means of our factory Calibration Certificate. Depending on how the meter is used, we recommend a calibration interval of 12 to 24 months.





Specifications

Maximum precision – Classified measurement of luminance in cd/m^2 or fL in accordance with class B per DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69.

Broad measuring range – High initial sensitivity and a resolution of $0.01 \text{ cd}/\text{m}^2$ or 0.001 fL , right on up to $19,990 \text{ cd}/\text{m}^2$ or 1999 fL .

$V(\lambda)$ adaptation – The spectral sensitivity of the silicon photodiode is color corrected and corresponds to the spectral brightness sensitivity of the human eye $V(\lambda)$.

Convenient everyday use – Simple operation, easy to read display, compact design, protection during transport in high quality aluminum case.

Non-volatile memory – 100 measured values can be saved, retrieved or transmitted to a PC via the integrated USB port. Average luminance values can also be calculated as a result.

Computer-aided measurement – The meter's continuous operating mode is assured thanks to power supply via the USB port. Meter control, as well as acquisition, display and storage of measured values, is managed with included GLUX 2 software.



LED
compatible

MAVO-SPOT 2 USB



Specifications

Maximum precision – Classified spot metering of luminance with an acceptance angle of 1° in cd/m^2 or fL in accordance with class B per DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69.

Precision focusing – The mirror reflex with a 1° measuring circle and a 15° field of view is laid out for distance measurements from 1 meter to infinity, with optional close-up lenses for focusing as of 34 cm.

Contact measurement – Contact measurement can be performed with an optional probe and adapter disc.

Broad measuring range – High initial sensitivity and a resolution of 0.01 to 99,900 cd/m^2 or 0.01 to 30,000 fL.

Comparative and ratio measurement – Contrast A/B, consistent lighting %A and deviation A-B are calculated and directly displayed.

V(λ) adaptation – The spectral sensitivity of the silicon photodiode is color corrected and corresponds to the spectral brightness sensitivity of the human eye V(λ).

Simple functions expansion – Unclassified measurement of illuminance in lx or fc is possible with the optional reflectance standard.

Convenient everyday use – Simple operation with one hand, easy to read viewfinder display, compact design, $\frac{1}{4}$ " tripod thread, protection during transport in high quality aluminum case.

Non-volatile memory – 1000 measured values or 10 groups of 100 measured values can be saved, retrieved or transmitted to a PC via the integrated USB port.

Computer-aided measurement – The meter's continuous operating mode is assured thanks to power supply via the USB port. Meter control, as well as acquisition, display and storage of measured values, is managed with included GLUX 2 software.

EIZO RadiCS – The meter is integrated into the software and can be used for comprehensive testing and automatic adjustment of RadiForce monitors, in order to assure constant and consistent image reproduction.

This high precision luminance meter

for distance measurement with an acceptance angle of 1° is assigned to class B in accordance with DIN 5032-7, appendix B of DIN EN 13032-1 and CIE 69. It measures the perceived brightness of back-lighted surfaces in candelas per square meter (cd/m^2) or foot-lamberts (fL) in consideration of ambient light.

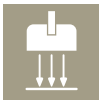
MAVO-SPOT 2 USB

Is equipped with an excellent adaptation to the spectral brightness sensitivity of the human eye $V(\lambda)$ and is highly precise with a minimal deviation of just $f1' < 3\%$, which is significantly better than specified in the standard. By means of the mirror reflex optics, the measuring subject may be targeted precisely in a 15° field of view and a sharply marked 1° measuring circle in the center of the viewfinder. Focus can be set for distances ranging from 1 meter to infinity. Shorter distances as of 34 cm are made possible by means of optional close-up lenses. Alternatively, contact measurement can also be performed with an optional, top quality probe. The velvety coating on the adapter disc prevents scratching of self-luminous and back-lighted surfaces. Measurement functions are selected and measurements are started with convenient on-hand operation. The display on the viewfinder is activated

along with back-light by simply pressing a key. The comparative and ratio measurements are especially advantageous, by means of which deviation of measured value B from reference value A is evaluated and displayed. The relationship A/B is used for contrast measurement at workstations. Percentage deviation $\%A$ allows for an assessment of the consistency of monitor screens and projection screen lighting, and difference $A-B$ is used to detect deviation during the production process.

Special tests for proving and observing norms and standards for quality, general safety, work protection, as well as safety on monitors in the field of medical diagnostics and office technology may get its documented evidence by means of our factory Calibration Certificate. Depending on how the meter is used, we recommend a calibration interval of 12 to 24 months.





MAVOMAX

MAVOMAX

completes the application of every diagnostic monitor or light box for medical applications according to norm DIN 6856-1. It guarantees consistent lighting and performs light surveillance for monitors in accordance with norm DIN EN IEC 61223-2-5 (QS-RL dated 20 Nov. 2003) and DIN 6868-157.

The surveillance of the ambient light extends the standards-specified interval for constancy testing of image display devices for veiling luminance and maximum contrast to 6 months. In the case of repeat measurements within the framework of acceptance or constancy testing, veiling luminance need not be measured again, and the 60-minute waiting time until the image display device has reached a stable state is eliminated. Further applications would also be the surveillance of the conditions for dimmable light as well as for external workstations for emergency diagnostics.



Specifications

Constant lighting conditions – A green LED indicates adherence to the admissible indoor light range for diagnostics, and a red LED indicates violation of this range.

Reduced testing effort – The Surveillance of ambient light extends the standards-specified interval for constancy testing of image display devices for veiling luminance and maximum contrast to 6 months. In the case of repeat measurements, there is no need to repeat the veiling luminance measurement.

Selectable indoor light range – Three variants are available: one for general applications MAVOMAX 60 (20 to 60 lx), one for diagnostic rooms MAVOMAX RK1 (10 to 50 lx) and one for diagnostic medical and dental workstations MAVOMAX RK2 RK5 (50 to 100 lx) corresponds to RK per standard DIN 6868-157.

Flexible power supply – Electrical power for the continuous operating mode is supplied to the meter by connecting it to a free USB port or the included mains power pack.



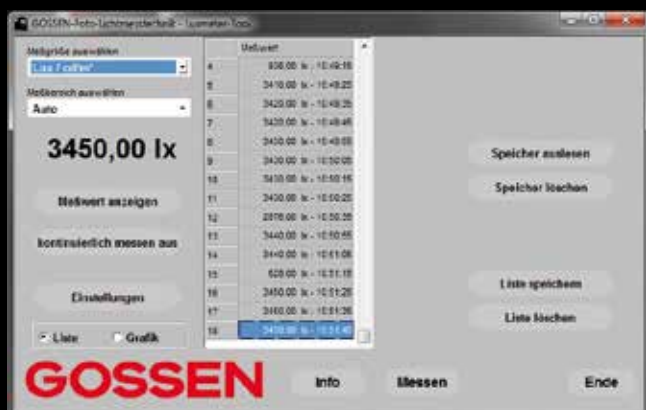


GLUX 2 SOFTWARE

GLUX 2 Software

Intuitive GLUX software is the link between the meter and customer-specific further processing at the PC. Momentary or stored measured values can be transmitted, saved as TXT files and read in by word processing, spreadsheet and database applications.

This allows for inclusion in the user's own reports, additional calculations and extensive archiving. GLUX is also capable of recording measured values at an adjustable interval for the creation of light profiles and for long-term monitoring. After connection to a USB port, the meter is supplied with electrical power from the PC. The complete interface description simplifies integration into the user's own software applications. Excel spreadsheets for measured value transfer, for reading out memory, for acceptance and constancy testing of medical image display devices per DIN 6868-157, and for measurements at workstations are included on the CD as bonus material.



Specifications

Free software – GLUX supports the MAVOLUX 5032 B/C USB, the MAVO-MONITOR USB and the MAVO-SPOT 2 USB, and is included in the delivery contents.

International use – German, English, French or Spanish can be selected.

Clear-cut display – Measured value display as list or graphic.

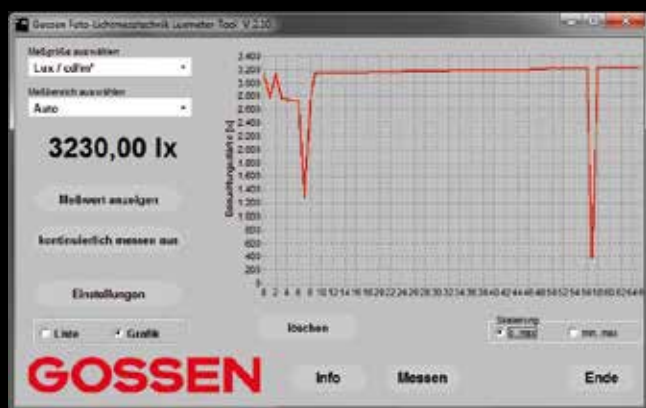
Expressive profile – Recording of selected measured quantities at an adjustable interval.

Simple data export – Storage as universal TXT file for data transmission

Comfortable continuous operation – Power supply via USB.

Open device interface – Detailed description included on the CD.

Helpful bonus material – Various Excel spreadsheets for data transfer with sample applications are included on the CD. These serve as a basis for the user's own applications.



CERTIFICATION

QM

Reliable Measured Values through Calibration at Regular Intervals

DIN EN ISO 9001-9004 demands test equipment monitoring, if this equipment is relevant for product quality or is used for the preparation of assessments. This test equipment must be calibrated at regular intervals and retraceable back to national standards. Calibration means to state and document the deviation of the meter display to an illuminant which is normed by and retraceable to a National Standard. This must be done in a specific procedure. Depending upon how the respective device is used, a calibration interval of between 12 and 24 months is recommended. A combination including receiving report, adjustment and final report is also possible for GOSSEN meters.

GMC-I Messtechnik GmbH zertifiziert nach DIN EN ISO 9001:2008 Kalibrierlabor akkreditiert nach DIN EN ISO/IEC 17025:2005		 Deutsche Akkreditierungsstelle D-K-15080-01-00
akkreditiert durch die / accredited by the Deutsche Akkreditierungsstelle GmbH als Kalibrierlaboratorium im / as calibration laboratory in the Deutschen Kalibrierdienst 		
Kalibrierschein Calibration certificate		Kalibrierzeichen Calibration mark WCore D-K- 15080-01-00 2012 - xx
Gegenstand Objekt	Beleuchtungsstärkemessgerät Illuminance meter	Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem internationalen Einheitensystem (SI). Die DAkKS ist Unterzeichner der multilateralen Übereinkommen der European co-operation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine. Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich. This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI). The DAkKS is a signatory to the multilateral agreements of European co-operation for Accreditation (EA) and of the International Laboratory Accreditation Cooperation (ILAC) for the mutual recognition of calibration certificates. The user is obliged to have the object recalibrated at appropriate intervals.
Hersteller Manufacturer	GOSSEN Foto- und Lichtmesstechnik GmbH	
Typ Type	MAVOLUX 9033B (USB)	
Fabrikat/Serien-Nr. Serial Number	1072404	
Auftraggeber Customer	Muster GmbH	
Auftragsnummer Order No.	xxxxxx	
Anzahl der Seiten des Kalibrierscheines Number of pages of the certificate	4	
Datum der Kalibrierung Date of calibration	10.01.2012	
Dieser Kalibrierschein darf nur vollständig und unverändert weitervertrieben werden. Auszüge oder Änderungen bedürfen der Genehmigung sowohl der Deutschen Akkreditierungsstelle GmbH als auch des ausstehenden Kalibrierlaboratoriums. Kalibrierscheine ohne Unterschrift haben keine Gültigkeit. This calibration certificate may not be reproduced other than in full except with the permission of both the Deutsche Akkreditierungsstelle GmbH and the issuing laboratory. Calibration certificates without signature are not valid.		
Datum Date	12.01.2012	Beauftragter Person in charge  Bickel
GOSSEN Foto- u. Lichtmesstechnik GmbH Liebknecht-Str. 22 D 90471 Nürnberg www.gossen-photo.de		GOSSEN Kalibrierlabor Bickel
Anfragen, Termine, Preise, Abwicklung, Beratung Leiter DAkKS Kalibrierlaboratorium www.dkd-kalibrierzentrum.de		Tel.: 0911 / 8602-181 Fax: - 142 Tel.: 0911 / 8602-272 Fax: - 214 www.dkd.de KSS1AB

Strictest Standards for the GOSSEN Light Lab

The GOSSEN Light Lab is equipped with a tested and monitored optical bench, whose traceability to the national standard maintained by the PTB (Highest technical authority under the auspices of the Federal Ministry of Economics and Technology) is guaranteed by means of a W41G standard lamp. The lab is subject to test equipment monitoring in accordance with DIN EN ISO 9001-9004, and is additionally accredited for illuminance by DAkKS in accordance with DIN EN ISO/IEC 17025 under registration number D-K-15080-01-01. Therefore the reliability of the product quality, the competence of all personnel involved, continuous external auditing and international recognition of the calibration service is a given fact. GOSSEN offers two different calibration certificates.

Factory Calibration Certificate

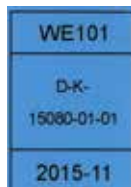
The factory calibration certificate comprises testing and documentation of 14 different luminosities over the entire measuring range of 0.00 to 20,000 lx with a measuring uncertainty of 3 %. Date of calibration, the device's serial number, reference conditions, identification of utilized test equipment and admissible deviations are listed as well in accordance with the standards.

DAkKS Calibration Certificate

The DAkKS calibration certificate comprises testing and documentation of luminosities including 10, 180 and 1800 lx within the DAkKS certified range of 1.75 to 2000 lx with a measuring uncertainty of 1.5 %. Type of calibration, calibration device, calibration method, measurement conditions, measurement results and measurement uncertainty are described in detail as well. Calibration is limited to luxmeters which comply with at least class C in accordance with DIN 5032 or DIN EN 13032.

Calibration of Devices from Other Manufacturers

After determining that devices from other manufacturers are capable of being calibrated, we are pleased to issue either a DAkKS or a factory calibration certificate. If the device does not comply with at least class C, only factory calibration can be offered. Devices from other manufactures cannot be adjusted.



TECHNICAL DATA



MAVOLUX 5032 B USB

MAVOLUX 5032 C USB

Model	MAVOLUX 5032 B USB	MAVOLUX 5032 C USB
Type	Precision Luxmeter	Precision Luxmeter
Classification	Class B DIN 5032-7 / DIN EN 13032-1, appendix B	Class C DIN 5032-7 / DIN EN 13032-1, appendix B
Item number	M503N	M502N
Illuminance	0.01 lx ... 199,900 lx / 0.001 fc ... 19,990 fc	0.1 lx ... 199,900 lx / 0.01 fc ... 19,990 fc
Luminance	0.1 cd/m ² ... 1,999,000 cd/m ² / 0.01 fL ... 199,900 fL With optional luminance attachment, not classified	1 cd/m ² ... 1,999,000 cd/m ² / 0.1 fL ... 199,900 fL With optional luminance attachment, not classified
Measuring ranges	5	4
Measuring range selection	Automatic / manual	Automatic / manual
Measuring rate	2 per second	2 per second
Measuring method	Distance measurement, Contact measurement with optional luminance attachment	Distance measurement, Contact measurement with optional luminance attachment
Measuring sensor	Silicon photodiode with V (λ) filter	Silicon photodiode with V (λ) filter
Probe with tripod thread	Yes	Yes
Measurement cable	1.5 m, plug-in	1.5 m, firmly connected
Measured value memory	100 measured values	100 measured values
Error limit - V(λ) adapted (f1'), typical	< 3 %	< 7,5 %
Error limit - overall error, typical	≤ 8 %	≤ 15 %
Accuracy	± 3 % of reading ± 1 digit	± 3 % of reading ± 1 digit
Display	3 1/2 digit LCD	3 1/2 digit LCD
Back-Light	Yes	
Operating elements	6 keys	6 keys
Interface	USB 1.1	USB 1.1
Software	GLUX 2	GLUX 2
Battery	1.5 V mignon, type AA	1.5 V mignon, type AA
Automatic battery control	Yes	Yes
Automatic shutdown	4 min. / continuous operation	4 min. / continuous operation
Battery service life	Approx. 45 hours with alkaline manganese battery	Approx. 45 hours with alkaline manganese battery
Power supply	USB	USB
Operating temperature	0 °C to 50 °C	0 °C to 50 °C
Dimensions	65 mm x 120 mm x 19 mm (meter) 31 mm x 105 mm x 30 mm (probe)	65 mm x 120 mm x 19 mm (meter) 31 mm x 105 mm x 30 mm (probe)
Weight	200 g without battery	200 g without battery
Certificates	Factory certificate - H997B DAkkS certificate - H997D	Factory certificate - H997B DAkkS certificate - H997D
Delivery contents	Aluminum case, GLUX 2 software USB cable, battery, operating instructions	Aluminum case, GLUX 2 software USB cable, battery, operating instructions



Measuring functions

Operation

Power supply

Miscellaneous



MAVOLUX 5032 C BASE



MAVO-SPOT 2 USB

		Model
Precision Luxmeter	Precision Luminance Meter	Type
Class C DIN 5032-7 / DIN EN 13032-1, appendix B	Class B DIN 5032-7 / DIN EN 13032-1, appendix B	Classification
M502B	M508G	Item number
0.1 lx ... 199,900 lx / 0.01 fc ... 19,990 fc	0.1 ... 99,900 lx	Illuminance
	With optional reflectance standard, classified	
	0.01 cd/m ² ... 99,990 cd/m ² / 0.01 fL ... 30,000 fL	Luminance
4	4	Measuring ranges
Automatic / manual	Automatic / manual	Measuring range selection
2 per second		Measuring rate
Distance measurement	Distance measurem. with mirror reflex optics, acceptance angle of 1°, from 1 meter to infinity, contact measurement (with probe)	Measuring method
Silicon photodiode with V (λ) filter	Silicon photodiode with V (λ) filter	Measuring sensor
Yes	Yes	Probe with tripod thread
1.5 m, firmly connected		Measurement cable
100 measured values	1000 measured values or 10 groups of 100 measured values	Measured value memory
< 7,5 %	< 3 %	Error limit - V(λ) adapted (f1'), typical
≤ 15 %	≤ 8 %	Error limit - overall error, typical
± 3 % of reading ± 1 digit	± 2.5 % of reading ± 2 digit	Accuracy
3 1/2 digit LCD	Multifunctional LCD	Display
	Yes	Back-Light
6 keys	4 keys, 1 slider switch, 1 DIP switch	Operating elements
	USB 2.0	Interface
	GLUX 2	Software
1.5V Mignon, Typ AA	2 ea. 1.5 V mignon, type AA	Battery
Yes	Yes	Automatic battery control
4 min. / continuous operation	30 sec.	Automatic shutdown
Approx. 45 h with alkaline manganese battery	Approx. 5000 measurements	Battery service life
	USB	Power supply
0 °C to 50 °C	0 °C to 50 °C	Operating temperature
65 mm x 120 mm x 19 mm (meter)	190 mm x 90 mm x 57 mm	Dimensions
31 mm x 105 mm x 30 mm (probe)		
200 g without battery	400 g without battery	Weight
Factory calibration certificate - H997B	Factory certificate – H997B	Certificates
DAkkS calibration certificate - H997D		
Battery, operating instructions	Aluminum case, GLUX 2 software, eyecup, lens cover, USB cable, battery, operating instructions	Delivery contents



Measuring functions

Operation

Power supply

Miscellaneous

TECHNICAL DATA



Measuring functions

Operation

Power supply

Miscellaneous

Model	MAVO-MONITOR USB	MAVOMAX 60 / RK1 / RK2 RK5
Type	Precision Luminance Meter	Indoor Light Surveillance Meter
Classification	Class B DIN 5032-7 / DIN EN 13032-1, appendix B	
Item number	M504G	M518G / M517G / M522G
Illuminance		20 lx ... 60 lx / 10 lx ... 50 lx / 50 lx ... 100 lx
Luminance	0.01 cd/m ² ... 19,990 cd/m ² / 0.001 fL ... 1,999 fL	
Measuring ranges	4	1
Measuring range selection	Automatic / manual	
Measuring rate	2 per second	
Measuring method	Contact measurement	
Measuring sensor	Silicon photodiode with V (λ) filter	Silicon photodiode with V (λ) filter
Probe with tripod thread	Yes	
Measurement cable	1.5 m, plug-in	
Measured value memory	100 measured values	
Error limit - V(λ) adapted (f1'), typical	< 3 %	
Error limit - overall error, typical	≤ 8 %	
Accuracy	± 2.5 % of reading ± 2 digit	
Display	3½ digit LCD	2 LEDs
Back-Light	Yes	
Operating elements	6 keys	
Interface	USB 1.1	
Software	GLUX 2	
Battery	1.5 V mignon, type AA	
Automatic battery control	Yes	
Automatic shutdown	4 min. / continuous operation	
Battery service life	Approx. 45 hours with alkaline manganese battery	
Power supply	USB	By permanently connected USB cable
Operating temperature	0 °C to 50 °C	0 °C to 50 °C
Dimensions	65 mm x 120 mm x 19 mm (meter) 31 mm x 105 mm x 30 mm (probe)	40 mm x 33 mm x 23 mm
Weight	265 g without battery	150 g
Certificates	Factory certificate – H997B	
Delivery contents	Aluminum case, adapter disc, GLUX 2 software, USB cable, battery, operating instructions	Power pack with USB socket 90 to 240 V (50 to 60 Hz), operating instructions



COMPONENT PART

MAVOLUX 5032 B USB



Luminance attachment – M516G



Adapter disc – M499G

Measurement cables with special lengths:

3 m - 15146

5 m - 15147

10 m - 15148

MAVOLUX 5032 C USB



Luminance attachment – M516G



Adapter disc – M499G

Measurement cables with special lengths:

3 m - 15143

5 m - 15144

10 m - 15145

MAVOLUX 5032 C BASE



Plastic carrying case – M520G

Delivered without measuring device

MAVO-SPOT 2 USB



Probe for contact measurement – M511G



Reflectance standard for lux measurement – M512G



Close-up lens 1 (51 to 100 cm) – M496G

Close-up lens 2 (34 to 50 cm) – M497G



Stray-light baffle – M513G



Carrying strap – M514G



GOSSEN Foto- und Lichtmesstechnik GmbH | Lina-Ammon-Str. 22 | 90471 Nürnberg | Germany
Tel: + 49 (0) 911 8602 - 181 | Fax: +49 (0) 911 8602 - 142

www.gossen-photo.de