

Test method	Tested Characteristics	Testing standard
<b>MB-60598-1</b> Luminaires - Part 1: General requirements and tests	Characteristics and properties for safety assessment of use: - durability of marking, - current and power consumption, - durability of electrical and mechanical connections,	PN-EN IEC 60598-1:2021-07 PN-EN IEC 60598-1:2021-07/A11:2022-12 EN IEC 60598-1:2021 EN IEC 60598-1/A11:2022 IEC 60598-1:2020
<b>MB-60598-2-1</b> Luminaires - Part 2-1: Particular requirements - Fixed general purpose luminaires	- mechanical strength and resistance to mechanical shocks,	PN-EN IEC 60598-2-1:2021-09 EN IEC 60598-2-1:2021 IEC 60598-2-1:2020
<b>MB-60598-2-2</b> Luminaires - Part 2-2: Particular requirements - Recessed luminaires	- hanging and fixing security, - photobiological hazard, - insulation resistance,	PN-EN 60598-2-2:2012 EN IEC 60598-2-2:2012 IEC 60598-2-2:2011
<b>MB-60598-2-3</b> Luminaires - Part 2-3: Particular requirements - Luminaires for road and street lighting	- electrical insulation strength, - continuity and resistance of the protective circuit, - leakage current, - resistance to dust, solid objects and water ingress, - creepage distances and clearances	PN-EN 60598-2-3:2006 PN-EN 60598-2-3:2006/A1:2012 EN 60598-2-3:2003 EN 60598-2-3:2003/corrigendum Aug. 2005 EN 60598-2-3:2003/A1:2011 IEC 60598-2-3:2002 IEC 60598-2-3:2002/AMD1:2011
<b>MB-60598-2-4</b> Luminaires - Part 2-4: Particular requirements - Portable general purpose luminaires	- thermal endurance - temperature of parts, - resistance to heat, fire and ignition	PN-EN 60598-2-4:2018-06 EN 60598-2-4:2018 IEC 60598-2-4:2017
<b>MB-60598-2-5</b> Luminaires - Part 2-5: Particular requirements - Floodlights	- corrosion resistance, - linear dimensions, - resistance to moisture, - stability.	PN-EN 60598-2-5:2016-2 EN 60598-2-5:2015 IEC 60598-2-5:2015
<b>MB-60598-2-13</b> Luminaires - Part 2-13: Particular requirements - Ground recessed luminaires		PN-EN 60598-2-13:2007 PN-EN 60598-2-13:2007/A1:2012 PN-EN 60598-2-13:2007/A11:2021-09 IEC 60598-2-13:2006 IEC 60598-2-13:2006/A1:2011 IEC 60598-2-13:2006+AMD1:2011+AMD2:2016
<b>MB-60598-2-24</b> Luminaires - Part 2-24: Particular requirements - Luminaires with limited surface temperatures		PN-EN 60598-2-24:2014-02 EN 60598-2-24:2013 IEC 60598-2-24:2013
<b>MB-60598-2-25</b> Luminaires - Part 2: Particular requirements - Section 25: Luminaires for use in clinical areas of hospitals and health care buildings		PN-EN 60598-2-25:2000 PN-EN 60598-2-25:2000/A1:2005 IEC 60598-2-25:1994 IEC 60598-2-25:1994/AMD1:2004
<b>MB-60598-2-22</b> Luminaires - Part 2-22: Particular requirements - Luminaires for emergency lighting	Characteristics and properties for safety assessment of use as for luminaires in general use, and: - emergency operation, - switching operation.	PN-EN 60598-2-22:2022-11 EN IEC 60598-2-22:2022 IEC 60598-2-22:2014/AMD1:2017 IEC 60598-2-22:2021
<b>MB-62031</b> LED modules for general lighting - Safety specifications	Characteristics and properties for safety assessment of use: - durability of marking, - dimensions and design of the terminals, - durability of electrical and mechanical connections - continuity of protective connections, - resistance of protective circuits, - protection against contact with live parts, - resistance to moisture, - resistance and electrical strength of insulation, - over-power condition, - temperature rise, - insulation creepage and clearances, - resistance to heat, flame and creepage currents, - resistance to corrosion, - photobiological hazard.	PN-EN IEC 62031:2020-08 PN-EN IEC 62031:2020-08/A11:2022-02 EN IEC 62031:2020 EN IEC 62031:2020/A11:2021 IEC 62031:2018
<b>MB-61347-1</b> Lamp controlgear - Part 1: General and safety requirements	Characteristics and properties for safety assessment of use: - durability of marking, - voltage, current and electric power consumption, shape of the current curve, - dimensions and design of the terminals,	PN-EN 61347-1:2015-09 PN-EN 61347-1:2015-09/A1:2021-06 EN 61347-1:2015 EN 61347-1:2015/A1:2021 IEC 61347-1:2015 IEC 61347-1:2015+AMD1:2017



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<p><b>MB-61347-2-11</b> Lamp controlgear - Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires</p>	<ul style="list-style-type: none"> <li>- continuity of protective connections,</li> <li>- resistance of protective circuits,</li> <li>- protection against accidental contact with live parts,</li> <li>- resistance to moisture,</li> <li>- resistance and electrical strength of insulation,</li> <li>- temperature rise under normal and abnormal conditions, including protected, thermally shielded or overheated equipment,</li> <li>- high-voltage pulse test,</li> <li>- surface and air insulation clearances,</li> <li>- durability of electrical and mechanical connections,</li> <li>- resistance to heat, fire and creepage currents,</li> <li>- resistance to corrosion,</li> <li>- short-circuit and overload protection,</li> <li>- fail-safe.</li> </ul>	<p>PN-EN 61347-2-11:2005                  PN-EN 61347-2-11:2005/AC:2011P                  PN-EN 61347-2-11:2005/A1:2019-09                  EN 61347-2-11:2001                  EN 61347-2-11:2001/corrigendum Jan. 2002                  EN 61347-2-11:2001/A1:2019                  IEC 61347-2-11:2001                  IEC 61347-2-11:2001/COR1:2001                  IEC 61347-2-11:2001/AMD1:2017</p>
<p><b>MB-61347-2-7</b> Lamp controlgear - Part 2-7: Particular requirements for electric source for safety services (ESSS) supplied electronic controlgear for emergency lighting (self-contained)</p>	<p>Characteristics and properties for the evaluation of safety in use, as for a variety of electronic systems and:</p> <ul style="list-style-type: none"> <li>- emergency operation,</li> <li>- switching operation.</li> </ul>	<p>PN-EN 61347-2-7:2012                  PN-EN 61347-2-7:2012/A1:2019-11                  EN 61347-2-7:2012                  EN 61347-2-7:2012/A1:2019                  IEC 61347-2-7:2011                  IEC 61347-2-7:2011/AMD1:2017</p>
<p><b>MB-62368-1</b> Audio/video, information and communication technology equipment - Part 1: Safety requirements</p>	<p>Characteristics and properties for safety assessment of use:</p> <ul style="list-style-type: none"> <li>- durability of marking,</li> <li>- current and power consumption,</li> <li>- durability of electrical and mechanical connections,</li> <li>- mechanical strength and resistance to mechanical shocks,</li> <li>- hanging and fixing security,</li> <li>- photobiological hazard,</li> <li>- resistance of AC and DC insulation,</li> <li>- electrical strength of AC and DC insulation,</li> <li>- continuity and resistance of the protective circuit,</li> <li>- leakage current,</li> <li>- resistance to dust, solids and water ingress,</li> <li>- insulation clearances</li> <li>- thermal endurance</li> <li>- temperature of parts,</li> <li>- resistance to heat, fire and ignition</li> <li>- corrosion resistance,</li> <li>- linear dimensions,</li> <li>- resistance to moisture,</li> <li>- stability.</li> </ul>	<p>PN-EN IEC 62368-1:2020-11                  EN IEC 62368-1:2020                  IEC 62368-1:2018                  PN-EN IEC 62368-1:2020-11/A11:2020-12                  EN IEC 62368-1:2020/A11:2020</p>
<p><b>MB-60529</b> Degrees of protection provided by enclosures (IP Code)</p>	<p>Functional features</p> <ul style="list-style-type: none"> <li>- resistant to water,</li> <li>- resistant to dust and solid state objects.</li> </ul>	<p>PN-EN 60529:2003                  PN-EN 60529:2003/AC:2017-12P                  PN-EN 60529:2003/AC:2020-01P                  PN-EN 60529:2003+A2:2014-07                  EN 60529:1991                  EN 60529:1991/A1:2000                  EN 60529:1991/A2:2013                  IEC 60529:1989                  IEC 60529:1989/AMD2:2013</p>
<p><b>MB-62262</b> Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)</p>	<p>Functional features:</p> <ul style="list-style-type: none"> <li>- mechanical impact resistance</li> </ul>	<p>PN-EN 62262:2003                  PN-EN 62262:2003/Ap1:2022-01E                  PN-EN 62262:2003/A1:2022-06                  EN 62262:2002                  EN 62262:2002/A1:2021                  IEC 62262:2002                  IEC 62262:2002/AMD1:2021                  IEC TR 62696:2011</p>



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<b>MB-62471</b> Photobiological safety of lamps and lamp systems	Characteristics and properties for the photobiological safety assessment of continuous light sources: - spectral radiance and luminance, - spectral irradiance and illuminance, - spectral distribution and the calculated characteristics, - correlated colour temperature (CCT), - colour rendering index (Ra), - chromaticity coordinates.	PN-EN 62471:2010 EN 62471:2008 IEC 62471:2006 IEC TR 62471-2:2009 IEC/TR 62778:2014 PN-EN IEC 62471-7:2023-10 PN-EN IEC 62471-7:2023-10/AC:2023-10E EN IEC 62471-7:2023 IEC 62471-7:2023
<b>MB-62471-7</b> Photobiological safety of lamps and lamp systems - Part 7: Light sources and luminaires primarily emitting visible radiation		
<b>MB-62493</b> Assessment of lighting equipment related to human exposure to electromagnetic fields	Conformity assessment: - without testing, - based on subcontracted testing.	PN-EN 62493:2015-11 PN-EN 62493:2015-11/A1:2023-03 EN 62493:2015 EN 62493:2015/A1:2022 IEC 62493:2015 IEC 62493:2015/AMD1:2022
<b>MB-61000-4-2</b> Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	Electrostatic discharge resistance (ESD).	PN-EN 61000-4-2:2011 EN 61000-4-2:2009 IEC 61000-4-2:2008
<b>MB-61000-4-4</b> Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	Resistance to a series of fast electrical transients.	PN-EN 61000-4-4:2013-05 EN 61000-4-4:2012 IEC 61000-4-4:2012
<b>MB-61000-4-5</b> Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	Surge Immunity Test	PN-EN 61000-4-5:2014-10 EN 61000-4-5:2014 IEC 61000-4-5:2014 PN-EN 61000-4-5:2014-10/A1:2018-01 EN 61000-4-5:2014/A1:2017 IEC 61000-4-5:2014/AMD1:2017
<b>MB-61000-4-11</b> Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	Resistance to Voltage dips, short interruptions and voltage variations	PN-EN IEC 61000-4-11:2020-11 EN IEC 61000-4-11:2020 IEC 61000-4-11:2020
<b>MB-61547</b> Equipment for general lighting purposes - EMC immunity requirements	Resistance to: - electrostatic discharge (ESD); - series of fast electrical transients; - surges (Surge Immunity Test); - voltage dips, short interruptions and voltage variations	PN-EN IEC 61547:2023-10 EN IEC 61547:2023 IEC 61547:2020 PN-EN 61547:2009 EN 61547:2009 IEC 61547:2009
<b>MB-55015</b> Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	Disturbance voltage at power supply terminals (9kHz + 30MHz)	PN-EN IEC 55015:2019-11 EN IEC 55015:2019 CISPR 15:2018 PN-EN IEC 55015:2019-11/A11:2020-07 EN IEC 55015:2019/A11:2020
<b>MB-55032</b> Electromagnetic compatibility of multimedia equipment - Emission Requirements		PN-EN 55032:2015-09 EN 55032:2015 CISPR 32:2015 PN-EN 55032:2015-09/A1:2021-05 EN 55032:2015/A1:2020 CISPR 32:2015/AMD1:2019 PN-EN 55032:2015-09/A11:2020-07 EN 55032:2015/A11:2020
<b>MB-61000-3-2</b> Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	Current Harmonics	PN-EN IEC 61000-3-2:2019-04 EN IEC 61000-3-2:2019 IEC 61000-3-2:2018 PN-EN IEC 61000-3-2:2019-04/A1:2021-08 EN IEC 61000-3-2:2019/A1:2021 IEC 61000-3-2:2018/AMD1:2020 PN-EN 61000-3-2:2014-10 EN 61000-3-2:2014 IEC 61000-3-2:2014



<p><b>MB-61000-3-3</b> Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection</p>	<ul style="list-style-type: none"> <li>- conformity assessment without testing,</li> <li>- voltage variation tests.</li> </ul>	<p>PN-EN 61000-3-3:2013-10 EN 61000-3-3:2013 IEC 61000-3-3:2013 PN-EN 61000-3-3:2013-10/A1:2019-10 EN 61000-3-3:2013/A1:2019 IEC 61000-3-3:2013/AMD1:2017 PN-EN 61000-3-3:2013-10/A2:2022-04 EN 61000-3-3:2013/A2:2021 IEC 61000-3-3:2013/AMD2:2021</p>
<p><b>MB-301 489-1</b> Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements</p>	<p>Disturbance voltage at power supply terminals (9kHz + 30MHz) Resistance to:</p> <ul style="list-style-type: none"> <li>- electrostatic discharge (ESD);</li> <li>- series of fast electrical transients;</li> <li>- surges (Surge Immunity Test);</li> </ul>	<p>ETSI EN 301 489-1 V1.9.2 (2011-09) ETSI EN 301 489-1 V2.2.3 (2019-11)</p>
<p><b>MB-301 489-17</b> Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for Broadband Data Transmission Systems</p>	<ul style="list-style-type: none"> <li>- Voltage dips, short interruptions and voltage variations.</li> <li>- Current Harmonics</li> </ul>	<p>ETSI EN 301 489-17 V3.2.6 (2023-06)</p>
<p><b>MB-301 489-19</b> ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 19: Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in the 1,5 GHz band providing data communications and GNSS receivers operating in the RNSS band providing positioning, navigation, and timing data; Harmonised Standard for ElectroMagnetic Compatibility</p>		<p>ETSI EN 301 489-19 V2.2.1 (2022-09)</p>
<p><b>MB-301 489-52</b> ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 52: Specific conditions for Cellular Communication User Equipment (UE) radio and ancillary equipment; Harmonised Standard for ElectroMagnetic Compatibility</p>		<p>ETSI EN 301 489-52 V1.2.1 (2021-11)</p>
<p><b>MB-62722-1</b> Luminaire performance - Part 1: General requirements</p>	<p>Functional characteristics:</p> <ul style="list-style-type: none"> <li>- luminous flux</li> <li>- light distribution</li> <li>- illuminance,</li> <li>- spectral distribution and the calculated characteristics,</li> </ul>	<p>PN-EN 62722-1:2016-07 PN-EN IEC 62722-1:2023-03 EN 62722-1:2016 EN IEC 62722-1:2022 IEC 62722-1:2014 IEC 62722-1:2022</p>
<p><b>MB-62722-2-1</b> Luminaire performance - Part 2-1: Particular requirements - LED luminaires</p>	<ul style="list-style-type: none"> <li>- correlated colour temperature (CCT),</li> <li>- colour rendering index (Ra),</li> <li>- chromaticity coordinates,</li> <li>- active, reactive and apparent power,</li> <li>- current harmonics, Current Total Harmonic Distortion (THDI),</li> <li>- luminous efficacy.</li> </ul>	<p>PN-EN 62722-2-1:2016-07 PN-EN IEC 62722-2-1:2023-10 EN 62722-2-1:2016 EN IEC 62722-2-1:2023 IEC 62722-2-1:2014 IEC 62722-2-1:2023</p>
<p><b>MB-62717</b> LED modules for general lighting - Performance requirements</p>		<p>PN-EN 62717:2017-11 PN-EN 62717:2017-11/A2:2019-07 EN 62717:2017 EN 62717:2017/A2:2019 IEC 62717:2014 IEC 62717:2014/AMD1:2015 IEC 62717:2014/AMD2:2019</p>
<p><b>MB-13032-1</b> Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 1: Measurement and file format</p>		<p>PN-EN 13032-1:2010+A1:2012 EN 13032-1:2004+A1:2012</p>
<p><b>MB-13032-4</b> Light and lighting - Measurement and presentation of photometric data of lamps and luminaires - Part 4: LED lamps, modules and luminaires</p>		<p>PN-EN 13032-4+A1:2019-09 EN 13032-4:2015+A1:2019</p>

<b>MB-LM-79</b> Optical and Electrical Measurements of Solid State Lighting Products		ANSI/IES LM-79-19
<b>MB-61547-1</b> Equipment for general lighting purposes - EMC immunity requirements - Part 1: Objective light flickermeter and voltage fluctuation immunity test method	Light intensity as a function of time and the coefficients calculated from it: - Flicker Index, - Percent Flicker - Stroboscopic Visibility Measure (SVM), - flicker index, short-term light modulation ( $P_{st}^{LM}$ ).	IEC TR 61547-1:2020
<b>MB-LM-82</b> Characterization of Optical and Electrical Properties of Solid-State Lighting Products as a Function of Temperature	Functional characteristics as a function of ambient temperature: - illuminance, - spectral distribution and the calculated characteristics, - correlated colour temperature (CCT), - colour rendering index (Ra), - chromaticity coordinates, - active, reactive and apparent power, - current harmonics, Current Total Harmonic Distortion (THDI).	ANSI/IES LM-82-20
<b>MB-TM-21</b> Projecting Long-Term Luminous, Photon, and Radiant Flux Maintenance of LED Light Sources	Predicting light flux decrease as a function of time.	IES TM-21-11 ANSI/IES TM-21-19
<b>MB-01</b> Calibration of spring hammers 0.2-1J	Construction and functional characteristics: - geometrical dimensions, - trigger force of the mechanism, - kinetic energy.	PN-EN 60068-2-75:2015-01
<b>MB-02</b> Calibration of pendulum hammer 2-50J	Construction and functional characteristics: - geometrical dimensions - mass of the elements, - kinetic energy (calculated).	
<b>MB-03</b> Calibration of callipers	Measurement errors: - with the outer jaws, - with the inner jaws, - depth with depth extension gauge.	-
<b>MB-04</b> Calibration of protractors	Errors in angle measurements.	-
<b>MB-05</b> Calibration of tape measures	Measuring errors: - Length with the moving blade hooked, - length with the moving blade resting.	-
<b>MB-06</b> Calibration of Type K thermocouple sensors	Thermocouple errors.	-

Artur Labus



Head of Industry Service Department