



TEST REPORT	
UL 153	
Portable Electric Luminaires	
Report Number.....:	MTL24120600301S01
Complied by (+signature).....:	Andy Zhang
Approved by (+signature).....:	Jack Li
Date of issue.....:	2024-12-16
Total number of pages.....:	83 Pages
Name of Testing Laboratory preparing the Report.....:	Shenzhen MTL Testing Technology Co., Ltd. 305, Building A, Shenghengji Industrial Park, No.137, Fuyuan 1st Road, Zhancheng Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Applicant's name.....:	Shenzhen Senter Ecommerce Co. Ltd
Address.....:	3B11B, Building 5, Zone A, Baoan Internet Industry Base, Oyster Industry Community, Xixiang Street, Baoan District, Shenzhen
Standard.....:	UL153:2014
Test procedure.....:	UL test report
Non-standard test method.....:	N/A
Test Report Form No.....:	UL153_1A
Master TRF.....:	Dated 2019-07
General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing MTL Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the MTL, responsible for this Test Report. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.	
Test item description.....:	Table Lamp
Trade Mark(s).....:	N/A
Manufacturer.....:	Shenzhen Senter Ecommerce Co. Ltd
Manufacturer address.....:	3B11B, Building 5, Zone A, Baoan Internet Industry Base, Oyster Industry Community, Xixiang Street, Baoan District, Shenzhen



Model/Type reference.....:	STR-DL-0033,STR-DL-0015, STR-DL-0010, STR-DL-0143, STR-DL-0158, STR-DL-0169, STR-DL-0198, STR-DL-0124, STR-DL-0163, STR-DL-0180, STR-DL-0057, STR-DL-0171, STR-DL-0233, STR-DL-0234, (The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model STR-DL-0033, but the circuit and the electronic construction do not change, declared by the manufacturer.)
Ratings.....:	AC 110-120V,60Hz,100W
List of Attachments (including a total number of pages in each attachment):	
Summary of testing:	
Tests performed (name of test and test clause):	Testing location: see page 1
Copy of marking plate: The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks. Table Lamp Model:STR-DL-0033 Rated:AC 110-120V,60Hz,100W Shenzhen Senter Ecommerce Co. Ltd	
Remark: 1.The model STR-DL-0033, in above marking label can be replaced by the other models list in this test report. 2.The CE marking should be added on label for European models. 3.The mfr. and importer's name and address should be printed on label, if not possible can be printed on package or a document accompanying the equipment before the product is placed on the EU market.	



Test item particulars.....	: Table Lamp
Testing.....	:
Date of receipt of test item.....	: 2024-12-06
Date (s) of performance of tests.....	: 2024-12-06 to 2024-12-16

Possible test case verdicts:	
- test case does not apply to the test object.....	: --
- test object does meet the requirement.....	: P (Pass)
- test object does not meet the requirement.....	: F (Fail)

General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
Throughout this report a ☐ comma / ☒ point is used as the decimal separator. Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.	
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....	: Shenzhen Senter Ecommerce Co. Ltd 3B11B, Building 5, Zone A, Baoan Internet Industry Base, Oyster Industry Community, Xixiang Street, Baoan District, Shenzhen
General product information:	



Clause	Requirement-Test	Measuring result-Remark	Verdict
INTRODUCTION			
1	Scope		--
1.3	Light emitting diode (LED) components and subassemblies integral to a portable luminaire covered by this standard shall comply with the applicable requirements of the Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products, UL 8750.		P
2	Glossary		--
3	Organization and Application		--
4	Components		P
4.1	Except as indicated in 4.2, a component of a product covered by this standard shall comply with the requirements for that component. See Appendix A for a list of standards covering components generally used in the products covered by this standard.		P
4.2	A component is not required to comply with a specific requirement that: a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or b) Is superseded by a requirement in this standard.		P
4.3	A component shall be used in accordance with its rating established for the intended conditions of use.		P
4.4	Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions		P
5	Units of Measurement		--
6	Undated References		--



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
MECHANICAL CONSTRUCTION-GENERAL			--
7	General		P
7.1	These requirements apply to all portable luminaires and shall be used in conjunction with the applicable supplementary requirements in this standard.		P
8	Assembly and Packaging		P
8.1	Any portion of a portable luminaire that is detachable, for shipping purposes or otherwise, shall be constructed such that it is only able to be assembled in the intended manner. Exception: A part that is capable of being detached and assembled without compromising the mechanical or electrical integrity of the unit is capable of being assembled in more than one manner.		P
8.2	A portable luminaire shall be shipped from the factory in a carton or as an unpackaged complete assembly. Unassembled parts, such as glassware, chains, and similar components, when required elsewhere in the standard to accompany the product, shall be included. Decorative glassware is not required to be mounted in a frame or holder and is able to be separately wrapped to protect it from breakage during shipment. Exception: A non-integral power supply is permitted to be shipped separately when the portable luminaire and power supply are marked in accordance with Non-Integral Power Supply, Section 199.		P
8.3	A portable luminaire is not required to be completely mechanically assembled when:		N/A
	a) All parts required to assemble the product, other than an ordinary tool, are provided with the unit;		N/A
	b) Splices or electrical connections are not exposed nor require completion in the assembly;		N/A
	c) The integrity of the strain relief at all wiring terminations is intact (see Strain Relief Test, Section 154);		N/A
	d) Assembly instructions are provided in accordance with 218.2; and		N/A
	e) When assembled in accordance with the manufacturer's instructions, the unit complies with the requirements in this standard.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

MECHANICAL CONSTRUCTION-GENERAL			--
	Exception No.1:A splice or connection is capable of being exposed or incomplete when it consists of interlocking plug/receptacle parts where the means of maintaining polarity and strain relief are inherent to the construction of the interlocking parts.		N/A
	Exception No.2:An insulation-piercing or crimp connector is capable of being exposed during the assembly operation when:		N/A
	a)All live parts of the connector and the conductors are insulated; and		N/A
	b) The splice is located such that it and the conductors connected to it are unable to inadvertently snagged or grabbed.		N/A
8.4	When wires pass through a joint between sections of a portable luminaire that are separable for packing purposes, the joint shall be such that rotation of one section with respect to the other during the assembly of the sections is limited to not more than 360 degrees.Friction alone does not meet the intent of the requirement to prevent rotation.		N/A
	Exception: When all of the following conditions exist,rotation between sections of a portable luminaire is not limited to 360 degrees:		N/A
	a)The internal diameter of the tubing through which the wires pass is 1/2 inch (12.7mm) or more or the Power-Supply Cord Twist Test, section 157 is conducted with acceptable results;and		N/A
	b)The rotation during assembly is limited to not more than one revolution for each 3 inches (76 mm) of unobstructed tubing length through which the wires pass, when such rotation does not place any stress on the conductors; and		N/A
	c)The conductors do not involve splices unless the splices are:		N/A
	1)Inaccessible during assembly in accordance withAccessibility of Live Parts,Section 23; and		N/A
	2)Secured and provided with strain relief that has been shown to be reliable and not easily defeated by the user.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
MECHANICAL CONSTRUCTION-GENERAL			--
8.5	When fiberglass sleeving is provided for reducing the risk of cutting or abrasion of wiring between sections of a portable luminaire separable for packing purposes as noted in 8.3 and 8.4, the sleeving shall be secured in place by means other than friction. Unless the assembly is obvious between potential pinch points, the sleeving should not require careful positioning by the user to avoid damage to the wiring.		N/A
8.6	When a splice or an electrical connection is located in 'a section of a portable luminaire that is separable for packing purposes, as noted in 8.3 and 8.4, the unit shall be provided with strain relief to reduce the risk of stress being transmitted to the splice or electrical connection during unpackaging and assembly of the luminaire. The strain relief shall be reliable and not easily defeated by the user. See the Strain Relief Test, Section 154.		N/A
8.7	When in any position of adjustment, a spring-loaded or adjustable section of a pole unit shall not transmit stress to a splice or wiring within any section of the unit either during assembly or when completely assembled. For example, the stem of an adjustable height floor unit shall raise and lower without binding or crimping the wiring of the unit.		N/A
9	Enclosure		P
9.1	A portable luminaire shall be constructed so that it has the mechanical strength required to resist the abuses to which it is subjected, without resulting in a risk of fire, electric shock, or injury to persons due to total or partial collapse of any part with resulting reduction of spacings (electrical or thermal), loosening or displacement of parts, or other serious defects.		P



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

MECHANICAL CONSTRUCTION-GENERAL			--
9.2	Where an enclosure relies on adhesive for compliance with 9.1, the adhesive shall be evaluated and found suitable for the associated temperature, environmental exposure, surface materials, and mechanical forces.		N/A
9.3	A portable luminaire shall be constructed so that all user servicing is completed without subjecting any wiring, component, or part to mechanical damage, or reducing electrical spacings.		P
9.4	A portable luminaire shall be constructed of material such as glass, metal, urea, porcelain, phenolic composition, plastic or wood.		P
	Exception: A decorative part, the failure of which does not interfere with the performance of the unit, is able to be constructed of any material.		N/A
9.5	A live part operating above Class 2 circuit limits shall be contained in an enclosure constructed of metal, glass, ceramic, porcelain, or polymeric material during normal maintenance and use.		N/A
	Exception No. 1: A current-carrying part of a wiring device (such as the screw shell and center contact of a lampholder, and the lampholder contacts, starter holder contacts, and similar components of a fluorescent lamp) that are normally fitted with a functional component (a lamp, a starter, and similar components during use of the unit is not required to be additionally enclosed.		N/A
	Exception No. 2: A component, such as a ballast, that has an integral outer housing that has been evaluated as an enclosure is not required to be additionally enclosed.		N/A
	Exception No. 3: The power-supply cord is not required to be contained within the unit.		N/A
	Exception No. 4: A wire with minimum 0.030 inch (0.76 mm) thermoplastic insulation is not prohibited from being exposed for 2 inches (50.8 mm) or less when it is securely held in place and is routed in close proximity to a portion of the lamp such that the risk of being inadvertently snagged is minimized.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
MECHANICAL CONSTRUCTION-GENERAL			--
	Exception No. 5: A wire or bundle of wires for a lamp supported lampholder is not prohibited from being exposed when:		N/A
	a) The exposed wire or bundle of wires is covered with a glass fiber sleeve or thermoplastic tubing that extends from a point inside the enclosure to within 1/2 inch (12.7 mm) of the lampholder, and the sleeving has a wall thickness of at least 0.017 inch (0.42 mm);		N/A
	b) The hole in the housing through which the nonenclosed wires emerge is not larger than 5/8 inch (15.9 mm) diameter, or has an area of 0.31 square inch (200 mm ²) when other than round in shape; and		N/A
	c) The wires are provided with a strain relief device at the portable luminaire end, and the device complies with the Strain Relief Test, Section 154.		N/A
	Exception No. 6: A wire or cord with a minimum 0.030 inch (0.76 mm) thermoplastic insulation and an insulation-piercing or a crimp connector having all live parts of the connector and the conductors insulated are only required to be housed within the unit such that they are unable to be grasped, pulled, or inadvertently snagged. For instance, it meets the intent of the requirement to have a metal base with a felt pad for a bottom cover where the felt pad is secured by an adhesive and the weight of the unit.		N/A
10	Metal Thickness for Enclosures		
10.1	The thickness of sheet metal used in a portable luminaire shall not be less than specified in Table 10.1.		N/A
	Exception No. 1: A form of construction that uses metal having a thickness less than specified is able to be used when investigated and found to comply with the applicable tests in Metal Thickness Equivalency Tests, in the Standard for Luminaires, UL 1598.		N/A
	Exception No. 2: The thickness of metal is not specified for:		N/A
	a) A decorative part;		N/A
	b) A reflector part that does not form part of the enclosure; or		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
MECHANICAL CONSTRUCTION-GENERAL			--
	c) Any part not required to serve as the enclosure, provide structural integrity, or act as support of a wiring device.		N/A
10.2	Table 10.1 applies to any single surface or single flat sheet. Values for the thickness of sheet steel are based on uncoated material. Rigid members consisting of 1/2 by 1/2 inch (12.7 by 12.7 mm), 90 degree angle strips formed of sheet steel not less than 0.031 inch (0.79 mm) thick, or flat steel bars not less than 3/8 inch (9.5 mm) wide and 1/8 inch (3.2 mm) thick shall be used to reinforce and divide a larger area into sections for which lighter metal is able to be used. Such reinforcement, unless along the greater dimension of the surface, shall also be secured to the adjacent sides of the enclosure. A single sheet of metal having a bent corner that forms an angle of not more than 120 degrees is determined to be reinforced at that corner, and the thickness is based on the length and area of the maximum flat surface involved.		N/A
10.3	The minimum thickness of cast metal shall be in accordance with Table 10.2. Exception: A form of construction that uses metal having a thickness less than specified is able to be used when investigated and found to comply with the applicable tests in Metal Thickness Equivalency Tests, in the Standard for Luminaires, UL 1598.		N/A
10.4	Metallic tubing shall not be less than 0.040 inch (1.02 mm) thick when cut threads are employed.		--
10.5	Unthreaded metallic tubing or metallic tubing having rolled threads shall not be less than 0.025 inch (0.64 mm) thick.		--
10.6	The thickness of tubing is to be measured with a round-nose micrometer.		--
10.7	An enclosure, a frame, a guard, a handle, or similar part shall not be sufficiently sharp to constitute a risk of injury to persons in normal maintenance and use.		N/A
11	Corrosion Protection		N/A
11.1	Each external iron or steel surface of a portable luminaire enclosure or wireway shall be protected from corrosion.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

MECHANICAL CONSTRUCTION-GENERAL			--
	Exception No. 1: Enclosed steel pipe stems are not required to be protected against corrosion.		N/A
	Exception No.2: Threaded holes and the cut edges and punched holes of an enclosure, and similar parts, formed of galvanized stock are not required to be protected against corrosion.		N/A
	Exception No.3: Cast materials are not required to have corrosion protection.		N/A
12	Polymeric Enclosures		P
12.1	A polymeric material, used as a part or all of the enclosure of a portable luminaire as specified in Enclosures, Section 9, shall have:		P
	a) Mechanical temperature indexes (including impact) as a result of long term aging as described in the Standard for Polymeric Materials - Long Tem Property Evaluations, uL 746B;and		P
	b) Been evaluated for use in portable luminaires in accordance with the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C.		P
	Exception No.1: A polymeric material used as an enclosure for a dry location unit does not require the volume resistivity test.		N/A
	Exception No. 2: The distortion under load test is not required when the mold stress relief test is conducted.		N/A
	Exception No.3: For units which are not mounted to a surface, the impact test shall include the drop test, and the ball impact test is not required.		N/A
	Exception No. 4: The mold-stress relief distortion test shall be conducted using the air- oven method only. The test-cell method is not required.		N/A
	Exception No.5: The input after mold stress relief distortion, the abnormal conditions test, and the severe conditions test are not required.		N/A
	Exception No.6: The mold stress relief distortion test is not required on extruded or protruded materials.		N/A
12.2	A polymeric material is relied upon to provide all or a portion of the strain relief, shall comply with the requirements of the Strain Relief Test, Section 154, after the Mold Stress Relief Distortion Test in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

MECHANICAL CONSTRUCTION-GENERAL			--
13	Decorative Pats		N/A
13.1	A decorative part of polymeric material located near a lamp or other component that generates heat shall:		N/A
	a) Be present on the portable luminaire when it is temperature tested in accordance with the Normal Temperature Test, Sections 143 - 147; and		N/A
	b) Not melt or deform in any way that interferes with the normal operation of the unit or results in a risk of fire or electric shock during the temperature test.		N/A
13.2	A decorative part is able to be constructed of any material.		N/A
14	Enclosure Openings		N/A
14.1	An opening in a portable luminaire enclosure described in Enclosures, Section 9, shall comply with the requirements for the Accessibility of Live Parts, Section 23.		N/A
14.2	An enclosure containing an open core-and-coil device shall not contain open holes or open seams.		N/A
	Exception No.1: An opening provided for an automatic starter meets the intent of the requirement when it is no more than 1/8 inch (3.2 mm) diameter larger than the diameter of the starter.		N/A
	Exception No.2: Openings provided in through- cord transformers or direct plug-in transformers meet the intent of the requirement when the transformer complies with the Standard for Power Units Other Than Class 2, UL 1012, the Standard for Class 2 Power Units, UL 1310, or the Standards for Low Voltage Transformers - Part 1: General Requirements, UL 5085-1 and Low Voltage Transformers - Part 3: Class 2 and Class 3 Transformers, UL 5085-3.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

MECHANICAL CONSTRUCTION-GENERAL			--
	Exception No. 3: A unit that incorporates an open coil type transformer or power supply is able to have open holes in the enclosure as specified in Table 14.1 when the transformer has been determined to comply with the abnormal test specified in the Standard for Transformers and Motor Transformers for Use in Audio-, Radio, and Television-Type Appliances, UL 1411, abnormal and short circuit test in the Standards for Low Voltage Transformers - Part 1: General Requirements, UL 5085-1 and Low Voltage Transformers - Part 3: Class 2 and Class 3 Transformers, UL 5085-3, or when a power supply has been investigated to determine compliance with the abnormal, burnout, and short-circuit tests specified in the Standard for Power Units Other Than Class 2, UL 1012, or the Standard for Class 2 Power Units, UL 1310.		N/A
	Exception No.4: An enclosure of an open coil ballast or transformer is able to have open holes in its surface when a metal baffle is provided that complies with Figure 14.1 and the following:		N/A
	a) The distance between the baffle and the outer enclosure, X, shall not exceed 1/4 inch (6.4 mm).		N/A
	b) The dimensions of the baffle, Y, shall be at least the cross-sectional dimensions of the live part.		N/A
	c) The distance where the enclosure overlaps the baffle, Z, shall be at least two times the distance between the baffle and the outer enclosure (X).		N/A
	Exception No. 5: A fluorescent unit that incorporates an open coil type ballast is able to have open holes in the enclosure as specified in Table 14.1 when the ballast complies with the Class P requirements of the Standard for Fluorescent-Lamp Ballasts, UL 935.		N/A
	Exception No.6: A high intensity discharge unit that incorporates an open coil type ballast is able to have open holes in the enclosure as specified in Table 14.1 when the ballast complies with the burnout test requirements of the Standard for High-Intensity-Discharge Lamp Ballasts, UL 1029.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

MECHANICAL CONSTRUCTION-GENERAL			--																													
Table 14.1 Maximum size of miscellaneous open holes <table><tr><th rowspan="2">Opening shape</th><th colspan="2">Dimension</th><th colspan="2">Maximum area</th></tr><tr><th>Inch</th><th>(mm)</th><th>in²</th><th>(cm²)</th></tr><tr><td>Slot^a</td><td>3/8</td><td>(9.6)</td><td>1-1/2</td><td>(9.68)</td></tr><tr><td>Square</td><td>1/2</td><td>(12.7)</td><td>—</td><td>—</td></tr><tr><td>Round</td><td>1/2</td><td>(12.7)</td><td>—</td><td>—</td></tr><tr><td>Irregular</td><td>—</td><td>—</td><td>1-1/2</td><td>(9.68)</td></tr></table> ^a An open hole between two assembled parts that does not exceed 1/32 inch (0.8 mm) is not required to comply with the area limitation.				Opening shape	Dimension		Maximum area		Inch	(mm)	in ²	(cm ²)	Slot ^a	3/8	(9.6)	1-1/2	(9.68)	Square	1/2	(12.7)	—	—	Round	1/2	(12.7)	—	—	Irregular	—	—	1-1/2	(9.68)
Opening shape	Dimension		Maximum area																													
	Inch	(mm)	in ²	(cm ²)																												
Slot ^a	3/8	(9.6)	1-1/2	(9.68)																												
Square	1/2	(12.7)	—	—																												
Round	1/2	(12.7)	—	—																												
Irregular	—	—	1-1/2	(9.68)																												
14.3	An enclosure shall not contain any opening that is usable for mounting the portable luminaire.		N/A																													
	Exception No.1: A blind opening that prevents access to the actual enclosure is not prohibited.		N/A																													
	Exception No.2: A keyhole slot is not prohibited from being open when it is in accordance with 72.2.1(a).		N/A																													
15	Wireways and Tubing		P																													
15.1	A portable luminaire shall be constructed so that when wires are pulled through, or the unit otherwise wired, the covering or insulation on the conductors are not damaged against any surface they are able to contact. Also see Protection of Wiring, Section 30, for additional requirements.		P																													
15.2	Wireways shall be free from burrs and fins.		P																													
15.3	Tubing that is used as a wireway shall be free from kinks and cracks.		N/A																													
15.4	Screw threads of sheet metal screws and self tapping screws shall not be exposed for a distance of more than 3/16 inch (4.8 mm) in a wireway.		N/A																													
	Exception: The screw threads are not prohibited from being exposed for more than 3/16 inch (4.8 mm) when the wires are held away from or prevented from contacting the screw threads.		N/A																													
16	Shade Construction		N/A																													
16.1	A portable luminaire shall be shipped with a shade unless:		N/A																													
	a) The shade functions only as a decorative part; and		N/A																													



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

MECHANICAL CONSTRUCTION-GENERAL			--
	b) Instructions are provided in accordance with 219.1.		N/A
16.2	A portable wall, table or floor type luminaire having a shade with one or more of the following features shall comply with the General Abnormal Operation Tests, Section 149:		N/A
	a) The adjustable or flexible shade is able to be adjusted against the supporting surface so as to block the air flow to the lamp;		N/A
	b) There are multiple shades such that one shade directs light onto another; or		N/A
	c) The shade is able to fold up so as to block the air flow to the lamp.		N/A
16.3	A portable luminaire complying with the Temperature Test-Exempt Units requirements of Sections 49 or 63 is able to have a shade constructed of any material.		N/A
16.4	A shade shall reliably maintain its dimensions. For example, a breeze shall not be able to blow the cloth of a cloth shade closer to the lamp.		N/A
	Exception: A shade is not required to reliably maintain its dimensions when the shade is used in accordance with the requirements for the minimum possible dimensions the shade is capable of attaining.		N/A
16.5	A dust cover is able to be provided over a shade only when instructions for removal are provided in accordance with 201.3..		N/A
	Exception: The instructions are able to omitted when the dust cover does not restrict or reduce the required open area of the shade		N/A
17	Strain Relief		N/A
17.1	A portable luminaire shall be provided with strain relief so that a pull exerted on the power supply cord is not transmitted directly to a terminal splice, or interior wiring of the unit. See Strain Relief Test, Section 154.		N/A
	Exception No.1: Additional strain relief is not required to be provided when the conductors of the supply cord are permanently assembled to a wiring device (such as a switch), lampholder, or similar device by the manufacturer of the wiring device, in such a manner that replacement of the cord requires the disassembly of the device by the removal of a rivet, drive screw, drive pin, or similar component.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
MECHANICAL CONSTRUCTION-GENERAL			--
	Exception No.2: Additional strain relief is not required to be provided when a lampholder has insulation piercing terminals and is identified as not requiring an additional strain relief device.		N/A
17.2	A metal strain-relief clamp or band used with Type SP-2 or lighter general-use, rubber- insulated cord shall be provided with auxiliary insulation over the cord for mechanical protection.		N/A
	Exception: The auxiliary insulation is able to be omitted for Type SV or SVO cord		N/A
17.3	A clamp of any material (metal or otherwise) shall not be used with Type SPE-2, SPT-2, SVT, or SVTO cord.		N/A
	Exception No. 1: The construction is able to be evaluated for use when the cord is protected by varnished-cloth or similar material under the clamp.		N/A
	Exception No. 2: A strain-relief bushing of insulation material that has been investigated for the purpose is able to be used.		N/A
17.4	Auxiliary insulation is not required for a clamp used for strain relief of thermoplastic-insulated cord heavier than type SPT-2, SVT, or SVTO when tested in accordance with the Strain Relief Test, Section 154, with no damage to the cord insulation.		N/A
17.5	When a knot in a flexible cord serves as strain relief, any surface against which the knot is able to bear or with which it is able to come in contact shall be free from projections, sharp edges, burrs, fins and similar conditions, that are capable of damaging the insulation on the conductors.		N/A
18	Portable Luminaires Having Play Value		N/A
18.1	A portion of a portable luminaire that has play value for children eight years or less in age and is intended to be removed from the unit and played with (for example a plush doll not integral with the luminaire) shall comply with the Standard Consumer Safety Specification for Toy Safety, ASTM F963. It is not possible to specify the conditions of tests for all constructions; however, the tests shall include evaluation of impact, bite, flexure, torque, tension, compression, sharp point, sharp edge, and small parts.		N/A
18.2	The portable luminaire shall not overturn when tested in accordance with the Stability Test, Section 153, with a 15 degree inclined plane.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
MECHANICAL CONSTRUCTION-GENERAL			--
18.3	A toy or stuffed animal suspended from a unit shall be designed for unexpected, forceful removal and shall comply with the requirements in the Test for Suspended Toys, Section 180.		N/A
18.4	The portable luminaire shall be marked in accordance with the requirements in 198. 11. Exception: The marking is able to be modified to indicate that the risks are associated with the luminaire portion and not to the separable portion having play value.		N/A
19	Resistance to Liquid Damage		N/A
19.1	When a portable luminaire is intended to be used where the deterioration or breakage of a liquid container, seal, or similar component increases the risk of electric shock or liquid spillage, the container, seal, or similar component shall be resistant to deterioration from the liquid intended to be used in contact with that component. The liquid shall be evaluated with respect to its toxic, acid, alkaline, flame and conductive properties. The determination of resistance to deterioration is based upon the material comprising the container, seal, or similar component, its size and shape, the mode of application, and other factors.		N/A
19.2	A portable luminaire (such as a plant lamp) using insulating material that is capable of being adversely affected by moisture under its intended operating conditions shall be investigated in accordance with the Resistance to Moisture Test, Section 161.		N/A
20	Portable Luminaire Containing Hazardous Substance		N/A
20.1	A portable luminaire containing a hazardous substance, such as the mixture of chemicals used as decorative fluid in lava-type lamps, shall be evaluated with respect to ease of ignition, and whether the substance is toxic. The risk of injury shall be assessed on the basis of the amount of the substance or concentration and a one time exposure due to an accidental spill. Inhalation of vapors, contact with skin or eyes, and ingestion are to be considered as probable events. Chemical changes due to exposure to light (UV) and heat (operating temperature) also are to be determined.		N/A
20.2	A container of a hazardous substance shall not be adversely affected by the substance. Gaskets, seals, and caps shall not be adversely affected by the substance.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
MECHANICAL CONSTRUCTION-GENERAL			--
20.3	Soft glass shall not be used as a container of a hazardous substance.		N/A
20.4	The unit shall comply with the marking in 198.12.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

ELECTRICAL CONSTRUCTION – GENERAL			--
21	General		P
21.1	These requirements apply to all portable luminaires and shall be used in conjunction with the applicable supplementary requirements in this standard.		P
22	Assembly and Packaging		P
22.1	A portable luminaire shall be completely wired with each electrical component mounted in place and with each splice and connection completed.		N/A
	Exception No.1: A detachable power-supply cord is able to be disconnected from the product, as long as it is packaged with the product.		P
	Exception No. 2: A portable luminaire consisting of a wiring harness that snap-fits into a decorative housing is not required to be assembled when such assembly precludes required packaging of the housing for shipping. For example, a ceramic or glass figurine requires packaging material inside and outside to prevent breakage during shipping.		N/A
	Exception No.3: Pendant switches (through cord) are able to be shipped unattached with the unit when installation instructions are included to indicate the intended power supply cord is Type SPT-2.		N/A
	Exception No.4: Attachment plugs with pin type (insulation piercing) terminals are able to be shipped unattached with the unit when installation instructions are included. See 32.4.		N/A
23	Accssibility of Live Parts		N/A
23.1	Each part or device that is required by Enclosures, Section 9, to be enclosed shall be located or shielded so that it is not accessible to unintentional contact by persons during normal use, including relamping, replacement of an automatic starter, or other user maintenance services.		N/A
	Exception No.1: An uninsulated live part that operates at a potential of 30 volts rms or less and 42.4 volts peak and is able to be accessible in accordance with Secondary Low Voltage Circuits, Section 38.		N/A
	Exception No. 2: Wiring that is visible and follows the contour of the portable luminaire is able to be accessible during relamping, when it is not spliced and strain relief is maintained at all wiring terminations.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
23.2	A live part is determined to be inaccessible when a probe as illustrated in Figure 23.1 is unable to be manipulated such that it touches any part. The probe is to be articulated into any configuration and rotated or angled to any capable position before, during, or after inserting into the opening.		N/A
23.3	All parts that are removable without the use of tools shall be removed when determining accessibility in accordance with 23.2.		N/A
	Exception No.1: A phenolic or metal lampholder shell that is secured by a twist or snap-fit does not require removal.		N/A
	Exception No. 2: An automatic starter does not require removal.		N/A
24	Electrical Spacings		N/A
24.1	The spacing between uninsulated live parts of opposite polarity, and between uninsulated live parts and metal that is capable of being grounded shall not be less than 1/4 inch (6.4 mm) through air or 3/8 inch (9.5 mm) over surface. The outer wrap of an open core and coil ballast is determined to be an uninsulated live part with respect to this requirement.		N/A
	Exception No.1: The spacing requirements do not apply between uninsulated live parts of a wiring device, such as a lampholder or switch, and dead metal that is part of the wiring device and including mounting screws, rivets, yoke, clamp, or similar components; or for a portable luminaire provided with a grounding means between such live parts and that part of the dead metal surface of the portable luminaire on which the device is mounted in its intended manner. See Figure 24.1.		N/A
	Exception No.2: When an isolated dead metal part is interposed between or is in close proximity to:		N/A
	a) Live parts of opposite polarity;		N/A
	b) A live part and an exposed dead metal part; or		N/A
	c) A live part and a dead metal part that is able to be grounded, the spacing shall not be less than 3/64 inch (1.2 mm) between the isolated dead metal part and any one of the other parts previously mentioned, provided the total spacing between the isolated dead metal part and the two other parts is not less than 1/4 inch (6.4 mm) through air or 3/8 inch (9.5 mm) over surface.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
	Exception No.3: The spacing between uninsulated live parts of a Class 2 circuit and between such parts and dead metal that is grounded in service is not specified.		N/A
24.2	As an alternate to 24.1, the Standard for Insulation Coordination Including Clearances and Creepage Distances for Electrical Equipment, UL 840, may be used to determine electrical spacing. This only applies to conductive parts that are rigidly held in place and reliably spaced in production such as conductors and components on a printed wiring board. The spacing requirements in UL 840 shall not be used for spacing to a dead metal enclosure, or to uncontrolled components such as wiring device terminals, transformers, and ballasts. Creepage distances shall not be less than clearances. When using the requirements specified in UL 840, the following conditions apply:		N/A
	a) A portable luminaire marked for wet locations or requiring the humidity conditioning test shall be considered exposed to environmental pollution degree 3 and over voltage category of II.		N/A
	b) A portable luminaire other than (a) shall be considered exposed to environmental pollution degree 2 and over voltage category of II.		N/A
	c) The portion of a printed wiring board covered with a potting compound or a conformal coating that complies with the requirements in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluation, UL 746C, shall be considered exposed to environmental pollution degree 1 and over voltage category of II.		N/A
24.3	When an uninsulated live part is not rigidly fixed in position by means other than friction between surfaces, or when a movable dead metal part is in proximity to an uninsulated live part, the construction shall be such that the required minimum spacing is maintained.		N/A
25	Insulating Materials		N/A
25.1	A polymeric material used as an electrical insulator, or as direct or indirect support of a live part, shall comply with the requirements in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
25.2	An insulating lining or barrier of vulcanized fiber or similar materials used where spacing does not otherwise comply with the requirement shall not be less than 1/32 inch (0.8 mm) thick, and shall be so located that it is not adversely affected by arcing, except that vulcanized fiber not less than 1/64 inch (0.4 mm) thick is able to be used in addition to an air spacing of not less than 50 percent of the spacing required for air alone. Exception: Insulating lining or barrier of vulcanized fiber or similar material in accordance with 17.3 is not required to comply with this requirement.		N/A
26	Electrical Ratings		P
26.1	Each electrical device and insulated conductor shall have a voltage rating at least equal to the voltage applied to it in normal use.		P
26.2	The maximum ampere rating of a portable luminaire shall not exceed:		P
	a) 12 amperes for a unit provided with an attachment plug with a 15 ampere, 125 volt configuration; or		N/A
	b) 16 amperes for a unit provided with an attachment plug with a 20 ampere, 125 volt configuration.		N/A
26.3	Each electrical device shall have an ampere rating and each insulated conductor shall have an ampacity rating for the maximum current to which it is subjected in normal use.		P
26.4	The ampere rating of the portable luminaire shall be calculated by adding the ratings of all of the following that are provided on the unit:		N/A
	a) The ampere rating for each single or duplex convenience receptacle, marked in accordance with 198.6.2;		N/A
	b) The ampere rating of each ballast or LED driver,		N/A
	c) The calculated load of each line voltage incandescent lampholder is to be determined by dividing the marked wattage rating by 120 volts;		N/A
	d) The ampere rating of each transformer; and		N/A
	e) The ampere rating of any other line-voltage parts, such as a clock, a motor, and similar parts.		N/A
26.5	The ampacity rating of insulated wires and cords with copper conductors shall be as specified in Table 26.1.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

ELECTRICAL CONSTRUCTION – GENERAL

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Table 26.1
Ampacities of wires and cords with copper conductors

Types of wire and cord ^a	Ampacity			
	18 AWG (0.82 mm ²)	16 AWG (1.3 mm ²)	14 AWG (2.1 mm ²)	12 AWG (3.3 mm ²)
Fixture wires –	6	8	17	23
Flexible cords – As specified in Table 31.1	10	13	18	25
Appliance wiring material	6	8	17	23

^a Some of the types of wire and cord are not made in each of the sizes shown. For each such type and size, the ampacity shown is inapplicable.

27	Wiring and Conductors	P
27.1	Conductor size	P
27.1.1	A conductor of a wire or cord shall be minimum 18 AWG (0.82 mm ²) except where a smaller size is permitted in (a) - (d) below:	N/A
	a) Internal wiring is permitted to be of any size provided it is adequately protected against overload or abnormal conditions by internal fusing and protected against mechanical damage by the enclosure, barriers, or routing.	N/A
	b) A conductor in a Class 2 circuit is permitted to be of any size.	N/A
	c) A permanently attached, completely enclosed, and maximum 6-inch (152-mm) long lead wire for a clock motor or transformer shall be minimum 24 AWG (0.21 mm ²), provided that stalling of the clock motor or any abnormal or overload on the transformer secondary does not result in a risk of fire.	N/A
	d) Conductors for a series or series/parallel string of non-replaceable lights located within a rigid housing which prevents moving or flexing of the conductors are permitted to be of any size, provided that the portable luminaire complies with the Conductor Short Circuit and Abnormal Operation Test, Section 152.	N/A
27.2	Temperature and voltage rating	P
27.2.1	The flexible cords and fixture wires specified in Table 27.1 shall be considered to have the temperature and voltage ratings as indicated, and shall be subject to the constraints as noted in the footnotes, where applicable.	N/A
27.2.2	Appliance wiring material (AWM) which is suitable for use as internal wiring and accessible wiring, but not for use as a power supply cord is described in Figure 27.1.	N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
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27.2.3	Wire or cord other than those specified in Table 27.1 is usable when:		P
	a) The insulation of the wire or cord is rated for the maximum temperature involved;		P
	b) The temperature for which the wire or cord is rated is:		P
	1) Identified by a colored thread or a colored stripe as described in 27.2.4; or		N/A
	2) Printed on the surface of the insulation;		P
	c) The insulation of the wire or cord is:		N/A
	1) Rated for the maximum voltage involved and not less than 300 volts; and		N/A
	2) When of rubber or thermoplastic, provided with an overall braid;		N/A
	Exception: Thermoplastic insulation rated for use at 600 volts or more is not required to be provided with a braid.		N/A
27.2.4	With reference to 27.2.3(b)(1) when a colored thread or stripe is used to identify the temperature rating of a wire or cord:		N/A
	a) For a rubber-insulated wire or cord, green indicates a 75°C (167°F) rating.		N/A
	b) For a thermoplastic-insulated wire or cord:		N/A
	1) No identification is required for 80°C (176°F), and when identification is provided, blue is used;		N/A
	2) Red indicates a 90°C (194°F) rating;		N/A
	3) Yellow indicates a 105°C (221°F) rating;		N/A
	4) Brown indicates a 125°C (257°F) rating;		N/A
	5) Orange indicates a 150°C (302°F) rating; and		N/A
	6) Black indicates a 200°C (392°F) rating.		N/A
27.2.5	Wiring or cord rated minimum 90°C (194°F) is usable at 150°C (302°F) when each individual conductor is provided with sleeving:		N/A
	a) Consisting of snug fitting:		N/A
	1) Woven-glass sleeving not less than 0.010 inch (0.25 mm) thick; or		N/A
	2) Woven-glass tape applied in two or more layers having a total thickness of not less than 0.010 inch; and		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
	b) Extending from the terminals of the lampholder to the point where the wire emerges from the shade or at least 3 inches (76 mm).		N/A
28	Splices and Connections		N/A
28.1	Stranded conductors of cord or wire intended for connection to a screw terminal shall be twisted and solder-dipped or otherwise treated so as to bind all strands for at least 1/8 inch (3.2 mm) from the end of the stripped conductor prior to connection of the conductor to the terminal so that the strands do not splay during the assembly operation.		N/A
28.2	A splice shall be mechanically and electrically secure and, unless a wire connector is used that meets the intent of this requirement shall be soldered. A wire soldered inside an eyelet terminal or similar movement confining part is determined to be mechanically and electrically secure.		N/A
28.3	A soldered splice and a splice made with an uninsulated wire connector shall be covered with insulation that has a temperature rating and thickness equivalent to that required on the conductors.		N/A
28.4	In determining compliance with 28.3, general- use insulating tape is determined to be rated 80°C (176°F), and usable for 150 volts when wrapped at least once on itself.		N/A
28.5	An insulated wire connector shall be rated for the required temperature and voltage of the conductors involved.		N/A
28.6	A splice shall not be located in an arm or a stem. Exception: A splice is able to be located in an arm or stem if the splice is not accessible and under strain.		N/A
28.7	Quick-connect terminals shall be nominally 0.110 (2.80 mm), 0.125 (3.18 mm), 0.187 (4.75 . mm), 0.205 (5.21 mm), or 0.250 (6.35 mm) inch wide and shall comply with the Standard for Electrical Quick-Connect Terminals, UL 310. Other sizes of quick-connect terminals shall be investigated with respect to crimp pullout, engagement- disengagement forces of the connector and tab, and temperature rise; all tests shall be conducted in accordance with UL 310.		N/A
29	Wiring Attached to Movable or Flexible Parts		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
29.1	Internal wiring attached to a movable or a flexible part that is capable of being bent in a manner that could damage the insulation or break internal strands shall be:		N/A
	a) Stranded; and		N/A
	b) Secured so that:		N/A
	1) The wiring is not cut or abraded; and		N/A
	2) There is no strain or motion at the connections.		N/A
	Examples of constructions where this requirement applies are enclosed swivel joints or where a sharp bend occurs in a wire or cord between two points of restraint less than 6 inches (152 mm) apart.		N/A
30	Protection of Wiring		N/A
30.1	A power-supply cord shall exit the portable luminaire through an opening that is free from sharp edges, burrs, and fins that are able to damage the conductor insulation.		N/A
30.2	The power-supply cord shall be provided with mechanical means that prevent the cord being pushed inside the enclosure and contacting:		N/A
	a) A lamp or heated surface, where the surface temperature may exceed the temperature rating of the cord;		N/A
	b) a sharp edge; or		N/A
	c) moving part.		N/A
30.3	An insulating bushing shall be provided where the flexible cord or wiring enters a pendant lampholder or the base or stem of a portable luminaire, and at the ends of metal tubing where the cord or wiring are pulled during the adjustment of the unit.		N/A
	Exception No.1: A smooth, metal bushing is able to be used when Type SPT-2, SJ, SV, or heavier cord is used.		N/A
	Exception No.2: An insulating bushing is not required with Integral Type SP-1, SP-2, SPT-1, or SPT-2 cord or appliance wiring material complying with Figure 27.1 when:		N/A
	a) The metal through which the cord passes is not less than 0.042 inch (1.07 mm) thick and the surface is smooth, or the edge of the metal is rolled not less than 120 degrees; or		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
	b) The cord at the point where it passes through the hole is provided with additional insulation that is:		N/A
	1) Not less than 1/32 inch (0.8 mm) thick;		N/A
	2) Molded to the cord; and		N/A
	3) Of rubber for Type SP-1 and SP-2 cord and thermoplastic for Type SPT-1 and SPT-2 cord, and appliance wiring material complying with Figure 27.1.		N/A
30.4	Cord or wiring that passes through tubing or contacts the edge of a sheet-metal wall 0.042 inch (1.07 mm) or less thick shall be reliably held away from the edges of the metal or shall be protected by a nonrubber bushing or a grommet or by rolling the edge of the metal not less than 120 degrees.		N/A
30.5	When cords or wires pass through or contact the edges of sheet metal thicker than 0.042 inch (1.07 mm), the metal shall be treated by reaming or the equivalent to remove burrs, fins, or sharp edges that are able to damage insulation.		N/A
30.6	When the material through which the cord or wiring passes is wood, porcelain, phenolic composition, or other insulating material, not less than 3/64 inch (1.2 mm) thick, a smoothly rounded surface is determined to be equivalent to a bushing.		N/A
30.7	Ceramic materials and molded urea, phenolic, and melamine compositions are determined to meet the intent of the requirement for insulating bushings; a bushing of wood or rubber is not usable. Other compositions are able to be used when they have been investigated and found usable for the application.		N/A
30.8	A hard-fiber bushing is able to be employed when the bushing is not less than 3/64 inch (1.2 mm) thick.		N/A
30.9	An insulated metal grommet is usable in place of an insulating bushing when the insulating material used is not less than 1/32 inch (0.8 mm) thick and completely fills the space between the grommet and the metal in which it is mounted.		N/A
30.10	Polymeric sleeving shall not be used for reducing the risk of cutting or abrasion of wiring. Fiberglass sleeving not less than 0.010 inch (0.25 mm) thick is capable of being used.		N/A
30.11	A bushing shall be securely held in place.		N/A
31	Power-Supply Cords		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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CONSTRUCTION

ELECTRICAL CONSTRUCTION – GENERAL			--
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31.1	A portable luminaire shall be provided with a power supply cord consisting of one of the types of flexible cords specified in Table 31.1 and an attachment plug rated as required for the application.:		N/A
	Exception: A portable luminaire with a non- integral, direct plug-in type power supply need not have a power supply cord.		N/A

Table 31.1
Flexible cord types^b

Extra hard usage	Hard usage	Not hard usage	
S	SJ	SP-2	SV ^a
SE	SJE	SPE-2	SVE ^a
SEO	SJEO	SPT-2	SVEO
SO	SJO	NISP-2	SVO ^a
SOO	SJOO	NISPE-2	SVOO ^a
ST	SJT	NISPT-2	SVT ^a
STO	SJTO		SVTO ^a
STOO	SJTOO		SVTOO ^a

^a Individual conductors shall be provided with supplementary insulation or spaced away from metal.

^b Flexible cords with a "W" suffix are permitted.

31.2	A power-supply cord shall not be smaller than 18 AWG (0.82 mm ²).		N/A
31.3	A power-supply cord shall be at least 5 feet (1.5 m) long measured from the point where the cord emerges from the body of the lamp to the face of the attachment plug or connector.		N/A
	Exception No.1: When the intended means of mounting or other features or constructions of any portable luminaire warrants other than the required length of power supply cord, a shorter cord (or no cord) is permitted when instructions are provided in accordance with 218.6. Examples include portable luminaires intended for mounting to machinery, where a longer cord could be subject to mechanical damage, or portable luminaires intended to be mounted to furnishings or cabinets immediately adjacent to a builtin receptacle.		N/A
	Exception No.2: For a portable luminaire with a non-integral, through-cord power supply, the power supply cord shall be at least 2 ft (0.61 m) long and the overall length of cord (power supply cord plus power supply output cord) shall be at least 5 ft (1.5 m) long. For a portable luminaire with a non-integral, direct plug-in power supply, the power supply output cord shall be at least 5 ft (1.5 m) long.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
	Exception No.3: A portable luminaire provided with a stake, per 131.6, is not required to comply with this requirement when instructions are provided in accordance with 230.2.		N/A
31.4	The conductors of the power supply cord shall be identified in accordance with Polarization and Identification, Section 35.		N/A
31.5	Integral Type SP-1, SPT-1, or SPE-1 flexible cord or appliance wiring material in accordance with Figure 27.1, that is located inside a portable luminaire is able to split a maximum of 3 inches (76 mm).		N/A
	Exception No.1: The flexible cord is able to be split more than 3 inches when each conductor is enclosed in supplementary insulation for the temperature involved.		N/A
	Exception No. 2: The flexible cord located within a portable luminaire is able to be split more than 3 inches when the cord is Integral Type SP-2, SPE-2, or SPT-2.		N/A
31.6.	Flexible cord types C, HPN, PD, SP-1, SPE-1, SPT-1, and appliance wiring material complying SPT-1, and appliance wiring material complying wiring and shall not be used as power supply cord.		N/A
31.7	Integral Type SP-2, SPE-2, or SPT-2 flexible cord located outside the unit may be split as necessary, but not more than 3 inches (76 mm), providing that the length of split cord is minimized so as to reduce the risk of being inadvertently snagged.		N/A
32	Attachment Plugs		P
32.1	A portable luminaire shall be provided with a polarized attachment plug of the 2-wire, parallel-blade or a 3-wire grounded type, as shown in Figure 32.1. The plug shall be of a 15 ampere, 125 volt configuration (NEMA Style Nos.1-15 P and 5-15P) and shall comply with the requirements in the Standard for Attachment Plugs and Receptacles, UL 498 and/or the Standard for Cord Sets and Power-Supply Cords, UL 817.		N/A
	Exception: An attachment plug in accordance with Alternate Power-Supply Connections, Section 34, is not required to comply with the requirement.		N/A
32.2	The attachment plug shall have electrical ratings as required for the ratings of the portable luminaire. See Electrical Ratings, Section 26.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
32.3	For an attachment plug that is assembled to a flexible cord by a manufacturer of the portable luminaire the conductors of the flexible cord shall be fastened securely and in a workmanlike manner to the terminals of the attachment plug. All connections shall be made so that no stray strands of any conductor contacts live parts of opposite polarity or dead metal parts.		N/A
32.4.	When the intended mounting means of a portable luminaire precludes factory connection of the attachment plug to the flexible cord, a pin- type (screwless) polarized attachment plug (one in which a pin terminal pierces the conductor insulation to establish contact) is able to be provided. Instructions shall be provided in accordance with 218.5.		N/A
33	Interconnected Units		N/A
33.1	Portable luminaires intended to provide or receive power from another portable luminaire connected in series shall comply with this section.		N/A
33.2	When the supplementary requirements elsewhere in the Standard specify overcurrent protection for the power supply cord, the protection shall either be a circuit breaker or a replaceable fuse.		N/A
33.3	Interconnected units that do not have a NEMA Style 1-15 , 1-15P, 5-15 or 5-15P plug and are intended to connect to a unit which has overcurrent protection, do not require overcurrent protection.		N/A
33.4	Interconnected units, where a ballast or transformer of one portable luminaire powers one or more adjacent units, do not require overcurrent protection.		N/A
33.5	The plugs, receptacles, connectors, and cord used for interconnection shall have suitable voltage and current load ratings. Load- and supply-side receptacles and connectors shall have different configurations to prevent inadvertent connection of the supply-side cord set to the load receptacle.		N/A
33.6	The interconnection plugs and receptacles shall comply with Accessibility of Live Parts, Section 23, and Electrical Spacings, Section 24, when inserted and when removed.		N/A
	Exception: Interconnection plugs and receptacles for secondary low voltage circuits are not required to comply with this requirement.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
33.7	Attachment plugs and receptacles shall comply with the requirements in the Standard for Attachment Plugs and Receptacles, UL 498, or the Standard for Cord Sets and Power Supply Cords, UL 817. Connectors shall comply with the following:		N/A
	a) Connector materials shall be rated for the temperatures to which they are subject during the Normal Temperature Test;		N/A
	b) Connector materials shall meet the requirements in Polymeric Enclosures, Section 12, and Insulating Materials, Section 25;		N/A
	c) Connectors shall comply with the 35- pound Strain Relief Test, Section 154, on the interconnecting cord end; and		N/A
	d) Connectors shall comply with the 50-cycle Overload Test in the Standard for Component Connectors for Use in Data, Signal, Control, and Power Applications, UL 1977.		N/A
	Exception: Connectors in Class 2 circuits are not required to comply with this requirement.		N/A
33.8	A fuseholder shall be of the lock out type and prevent insertion of a fuse larger than that specified by the manufacturer.		N/A
33.9	The ground connection when required by Grounding and Bonding, Section 36, shall make first and break last.		N/A
33.10	An interconnected unit shall be provided with markings in accordance with 198.9.		N/A
33.11	An interconnected unit shall be provided with instructions in accordance with 218.4.		N/A
33.12	An interconnected unit with a shortened power supply cord in accordance with Exception No.1 of 31.3 shall be marked in accordance with 198.9.1 and instructions in accordance with 218.6.		N/A
34	Alternate Power-Supply Connections		N/A
34.1	For a portable luminaire that is intended to be used in countries other than the United States, the configuration of the attachment plug shall conform with the standards of the country in which the product is intended to be used and shall be provided with instructions in accordance with 218.8.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
34.2	A proprietary connector provided in place of an attachment plug or an attachment plug and cord shall be investigated and determined usable for the purpose for which it is intended and shall be provided with markings and instructions in accordance with 218.7.		N/A
35	Polarization and identification		N/A
35.1	A supply-circuit conductor that is connected to the grounded supply conductor (neutral) shall be marked in accordance with Table 35.1 and shall be connected to the wide blade of a 2-wire attachment plug, or the left-hand blade of a 3-wire attachment plug when looking at the face of the plug with the rounding pin up. See Figure 32.1.		N/A
	Exception: A Class 2 low voltage plug-in power supply is not required to be provided with a polarized type 2-wire attachment plug.		N/A
35.2	The screwshell or screwshell contact of each Edison-base lampholder shall be connected to the grounded supply conductor of the supply cord.		N/A
35.3	A switch or a fuse or other protective device shall not be connected to the grounded supply conductor of the attachment plug.		N/A
	Exception: When the switch or protective device simultaneously interrupts both conductors of the supply circuit, it is able to be connected to the grounded supply conductor.		N/A
35.4.	Any portion of a portable luminaire that is capable of being detached thereby breaking electrical connections - such as a detachable power-supply cord, interlocking connectors, or cord connector- shall be constructed such that it is only able to be assembled in the manner which is required to maintain polarity.		N/A
36	Grounding and Bonding		N/A
36.1	When a 3-conductor cord-and-plug assembly is provided on a portable luminaire, all conductive parts of a portable luminaire not intended to be electrically live, that are accessible to persons including during any user maintenance and that have the potential to inadvertently become energized shall be grounded by being conductively bonded together to the equipment grounding means.		N/A
	Exception: Chain links of a swag type unit are not required to be bonded.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
36.2	A portable luminaire with any accessible non- current carrying conductive parts and operating with voltage to ground in excess of 150 volts, under any condition of service including open circuit, shall have a grounding type attachment plug.		N/A
	Exception No.1: A portable luminaire provided with double insulation between uninsulated parts operating above 150 V to ground and any accessible non-current carrying conductive parts need not comply with this requirement.		N/A
	Exception No.2: A portable luminaire provided with a simple reactance ballast or a ballast marked "For use in portable lamps" is not required to comply with this requirement.		N/A
36.3	When the reliability of a grounding connection is questioned, it shall be subjected to the Grounding Continuity Test, Section 158.		N/A
36.4	A part is determined to be accessible when it is capable of being touched by the probe illustrated in Figure 23.1.		N/A
36.5	A conductive part that is required to be grounded or bonded in accordance with 36.1 shall not be coated with vitreous enamel, paint, or similar coating.		N/A
	Exception No.1: The surface is able to be coated when it is marked or treated such that there is bare metal contact at the point(s) of bonding.		N/A
	Exception No. 2: The surface is able to be coated when the means of bonding reliably penetrates or scratches the surface such that there is bare metal contact at the point(s) of bonding.		N/A
36.6	The continuity of the grounding or bonding system shall not rely on solder alone or on the dimensional integrity of a thermoplastic material.		N/A
	Exception: When a material complies with the applicable requirements for Polymeric Decorative Parts, Section 13, and Polymeric Enclosure, Section 12, its integrity is determined reliable for continuity of the grounding or bonding system.		N/A
36.7	The grounding terminal of a convenience receptacle provided on a portable luminaire with a metal enclosure shall be bonded to the grounded metal of the unit by one of the following:		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
	a) Riveting, bolting, or welding the metal mounting yoke or strap, when provided, of the receptacle to the metal unit enclosure.		N/A
	b) A 16 AWG (1.3 mm ²) or larger copper bonding jumper from the receptacle grounding terminal to the unit enclosure, the connection to the lamp enclosure being made by riveting, bolting, or welding.		N/A
36.8	A bonding or grounding wire or jumper connector shall be secured by:		N/A
	a) A machine screw and nut;		N/A
	b) A machine screw that threads into metal when there are at least two full threads in the metal; or		N/A
	c) A rivet.		N/A
	A sheet-metal screw shall not be used to secure a bonding or grounding wire or jumper connector.		N/A
36.9	A bonding or grounding wire or jumper connector shall not be terminated by a screw, rivet, or equivalent device that is also used to secure another device or part that is intended to be removed during replacement of any electrical device or component other than the power- supply cord. Exception: The requirement does not apply to components that are not intended for user replacement and are secured by tamper proof screws that require a special tool to remove.		N/A
37	Electronic Circuits		P
37.1	A printed wiring board, including coatings, when provided shall comply with the requirements in the Standard for Printed-Wiring Boards, UL 796, and shall be classified V-O, V-1, or V-2 in accordance with the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, UL 94.		N/A
	Exception: A printed wiring board containing only circuitry not exceeding Class 2 limits is not required to comply with this requirement.	V-0	P
37.2	A resistor, capacitor, inductor, transformer, or other part that is mounted on a printed wiring board to form a printed-wiring assembly shall be secured so that the risk of displacement by any force exerted on it is minimized.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
37.3	A circuit involving a capacitor, rectifier, transistor, or similar component is to be subjected to analysis to determine whether there is a risk of fire or electric shock when the component is opened or shorted. The possible effect of one component on another, encapsulation, and similar factors are to be determined. When a risk is determined to exist, the Component Fault Test, Section 151 is to be conducted.		N
38	Secondary Low Voltage Circuits		P
38.1	Each secondary circuit exceeding Class 2 limits shall be investigated as though it were a primary circuit with respect to enclosure and accessibility requirements. Exception: Isolated low-voltage circuits are not required to comply with the accessibility requirements of Accessibility of Live Parts, Section 23.		N
38.2	A printed wiring assembly and subsequent circuitry used in an isolated, low-voltage circuit exceeding Class 2 limits shall comply with the requirements of Electronic Circuits, Section 37.		N
38.3	An isolated secondary low-voltage circuit is able to use the frame of the portable luminaire to carry current to one side of the load when hinges or other moveable parts are not used as current-carrying means.		N
	Exception No.1: A hinge or other moveable part is permitted to be used as a current-carrying means when it complies with the test requirements in Low Voltage Hinged or Moveable Part Cycling Test, Section 160.		N
	Exception No.2: A Class 2 circuit is able to use the frame of the portable luminaire, including a hinge or other moveable part, to carry current to one side of the load. The frame is able to carry current to both sides of the load providing that one side is insulated or guarded such that external conductive objects, such as jewelry, cannot be inadvertently placed across the Class 2 supply. Insulation employed to comply with this requirement shall comply with the Dielectric Voltage-Withstand Test, Section 159, with a test potential of 500 V applied between the opposing frame pieces.		N



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
39	Separation of Secondary Circuit Conductors		N/A
39.1	All uninsulated live parts connected to different circuits shall be spaced from one another as though they were parts of opposite polarity, in accordance with the requirements in 24.1 and shall be judged on the basis of the highest voltage involved.		N/A
39.2	The wiring in an isolated, low-voltage circuit shall be routed away from the wiring of primary circuits or shall be provided with insulation that is rated for use at the highest of the voltages in the circuits.		N/A
39.3	Wires that are part of an isolated low-voltage circuit shall be maintained away from uninsulated live parts of the primary circuit.		N/A
40	Separation of Communication Circuit Conductors		N
40.1	The wiring of communication circuits (telephone Class 2 adapter supply jacks) or data conductors that are part of a lighting control system shall be separated by a permanent barrier or a 2 inch (50.8 mm) spacing from the wiring of primary circuits.		N/A
41	Component Mounting		P
41.1	Uninsulated live parts shall be secured to the base or mounting surface so that they are restrained from turning or shifting in position, when such motion results in a reduction of spacing below the minimum required value.		N/A
41.2	A joint between metal parts or between fastening arms and supports, shall be strong and rigid and shall not turn when such turning results in movement of a wire or a wiring device after the assembly is completed.		P
41.3	A switch other than a through-cord switch, a ballast other than a through-cord ballast, a lampholder, convenience receptacle, an attachment-plug receptacle, or similar component shall be mounted securely and shall be restrained from turning.		N/A
	Exception No.1: A switch is not required to be restrained from turning when all four of the following conditions are met:		N/A
	a) The switch is of a plunger or other type that does not tend to rotate when operated. A toggle switch is determined to be subject to forces that tend to turn the switch during normal operation of the switch.		N/A
	b) The means for mounting the switch prevents the operation of the switch from loosening it.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
	c) The spacing are not reduced below the minimum required values when the switch rotates.		N/A
	d) The normal operation of the switch is by mechanical means rather than by direct contact by persons.		N/A
	Exception No.2: A lampholder of the type in which the lamp is unable to be replaced, such as a neon pilot or indicator light in which the lamp is sealed in a nonremovable jewel, is not required to be restrained from turning when rotation does not reduce spacing below the minimum required values.		N/A
	Exception No. 3: A lampholder is not required to be restrained from turning when:		N/A
	a) The means of providing strain relief is not affected by the rotation of the lampholder; and		N/A
	b) The cord or wiring is not twisted by the rotation (turns freely during rotation).		N/A
41.4	The means for preventing the turning or shifting indicated in this section is to consist of more than friction between surfaces. For example:		P
	a) A properly applied lock washer that "cuts" into the surfaces it is placed between;		N/A
	b) An irregularly shaped opening that prevents rotation by physical fit;		N/A
	c) A tab that contacts another tab or obstruction that prevents further rotation; or		N/A
	d) A set screw.		P
	Exception No. 1: A candelabra-base lampholder held in a spring-clip bracket is able to be prevented from rotating by the friction pressure of the spring clip against the mounting surface.		N/A
	Exception No.2: The fastening means for securing telescoping parts in an adjustable telescoping arm friction alone is usable when rotation between parts is limited to 360 degrees or less and rotation does not result in damage to conductor insulation.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
41.5	A sheet-metal or self-threading screw is able to be used to secure or support a part, such as a ballast, transformer, lampholder, starter holder, or a similar component, that weighs more than 7-1/2 pounds (3.4 kg), to a sheet steel luminaire part. A sheet-metal or self-threading screw in accordance with Security of Screws Test, Section 156, is not prohibited from securing or supporting a part, such as a ballast, transformer, lampholder, starter holder, or a similar component to other than a sheet steel luminaire part.		N/A
42	Lampholders		P
42.1	General		N/A
42.1.1	A lampholder with exposed terminals shall have the terminals located behind a permanent barrier or similar construction to comply with the requirements for Enclosures, Section 9, and the requirements for Accessibility of Live Parts, Section 23.		N/A
42.1.2	A lamp-supported lampholder shall be provided with stranded wiring.		N/A
42.2	Incandescent lampholders		N/A
42.2.1	A lampholder, constructed with exposed terminals, that is intended to be provided with a fiber husk and/or outer sleeve (thereby resembling a candle) to prevent inadvertent contact of the terminals shall not be used in a portable luminaire unless evaluated for compliance with 42.2.2 or 42.2.3, as applicable. Exception: The lampholder is able to be used when live parts are not accessible, as specified in Accessibility of Live Parts, Section 23, when the outer sleeve or outer husk is removed.		N/A
42.2.2	The use of a thermoplastic sleeve:		N/A
	a) Complying with the Polymeric Decorative Parts, Section 13, and Polymeric Enclosure, Section 12, requirements;		N/A
	b) Secured in place; and		N/A
	c) Not removable without the use of tools;		N/A
	Meets the intent of the requirement when, with the sleeve in place, the construction complies with the accessibility requirements in Accessibility of Live Parts, Section 23. See 42.2.1.		N/A
42.2.3	The use of a fiber husk:		N/A
	a) Complying with the 1/32 inch (0.8 mm) minimum treated cellulosic fiber for the fiber husk;		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
	b) Secured in place; and		N/A
	c) Not removable without the use of tools;		N/A
	Meets the intent of the requirement when, with the sleeve in place, the construction complies with the accessibility requirements in Accessibility of Live Parts, Section 23. See 42.2.1		N/A
42.2.4	A porcelain lampholder mounted by means of a screw ring shall be used only with the gasket usually supplied with this type of lampholder. Exception: The gasket is not required when a lampholder is mounted on and supported by porcelain.		N/A
42.2.5	A lampholder of the 3-way switch type shall be installed in only the base down position.		N/A
43	Switches and Dimmers		N/A
43.1	A switch provided for the control of a portable luminaire shall have a current rating for the load it controls in accordance with Figure 43.1.		N/A
43.2.	A switch shall not be connected in the load side of a ballast.		N/A
	Exception No.1: A switch is able to be connected in the load side of a reactor ballast.		N/A
	Exception No.2: For a plug-in type ballast, a switch is able to be connected in the load side of a ballast when the switch has a voltage and current rating at least equal to the output rating of the ballast under all conditions of use, including normal operation, operation without a lamp, and operation with a deactivated lamp.		N/A
43.3	A portable luminaire is not required to be provided with a switch.		N/A
43.4	A switch provided for the control of a motor load shall be investigated to determine that it is intended for the purpose.		N/A
44	Receptacles		N/A
44.1	A convenience receptacle provided on a portable luminaire shall be of the same type and configuration as the attachment plug of the unit, and shall be wired such that it provides the same polarized supply as the attachment plug of the unit. See Figure 32.1.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
44.2	A portable luminaire shall not be provided with more than two single or one duplex receptacle. The electrical rating shall be marked in accordance with 198.6.2.		N/A
44.3	When the face of a receptacle is less than 5/8 inch (15.9 mm) wide or less than 7/8 inch (22.2 mm) long, the face of the receptacle shall project not more than 3/16 inch (4.8 mm) from the part of the mounting surface that is within a rectangle 7/8 inch (15.9 mm) long and 5/8 inch (15.9 mm) wide symmetrically located about the receptacle contacts; and when the mounting surface is conductive, the face of the receptacle shall project not less than 3/32 inch (2.4 mm) from that part of the mounting surface.		N/A
44.4	The area surrounding a convenience receptacle shall be free of any projection that prevents full insertion of the blades of an attachment plug having a face diameter of 1-15/16 inches (49.2 mm) and rectangular attachment plug having a face of 1-1/2 by 1-5/8 inch (38.1 by 41.3 mm). Exception: Projections that prevent the blades of the attachment plug from making electrical contact with the female contacts of the receptacle meet the intent of the requirement.		N/A
45	Transformers		N/A
45.1	Transformers used in portable luminaires shall comply with the Transformer Short-Circuited Test, Section 150. A transformer known to comply with any of the following standards is considered to comply with this requirement:		N/A
	a) Standard for Class 2 Power Units, UL 1310;		N/A
	b) Standard for Transformers and Motor Transformers for Use In Audio, Radio-, and Television-Type Appliances, UL 141 1;		N/A
	c) Standard for Low Voltage Transformers - Part 1: General Requirements, UL 5085-1 and the Standard for Low Voltage Transformers - Part 3: Class 2 and Class 3 Transformers, UL 5085-3; or		N/A
	d) Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1, Section 2.5, "limited power source" (LPS) requirements.		N/A
46	Motors		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
46.1	Each motor shall be of a type that is intended for its application and shall operate at its maximum normal load during the Normal Temperature Test, Sections 143 - 147, without resulting in a risk of fire, electric shock, or injury to persons.		N/A
46.2	A motor winding shall resist the absorption of moisture.		N/A
46.3	Each motor shall be protected from overheating as the result of any condition of load, up to and including stalled rotor.		N/A
46.4	The protection against overheating required by 46.3 shall be accomplished by one of the following:		N/A
	a) Thermal impedance protection complying with the requirements in the Standard for Impedance Protected Motors, UL 1004-2; or		N/A
	b) Other protection that is found by test to be equivalent to the protection specified in (a).		N/A
47	Portable Luminaires with Batteries		N/A
47.1	Primary batteries shall be protected from any charging currents by no less than two diodes (or equivalent) or one diode (or equivalent) and a current limiting device (such as a resistor).		N/A
47.2	Secondary batteries shall comply with the applicable requirements of the Standard for Household and Commercial Batteries, UL 2054.		N/A
47.3	Battery cells constructed of lithium metal, Battery cells constructed of lithium metal, lithium alloy or lithium ion shall additionally comply with the applicable requirements of the Standard for Lithium Batteries, UL 1642.		N/A
47.4	A battery shall be located and mounted within the portable luminaire in a manner within the portable luminaire in a manner misalignment, reverse polarity, damage to connections, loose connections, or access to uninsulated parts that represent a risk of electric shock.		N/A
47.5	The output characteristics of the battery charging circuit shall be compatible with the designated secondary battery. The charging circuitry shall not be adjustable by the user.		N/A
47.6	The battery and its charging circuit componentry shall comply with the normal temperature test when operated through two consecutive cycles of charging and discharging in accordance with 144.13.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
CONSTRUCTION			
ELECTRICAL CONSTRUCTION – GENERAL			--
47.7	The charge and discharge rate of a secondary battery shall be measured in accordance with 197.1 and shall not exceed the battery manufacturer's recommendations.		N/A
47.8	A secondary battery and its charging circuit shall comply with the abnormal tests of Section 197.2.		N/A
47.9	A portable luminaire with batteries intended for user replacement shall be marked to identify the appropriate replacement batteries, per the requirements of Portable Luminaires with Batteries, Section 200. Batteries that are not accessible with the use of ordinary tools shall be considered not intended for user replacement, and the portable luminaire shall not provide any markings or instructions for the replacement of such inaccessible batteries.		N/A
47.10	A portable luminaire with batteries shall be provided with instructions for proper disposal of used batteries, per the requirements of Portable Luminaires with Batteries, Section 217.		N/A



Clause	Requirement	Test	Measuring result	Remark	Verdict
CONSTRUCTION					
INCANDESCENT UNITS - SUPPLEMENTARY					N/A
48~53					N/A
TUNGSTEN HALOGEN UNITS - SUPPLEMENTARY					N/A
53~59					N/A
FLUORESCENT UNITS - SUPPLEMENTARY					N/A
60~64					N/A
HIGH INTENSITY DISCHARGE UNITS - SUPPLEMENTARY					N/A
65~69					N/A
SURFACE MOUNTED UNITS - SUPPLEMENTARY					N/A
70~73					N/A
CORD AND CHAIN SUSPENDED UNITS - SUPPLEMENTARY					N/A
74~79					N/A
CLAMP-ON MOUNTED UNITS - SUPPLEMENTARY					N/A
80~83					N/A
PORTABLE CABINET LIGHTS - SUPPLEMENTARY					N/A
84~89					N/A
UNITS FOR USE WITH OFFICE FURNISHINGS - SUPPLEMENTARY					N/A
90~94					N/A
CONVERTIBLE UNITS - SUPPLEMENTARY					N/A
95~99					N/A
INTERCHANGEABLE UNITS - SUPPLEMENTARY REQUIREMENTS					N/A
100~103					N/A
TRACK-STYLE UNITS - SUPPLEMENTARY					N/A
104~109					N/A
PORTABLE LUMINAIRE KIT - SUPPLEMENTARY					N/A
110~115					N/A
PORTABLE LUMINAIRE SUBASSEMBLIES - SUPPLEMENTARY					N/A
116~120					N/A
PORTABLE LUMINAIRE ACCESSORIES - SUPPLEMENTARY					N/A
121~124					N/A
WORK LIGHTS - SUPPLEMENTARY					N/A
125~129					N/A
DAMP LOCATION USE - SUPPLEMENTARY					N/A



Clause	Requirement	Test	Measuring result	Remark	Verdict
CONSTRUCTION					
129A~129D					N/A
WET LOCATION USE - SUPPLEMENTARY					N/A
130~135					N/A
PORTABLE HAND LIGHTS - SUPPLEMENTARY					N/A
136~142					N/A



Clause	Requirement	Test	Measuring result	Remark	Verdict
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PERFORMANCE

GENERAL - NORMAL TEMPERATURE TEST			P
143	General		P
144	Test Method - General		P
145	Specific Test Conditions - Free Standing and Surface Mounted Units		P
145.2	Test results	See annex 1	P
146	Specific Test Conditions - Portable Cabinet Lights		N/A
146.3	Test results		N/A
147	Specific Test Conditions - Work Lights		N/A
147.2	Test results		N/A
148	Specific Test Conditions - Portable Hand Lights		N/A
148.2 .	Test results		N/A

PERFORMANCE

GENERAL - ABNORMAL OPERATION TESTS			P
149	Adjustable Position or Multiple Shade Abnormal Operation Test		P
149.6	Test results		P
150	Transformer Short-Circuited Test		N/A
150.3	Test results		N/A
151	Component Fault Test		P
151.3	Test results	See annex 2	P
152	Conductor Short Circuit and Abnormal Operation Test		N/A
152.4	Test results		N/A

PERFORMANCE

GENERAL - MECHANICAL TESTS			N/A
153	Stability Test		N/A
153.5	Test results		N/A
154	Strain Relief Test		N/A
154.3	Test results		N/A
155	Drop Test		N/A
155.3	Test results		N/A
156	Security of Screws Test		N/A
156.3	Test results		N/A



157	Power-Supply Cord Twist Test	N/A
157.3	Results	N/A

PERFORMANCE

GENERAL - ELECTRICAL TESTS		P
158	Grounding Continuity Test	N/A
158.3	Test results	N/A
159	Dielectric Voltage-Withstand Test	P
159.3	Test results	P
160	Low Voltage Hinged or Movable Part Cycling Test	N/A
160.3	Test results	N/A
161	Resistance to Moisture Test	N/A
161.3	Test results	N/A

PERFORMANCE

INCANDESCENT UNIT TESTS		N/A
162	Torchiere Input Test	N/A
162.3	Test results	N/A
163	Lamp Harp Torque Test	N/A
163.3	Test results	N/A
164	Lampshade Ease of Ignition Test	N/A
164.3	Test results	N/A

PERFORMANCE

TUNGSTEN-HALOGEN UNIT TESTS		N/A
165	Tungsten Halogen Lamp Adjacent Surfaces and Overlapping Abnormal Operation Tests	N/A
165.8	Test results	N/A
166	Tungsten-Halogen Lamp Guard, Lamp Containment Barrier, and UV Filter Security Test	N/A
166.3	Test results	N/A
167	Tungsten-Halogen Torchire Abnormal Operation Test	N/A
167.3	Test results	N/A
168	Tungsten-Halogen Torchire Vertical Wall Test	N/A
168.3	Test results	N/A
169	Tungsten-Halogen Torchire Stability Test	N/A



169.3	Test results		N/A
170	Tungsten-Halogen Torchere Flexible or Articulated Arm Stop Test		N/A
170.3	Test results		N/A
171	Reserved for future use		N/A
172	Polymeric Lamp Containment Barrier Test		N/A
172.3	Test results		N/A
173	Interlock Switch Endurance Test		N/A
173.3	Test results		N/A
174	Heat Flux Density Measurement Test		N/A
174.3	Test results		N/A

PERFORMANCE

FLUORESCENT UNIT TESTS			N/A
175	Abnormal Operation - Shorted Starter Test		N/A
175.3	Test results		N/A

PERFORMANCE

HIGH-INTENSITY DISCHARGE UNIT TESTS			N/A
176	Glass Impact Test		N/A
176.3	Test results		N/A
177	Glass Thermal Shock/Containment Test		N/A
177.3	Test results		N/A

PERFORMANCE

SURFACE MOUNTED UNITS FOR WALL OR UNDERSHELF MOUNTING TESTS			N/A
178	Mounting Means Test - Surface Mounted Unit		N/A
178.3	Test results		N/A

PERFORMANCE

CORD AND CHAIN SUSPENDED UNIT TESTS			N/A
179	Mounting Means Test - Chain and Suspended Units		N/A
179.5	Test results		N/A
180	Test for Suspended Toys		N/A
180.3	Test results		N/A



PERFORMANCE

CLAMP-ON UNIT TESTS			N/A
181	Mounting Means Test - Clamp-On Unit		N/A
181.3	Test results		N/A

PERFORMANCE

TRACK-STYLE UNIT TESTS			N/A
182	Mechanical Means of Polarity Test		N/A
182.3	Test results		N/A
183	Track Clip Securement Test		N/A
183.3	Test results		N/A

PERFORMANCE

PORTABLE LUMINAIRE KIT AND SUBASSEMBLY TEST			N/A
184	Assembly and Installation Test		N/A
184.3	Test results		N/A

PERFORMANCE

WORK LIGHT TESTS			N/A
185	Guard Securement Test		N/A
185.2.2	Test results		N/A
WORK LIGHT TESTS			N/A



Clause	Requirement	Test	Measuring result	Remark	Verdict
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PERFORMANCE

WET LOCATION USE TESTS			N/A
186	Rain and Sprinkler Tests		N/A
186.5	Test results		N/A
187	Polymeric Thermal Conditioning Test		N/A
187.3	Test results		N/A
188	Gasket Accelerated Aging Test		N/A
188.3	Test results A		N/A
188.5	Test results B		N/A
189	Gasket Adhesion Test		N/A
189.3	Test results A		N/A
189.5	Test results B		N/A
190	Paint Adhesion Test		N/A
190.3	Test results		N/A

PERFORMANCE

PORTABLE HAND LIGHT TESTS					N/A
191	Abnormal Operation Tests				N/A
191.2.	Continuous operation				N/A
191.3.2	Test results				N/A
191.4	Mechanical manipulation				N/A
191.4.2	Test results				N/A
192	Crush Test				N/A
192.3	Test results				N/A
193	Drop Test				N/A
193.3	Test results				N/A
194	Conductor Secureness Test				N/A
194.3	Test results				N/A
195	Dielectric Voltage-Withstand Test				N/A
195.3	Test results				N/A
196	Hand Light Guard Securement Test				N/A
196.2.2	Test results				N/A
197	Battery Tests				N/A
197.1	Charge and discharge rate				N/A



	The maximum rate shall not exceed the battery manufacturer's recommendation.		N/A
197.2	Battery and charging circuit abnormal tests		N/A
197.2.1	Test results		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict														
MARKINGS																	
198	General		P														
198.1	Form		P														
198.1.1	A required marking shall be legible and unless otherwise indicated, the types of marking and the minimum height of the letters shall be as specified by the applicable form letter in Table 198.1, and the location of the marking shall be as specified by the applicable form number in Table 198.2. The wording, form letter, and form number shall be as specified in the applicable paragraphs.		P														
	Exception: A marking of a form higher in Table 198.1 than required is able to be used. (Example: Form A1 is able to be used when Form B1 is specified.)		N/A														
Table 198.1 Form designations for location of marking <table><tr><th>Form letter of marking</th><th>Type</th></tr><tr><td>A^a</td><td>Paint-stenciled, die-stamped, indelibly stamped lettering, or indelibly printed label. The letters shall be at least 1/8 inch (3.2 mm) high.</td></tr><tr><td>B^a</td><td>Pressure-sensitive label, decalcomania transfer, paper label, paint or ink or die-stamped lettering. A tie-on tag, stuffer sheet, or equivalent does not meet the intent of the requirement.</td></tr><tr><td>C</td><td>In the form of instructions on or with the portable luminaire. A tie-on tag, stuffer sheet, or equivalent meets the intent of the requirements.</td></tr><tr><td colspan="2">^a This marking shall be on a portion of the portable luminaire that: 1) Is not removed during replacement of the lamp, and 2) Serves other than a purely decorative function. (For example, a marking on a removable lampholder sleeve shall be repeated on the lampholder itself and a marking on a fabric shade does not meet the intent of the requirement).</td></tr></table>				Form letter of marking	Type	A ^a	Paint-stenciled, die-stamped, indelibly stamped lettering, or indelibly printed label. The letters shall be at least 1/8 inch (3.2 mm) high.	B ^a	Pressure-sensitive label, decalcomania transfer, paper label, paint or ink or die-stamped lettering. A tie-on tag, stuffer sheet, or equivalent does not meet the intent of the requirement.	C	In the form of instructions on or with the portable luminaire. A tie-on tag, stuffer sheet, or equivalent meets the intent of the requirements.	^a This marking shall be on a portion of the portable luminaire that: 1) Is not removed during replacement of the lamp, and 2) Serves other than a purely decorative function. (For example, a marking on a removable lampholder sleeve shall be repeated on the lampholder itself and a marking on a fabric shade does not meet the intent of the requirement).					
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Table 198.2 Form designations for location of marking <table><tr><th>Form no. of marking</th><th>Location of marking</th></tr><tr><td>1</td><td>On an exterior surface that is normally visible. Marking is determined to be normally visible when a lamp or glassware is required to be removed to make the marking visible.</td></tr><tr><td>2</td><td>Adjacent to the ballast and readily visible before and during ballast replacement.</td></tr><tr><td>3</td><td>At a point where visible during relamping.</td></tr><tr><td>4</td><td>On the smallest unit packaging carton.</td></tr><tr><td>5</td><td>At a point visible during mounting.</td></tr><tr><td colspan="2">^a A marking is considered visible during relamping when it can be seen without removal of a part not associated with the relamping activity. If a shade or lens must first be removed to access the lamp, a marking that is visible only after removal of that shade or lens is permitted.</td></tr></table>				Form no. of marking	Location of marking	1	On an exterior surface that is normally visible. Marking is determined to be normally visible when a lamp or glassware is required to be removed to make the marking visible.	2	Adjacent to the ballast and readily visible before and during ballast replacement.	3	At a point where visible during relamping.	4	On the smallest unit packaging carton.	5	At a point visible during mounting.	^a A marking is considered visible during relamping when it can be seen without removal of a part not associated with the relamping activity. If a shade or lens must first be removed to access the lamp, a marking that is visible only after removal of that shade or lens is permitted.	
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198.1.2	When the wording of a particular marking is given within quotation marks in this standard,		N/A														



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	the verbatim wording shall be used. Words located within parentheses are optional. Other substitute words are acceptable when the marking text is followed by the phrase "or the equivalent."		
198.2	Form "A" marking label		P
198.2.1	The combination of a label material and ink used for Form A in Table 198.1 shall be permanent and rated for the type of surface and temperature of surface determined during the Normal Temperature Test, Section 143 - 147. The marking and labeling system shall comply with the Standard for Marking and Labeling Systems, UL 969.		P
198.2.2	The marking material temperature rating for portable luminaires complying with the Temperature Test-Exempt Units requirements in Sections 49 and 63 shall be at least 60°C (140°F), except:		N/A
	Incandescent Temperature Test Exempt		N/A
	a) A material located on an incandescent lampholder shall be rated for a temperature of at least the lampholder lead wires as specified in Table 49.5;		N/A
	Fluorescent Temperature Test Exempt		N/A
	b) A material located on a fluorescent lampholder shall be rated for a temperature of at least the lampholder lead wires as specified in Table 61.1; and		N/A
	c) A material located within 3 inches (76.2 mm) of a ballast shall be rated for a temperature of at least 80°C (176°F).		N/A
198.2.3	When the 1/8 inch (3.2 mm) minimum letter height required by a Form A-3 marking is not accommodated because of the product's small physical size, the letter height is not prohibited from being reduced when:		N/A
	a) The specific marking permits a reduced marking size;		N/A
	b) The signal word "WARNING" or "CAUTION" is a minimum of 7/64 inch (2.75 mm) high;		N/A
	c) The text is a minimum of 1/16 inch (1.6 mm) high and contrasting in color to the background; and		N/A
	d) When molded or stamped, the text is a minimum of 5/64 inch (2.0 mm) high and when not contrasting in color to the background, is raised or depressed a minimum of 0.01 inch (0.25 mm).		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
198.3	Tag type markings		N/A
198.3.1	For markings required to be on a tag, the tag shall be affixed to the cord. The marking shall be indelible.		N/A
198.3.2	Tag markings shall be provided in either of the following forms:		N/A
	a) A hang-type tag having a hole to permit securement to the cord by a plastic strap or equivalent. The strap shall not be removable without cutting.		N/A
	b) A flag-type tag with the adhesive back. The tag is to be wrapped around and adhere to the cord. The ends of the tag are to adhere to each other and project as a flag.		N/A
198.4	Pictograph type markings		N/A
198.4.1	A marking required elsewhere in this standard is able to be in the form of a pictograph or a combination of a pictograph and word(s) when the marking is investigated and found to contain:		N/A
	a) An attention getting flag, symbol or word;		N/A
	b) An indication of the possible risk; and		N/A
	c) What is able to be done to reduce the risk.		N/A
198.5	Manufacturer's identification		P
198.5.1	A portable luminaire shall be marked in Form B-1 with the manufacturer's name, trademark, or other descriptive marking by which the manufacturer is identified.		P
198.5.2	When a manufacturer produces or assembles portable luminaires at more than one factory, each unit shall have a distinctive marking in Form B-1 by which it is able to be identified as the product of a particular factory. The absence of a marking is able to be used to identify one factory when the other factories have identifying marks.		N/A
198.6	Electrical ratings		P
198.7	Mounting orientation Mounting orientation		N/A
198.7.1	When a portable luminaire is able to be mounted in more than one orientation, such as either a wall or under a cabinet, and the correct orientation of the unit is required to comply with a specific requirement in this standard, it shall be marked in Form A-1, to indicate the correct orientation		N/A
198.8	Hot surface marking		N/A
198.8.1	When the temperature measured on the exterior		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	surface of a wall or ceiling unit during the Normal Temperature Test, Sections 143 - 147, exceeds 90°C (194°F) and does not exceed 150°C (302°F), the portable luminaire shall be marked in Form A-3 "CAUTION: Hot surface. Keep away from curtains and other combustible materials," or equivalent.		
198.9	Interconnected units		N/A
198.9.1	An interconnected unit with a short cord in accordance with Interconnected Units, 33.12, shall be marked in Form B-5 "Only connect to adjacent units (or other appropriate product name)."		N/A
198.9.2	An interconnected unit shall be marked in Form A-1 adjacent to the receptacle "a" units maximum, "where "a" is the number of units.		N/A
198.9.3	An interconnected unit with an internal fuse shall be marked in Form A-1 adjacent to the fuseholder: "b" A fuse maximum." where "b" is fuse ampere rating.		N/A
198.9.4	An interconnected unit without overcurrent protection in accordance with 92.3.3 shall be marked in Form B-3: "CAUTION - Risk of Electrical Shock or Fire, Use only on 15 Amp maximum branch circuit."		N/A
198.9.5	An interconnected unit that is intended to be connected to the secondary circuit of a ballast or transformer in an adjacent unit, or to a fused unit, shall be marked in Form B-5 "Only for use with (number of units) (catalog or parts number) manufactured by (manufacturer's name) (product name) or the equivalent."		N/A
198.10	Units with integral shelf, rack, or table		N/A
198.10.1	Each shelf, magazine rack, or other means that are part of the portable luminaires assembly and intended to support any object(s) shall be marked in Form A-1: "WARNING - Risk of tip over;" and "Max. _____ lb. Load," or equivalent, where the blank space specifies the maximum load in pounds. Exception: When subjected to a Stability Test in accordance with 153.4.2 (a) and (c), the above marking is not required.		N/A
198.11	Resemblance to toy		N/A
198.11.1	A portable luminaire required by 18.4 to have a marking shall be marked: "WARNING - THIS IS AN ELECTRIC LAMP - NOT A TOY! TO		N/A

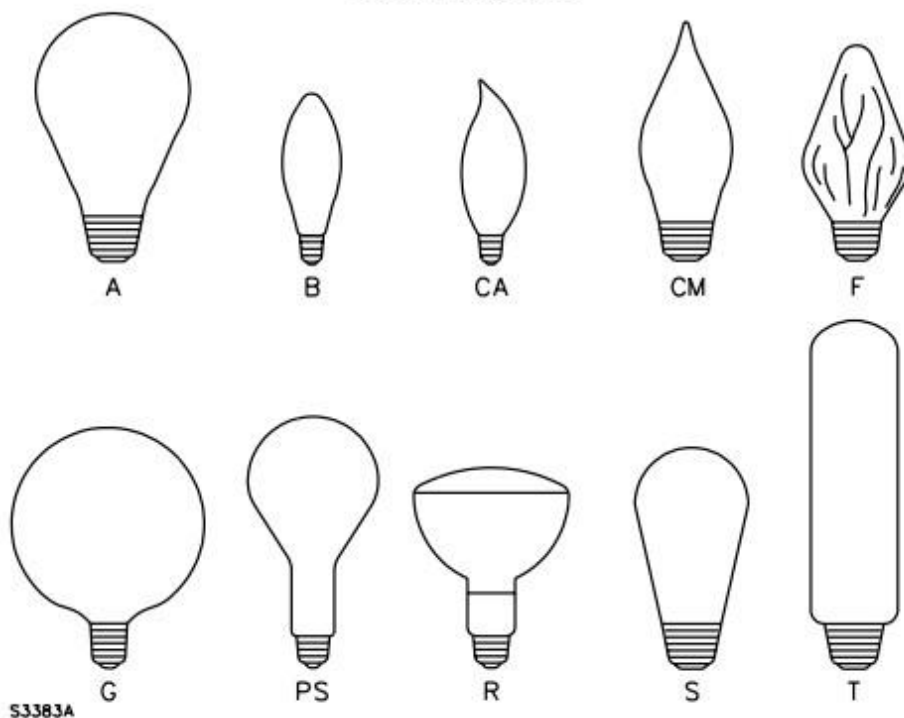


Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	AVOID RISK OF FIRE, BURNS, PERSONAL INJURY AND ELECTRIC SHOCK IT SHOULD NOT BE PLAYED WITH OR PLACED WHERE SMALL CHILDREN CAN REACH IT., "or equivalent.		
198.11.2	The marking required by 198.11.1 shall be provided in contrasting colors and shall be:		N/A
	a) Form A where visible during initial setup and handling; and		N/A
	b) In letters a minimum of 1/4 inch (6.4 mm) high on the external surface of the carton or packaging where visible during purchase.		N/A
	Exception: The carton marking shall not be omitted unless the product marking is 1/4 inch high and is visible through the packaging.		N/A
198.12	Marking for luminaires containing hazardous substances		N/A
198.12.1	With reference to 20.4, a portable luminaire containing hazardous substances shall be marked "KEEP OUT OF REACH OF CHILDREN."		N/A
199	Non-Integral Power Supply		N/A
199.1	A portable luminaire intended for connection to a separately packaged non-integral power supply shall be marked in Form B-5, "For use with _____ power supply." The blank is filled with the manufacturer and model number. The separately packaged power supply shall be marked in Form A-1 with:		N/A
	a) Portable Luminaire Power Supply;		N/A
	b) Electrical rating of secondary circuit in volts and amperes; and		N/A
	c) For use with _____ portable luminaire. The blank is filled with the manufacturer and model number. If the power supply is intended to supply more than one portable luminaire, the blank shall also indicate the maximum number and wattage of each portable luminaire.		N/A
200	Portable Luminaires with Batteries		N/A
200.1	A portable luminaire with a secondary battery intended for user replacement shall be marked with the following or equivalent in a location readily visible during battery replacement: "Caution -Replace battery with (manufacturer and battery designation) only."		N/A
200.2	A portable luminaire with a primary battery shall be marked with words or pictorial symbols indicating the size and type of battery, in a location readily visible during battery replacement.		N/A
201	Incandescent Units		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
201.1	Lamp replacement		N/A
201.1.1	An incandescent type unit shall be marked in Form A-3 to indicate the proper wattage, type, and voltage of the replacement lamp(s).		N/A
	Exception No. 1: The voltage is not required to be marked when the lamp(s) is intended for operation on a nominal 120 volt circuit.		N/A
	Exception No. 2: When the minimum letter height required by Form A-3 is not accommodated because of the product's small physical size, the letter height is able to be reduced in accordance with 198.2.3.		N/A
201.1.2	The lamp identified in 201.1.1 shall be:		N/A
	a) The type and wattage tested; or		N/A
	b) Rated in accordance with the Temperature Test-Exempt Units requirements of Section 49.		N/A
201.1.3	The marking required in 201.1.1 shall be: "CAUTION: (TO REDUCE THE) RISK OF FIRE - USE _____ WATT OR SMALLER, _____ VOLT, TYPE _____ LAMP(S);" or equivalent. The lamp type shall be indicated by a drawing such as shown in Figure 201.1. A portable luminaire tested with a xenon lamp shall state "xenon" as the lamp type.		N/A

Figure 201.1
General lamp type





Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
201.1.4	A portable luminaire intended for use with two or more incandescent lamps, all of which are of the same wattage, is able to be marked at a single location to indicate either the maximum-wattage lamp to be used or to indicate both the number of lamps and the maximum-wattage lamp. For a unit having two or more lamps that are not all of the same wattage, the wattage of each lamp shall be individually marked on or adjacent to each lampholder.		N/A
201.1.5	For a portable luminaire provided with a threeway lampholder, the marked maximum wattage for the lamp replacement marking specified in 201.1.1 shall be at least 100 watts.		N/A
201.2	Incandescent units shipped without lampshade		N/A
201.2.1	When a portable luminaire is not provided with a shade in accordance with 16.1, it shall be marked in Form C with instructions to indicate the minimum required shade dimensions in accordance with the temperature test-exempt requirements or the shade that it was tested with.		N/A
201.3	Removal of dust cover		N/A
201.3.1	A dust cover over the shade shall be marked in Form C "Remove cover before using unit" or the equivalent, where visible.		N/A
202	Tungsten Halogen Units		N/A
202.1	Lamp replacement - single envelope lamp		N/A
202.1.1	A portable luminaire intended for use with a tungsten-halogen lamp having a single envelope shall be marked in Form A-3 in accordance with 201.1 to indicate the proper wattage, type, and voltage of the replacement lamp(s). Exception: A lamp that does not require a lamp containment barrier or UV filter is able to be alternately marked in accordance with 202.1.2.		N/A
202.1.2	A portable luminaire intended for use with a single envelope tungsten-halogen lamp that does not require a lamp containment barrier or UV filter by the lamp manufacturer shall be marked in Form A-3: "WARNING -Risk of Fire - Use (a)____W Maximum, Type (b)____ Lamp Marked On Lamp Carton As Suitable For Use In Open Luminaire" The blanks shall be filled in with:		N/A
	a) Test lamp wattage; and		N/A
	b) Lamp shape, symbol, and outline drawing.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
202.1.3	When the full lamp replacement marking in 202.1.1 and 202.1.2 cannot be accommodated because of the luminaires small physical size, the following markings shall be provided:		N/A
	a) "Max__watt (type)" or "Max _W (type)", or equivalent on the luminaire where readily visible during re-lamping; and		N/A
	b) "Caution - Risk of Fire - Do Not Exceed Lamp Replacement Wattage. Use Lamp Not Rated For Enclosed Use Only" on a tear resistant Form A label attached to the power supply cord.		N/A
202.2	Lamp replacement-double envelope lamp		N/A
202.2.1	A portable luminaire intended for use with a tungsten-halogen lamp having a double envelope shall be marked in accordance with 201.1 to indicate the proper wattage, type, and voltage of the replacement lamp(s). Exception: Lamps having integral UV filters and containment barriers are able to be alternately marked in accordance with 202.2.2.		N/A
202.2.2	A portable luminaire intended for use with a double envelope tungsten-halogen lamp that does not require a lamp containment barrier or UV filter by the lamp manufacturer, shall be marked in Form A-3: "WARNING -Risk of Fire - Use (a)____W Maximum, Type (b)____ Shielded Lamp Not Rated For Enclosed Use Only." The blanks shall be filled in with:		N/A
	a) Test lamp wattage; or not to exceed 100W for an Edison base, similar in shape to a Type A style lamp and rated in accordance with the Temperature Test-Exempt Units requirements of Section 49; and		N/A
	b) Lamp shape, symbol, and outline drawing.		N/A
	If the tungsten halogen lamp is intended for use with a torchiere unit as specified in 55.3.12 and is a type not commonly available, with a shape and diameter other than the types specified in Table 144.2, the marking shall include the lamp manufacturer's name and ordering code. See 220.2.		N/A
202.2.3	Alternately for 202.2.2, the marking "Classified Tungsten Halogen Lamp" can be substituted for the text "Shielded Lamp Not Rated For Enclosed Use Only".		N/A
202.2.4	When the lamp replacement marking in 202.1.1 and 202.1.2 cannot be accommodated because of the product's small physical size, the		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	following markings may be provided:		
	a) "Max watt (type)" or "Max _W (type)", or equivalent on the luminaire where readily visible during re-lamping; and		N/A
	b) "Caution – Risk of Fire – Do Not Exceed Lamp Replacement Wattage. Use Lamp Not Rated For Enclosed Use Only" on a tear resistant Form A label attached to the power supply cord.		N/A
202.3	Risk of fire and injury warnings		N/A
202.3.1	A portable luminaire shall be marked in Form A-3 where visible during setup, or on a Form A label attached to the power-supply cord: "WARNING" "RISK OF FIRE/INJURY TO PERSONS. Keep away from combustibles. Unplug to change bulb (lamp). Do not touch bulb (lamp)," or the equivalent. This marking is able to be combined with other required marking. Exception: When this requirement is not able to be used because of the product's small physical size and the power supply cord is not visible after installation, the marking is able to be provided in Form C.		N/A
202.3.2	A portable luminaire that is required to have a UV filter and not interlocked shall have the following marking added to 202.3.1: "Do not operate without complete bulb (lamp) enclosure in place or if lens is damaged."		N/A
202.3.3	When a portable luminaire employs a double pole switch, the marking required in 202.3.1 shall include the words "Turn off" and state "Turn off/Unplug to change bulb (lamp)."		N/A
202.3.4	When the marking in 202.3.3 is provided, the unit shall be marked in Form B adjacent to the switch to identify the off position.		N/A
202.3.5	A portable luminaire shall be marked in Form A-3 where visible during setup, or on a label in Form A attached to the power-supply cord with the word "WARNING" and the following or the equivalent: "Risk of FIRE. Do not place lamp where the overhead surface is closer than _____ feet to the portable luminaire." The blank shall be filled in with the spacing used between the portable luminaire and the overhead test surface during the Overhead Surface Test, 165.6. This marking is able to be combined with that in 202.3.1.		N/A
	Exception No. 1: The marking is able to be in the form of a pictograph complying with the requirements of 198.4.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	Exception No. 2: This marking is not required when the Overhead Surface Test, 165.6, is conducted with the portable luminaire mounted as close to the overhead test surface as the construction permits.		N/A
202.3.6	A tungsten-halogen portable floor unit with an open top design with the lamp facing upward, such as a torchiere style, shall be marked in Form A-3 with the word "WARNING" and the following or equivalent: "HOT SURFACE! TO AVOID RISK OF FIRE, DO NOT ALLOW CURTAINS AND OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH THE LAMP." In addition, this same marking shall be in Form A on the pole, base, or powersupply cord. This marking may be combined with the marking in 202.3.1.		N/A
202.3.7	When a portable luminaire employs a lampholder that require insertion of the doubleended lamp into the grounded (neutral) lampholder first in accordance with 56.1.1, Exception 4, the unit shall be marked in Form A-3 adjacent to the lampholder "CAUTION" and "Insert Lamp Into This Lampholder First" or equivalent.		N/A
202.4	Five foot minimum mounting		N/A
202.4.1	A portable luminaire intended for mounting a minimum of 5 feet (1.5 m) above the floor in accordance with Exception No. 2 to 55.2.2 shall be marked in Form A-3 or provided with a Form A label on the power-supply cord with the word "WARNING" "Risk of FIRE/INJURY TO PERSONS. Install minimum 5 feet (1.5 m) above the floor," or equivalent. This marking is able to be combined with that in 202.5.1.		N/A
202.5	Date code		N/A
202.5.1	A halogen torchiere style unit shall be marked in Form B-1 with the date of manufacture in the following code: ww yy Where "ww" is week and "yy" is year.		N/A
203	Fluorescent Units		N/A
203.1	Lamp replacement		N/A
203.1.1	A fluorescent type unit shall be marked in Form A-3 with: "CAUTION" and "(TO REDUCE THE) RISK OF FIRE - USE ONLY _____ TYPE W(ATT) LAMP." The lamp type and wattage		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	shall be the type and wattage tested, or shall be based on the ballast provided, in accordance with the Temperature Test-Exempt Units requirements of 63.1.		
	Exception No. 1: The marking is not required to be provided when the portable luminaire employs a Class P ballast and the lampholder is keyed to accept a specific lamp wattage for a compact fluorescent lamp. The lampholder keying shall comply with the Standard for Lamp Caps and Holders Together with Gauges for the Control of Interchangeability and Safety, IEC 60061-2.		N/A
	Exception No. 2: The marking is not required to be provided when the portable luminaire employs a Class P ballast and the ballast is rated for all fluorescent lamp wattages and types that physically fits into the unit.		N/A
	Exception No. 3: For a fluorescent unit provided with a GU24 or GU24-1 holder, see 203.1.2. For a fluorescent unit provided with a medium base lampholder, see 203.1.3.		N/A
203.1.2	A portable luminaire that employs a GU24 or GU24-1 holder shall be marked in Form A-3 with "CAUTION" and "(TO REDUCE THE) RISK OF FIRE - USE MAX(IMUM)____W(ATT) SELF-BALLASTED LAMP OR LAMP ADAPTER." The blank shall be in accordance with the wattage tested or in accordance with the Temperature Test-Exempt Units requirements of 63.3.		N/A
	Exception: The abbreviation "SBCFL" is permitted in lieu of the phrase "SEFBALLASTED LAMP."		N/A
203.1.3	A portable luminaire that employs a screw base lampholder and is intended for a fluorescent self-ballasted lamp or lamp adapter shall be marked in Form A-3 with "CAUTION" and "(TO REDUCE THE) RISK OF FIRE - USE MAX(IMUM)____W(ATT) SELF-BALLASTED LAMP OR LAMP ADAPTER." The blank shall be no greater than the maximum incandescent lamp wattage as determined per 201.1.2. The portable luminaire is permitted to additionally be marked for use with an incandescent lamp, per 201.1.3, or with a self-ballasted LED lamp, per 204.2.		N/A
	Exception: The abbreviation "SBCFL" is permitted in lieu of the phrase "SEFBALLASTED LAMP."		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
204	Light Emitting Diode (LED) Units		N/A
204.1	An LED type unit with a replaceable selfballasted LED lamp shall be marked in Form A-3: "CAUTION" and "(TO REDUCE THE) RISK OF FIRE -USE MAX(IMUM) ____W(ATT) SELF-BALLASTED LED LAMP." The blank shall be the type and wattage tested or, for a GU24 or GU24-1 holder, in accordance with the Temperature Test-Exempt Units requirements of 63.3.		N/A
	Exception: The abbreviation "SBLED" is permitted in lieu of the phrase "SELFBALLASTED LED LAMP."		N/A
204.2	A portable luminaire that employs a screw base lampholder and is intended for an LED self-ballasted lamp or lamp adapter shall be marked in Form A-3 with "CAUTION" and "(TO REDUCE THE) RISK OF FIRE -USE MAX(IMUM) ____W(ATT) SELFBALLASTED LED LAMP OR LAMP ADAPTER." The blank shall be no greater than the maximum incandescent lamp wattage as determined per 201.1.2. The portable luminaire is permitted to additionally be marked for use with an incandescent lamp, per 201.1.3, or with a self-ballasted fluorescent lamp, per 203.1.3.		N/A
	Exception: The abbreviation "SBLED" is permitted in lieu of the phrase "SELFBALLASTED LED LAMP."		N/A
205	High-Intensity-Discharge Units		N/A
205.1	Lamp replacement		N/A
205.1.1	A portable luminaire shall be marked in Form A-3 "Relamp with ____watts type ____," where the blanks indicate the proper lamp wattage and ANSI designation of the replacement lamp. The lamp shall be wattage and type tested. See Table 205.1 for examples of ANSI designations.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
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MARKINGS

Table 205.1
ANSI lamp designations

Wattage	Mercury vapor	Low pressure sodium	Metal halide	High pressure sodium
18	—	L69	—	—
35	—	L70	—	S76
40	H45	—	—	—
50	H45	—	—	S68
55	—	L71	—	—
70	—	—	M85	S62
75	H43	—	—	—
90	—	L72	—	—
100	H38	—	M90	S54
125	H42	—	—	—
135	—	L73	—	—
150	—	—	M81	S55 ^a
150	—	—	—	S56 ^b
175	H39	—	M57	—
180	—	L74	—	—
200	—	—	—	S66
250	H37	—	M58	S50
310	—	—	—	S67
400	H33	—	M59	S51
700	H35	—	—	—
750	—	—	M83	—
1000	H36 ^c	—	M47	S52

Table 205.1 Continued

Wattage	Mercury vapor	Low pressure sodium	Metal halide	High pressure sodium
1000	H34 ^d	—	—	—
1500	—	—	M48	—
^a 55 volt lamp. ^b 100 volt lamp. ^c Low current lamp. ^d High current lamp.				

205.1.2	When the replacement lamp in 205.1.1 does not have an ANSI designation, the portable luminaire shall be marked with the lamp wattage and lamp type, where the lamp type is indicated by metal halide (or MH), mercury vapor (or MV), or high pressure sodium (or HPS).		N/A
205.2	Double-ended metal halide lamp		N/A
205.2.1	A portable luminaire with a double-ended metal halide lamp without an integral outer glass envelope shall be marked in Form A-5 with the word "CAUTION: Risk of exposure to excessive ultraviolet (UV) radiation - Do not		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	operate without complete lamp enclosure in place or if glass lens is damaged," or equivalent.		
206	Cord and Chain Suspended Units		N/A
206.1	A swag-type unit not provided with the lengths of cord and chain in accordance with 75.1.1 and 76.2.1 shall be marked in Form A-1 "For use in recreational vehicles only."		N/A
207	Portable Cabinet Lights		N/A
207.1	Identification		N/A
207.1.1	A cabinet light shall be marked in Form A-3 "Portable Cabinet Light."		N/A
207.2	Shortened cord		N/A
207.2.1	A portable cabinet light provided with a shortened cord shall be marked "Use only with portable cabinet light accessory providing ten foot total cord length." Marking shall be provided on a Form C tag near the attachment plug.		N/A
207.3	Interconnecting receptacle		N/A
207.3.1	A NEMA Style 1-15, 1-15P, 5-15, or 5-15P receptacle provided on an interconnecting cord shall be marked "Use only for connection to portable cabinet lights" and shall include the maximum rated load in watts. Marking shall be provided on a Form A tag near the receptacle.		N/A
207.3.2	207.3.2 When the marking in 207.3.1 is provided, the interconnecting marking in 198.9.1 and 198.9.2 are not required.		N/A
207.4	Portable cabinet light accessory		N/A
207.4.1	A portable cabinet light accessory shall be marked in accordance with the applicable sections of the Standard and as indicated herein.		N/A
207.4.2	A portable cabinet light accessory shall be marked in Form A-1 "Portable Cabinet Light Accessory" and the electrical rating of the accessory including voltage, current or wattage, and frequency, as applicable.		N/A
207.4.3	A portable cabinet light accessory shall be marked in Form B-5 "Only for use with portable cabinet lights identified by the manufacturer's instructions" or the equivalent.		N/A
208	Units for Use with Office Furnishings		N/A
208.1	A portable luminaire for use with office furnishings shall be marked in accordance with the applicable sections of the Standard and as indicated herein.		N/A
208.2	A portable luminaire shall be marked in Form B-5: "For use with office furnishings"		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	or the equivalent.		
208.3	A portable luminaire provided with a proprietary mounting system shall be marked in Form B-5 "Only for use with office furnishing systems identified by the manufacturer's instructions."		N/A
209	Convertible Units		N/A
209.1	In addition to the markings required elsewhere in this standard, a convertible unit shall be marked in accordance with Form B-1 to indicate that the portable luminaire is capable of being used as a fixed unit (luminaires) when used with the appropriate conversion kit. The marking shall be visible during installation, and shall include a catalog or the identifying number for the conversion kit.		N/A
209.2	A portable luminaire accessory conversion kit shall be marked in Form B-1 to indicate that it is capable of being used as fixed unit (luminaire) when used with the appropriate portable luminaire. The marking shall be visible during installation and the portable luminaire shall be identified by catalog or model number. The packaging provided with the conversion kit shall identify the intended supply wire means.		N/A
210	Interchangeable Units		N/A
210.1	Each base shall be marked in Form A-1 "CAUTION - To reduce the risk of fire and electric shock, use only lighting assemblies marked for use with ____ base." The blank space is to be filled in with the manufacturer's name and series or model number of the base.		N/A
	Exception No. 1: The words "fixture assemblies" are able to be substituted for the words "lighting assemblies."		N/A
	Exception No. 2: The marking is able to be worded to correlate with that required in 210.2.		N/A
210.2	A lighting assembly shall be marked in Form A-1 "CAUTION - To reduce the risk of fire and electric shock, use only with ____ base." The blank is to be filled in with the manufacturer's name and series or model number of the base. Exception: When the lighting assembly is marked in accordance with the Standard for Track Lighting Systems, UL 1574, it is not required to be additionally marked in accordance with this requirement.		N/A
210.3	A base designed only for use with mounting clips shall be marked in Form A-1 "For clip mounting only."		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
210.4	A base designed for ceiling mount only shall be marked in Form A-1 "For Ceiling Mount Only."		N/A
210.5	A base complying with the Exception to 100.3 shall be marked in Form A-1. "CAUTION: To avoid the risk of fire and personal injury, do not install less than 5 feet above the floor."		N/A
211	Track-Style Units		N/A
211.1	A track unit shall be marked in Form A-1: "CAUTION - To reduce the risk of fire or electric shock, use only lighting assemblies marked for use with _____ track;" and adjacent to this marking, "Do not extend the length of this track." The blank space shall be filled in with the manufacturer's name and series or model number of the track unit that the lighting assemblies are intended for use with. Exception: The words "fixture assemblies" are able to be substituted for the words "lighting assemblies."		N/A
211.2	A lighting assembly shall be marked in Form A-1: "CAUTION - To reduce the risk of fire or electric shock, use only with _____ track." The blank space shall be filled in with the manufacturer's name and series or model number of the track unit that the lighting assemblies are to be used with. Exception: A lighting assembly is not required to comply with this requirement when marked in accordance with the Standard for Track Lighting Systems, UL 1574.		N/A
211.3	A track unit designed for use only with mounting clips shall be marked in Form A-1: "For clip mounting only."		N/A
211.4	A track unit designed for ceiling mounting only shall be marked in Form A-1: "For Ceiling Mount Only."		N/A
212	Portable Luminaire Kits and Subassemblies		N/A
212.1	All markings required elsewhere in this standard shall be provided by the manufacturer. In addition, a catalog or model number shall be marked on the product.		N/A
212.2	All markings shall be applied to the product and all instructions shall be provided with the product in the kit or subassembly packaging.		N/A
213	Portable Luminaire Accessory		N/A
213.1	A portable luminaire accessory shall be marked in accordance with the applicable sections of the standard and as indicated herein.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
213.2	A portable luminaire accessory shall be marked in Form A-1 "Portable Luminaire Accessory" and the electrical rating of the accessory including voltage, current or wattage, and frequency, as applicable.		N/A
213.3	A portable luminaire accessory shall be marked in Form B-5 "Only for use with portable luminaires identified by the manufacturer's instructions" or the equivalent.		N/A
214	Work Light		N/A
214.1	A tungsten halogen work light shall be marked in accordance with this section and Section 202 for Tungsten Halogen Units.		N/A
214.2	A work light marked for outdoor use only or wet locations shall also comply with the markings in Wet Location Use, Section 215.		N/A
214.3	A work light that does not comply with the wet location use requirements shall be marked in Form A-3 "Dry Location Use."		N/A
214.4	A work light shall be marked in Form A-3 "Outdoor Use Only" when provided with an integral generator in accordance with 125.8 or when not provided with a housing guard in accordance with Exception No. 2 of 128.2.1.		N/A
214.5	A housing that operates above 90°C (194°F) shall be marked in Form A-3 where visible during use:		N/A
	a) "HOT SURFACE" in 1/8 inch (3.2 mm) high letters; or		N/A
	b) The symbol which is the pictorial representation of hot surface and includes the word "HOT" within the triangle and "CAUTION" either within or adjacent to the triangle. The individual letters of the word "CAUTION" shall be not less than 1/8 inch (3.2 mm) in height.		N/A
214.6	A work light that is provided with an unassembled guard shall be marked in Form C on the hang tag with "CAUTION - Risk of Burns, Do not operate without guard. See assembly instructions."		N/A
214.7	A work light provided with a telescoping stand without a mechanical stop to prevent separation shall be marked in Form A-3 "Caution, risk of injury, do not extend work lights above alignment mark on pole."		N/A
215	Wet Location Use		N/A
215.1	A portable luminaire intended for use in wet locations shall be marked in Form A-1 "Suitable		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	for Wet Location Use."		
215.2	A wet location stake-mounted unit that exceeds 90°C (194°F) on the enclosure, but not greater than 150°C (302°F) in accordance with footnote "m" of Table 144.1, shall be marked in Form A-1 "OUTDOOR USE ONLY."		N/A
215.3	All wet location units shall be marked in Form A- 1 "CAUTION: RISK OF ELECTRIC SHOCK, Do not use with extension cord near water or where water may accumulate. Keep lamp at least 16 feet from pools and spas. Keep plugs and receptacles dry." These portable luminaires shall also be marked "For use only on GFCI protected circuits."		N/A
215.4	The marking material for all markings shall be able to be used for wet locations.		N/A
216	Portable Hand Lights		N/A
216.1	Portable hand lights shall be marked with the Catalog or Model Number of the product and shall comply with all makings required elsewhere in the standard in addition to the markings described in this section.		N/A
216.2	The portable hand light shall have the following marking, or the equivalent, located on or adjacent to the lampholder (within 6 inches (152 mm) the handle) so as to be visible when relamping: "CAUTION-TOREDUCE THE RISK OF ELECTRIC SHOCK AND FIRE - PULL PLUG WHEN RELAMPING - USE ONLY _____WATT OR SMALLER BULB;" or equivalent. The maximum marked wattage shall not exceed 300 W for units employing a medium-base lampholder. Form A-1.		N/A
216.3	A portable hand light shall be marked "CAUTION - Risk of Electric Shock - Use In Dry Locations Only;" or equivalent. Exception: Portable hand lamps complying with the wet location requirements of Sections 130 - 135.		N/A
216.4	When the temperature measured on the exterior surface of the guard or reflector of a portable hand lamp during the Normal Temperature Test, Sections 143, 144 and 148, exceeds 90°C (194°F) and does not exceed 150°C (302°F), the portable hand lamp shall be marked in Form A-3 "CAUTION: Hot surface. Risk of Fire. Keep cord and combustible materials 3 inches (76.2 mm) minimum from surface";		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
	or equivalent.		
216.5	A portable hand light that employs a receptacle shall be marked near the receptacle with its rated current in Form A-1 "CAUTION - MAXIMUM AMP LOAD . DO NOT OVERLOAD!"; or equivalent.		N/A
216.6	A switch, permitted to control a receptacle outlet, without an associated pilot light and as indicated in 138.8.1(c), shall be marked "on"/"off," "I"/"O," or the equivalent, to indicate to the user when the receptacle is energized. The marking shall be either on the switch or on an adjacent part of the enclosure.		N/A
216.7	A unit having a fuse that is intended to be replaced in the field shall be marked to indicate the type, ampere, and voltage rating of the replacement fuse. In addition, the unit shall be marked with the word "WARNING" and the following, or equivalent: "for continued protection against risk of fire, replace only with same type and rating of fuse." Lettering shall not be less than 3/32 inch (2.4 mm) high. These markings shall be located adjacent to the fuseholder so as to be visible during fuse replacement.		N/A
216.8	A portable electric hand light made with Type SVT, SVTO, SVTOO, SVO, or SVOO cord shall be marked "For Light Duty Use Only;" or equivalent. Form A-1.		N/A
216.9	A portable electric hand light intended for use with a cord reel as described in the Exception to 137.1.1 shall be marked with the following, or the equivalent, "FOR USE WITH A CORD REEL ONLY." Form B-4, where the letters shall be a minimum of 1/4 inch (6.4 mm) high and shall contrast with a solid color background.		N/A
216.10	The marking required in 216.2 may be alternately located as follows:		N/A
	a) On a wrap around label located on the cord within 6 inches (152 mm) of the handle;		N/A
	b) On a flag label attached to the cord within 6 inches of the handle;		N/A
	c) On the hand light accessory; or		N/A
	d) On a tag of tough paper, cloth, or the equivalent, having a hole large enough to accommodate the cord. The tag is not to be slit from the edge of the tag. The cord is to be passed through the hole in the tag prior to assembly.		N/A



Clause	Requirement-Test	Measuring result-Remark	Verdict
MARKINGS			
216.11	A portable hand light shall be marked where it is plainly visible with the date or other dating period of manufacture not exceeding any three consecutive months.		N/A
	Exception: The date of manufacture may be abbreviated or may be in a nationally accepted conventional code or in a code affirmed by the manufacturer, provided that the code:		N/A
	a) Does not repeat in less than 10 years, and		N/A
	b) Does not require reference to the production records of the manufacturer to determine when the product was manufactured.		N/A
217	Portable Luminaires with Batteries		N/A
217.1	The operating instructions for a portable luminaire with a secondary battery shall provide information regarding battery charging and instructions for replacing and disposing of a used battery. The instructions shall state that battery disposal should be in compliance with any local regulations that address the disposal of hazardous materials and the following or equivalent: "Do not incinerate." The instructions shall include the battery replacement information noted in 200.1.		N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
218	General			P
218.1	Location			P
218.1.1	Required instructions shall be included on the portable luminaire, on the carton, on a tag on the power-supply cord, on a stuffer sheet, or by an equivalent means. See Form C.			P
218.2	Assembly instructions			N/A
218.2.1	A portable luminaire that requires mechanical assembly after shipment shall be marked in Form C with instructions for proper assembly. The instructions shall describe a method of assembling the lamp that does not introduce a risk of fire, electric shock, or injury to persons during or after its assembly.			N/A
218.3	Polarization instructions			N/A
218.3.1	A portable luminaire having a polarized plug shall be provided with instructions for use of the plug. The instructions shall be titled "IMPORTANT SAFETY INSTRUCTIONS" in letters not less than 3/16 inch (4.8 mm) high. Immediately following the title shall be the following text or the equivalent: "This portable luminaire has a polarized plug (one blade is wider than the other) as a feature to reduce the risk of electric shock. This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted. Do not alter the plug."			N/A
	Exception: The words "portable luminaire" are able to be replaced by the word "product" or the equivalent.			N/A
218.4	Interconnected units			N/A
218.4.1	Instructions for interconnected unit use shall include at least the following:			N/A
	a) Voltage and current rating of portable luminaire;			N/A
	b) Maximum number of units to be interconnected; and			N/A
	c) Instructions for mounting including maximum distance between units to be interconnected.			N/A
218.5	Pin type attachment plug			N/A
218.5.1	When a pin-type attachment plug is provided in accordance with 32.4, the portable luminaire shall be provided with clear, illustrated instructions specifying proper attachment. The instructions shall include:			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	a) A description of the plug and cord, including the means of identifying polarity;			N/A
	b) An explanation of why polarity is important;			N/A
	c) Instructions for assembly; and			N/A
	d) The polarization instructions detailed in 218.3.			N/A
218.6	Shortened cord			N/A
218.6.1	Where permitted by Exception No. 1 to 31.3, a product provided with a shortened (or no) power supply cord shall be provided with instructions specifying the correct mounting and intended use of the product. The instructions are able to be generic for a type or style of portable luminaire. The instructions shall include a statement that the maximum distance to the receptacle is determined by the length of cord provided.			N/A
218.7	Alternate supply connection			N/A
218.7.1	A product provided with an alternate powersupply connector in accordance with Alternate Power-Supply Connections, Section 34, shall be provided with markings and instructions consistent with the supply circuit for which it is intended to be used.			N/A
218.8	Attachment plugs complying with foreign standards			N/A
218.8.1	A product provided with an attachment plug in accordance with 34.1 shall be provided with instructions to conform with the standards of the country in which the product is intended to be used.			N/A
219	Incandescent Units			N/A
219.1	Units shipped without lampshade			N/A
219.1.1	When a portable luminaire is not provided with a shade in accordance with 16.1, it shall be marked in Form C with instructions for providing a shade usable for the marked maximum wattage and lamp type of the incandescent type unit that was temperature tested or in the lamp-to-shade dimensions specified in Temperature Test-Exempt Units, Section 49.			N/A
220	Tungsten-Halogen Units			N/A
220.1	A tungsten-halogen type unit provided with lamps that require a guard, lamp containment barrier, or UV filter shall be provided with instructions that include the items in the following list or equivalent statements for each item. The statements "INSTRUCTIONS PERTAINING TO A RISK OF FIRE,			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	ELECTRIC SHOCK, [EXPOSURE TO EXCESSIVE UV RADIATION]a OR INJURY TO PERSONS" and "IMPORTANT SAFETY INSTRUCTIONS" or the equivalent shall precede the list, and the statement "SAVE THESE INSTRUCTIONS" or the equivalent shall either precede or follow the list. All words shown entirely in upper case letters shall be in upper case letters or shall be emphasized to distinguish them from the rest of the text.			N/A
	INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, EXPOSURE TO EXCESSIVE UV RADIATION, OR INJURY TO PERSONS			N/A
	IMPORTANT SAFETY INSTRUCTIONS			N/A
	Lighted lamp is HOT:			N/A
	WARNING - To reduce the risk of FIRE, ELECTRIC SHOCK, EXPOSURE TO EXCESSIVE UV RADIATION, OR INJURY TO PERSONS:			N/A
	1) Turn off/unplug and allow to cool before replacing bulb (lamp).			N/A
	2) Bulb (lamp) gets HOT quickly! Only contact switch/plug when turning on.			N/A
	3) Do not touch hot lens, guard, or enclosure.b			N/A
	4) Do not remain in light if skin feels warm.			N/A
	5) Do not look directly at lighted lamp.			N/A
	6) Keep lamp away from materials that may burn.			N/A
	7) Use only with a ____ watt or smaller bulb (lamp).c			N/A
	8) Do not touch the bulb (lamp) at any time. Use a soft cloth. Oil from skin may damage bulb (lamp).			N/A
	9) Do not operate the portable luminaire with a missing or damaged guard, lamp containment barrier, or UV filter.b			N/A
	SAVE THESE INSTRUCTIONS			N/A
	aOnly required when a UV filter is required. bAn explanation, a picture, or a drawing of a lens, a guard, a lamp containment barrier, a UV filter, or an enclosure shall be provided so that the user is able to identify these parts on the lamp.			N/A
	cThe blank space represents a numerical value that is to be less than or equal to the tested lamp(s) wattage.			N/A
220.2	A halogen torchiere unit employing a lamp type			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	not commonly available, with a shape and diameter other than the types specified in Table 144.2, shall include instructions on how to obtain replacement lamps directly from the manufacturer or distributor. See 202.1.2.			
221	Surface Mounted Units			N/A
221.1	General			N/A
221.1.1	Installation instructions shall be provided with each surface mounted unit. The instructions shall detail the correct use of the mounting hardware provided with the portable luminaire and the proper means of mounting the unit.			N/A
221.2	Appliance mounting			N/A
221.2.1	A portable luminaire incorporating provisions for appliance mounting in accordance with 73.2 shall be provided with instructions to indicate the intended application and the intended means of mounting.			N/A
221.2.2	A portable luminaire intended for surface mounting to a bed headboard shall be provided with the following installation instructions:			N/A
	a) Intended application and mounting.			N/A
	b) An opening shall be drilled in the headboard sufficient for the passage of the attachment plug and supply cord.			N/A
	c) If the headboard is constructed of materials with sharp edges that could damage the cord such as metal or glass, the opening should have smooth round holes, or a plastic bushing shall be inserted to protect the cord.			N/A
	d) The National Electrical Code, ANSI/NFPA 70, does not permit cords to be concealed where damage to the insulation may go unnoticed. To prevent fire danger, do not run cord where it may be inaccessible for examination. Cords should be visually examined periodically and immediately replaced when any damage is noted.			N/A
	e) Spacers or similar means shall be provided on the headboard so that the cord will not be pinched or damaged if the headboard is pushed against the wall.			N/A
	f) Route and secure cord so that it will not be pinched or damaged when the headboard is pushed against the wall.			N/A
	g) Use only insulated staples or plastic ties to secure cords.			N/A
222	Cord and Chain Suspended Units			N/A
222.1	Installation instructions shall be provided with			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	each portable luminaire. Clear instructions for the use of the mounting hardware, a caution that installation not be made on a radiant-heating ceiling, and, for swag-type units, a caution that the hooks are to engage the chain only and not the electric cord shall be included. Installation instructions for a swag-type unit with a power supply cord less than 15 feet in length, in accordance with Exception No. 2 of 76.2.1, shall indicate that the unit is intended to be installed directly beneath a ceiling-mounted receptacle.			
222.2	Installation instructions for a swag-type unit with a power supply cord less than 15 feet (4.6 m) in length, in accordance with 76.2.1.1, shall indicate that the unit is intended to be installed directly beneath a ceiling-mounted receptacle, and that excess cord should be kept out of the work space, such as by securing it to one of the supporting chains with a cable tie.			N/A
222.3	If cable ties are required to secure the power supply cord to one of the chain supports, for a swag-type unit with a power supply cord less than 15 feet (4.6 m) in length in accordance with 76.2.1.1(d), the installation instructions shall provide guidance for the use of the cable ties.			N/A
223	Portable Cabinet Lights			N/A
223.1	Installation instructions			N/A
223.1.1	General			N/A
223.1.1.1	Installation instructions shall be provided with each portable cabinet light and shall include the intended use and mounting directions.			N/A
	Exception: For bulk-packaged portable cabinet lights that are shipped to and installed by a furniture manufacturer, only one set of installation instructions is required per bulk shipping carton.			N/A
223.1.2	All units			N/A
223.1.2.1	Instructions shall include, "CAUTION" and the following, "To reduce the risk of fire, electric shock, or injury to persons:			N/A
	a) Use only insulated staples or plastic ties to secure cords;			N/A
	b) Route and secure cords so that they will not be pinched or damaged when the cabinet is pushed to the wall;			N/A
	c) Position the portable cabinet light with respect to the cabinet so the lamp replacement markings are able to be read during relamping;			N/A
	d) Not intended for recessed installation in ceilings, or soffits; and			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	e) The National Electrical Code (NEC) does not permit cords to be concealed where damage to insulation may go unnoticed. To prevent fire danger, do not run cord behind walls, ceilings, soffits, or cabinets where it may be inaccessible for examination. Cords should be visually examined periodically and immediately replaced when any damage is noted."			N/A
223.2	Markings			N/A
223.2.1	A portable cabinet light tested in other than the standard 12 inch by 12 inch by 12 inch (0.3 m by 0.3 m by 0.3 m) test box shall be marked in Form C with the word "CAUTION" and the following or the equivalent: "To prevent the risk of fire, do not install closer than _____ a inches to cabinet wall or in a compartment smaller than _____ a inches by _____ a inches by _____ a inches." The blanks are to be filled in with the parameters of the temperature test. aMetric dimensions may also be included.			N/A
223.2.2	A pot style portable cabinet light intended only for use in a cabinet where the cabinet is not enclosed at the top shall be marked in Form C "CAUTION, Risk of Fire, Install only in cabinets where the top of the cabinet light housing is not enclosed" or "CAUTION, Risk of fire, Install only in open top cabinets."			N/A
223.2.3	When the temperature on the external surface of the closed top portable cabinet light during the normal temperature test exceeds 90°C (194°F) but not higher than 150°C (302°F), as permitted by the Exception to 146.3.1(c), the unit shall be marked in Form C "CAUTION: Risk Of Fire. Install only in closed top cabinets. Not intended for blind recessed installation."			N/A
224	Portable Cabinet Light Accessory			N/A
224.1	The portable cabinet light accessory shall be provided with assembly and mounting instructions.			N/A
224.2	The instructions shall identify the manufacturer and model designations of the intended portable cabinet light.			N/A
224.3	If the portable cabinet light accessories are bulk shipped to and installed by a furniture manufacturer, then only one set of the installation instructions is required per bulk shipping carton.			N/A
225	Units for Use with Office Furnishings			N/A
225.1	Each portable luminaire supplied with a			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	proprietary mounting system shall be provided with assembly and mounting instructions.			
225.2	The instructions shall identify the manufacturer and system or panel designation of the intended office furnishing applications.			N/A
226	Convertible Units			N/A
226.1	General			N/A
226.1.1	Instructions shall be provided for the swag to chandelier convertible unit and shall indicate that the grounding wire, when not integral with the power-supply cord, is to be cut off at the point closest to the unit and discarded when the product is not used as a fixed unit (luminaire).			N/A
226.2	Swag to chandelier installation			N/A
226.2.1	All instructions for mounting as a swag type unit and clear instructions for converting to a chain-suspended type fixed unit (fixture) shall be provided. Items such as:			N/A
	a) The means for opening the chain at the desired length;			N/A
	b) Cutting the cord and grounding conductor at least 12 inches (304.8 mm) beyond end of chain; and			N/A
	c) Proper preparation and connection of the leads and grounding conductor shall be included.			N/A
226.3	Surface mount installation			N/A
226.3.1	Clear instructions for mounting as a portable unit and clear instructions for converting to a surface-mount fixed unit (fixture) shall be provided. Items such as:			N/A
	a) Cutting the cord and grounding conductor so that they are at least 6 inches (152.4 mm) long within an outlet box; and			N/A
	b) Proper preparation and connection of the leads and grounding conductor shall be included.			N/A
227	Track-Style Units			N/A
227.1	Instructions as specified in 227.2 and 227.3 shall be provided with each track section. The height of lettering in the text and illustrations shall be as follows:			N/A
	a) The phrases "IMPORTANT SAFETY INSTRUCTIONS" and "SAVE THESE INSTRUCTIONS" shall be in letters at least 3/16 inch (4.8 mm).			N/A
	b) All other lettering shall be at least 1/16 inch (1.6 mm) high.			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
227.2	The instructions shall include the information specified in 227.3. The information is able to be reworded or combined in any other as long as the intent is unchanged. The wording is able to be supplemented by additional drawings or cartoons.			N/A
227.3	The instructions shall include the following information:			N/A
	IMPORTANT SAFETY INSTRUCTIONS			N/A
	1. Read all instructions.			N/A
	2. Do not install this track in a damp or wet location.			N/A
	3. Do not install any part of track less than 5 feet above the floor.			N/A
	4. Do not install any lighting assembly closer than 6 inches from any curtain or similar combustible material.			N/A
	5. Do not attempt to energize anything other than lighting assemblies on the track. To reduce the risk of fire and electric shock, do not attempt to connect power tools, extension cords, appliances, and the like to the track.			N/A
	SAVE THESE INSTRUCTIONS			N/A
228	Portable Luminaire Kits and Subassemblies			N/A
228.1	An assembly instruction sheet shall be provided with each portable luminaire kit and subassembly. (These instructions are able to be marked on the carton or container.) The instructions shall contain:			N/A
	a) Clear identification of the individual parts;			N/A
	b) A list and complete description of all parts not provided such as a bottle or vase;			N/A
	c) Assembly instructions to be followed when assembling the parts; and			N/A
	d) Any instructions required elsewhere in this standard. In addition, a warning shall be provided, in letters minimum 1/4 inch (6.4 mm) high stating "WARNING" and the following or equivalent: "Deviation from the assembly instructions may result in a risk of fire or electric shock."			N/A
228.2	In addition to the instructions in 228.1, a portable luminaire subassembly that requires wiring by the user shall be provided with instruction indicating that this product is to be installed by a qualified electrician only.			N/A
228.3	The instructions shall explain such items as:			N/A
	a) Strain relief;			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	b) Polarization and polarized plug;			N/A
	c) Lamp replacement marking;			N/A
	d) Stability of finished product; and			N/A
	e) Information concerning correct threading of wire through tubing and across edges.			N/A
	e) Information concerning correct threading of wire through tubing and across edges.			N/A
228.4	When the subassembly is intended for rewiring existing products, the instructions shall include an indication of the type of product (example: floor or table) and the physical size of the portable luminaire for which the subassembly is appropriate with respect to the length of cord provided. Complete instructions concerning the removal of old wiring and components (when required) shall be provided.			N/A
229	Portable Luminaire Accessory			N/A
229.1	The portable luminaire accessory shall be provided with assembly and mounting instructions.			N/A
229.2	The instructions shall identify the manufacturer and model designations of the intended portable luminaire.			N/A
230	Wet Location Use			N/A
230.1	In addition to the applicable instructions in elsewhere in this standard, instructions for wet locations use shall include an important safety instruction section which shall include the items specified in 230.2.			N/A
230.2	The following instructions shall be separated in format from the other instructions and shall appear before any operating instructions. The phrases "Read All Instructions" and "SAVE THESE INSTRUCTIONS" shall appear and shall be the first and last items, respectively. The phrase "Read All Instructions" shall be preceded by the statement "WARNING: When using outdoor use portable luminaires, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury, including the following . . ." Equivalent wordings in equally definitive terminology are able to be used, except for the signal word. The instructions shall be legible and shall contrast with the background.			N/A
	a) Use only three-wire outdoor extension cords that have three-prong grounding plugs and grounding receptacles that accept the appliance's plug.			N/A



Clause	Requirement	Test	Measuring result - Remark	Verdict
INSTRUCTIONS				
	b) Ground Fault Circuit Interrupter (GFCI) protection is to be provided on the circuit(s) or outlet(s) to be used for the wet location portable luminaire. Receptacles are available having built-in GFCI protection and are able to be used for this measure of safety.			N/A
	c) Use only with an extension cord for outdoor use, such as an extension cord of cord type SEW, SEOW, SEOOW, SOW, SOOW, STW, STOW, STOOW, SJEW, SJEOW, SJEOOW, SJW, SJOW, SJOOW, SJTW, SJTOW, or SJTOOW.			N/A
231	Portable Hand Lights			N/A
231.1	In addition to the applicable instructions elsewhere in this standard, the following instructions in this section shall be provided with portable hand light accessories.			N/A
231.2	Each portable hand light accessory shall be provided with instructions and the necessary hardware for proper assembly. The instructions shall include that information necessary to provide for strain relief, selection of the correct flexible cord (that is cord type, conductor size, length and ampacity relationships), proper wiring including polarity, and proper guard assembly.			N/A
	Exception: A single set of instructions may be provided in the shipping container of portable hand light accessories that are bulk packaged for shipment to an original equipment manufacturer for factory assembly.			N/A
231.3	When a hand light accessory is required to be assembled to a flexible cord having insulation with a temperature rating higher than 60°C (140°F), the instructions sheet provided shall include reference to the minimum temperature rating required, along with instructions for determining the temperature rating of the cord.			N/A



Clause	Requirement - Test	Measuring result - Remark	Verdict
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MANUFACTURING AND PRODUCTION TESTS

232	Dielectric Voltage Withstand Test		N/A
233	Polarity Test		N/A
234	Continuity of Grounding Connection Test		N/A

APPENDIX A – Standards for Components			P
	Standards under which components of the products covered by this standard are evaluated...		P

Annex 1:

NORMAL TEMPERATURE TEST:

Location of Thermocouples	Maximum Temperature °C	Limit temperature °C
Internal wire	39.3	80
enclosure	46.2	75



-Appendix 1: Photo document.



FIGURE 1

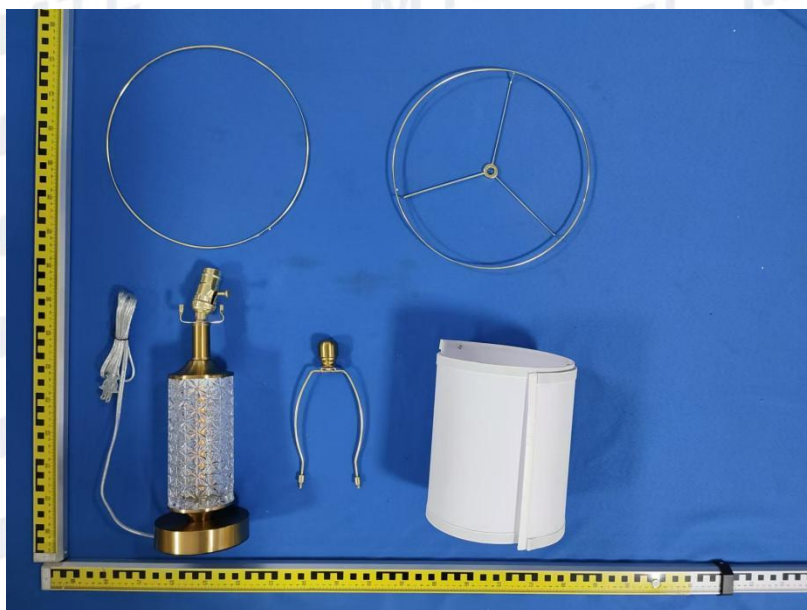


FIGURE 2

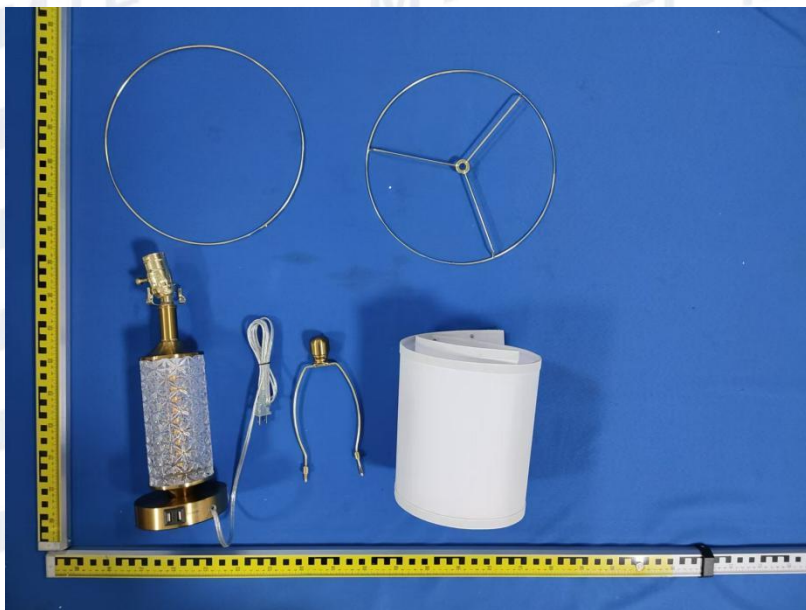


FIGURE 3

End of Report