
 * INCH-POUND *

 W-L-661E
 March 31, 1994

 SUPERSEDING
 W-L-661D
 4 February 1985

FEDERAL SPECIFICATION

LIGHT, EXTENSION, ELECTRICAL

This specification is approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers portable electric incandescent lamp extension lights, complete with connector plug, cord, lampholder, guard-reflector assemblies, and handle, for light duty and general use. These lights are not for use in hazardous areas. Lamps are not included with the lights.

1.2 Classification. Extension lights covered by this specification shall be of the following types, classes, and lengths, as specified (see 6.2):

- Type I - General use with No. 16 American Wire Gage (AWG) (1.5 millimeter (mm)) type SO, SEO, or STO cord and with switch
 Type II - General use weatherproof with No. 16 AWG (1.5 mm) type SO, SEO, or STO cord, without switch and without receptacle outlet
 Type III - Light duty use, with No. 18 AWG (1.2 mm) type SJO, SJEO, or SJTO cord and with switch
 Type IV - General use with No. 16 AWG (1.5 mm) type SO, SEO, or STO cord and with switch and receptacle outlet

Class 1 - With metallic guard-reflector assembly

Class 2 - With insulated guard-reflector assembly

Length - 25 feet (7.62 meter (m))

Length - 50 feet (15.24 m)

Length - 100 feet (30.48 m)

 Beneficial comments (recommendations, additions, deletions) and any pertinent
 *data which may be of use in improving this document should be addressed to: *
 *Commanding Officer (Code 156), Naval Construction Battalion Center, *
 *1000 23rd Avenue, Port Hueneme, CA 93043-4301, by using the Standardization *
 *Document Improvement Proposal (DD Form 1426) appearing at the end of this *
 *document or by letter. *

AMSC N/A

FSC 6230

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

Federal Specification

QQ-C-320 - Chromium Plating (Electrodeposited)

Federal Standards

FED-STD-H28 - Screw Thread Standards for Federal Services

FED-STD-123 - Marking for Shipment (Civil Agencies)

Military Specifications

MIL-E-17555 - Electronic and Electrical Equipment, Accessories, and Provisioned Items (Repair Parts): Packaging of

MIL-I-3930 - Insulating and Jacketing Compounds, Electrical (for Cables, Cords, and Wires), General Specification for

Military Standards

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes

MIL-STD-129 - Marking for Shipment and Storage

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2 Other publications. The following publications form a part of this document to the extent specified herein. Unless otherwise specified (see 6.2), the issues are those cited in the solicitation.

ASTM:

ASTM B 633 - Electrodeposited Coatings of Zinc on Iron and Steel

ASTM D 883 - Standard Terminology Relating to Plastics

(Application for copies should be addressed to ASTM, 1916 Race Street, Philadelphia, PA 19103.)

Underwriters Laboratories, Inc. (UL):

UL 20 - Standard for General Use Snap Switches

UL 62 - Standard for Flexible Cord and Fixture Wire

UL 298 - Standard for Portable Electric Hand Lamps

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UL 496 - Standard for Edison-Base Lampholders

UL 498 - Standard for Attachment Plugs and Receptacles

(Application for copies should be addressed to the Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Description. The extension lights shall consist of a connector plug, a cord, and a handle equipped with a lampholder and a guard-reflector. In addition, the handles for type I, III, and IV extension lights shall be equipped with a snap switch, protected by a channel guard for switch protection. Type IV extension lights shall be equipped with a receptacle outlet. The extension lights shall be designed for 115-volt (V) operation but shall be capable of functioning at a maximum of 250V.

3.2 First article. When specified (see 6.2), the contractor shall furnish one complete extension light of each type and class included under a specific contract for first article inspection and approval (see 4.2.1 and 6.5).

3.3 Standard commercial product. The electrical extension light shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification but which are a part of the manufacturer's standard commercial product, shall be included in the extension light being furnished. A standard commercial product is a product which has been sold or is being currently offered for sale on the commercial market through advertisements or manufacturer's catalogs, or brochures, and represents the latest production model.

3.4 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification.

3.5 Construction. Construction shall conform to UL 298 and as specified herein. If there is a conflict between UL 298 and this specification; this

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specification shall govern. The construction shall be free from any characteristics or defects that may render the extension lights unsuitable or inefficient for the intended use. The extension lights shall be designed and constructed to withstand the strains, jars, vibration, and other conditions incident to shipping, storage, and service. All parts subject to wear shall be readily accessible for adjustment or repair.

3.5.1 Fastening device. All screws, pins, bolts, and similar parts shall be installed with adequate means for preventing loss of tightness and adjustment. Parts subject to removal shall not be swaged, peened, staked, or otherwise permanently deformed. All nuts, bolts, and screws shall have screw threads in accordance with FED-STD-H28.

3.5.2 Electrical connections. Electrical connections shall be either mechanically secured, soldered, or brazed. Use of soldering acids, acid fluxes, or corrosive soldering salts shall be avoided whenever practicable. Where used, all joints or terminals shall be thoroughly cleaned and all traces of acid or corrosive material removed.

3.5.3 Interchangeability. All units of the same classification furnished with similar options under a specific contract shall be identical to the extent necessary to insure interchangeability of component parts, assemblies, accessories, and spare parts.

3.5.4 Warning label. When specified (see 6.2), a warning label shall be permanently affixed in a conspicuous location on the extension light. The legend on the warning label, in upper case letters not less than 1/8 inch (3.2 mm) in height, shall be as follows:

"NOT AUTHORIZED FOR SHIPBOARD USE"

3.5.5 Workmanship. The extension light assembly shall be clean, well made, and free from any defect that will affect safety, appearance, or serviceability. All injection molded components (e.g. male plug end) shall be free from flash, blisters, deformities, cracks, sharp fins, sharp edges, lumps, imbedded foreign matter, and any other defects which might affect ground safety and serviceability.

3.6 Fire and casualty hazards. The bidder shall submit to the purchasing agency proof that the material he proposes to supply under this specification conforms to the standards of UL 20, 62, 298, 496, and 498, as applicable. The label or listing of UL will be accepted as evidence that the material conforms to this requirement. In lieu of the label or listing, the bidder may submit independent proof satisfactory to the purchasing agency that his material conforms to the standards, including method of test. Compliance with the above requirements does not absolve the bidder from complete compliance with other requirements of this specification in order to secure the acceptance of his material.

3.7 Connector plugs. Unless otherwise specified (see 6.2), the connector plug shall be general purpose 15 amperes, 125 V, two-pole, three wire, grounding type conforming to the requirements of UL 498. Type II lights shall have plug molded to the cord. Other lights covered by this specification may be furnished with either plug molded to cord or plug clamped to cord.

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3.8 Cord. The cord shall conform to UL 62. The lengths of the exposed cord between the plug and the handle assembly shall be not less than the length specified in 1.2. The cord for types I, II, and IV lights shall be types SO, SEO, SJO, or STO, No. 16 AWG, 3 conductor. The cord for type III light shall be types SJO, SJEO, or SJTO, No. 18 AWG, 3 conductor. When specified (see 6.2), insulating compounds shall conform to MIL-I-3930, type IS-L and jacketing compounds shall conform to MIL-I-3930, type JS-L.

3.9 Handle assembly. The handle assembly shall house a lampholder, a switch protected by a channel guard, providing switch protection when specified, and a receptacle outlet, when specified, and shall provide a suitable groove or other means of support for the guard-reflector assembly. The receptacle provided for in type IV extension light shall be a two pole three-wire grounding type conforming to UL 498. Handles shall be so constructed as to permit without the use of special tools, removal and replacement of switch and receptacle, when provided, sockets and all other parts, without damage. The handle shall be made of suitable plastic, as defined by ASTM D 883, or other suitable material that is resistant to impact, abrasion, heat, and oil. The handle shall be of a size and shape to permit full one-hand grasping for ease of carrying and operation of switch, when provided. All ferrous metal nuts, bolts, washers, and clamps used in assembly of handle shall be chromium or zinc plated. Cord, fittings, and lampholder openings in type II light handle shall be weatherproof with cord and lamp in place.

3.10 Lampholder. The switch, when provided, and the lampholder shall conform to UL 20 and UL 496, as applicable. The lampholder shall be of rolled brass or aluminum and shall accommodate a medium screw-base lamp. The type II lampholder shall be weatherproof and the splice for the socket shall be taped in such a manner as to provide insulation equivalent to that on each conductor.

3.11 Lamp guard-reflector assembly. The extension light guard shall accommodate a 100-watt lamp.

3.11.1 Metallic guard-reflector assembly, class 1. The class 1 guard-reflector assembly shall consist of a metallic guard, with hook, and a metallic reflector. All metal parts of the guard-reflector assembly shall be chromium, or zinc plated. Chromium plating shall conform to QQ-C-320, class 2, minimum thickness of 0.0005 inch (0.013 mm); zinc plating shall conform to ASTM B 633, type I, thickness class Fe/Zn 5. For zinc plating, threads, holes, deep recesses, bases of angles, and similar areas shall not be subjected to the minimum thickness requirement, but they shall be plated to a good finish. Enclosed within the guard-reflector assembly, there shall be a simple and continuous ground circuit between the guard-reflector assembly and the grounding contact of the plug using a green lead.

3.11.1.1 Guard with hook. The guard shall be of the closed-end type, constructed of wire not less than No. 11 Birmingham Wire Gage (BWG) (0.120 inch) (3 mm) except that the hook shall be not less than No. 7 BWG (0.180 inch) (4.6 mm). There shall be not less than six guard wires spaced circumferentially around the axis of the handle assembly, terminating at the hook mounting at one end and the attaching ring or clamp at the other end. There shall be not less than two guard wires around the circumference of the cage, as formed by the guard wires, spaced between the hook end of the cage and the attaching ring or clamp to provide maximum rigidity and strength. The cage shall have a steel

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clamping band of not less than 0.0478 inch (U.S. standard gage No. 18) (1.2 mm), nominal thickness 3/8 inch (9.5 mm) wide, using bolts and nuts to secure the cage to the handle. The bolts shall be secured to the band by either the clinching method or fiber washer. The nuts shall be welded to the band, or a tapped band having at least two full threads shall be provided. The guard shall be designed so that lamp replacement can be readily accomplished without the use of special tools. Joints, ends, and overlaps of wire shall be firmly welded. The free end of the hook shall extend and shall be so inclined that the light can be suspended safely from a round horizontal support of a diameter up to that of the hook opening.

3.11.1.2 Reflector, class 1. The reflector shall be of sheet metal of not less than 0.0179 inch (U.S. standard gage No. 26) (0.46 mm) nominal thickness and shall conform generally to the inside shape of the guard, and shall cover between 145 and 180 degrees (o) of arc of the inside circumference of the guard.

3.11.2 Insulated guard-reflector assembly, class 2. The class 2 reflector assembly shall consist of an insulated guard and hook of suitable insulating material and an insulation-backed metallic reflector.

3.11.2.1 Guard and hook. The guard shall conform to 3.11.1.1. In addition, all metal parts of the guard and hook shall be covered with a permanent coating of an insulating material not less than 1/32 inch (0.8 mm) thick, free from blisters, cracks, or checks. If the hook rotates, provisions shall be made to prevent chafing of the hook coating in turning by use of a molded grommet or other suitable means. The guard and hook may be constructed completely of a suitable insulating material.

3.11.2.2 Reflector, class 2. The reflector shall conform to 3.11.1.2 except all metal surfaces shall be covered with a permanent coating at least 1/32 inch (0.8 mm) thick, of an insulating material. The reflecting surface shall be either uncoated by the insulating material, or insulating material shall be coated with aluminum paint to provide a reflectance factor of not less than 50 percent.

3.12 Grounding. The extension light grounding shall conform to UL 298 section 15.

3.13 Identification data. The extension light shall show the manufacturer's name or trademark permanently inscribed on or attached thereto.

3.14 Performance.

3.14.1 Resistance to impact. The handle assembly and the guard-reflector assembly connected in the normal position with a lamp firmly in place and lighted, shall not suffer any visible injury or damage to the electrical circuit when tested in accordance with 4.5.1.

3.14.2 Resistance to the entrance of moisture. The type II extension light, with a lamp in place shall meet the test of 4.5.2 without the entrance of any moisture.

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3.14.3 Dielectric voltage-withstand. Upon completion of impact tests (see 4.5.1.1 and 4.5.1.2), lights shall conform to the requirements of UL 298, Sections 20 and 26, when tested in accordance with Section 37.

3.14.4 Strain relief. Strain relief shall be provided in accordance with UL 298, Section 13 to prevent mechanical strain of a direct pull on the cord from being transmitted to cord terminals, causing breaking or distortion of the terminal screws or the cord ending, when tested in accordance with 4.5.4.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to specified requirements.

4.1.1 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2.1)
- b. Quality conformance inspection (see 4.2.2)

4.2.1 First article inspection. The first article inspection shall be performed on one complete extension light of each classification included in the contract when a first article is required (see 3.2 and 6.5). This inspection shall include the examination of 4.4, the tests of 4.5, and, when specified, the first article pack inspection of 4.6 (see 4.6 and 6.2). The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.4, the tests of 4.5, and the preparation for delivery inspection of 4.6. This inspection shall be performed on the samples selected in accordance with 4.3.

4.3 Sampling. Sampling and inspection procedures shall be in accordance with MIL-STD-105. All extension lights offered for delivery at one time shall be considered a lot for the purpose of inspection.

4.3.1 Sampling for examination. Guidance for inspection level and an Acceptable Quality Level (AQL) is provided in 6.6.1.

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4.3.2 Sampling for tests. Guidance for inspection level and an AQL is provided in 6.6.2.

4.4 Examination. Each light shall be examined for compliance with the requirements specified in section 3 of this specification. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.5 Tests. The first article, when specified, and each sample selected shall be tested to determine conformance to the standards of UL 20, 62, 298, 496, and 498. Where requirements specified herein duplicate those of the UL standards, the applicable test of UL need not be performed or duplicated.

4.5.1 Impact test. A sample shall consist of a normally assembled extension light with a lamp in the socket. The assembly shall undergo low- and high-temperature impact tests by dropping it in such a manner that the handle and guard-reflector assembly hit on the side.

4.5.1.1 Low-temperature impact test. The sample shall be placed in an ambient temperature of -25 degrees Fahrenheit (oF) (-31.7 degrees Celsius (oC)) for a period of 4 hours. Immediately upon removal, the sample shall be dropped twice onto a concrete or hard tile surface from a distance of 5 feet (152.4 centimeters (cm)). During the drop portion of the test, the lamp shall be burning. The lamp shall be replaced, if broken, and the test continued.

4.5.1.2 High-temperature impact test. The sample shall undergo the test specified in 4.5.1.1, except that the ambient temperature shall be 160oF (71.1oC).

4.5.2 Moisture test, type II. The sample type II extension light shall have all parts disassembled from the handle assembly, including cord, strain relief, guard and socket, and reassembled three times prior to performing this test. With the lamp burning, the sample extension light as normally assembled shall be suspended by the hook, and subjected to a water spray of simulated rainfall of 3 inches +/-1 inch (76.2 mm +/-25.4 mm) of water droplets for a period of 1 hour. The spray shall be applied to the top and sides of the light. At the end of the spraying, the exterior of the light shall be wiped dry and immediately subjected to the applicable dielectric strength test (see 4.5.3). The interior of the handle assembly shall be examined for the presence of water.

4.5.3 Dielectric strength test. For class 1 lights, one test lead shall be attached to the guard hook. For class 2 lights, an insulation piercing test probe shall be inserted into the tip of the guard hook. Where the hook is of insulating material, the lead shall be attached to the metal reflector surface. The plug contacts shall be connected to one another, and the second high-voltage lead shall be applied to the plug terminals. The test voltage shall also be applied to adjacent conductors. The test voltage shall be as specified in UL 298, Section 37.

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4.5.4 Strain relief test. The sample shall be an assembled extension light. For types I, II, and IV lights, the test load shall be 50 pounds (lb) (22.7 kilograms (kg)) and for type III, 30 lb (13.6 kg). The test load shall be applied slowly and steadily for a period of 1 minute on the cord with the handle held in place. At no time during the test shall the terminal screws or the terminal ends of the cord take any of the load. At the completion of the test, the extension cord shall be examined for conformance to 3.14.4.

4.6 Preparation for delivery inspection. The inspection of the preservation, packing, and marking shall be in accordance with the requirements of section 4 of MIL-E-17555. The inspection shall consist of the quality conformance inspection, and when specified (see 6.2), a first article pack shall be furnished for examination and test within the timeframe required (see 6.2).

5. PREPARATION FOR DELIVERY

5.1 Preservation and packing. Preservation and packing shall be in accordance with the requirements of MIL-E-17555 with the level of preservation and the level of packing as specified (see 6.2). Unit pack quantities shall be as specified (see 6.2).

5.2 Marking.

5.2.1 Military agencies. Shipments to military agencies shall be marked in accordance with MIL-STD-129.

5.2.2 Civil agencies. Shipments to civil agencies shall be marked in accordance with FED-STD-123.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The extension light is for the purpose of furnishing an incandescent light source at the end of a long cord where necessary for work in and around shops, garages, normally unlighted, and inaccessible areas.

6.1.1 Type I. Type I lights are for service use where the cord is apt to be subjected to abuse and wear, such as from trucks, packing cases, and oil.

6.1.2 Type II. Type II lights are intended for use as stated in 6.1.1, and also where there may be rain or very moist conditions.

6.1.3 Type III. Type III lights are for light duty use where they are not likely to be subjected continuously to the conditions of use stated in 6.1.1 and 6.1.2.

6.1.4 Type IV. Type IV lights are for service use where the cord may be subjected to abuse and excessive wear, such as from trucks, packing cases, and oil. The receptacle incorporated in the handle is for use as a source of electrical power for small hand tools.

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6.1.5 Class 2. Class 2 lights with insulated guard-reflectors shall be specified when the extension light will be used around electrical equipment.

6.1.6 Arctic conditions. The insulating and jacketing compounds of MIL-I-3930 (see 3.8) are for use in providing pliability for arctic conditions.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in acquisition documents:

- a. Title, number, and date of this specification
- b. Type, class, and length required (see 1.2)
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2)
- d. When first article is required for inspection and approval (see 3.2., 4.2.1 and 6.5)
- e. When warning label is required (see 3.5.4)
- f. When connector plugs shall be other than as specified (see 3.7)
- g. When insulating compounds or jacketing compounds, or both, are to be in accordance with MIL-I-3930 (see 3.8)
- h. When first article pack inspection is required and timeframe required for submission (see 4.2.1 and 4.6)
- i. Level of preservation and level of packing required (see 5.1)
- j. Unit quantity required (see 5.1)

6.3 General information. Federal specifications do not include all types, classes, and lengths of the commodity indicated by the title of the specification, or which are commercially available, but are intended to cover the kinds which are suitable for Federal Government requirements. It is believed that this specification adequately describes the characteristics necessary to secure the desired material, and that normally no samples will be necessary prior to award for determining compliance with this specification. If, for any particular purpose, samples with bids are necessary, they shall be specifically asked for in the invitation for bids, and the particular purpose to be served by the bid sample should be stated.

6.4 Data requirements. When this specification is used in an acquisition and data are required to be delivered, the data requirements shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved Contract Data Requirements List (DD Form 1423) incorporated into the contract. When the provisions of DoD Federal Acquisition Regulations (FAR) Supplement, Part 27, Sub-Part 227.405-70 are invoked and the DD Form 1423 is not used, the data should be delivered by the contractor in accordance with the contract or purchase order requirements.

6.5 First article. When a first article inspection is required, the extension light will be tested and should be a first article sample or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of one complete extension light of each type and class included under a specific contract. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

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6.6 Sampling procedures.

6.6.1 Sampling for examination. Recommended inspection level is II and AQL is 2.5 percent defective (see 4.3.1).

6.6.2 Sampling for tests. Recommended inspection level is S-3 and AQL is 2.5 percent defective (see 4.3.2).

6.7 Part or Identifying Numbers (PINs). The specification number, type, class and length are combined to form PINs for electrical extension lights covered by this document (see 1.2). PINs for the lights are established as follows:

	M 661	X	X	XXX
Inch-Pound Document	-----*	*	*	*
Specification Number	-----*	*	*	*
Type	-----*	*	*	*
Class	-----*	*	*	*
Length	-----*	*	*	*

6.7.1 Type, class and length rating. The type, class and length of the electrical extension lights are identified by designators as shown in table I.

TABLE I. Designator to type, class and length ratings.

*	Type	*	Designator

*	I	*	1
*	II	*	2
*	III	*	3
*	IV	*	4

*	Class	*	

*	1	*	1
*	2	*	2

*	Length	*	

*	25 Feet	*	025
*	50 Feet	*	050
*	100 Feet	*	100

6.7.2 Part numbers. The PIN is for Government purposes and does not constitute a requirement for the contractor.

6.7.3 Example of PIN. Requirements: Type III, Class 2 and a 50-foot (15.24 m) long cord.

PIN designation: ----- M-661-3-2-050

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6.8 Subject term (key word) listing.

Portable incandescent-lamp
Trouble lamp

MILITARY INTERESTS:

Custodians

Army - MI
Navy - YD1
Air Force - 99

Review Activities

Navy - MC
Air Force - 82
DLA - GS

CIVIL AGENCY COORDINATING ACTIVITIES:

GSA - FSS
COM - NIST
DOJ - FPI

PREPARING ACTIVITY

Navy - YD1

(Project 6230-1031)