

INCH-POUND

MIL-L-81174A
20 August 1993
SUPERSEDING
MIL-L-81174(1)
9 MARCH 1984

MILITARY SPECIFICATION

LIGHTS, LANDING, AIRCRAFT, RETRACTABLE

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for electrically retractable aircraft landing lights suitable for operation on 28VDC circuits and designed to use self-contained reflector type lamps having filament voltages up to 120 volts.

1.2 Classification. Electrically retractable aircraft landing lights suitable for operation on 28VDC circuits shall be classified as specified in the applicable specification sheet.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards and handbooks. The following specifications, standards, and handbooks 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).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer, Naval Air Warfare Center Aircraft Division Lakehurst, Systems Requirement Department, (Code SR3), Lakehurst, NJ 08733-5100, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 6220

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

MIL-L-81174A

SPECIFICATIONS

FEDERAL

- TT-E-527 - Enamel, Alkyd, Lusterless, Low VOC Content
- TT-P-1757 - Primer Coating, Zinc Chromate, Low-Moisture Sensitivity

MILITARY

- MIL-W-5088 - Wiring, Aerospace Vehicle
- MIL-C-5541 - Chemical Conversion Coatings on Aluminum and Aluminum Alloys
- MIL-S-7742 - Screw Threads, Standard, Optimum Selected Series: General Specification for
- MIL-A-8625 - Anodic Coatings, for Aluminum and Aluminum Alloys
- MIL-L-81174/1 - Light, Landing, Aircraft, Retractable (PAR 64, 28 or 120 Volt Lamp)
- MIL-L-81174/2 - Light, Landing, Aircraft, Controllable
- MIL-L-81174/3 - Light, Landing, Aircraft, Retractable (PAR 46 Lamp)
- MIL-L-81174/4 - Light, Landing, Aircraft, Retractable

STANDARDS

MILITARY

- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-130 - Identification Marking of U.S. Military Property
- MIL-STD-461 - Electromagnetic Emission and Susceptibility Requirements for the Control of Electromagnetic Interference
- MIL-STD-462 - Electromagnetic Interference Characteristics, Measurement of
- MIL-STD-810 - Environmental Test Methods and Engineering Guidelines

MIL-L-81174A

- MIL-STD-838 - Lubrication of Military Equipment
- MIL-STD-889 - Dissimilar Metals
- MIL-STD-2073-1 - DOD Materiel Procedures for Development and Application of Packaging Requirements

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

2.2 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications sheets), 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 Specification sheets. The individual item requirements shall be as specified herein and in accordance with the applicable specification sheet. In the event of any conflict between the requirements of this specification and the specification sheet, the latter shall govern. The following associated specification sheets provide design details for various types and sizes of retractable and controllable aircraft landing lights:

- MIL-L-81174/1 - Retractable (PAR 64 lamp)
- MIL-L-81174/2 - Controllable (PAR 46 lamp)
- MIL-L-81174/3 - Retractable (PAR 46 lamp)
- MIL-L-81174/4 - Retractable (PAR 46 & 64 lamps)

3.2 First article. When specified (see 6.2), samples shall be subjected to first article inspection (see 6.4) in accordance with 4.3.

3.3 Materials.

3.3.1 Protective treatment. Materials that are subject to deterioration when exposed to climatic and environmental conditions likely to occur during service usage shall be protected against such deterioration. The use of any protective coating that will crack, chip, or scale with age or extremes of climatic and environmental conditions shall be avoided.

3.3.2 Metals. Metals shall be corrosion resistant unless plated or treated to resist corrosion. The use of dissimilar metals, especially brass, copper, or steel in intimate metal-to-metal contact with aluminum or aluminum alloy shall be avoided. Dissimilar metals are defined in MIL-STD-889.

MIL-L-81174A

3.3.3 Fungus proof materials. Materials that are nutrients for fungi shall not be used where it is practicable to avoid them. Where used and not hermetically sealed, they shall be treated with a fungicidal agent acceptable to the procuring activity. However, if they will be used in a hermetically sealed enclosure, fungicidal treatment will not be necessary.

3.3.4 Standard parts. Standard parts shall be used wherever they are suitable for the purpose, and shall be identified on the drawings by their part numbers. Commercial utility parts such as screws, bolts, nuts, cotter pins, etc., may be used, provided they possess suitable properties and are replaceable by the standard parts without alteration, and provided the corresponding standard part numbers are referenced in the parts list and, if practicable, on the contractor's drawings. In the event there is no suitable corresponding standard part in effect on date of invitation for bids, commercial parts may be used provided they conform to all requirements of this specification.

3.4 Design and construction.

3.4.1 Design. The light assembly shall be designed for installation inside the fuselage or wing of the aircraft flush with the lower surface and removable from the outside. It shall be possible to extend, retract, or stop the light in any position by means of an electric motor contained in the assembly. The lamp and motor shall be connected to separate circuits. The design shall be such that the lamp may be removed or replaced by operating personnel without special tools and without removing the assembly from the aircraft. The complete assembly shall be similar to the assembly shown on the applicable specification sheet. The specification sheet covers a representative sample, and assemblies of slightly different design will be considered as meeting the requirements providing the specified and limiting configuration, dimensions, mounting holes, connections, and all other requirements of the specification are met, and first article samples are approved. The motor limit switches, retracting mechanism, and wiring shall be enclosed or protected.

3.4.2 Ruggedness. The lights shall be so designed and constructed that no parts will loosen in service. They shall be built to withstand the strains, jars, vibrations, and other conditions incident to shipping, storage, installation, and service.

3.4.3 Repairability. The lights shall be so constructed that adjustments, repairs, and lamp replacement can easily be made by the personnel of operating units and overhaul bases without the use of special tools.

3.4.4 Extended and retracted limits. Unless otherwise specified by the procuring activity, the fully extended operating position shall be as specified in the applicable specification sheet. When the light is fully retracted, the angle between the plane of the lamp mounting ring and the mounting plane of the light shall be 0 degrees \pm 1 degree.

MIL-L-81174A

3.4.5 Motor limit switches. Limit switches shall be provided which will automatically open the motor circuit when the light reaches the extended positions (for which it is adjusted) and the fully retracted position.

3.4.6 Safe limits. Rotating lights shall incorporate a switching device that will open the circuit to the lamp when the following conditions occur simultaneously:

- a. The lamp is rotated so that it will be aimed in the hemisphere toward the fuselage of the aircraft.
- b. The lamp is extended at angles up to 60 degrees from the fully retracted position.

3.4.7 Braking. A means shall be provided for stopping the light within the limits specified in the applicable specification sheet after the motor switch is opened under simulated operating loads. Means shall be provided to hold the light in this position against simulated air loads, as specified in the applicable specification sheet.

3.4.8 Lamps. The lights shall accommodate PAR 46 or PAR 64 lamps, as specified in the applicable specification sheet. Lamps shall be furnished for each type light only when specified in the contract (see 6.2).

3.4.9 Operating voltage.

3.4.9.1 Motor circuit. The motor shall operate on any supply voltage between 22 and 30 volts DC.

3.4.9.2 Lamp circuit. The lamp filament circuit shall permit the use of lamps designed to operate on 28VDC or 120 volts single phase, 320 to 1000 Hz AC, as specified in the applicable specification sheet.

3.4.10 Terminations. The wiring from the motor, lamp, and limit switches shall terminate in an electrical connector or a terminal barrier strip, as specified in the applicable specification sheet. Electrical connections shall be as specified.

3.4.11 Housing. The motor, motor limit switches, retracting mechanism, and the electrical wiring shall be enclosed or protected. The design shall be such that no appreciable amount of spray, dust, or sand can enter the housing with the light either retracted or in the operating position.

3.4.12 Rotation. Lights shall be capable of rotation when so specified in the applicable specification sheet. Such lights shall be capable of rotation when the lights have been extended approximately 10 degrees below the fully retracted position. For stowing, a travel limiting device shall be provided to automatically stop the rotation of the light when the surface of the lamp is flush with the surface on which the light is mounted.

MIL-L-81174A

3.4.13 Suppression of electromagnetic interference (EMI). Lights shall be designed to minimize the generation of EMI. Enclosing case construction shall provide continuity of electrical shielding with all mating surfaces clean and carefully fitted to minimize EMI impedance at joints, seams, and mounting surfaces. If necessary, the light shall be provided with EMI filters to meet the requirements specified herein. The volume and weight of EMI filtering equipment shall be minimized.

3.4.14 Wiring. The conductors in the light shall be of sufficient size to assure that their current-carrying capacity meets the requirements of MIL-W-5088. The leads to the lamp in the lamp housing shall be insulated with a material which will not be damaged by the heat from the lamp when it is operating.

3.4.14.1 Wiring diagram. A schematic diagram of the internal wiring of the assembly shall be permanently attached to the exterior of the light.

3.5 Finishes and protective coatings.

3.5.1 Aluminum. All aluminum and aluminum alloy parts shall be anodized in accordance with MIL-A-8625, except as follows:

- a. Small holes and case inserts need not be anodized.
- b. Aluminum alloys which do not anodize satisfactorily shall be coated with a chemical film in accordance with MIL-C-5541.
- c. Where the primary purpose of the treatment is to afford a suitable paint base, chemical treatments in accordance with MIL-C-5541 may be used in lieu of anodizing.
- d. Castings containing nonaluminum alloy integral inserts may be treated with a chemical film in accordance with MIL-C-5541 in lieu of anodizing.
- e. When abrasion resistance is a factor, chemical films in accordance with MIL-C-5541 shall not be used in lieu of anodizing.

3.5.2 Steel. All steel parts, except lubricated internal working parts and those fabricated from corrosion-resistant steel, shall be plated to provide resistance to corrosion and abrasion.

3.5.3 Paint. All exposed parts of the landing light, except bearing surfaces and the lamp, shall be finished with one coat of zinc-chromate primer conforming to TT-P-1757 before assembly, and two coats of gray enamel paint conforming to TT-E-527 after assembly.

3.6 Screw threads. Screw threads shall be in accordance with MIL-S-7742.

MIL-L-81174A

3.7 Weight. The weight of one light, including the lamp, shall not exceed the value specified in the applicable specification sheet.

3.8 Lubricant. When required, the retracting mechanism shall be lubricated in accordance with MIL-STD-838.

3.9 Performance. Unless otherwise specified in the applicable specification sheet or contract, the lights shall meet the following requirements when tested as specified.

3.9.1 Surface examination. Lights shall be visually and dimensionally examined for conformance to the requirements of this specification and the applicable specification sheet (see 4.6.1).

3.9.2 Functional operation.

3.9.2.1 Normal rate of operation. When operated at a nominal 28 volts DC, the lights shall be capable of performing the following (see 4.6.2):

- a. Extend from fully retracted to fully extended position within the time limits specified in the applicable specification sheet.
- b. Retract from fully extended position to the fully retracted position within the stowage time limits specified in the applicable specification sheet.
- c. Lights capable of rotation shall rotate 360 degrees in both clockwise and counterclockwise directions within the time limits specified in the applicable specification sheet.

3.9.3 Low temperature. Lights shall conform to the functional operation requirements after being subjected to the specified low temperature test (see 4.6.3).

3.9.4 High temperature. Lights shall conform to the functional operating requirements after being subjected to the specified high temperature test (see 4.6.4).

3.9.5 Altitude. Lights shall conform to the functional operation requirements after being subjected to the specified altitude test (see 4.6.5).

3.9.6 Humidity. Lights shall conform to the functional operation requirements after being subjected to the specified humidity test (see 4.6.6).

3.9.7 Sand and dust. Lights shall conform to the functional operation requirements after being subjected to the specified sand and dust test (see 4.6.7).

MIL-L-81174A

3.9.8 Salt spray. Lights shall conform to the functional operation requirements after being subjected to the specified salt spray test (see 4.6.8).

3.9.9 Explosion proof. Lights shall not cause an explosion during operation in an explosive atmosphere (see 4.6.9).

3.9.10 Vibration. There shall be no loose parts or failure of any part of the light assembly (exclusive of the lamp filament) when subjected to the specified vibration test (see 4.6.10).

3.9.11 Shock. There shall be no loose parts or failure of any part of the light assembly (exclusive of the lamp filament) when subjected to the specified shock test (see 4.6.11).

3.9.12 Acceleration. Lights shall conform to the functional operation requirements after being subjected to the specified acceleration test (see 4.6.12).

3.9.13 Electromagnetic interference (EMI). Lights shall meet the requirements of parts 1 and 2 of MIL-STD-461 for Class A1 (equipment mounted on aircraft) as indicated below, when tested as specified (see 4.6.13).

Requirements

CE 01	CS01	RE02
CE 03	CS02	RS02
CE 07	CS06	RS03 <u>1/</u>

1/ For Army applications, the field strength of RS03 shall be 200 V/m (RMS) over the frequency range of 14 kHz to 40 GHz and for the conducted and radiated emissions requirements, the Army limits shall be used.

3.9.14 Endurance. Lights shall perform without failure when the retracting and rotating mechanisms are operated for the specified number of operating cycles (see 4.6.14).

3.10 Interchangeability. All parts having the same manufacturer's part number shall be directly and completely interchangeable with each other with respect to installation and performance. Changes which affect the form, fit, or function of the parts require the approval of the acquisition activity.

3.11 Identification of product. Each light shall be marked in accordance with MIL-STD-130.

3.12 Workmanship. The light, including all parts and accessories, shall be fabricated and finished in a thoroughly workmanlike manner. Particular attention shall be given to freedom from blemishes, defects, burrs, and sharp

MIL-L-81174A

edges; accuracy of dimensions, radii of fillets, thoroughness of soldering, welding, brazing, painting, wiring, and riveting; alignment of parts and tightness of assembly fasteners.

3.12.1 Riveting. Riveting operations shall be carefully performed to ensure that the rivets are tight and satisfactorily headed.

3.12.2 Cleaning. The light shall be thoroughly cleaned, and loose, spattered, or excess solder, metal chips, and other foreign material removed during and after final assembly.

3.12.3 Soldering. Acid soldering flux shall not be used in the construction of the assemblies.

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 (examinations and tests) 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements; however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

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

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection. When first article inspection is required (see 6.2), first article tests shall be performed on three (3) sample lights, unless otherwise specified. First article inspection shall consist of all

MIL-L-81174A

examinations and tests of this specification under 4.6, and shall be performed in the order specified in Table I for each type of light assembly.

TABLE I. Order of testing for first article inspection.

Sample no. 1	Sample no. 2	Sample no. 3
Surface examination Functional operation Low temperature High temperature Altitude Humidity Sand and dust Salt spray Explosion proof	Surface examination Functional operation Electromagnetic interference Endurance	Surface examination Functional operation Vibration Shock Acceleration

4.4 Quality conformance inspection. The quality conformance inspection shall consist of individual tests.

4.4.1 Individual tests. Each light shall be subjected to the following tests:

- a. Surface examination (see 4.6.1). When specified by the acquiring activity, dimensional inspection may be performed on a sampling basis rather than on each individual light assembly (see 6.2.i).
- b. Functional operation test (see 4.6.2).

4.5 Standard test conditions. Unless otherwise specified, the lights shall be subjected to tests under the following conditions:

Temperature	25° ± 10°C (77° ± 18°F)
Altitude	Normal ground
Humidity	Room ambient up to 95 percent relative humidity
Vibration	None

4.6 Test methods. Unless otherwise specified in the applicable specification sheet, contract, or purchase order, light assemblies shall be subjected to the following test methods under the indicated test conditions.

4.6.1 Surface examination. The light shall be examined for the following:

- a. Workmanship, assembly and fit, dimensions, and marking.
- b. Materials, parts, and finish.

MIL-L-81174A

- c. Treatment for prevention of corrosion (see 3.3.1).
- d. Treatment for fungus resistance (see 3.3.3).

4.6.2 Functional operation. Each light assembly, complete with a lamp, shall be tested for proper operation of the lamp, extending and retracting mechanism, limit switches, and braking. Angles of extension shall be checked to determine compliance with specification requirements. Lights capable of rotation shall be fully extended and shall be rotated 360 degrees clockwise and then 360 degrees counterclockwise to the original position. The time for each rotation shall be as specified in the applicable specification sheet.

4.6.3 Low temperature. The light assembly with lamp fully retracted shall be subjected to the low temperature test of MIL-STD-810, Method 502.3, Procedure II - Operation. The low temperature limit shall be -54°C (-65°F). After stabilization of the low temperature, the light shall be exposed to the test temperature for a period of 24 hours. The lamp shall not be turned on during the stabilization period. At the end of the 24 hour test period, and while still at the test temperature, the light shall be energized and tested for conformance to the functional operation requirements.

4.6.4 High temperature. The light assembly with lamp fully retracted shall be subjected to the high temperature test of MIL-STD-810, Method 501.3, Procedure II - Operation. The high temperature limit shall be 71°C (160°F). After stabilization at the test temperature, the light shall be exposed to the high temperature for a period of 24 hours. The lamp shall not be turned on during the stabilization period. At the end of the 24 hour test period, and while still at the test temperature, the light shall be energized and tested for conformance to the functional operation requirements.

4.6.5 Altitude. The light assembly with lamp fully retracted shall be subjected to the altitude test of MIL-STD-810, Method 500.3, Procedure II - Operation. The light assembly, fully retracted, shall be placed within a test chamber. The chamber temperature shall be raised to 35°C and the chamber pressure shall be reduced to 50,000 feet. These conditions shall be maintained for a 4 hour period. At the end of the test period and while still at the same conditions, the light shall be energized and tested for conformance to the functional operation requirements.

4.6.6 Humidity. The light assembly, fully retracted, shall be subjected to the humidity test of MIL-STD-810, Method 507.3, Procedure III - Aggravated. The test shall be repeated for 10 cycles (240 hours). Near the end of the fifth and tenth cycles, and while still at the test conditions, the light shall be energized and tested for conformance to the functional operation requirements.

4.6.7 Sand and dust. The light assembly shall be mounted in the test chamber to simulate actual installation with the lamp directed downward. The light shall be subjected to the sand and dust test in accordance with MIL-STD-810, Method 510.3, Procedures I and II. For Procedure I, blowing

MIL-L-81174A

dust, the high temperature shall be 71°C (160°F), the relative humidity less than 30 percent, the air velocity 8.9 m/s (1750 ft/min), and the duration of test shall be 6 hours at 23°C (73°F) and 6 hours at 71°C (160°F). For Procedure II, blowing sand, the temperature shall be 71°C (160°F), the relative humidity less than 30 percent, the air velocity shall be a nominal 23 m/s (4500 ft/min), and the duration of the test shall be 90 minutes. When specified by the applicable specification sheet, the light shall be operated during the test. Upon completion of the test, the light shall be energized and tested for conformance to the functional operation requirements.

4.6.8 Salt spray. The light assembly shall be mounted in the test chamber to simulate actual installation. The light shall be subjected to the salt fog test in accordance with MIL-STD-810, Method 509.3, Procedure I. Unless otherwise specified in the applicable specification sheet, the duration of the salt spray test shall be 168 hours. The light shall be retracted and shall not be operated during the test, unless otherwise specified in the applicable specification sheet. At the conclusion of the test, the light shall be energized and tested for conformance to the functional operation requirements. There shall be no evidence of excessive corrosion or failure of any part to function properly.

4.6.9 Explosion proof. The light assembly shall be subjected to an explosion test in accordance with MIL-STD-810, Method 511.3, Procedure I, and pressures simulating altitudes from sea level to 10,000 feet. The test temperature shall be 71°C (160°F). The light shall not cause an explosion when operated in and explosive atmosphere.

4.6.10 Vibration. The light assembly shall be subjected to a vibration test in accordance with MIL-STD-810, Method 514.4, Category 4, Test Procedure I, Test Conditions 1-3.4.1, table 514.4-II, vibration level 0.3 g²/Hz, figure 514.4-7. The test duration shall be 1 hour in each of 3 mutually perpendicular axes. The light assembly shall be mounted in its normal mounting position and shall be fully retracted during the test. There shall be no failure of any part of the assembly exclusive of failure of the lamp filament.

4.6.11 Shock. The light assembly shall be shock tested in accordance with MIL-STD-810, Method 516.4, Procedure I - Functional Operation. The light shall be subjected to 3 shocks of 20 g's, 6-9 ms duration, in each direction of 3 orthogonal axes. There shall be no failure of any part of the assembly exclusive of failure of the lamp filament. This test shall be conducted with the light assembly in the fully extended, fully retracted, and at the half-way extended positions.

4.6.12 Acceleration. The light assembly shall be subjected to an acceleration test in accordance with the procedure in MIL-STD-810, Method 513.4, Procedure II - Operation Test (centrifuge), table 513.4-II Vehicle Category - Aircraft. Functional tests need not be conducted during application of the acceleration. Upon completion of the test, the light shall

MIL-L-81174A

be energized and tested for conformance to the functional operation requirements.

4.6.13 Electromagnetic interference (EMI). The light assembly shall be tested in accordance with the applicable test procedures of MIL-STD-462 to verify compliance with the EMI requirements of 3.9.13. The tests shall be conducted only between the limits of 150 KHz and 150 MHz, unless otherwise specified. The light assembly shall be tested when extending and retracting without load and also with the simulated load specified in the applicable specification sheet. Light capable of rotation shall also be tested while rotating.

4.6.14 Endurance.

4.6.14.1 Retracting mechanism. The extending and retracting mechanism of the landing light shall be operated for 3000 cycles at the rate of 30 cycles per hour. The voltage across the terminals shall be 28 ± 1 VDC with the lamp energized. During each cycle, the light shall remain extended approximately one minute with the lamp energized. Service conditions shall be simulated by the use of a test device whereby a load simulating the air load specified on the applicable specification sheet will be applied to the lamp during extending and retracting. The load shall be applied perpendicular to the plane of the lamp lens and on the outer edge of the lamp retaining ring opposite the hinge. There shall be no excessive wear or failure of any part during the test. The time required for the light to open to the maximum extended position or close to the fully retracted position at the beginning or end of the test with the load and voltage specified above shall be no greater than the opening and stowage times in the applicable specification sheet.

4.6.14.2 Rotating mechanism. Landing lights capable of rotating shall also be subjected to the following test. The rotating mechanism in the fully extended position shall be operated counterclockwise for 1,000 cycles at a rate of approximately 60 cycles per hour, and the test repeated except rotation shall be clockwise. The rotating mechanism shall be energized in each minute a sufficient time for the lamp to turn through approximately 360 degrees. The lamp shall be energized only during the periods of rotation.

5. PACKAGING

5.1 Packing. Unless otherwise specified in the contract or purchase order, requirements for unit, intermediate, and exterior shipping containers shall be in accordance with MIL-STD-2073-1 (see 6.2).

5.2 Marking. In addition to any special marking required by the contract or purchase order, unit package, intermediate packages and shipping containers shall be marked in accordance with MIL-STD-129. The nomenclature shall be as follows:

MIL-L-81174A

LIGHT, LANDING, AIRCRAFT, TYPE _____ Part number M81174/_____.
The type and part number shall be as specified in the applicable specification sheet.

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 lights covered by this specification are intended for use as landing lights on military aircraft.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number and date of this specification, including any amendments and the applicable specification sheet.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1).
- c. When first article is required (see 3.2).
- d. Whether first article inspection is waived (see 4.3).
- e. Part number of light desired (see applicable specification sheet).
- f. Applicable levels of preservation, packaging, and packing (see 5); including marking requirements (see 5.2).
- g. Type of lamp to be furnished with light when it is required (see 3.4.8). Note: Lights procured by Government Contractors and DOD Agencies and Departments for replacement spares are to be furnished without the lamps.
- h. Items of data required (see 6.3).
- i. Sampling plan for quality conformance dimensional inspection, if applicable.

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DIDs) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DIDs are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirements List (DD Form 1423) must be

MIL-L-81174A

prepared to obtain the data, except where DOD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

<u>Reference Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
4.3	DI-NDTI-80809A	Test/inspection reports	Use contractor format

The above DID's were those cleared as of the date of this specification. The current issue of DOD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423.

6.4 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be a preproduction sample, a first article sample, a first production item, a sample selected from the first (specify quantity) production items, a standard production item from the contractor's current inventory, and the number of items to be tested as specified in 4.3. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.5 Subject term (keyword) listing.

Airplane lighting
 Devices, illuminating
 Devices, lighting, airplane

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
 Air Force - 99
 Army - AV

Preparing activity:
 Navy - AS
 (Project No. 6220-1046)

Review activities:
 Air Force - 82
 Navy - MC
 DLA - GS

