

INCH-POUND

MIL-L-5057F
 AMENDMENT 2
 15 December 1989
 SUPERSEDING
 AMENDMENT 1
 27 August 1987

MILITARY SPECIFICATION

LIGHTS, INSTRUMENT, INDIVIDUAL, GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-L-5057F, dated 31 August 1981, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

At bottom, remove box around "FSC 6220." To the left of FSC 6220 add "AMSC N/A." Below this line add: "DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited."

PAGE 2

Under SPECIFICATIONS, Military, add "MIL-C-25050 Color, Aeronautical, Lights and Lighting Equipment, General Requirements for" and "MIL-L-85762 Lighting, Aircraft, Interior, AN/AVS-6 Aviator's Night Vision Imaging System (ANVIS) Compatible".

Under Standards, Military, delete "MIL-STD-1188 Commercial Packaging of Supplies and Equipment".

PAGE 3

Paragraph 2.2, Other publications. After "Uniform Freight Classification Rules" and immediately before "3. REQUIREMENTS", add the following:

"American Society of Testing and Materials (ASTM)

ASTM-D-3951 - Packaging, Commercial.

(Copies of ASTM-D-3951 should be obtained from the American Society of Testing and Materials, 1916 Race Street, Philadelphia, PA 19603.)"

AMSC N/A

FSC 6220

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MIL-L-5057F
AMENDMENT 2

Add the following paragraph:

"2.4 Streamlining. This document has been streamlined. Appendix A to MIL-L-5057F lists those documents required for MIL-L-5057F acquisition and is a mandatory part of MIL-L-5057F. Those documents listed in Appendix A have the same status as those referenced directly in MIL-L-5057F (first tier documents). All other documents, referenced through tiering, may be used as guidance and information to supplement MIL-L-5057F."

Paragraph 3.1, delete in its entirety and substitute:

"3.1 First article. Unless otherwise specified, the lights furnished under this specification shall be a product which has been inspected and has passed first article inspection specified herein (see 4.3 and 6.3)."

PAGE 4

Paragraph 3.4. In the first sentence, insert commas after the first occurrence of the word "or" and after the first word (standard) of the third line.

PAGE 5

Paragraph 3.5, delete in its entirety and substitute the following paragraphs:

"3.5 Color of light. Light provided by each red light shall conform to MIL-C-25050 for aviation red and also shall be not paler or yellower than NBS No. 3215 filter. Optical paths of white lights shall be color nonselective. When Instrument Panel Lighting (IPL) white or Air Force Blue white lighting are used, they shall be in accordance with MIL-C-25050.

3.5.1 Night vision goggle compatible lighting. When night vision goggle compatible lighting is required, it shall be in accordance with MIL-L-85762 (see 4.6.13.1)."

Paragraph 3.6.2. Change 0.5 to 0.05.

Paragraphs 3.6.2.1, 3.6.2.2, 3.6.2.3, 3.6.3, 3.6.4 and 3.6.5. Change "...after being subjected to..." to "...when subjected to."

PAGE 9

Delete paragraphs 4.1 through 4.4.2 and substitute the following:

"4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The

MIL-L-5057F
AMENDMENT 2

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 prescribed requirements.

4.4.1 Responsibility for compliance. All items must 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 assuring all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.2 Classification of inspection. The examination and testing of the lights shall be classified as follows:

a. First article. First article inspection consists of examinations and tests performed on samples which are representative of the production item after award of a contract to determine that the production conforms to the requirements of this specification (see 3.1 and 6.3).

b. Quality conformance inspection. Quality conformance inspection consists of examinations and tests performed on individual products or lots to determine conformance of the products or lots with the requirements set forth in this specification (see 4.4.1 and 4.4.2).

4.3 First article tests.

4.3.1 Sampling instructions. A sample for first article testing shall consist of at least two lights of a given manufacturer's part number. Samples shall be furnished as directed by the contracting officer. The following information shall be furnished with each sample:

- a. Government designation (if any).
- b. Manufacturer's designation.
- c. Instrument case with which to be used.
- d. Location(s) of any adjusting knobs and screws on the instrument case (for lights for use with MS33549 and MS33556 instrument cases only).
- e. Aperture diameter and mounting hole style of instrument case (for lights for use with MS33545 instrument cases only).
- f. Whether instrument is to be installed with mounting flange on front or back side of instrument panel (for flange-mounted instruments only).

MIL-L-5057F
AMENDMENT 2

g. For use with magnetic compasses (for lights used with flange-mounted magnetic compasses only).

h. Number of lights to be used with each instrument, and the positions (and orientations, if applicable) in which they are to be installed.

i. Manufacturer's drawing and installation instructions only for lights which do not conform to any standard).

4.3.2 Tests. The first article tests shall consist of all the tests specified under 4.6 Test methods, and shall be performed in the order listed.

4.4 Quality conformance tests. The quality conformance tests shall consist of individual tests and sampling tests.

4.4.1 Individual tests. The lights shall be subjected to the following tests:

- a. Examination of product (4.6.1)
- b. Dimensions (overall) (4.6.2)
- c. Weight (4.6.3)
- d. Dielectric strength (4.6.4)
- e. Operation (4.6.5)

4.4.2 Sampling tests. The lights shall be subjected to the following tests. Lot acceptance shall be in accordance with the sampling requirements of MIL-STD-105, Inspection level S-3, Acceptable Level (AQL) 1.5. A light with one or more defects shall be considered one defective light in the application of MIL-STD-105.

- a. Operation at low temperature (4.6.6)
- b. Operation at high temperature (4.6.7)
- c. Operation under vibration (4.6.8)
- d. Resistance to shock (4.6.9)"

PAGE 10

Paragraph 4.5.2. Change title "Brightness of marking." to "Lamp luminous intensity." After "aged" add "not less than 10 hours".

MIL-L-5057F
AMENDMENT 2

PAGE 13

Paragraph 4.6.13. between "point" and "shall" on lines five and seven insert "on the dial".

Insert the following:

"4.6.13.1 Night vision compatible lighting. Night vision compatible lighting shall be tested in accordance with MIL-L-85762 (see 3.5.1)."

PAGE 14

Paragraph 5.2.3. Delete "MIL-STD-1188" and replace with "ASTM-D-3951".

Paragraph 5.3. Delete "or MIL-STD-1188".

PAGE 15

Delete paragraph 6.3 and insert the following paragraphs:

"6.3 First article. When first article inspection is required, the indicator will be tested and should be a first article sample. The first article should consist of the samples specified in 4.3. The contracting officer should include specific instructions in acquisition documents regarding examinations, tests and approval of first article.

6.3.1 First article provision. The manufacturer of indicators on contract should not commence until the samples submitted are pronounced satisfactory by the acquiring activity. When a contractor is in continuous production of the indicator from contract to contract, the submission of further first article samples on the subsequent contracts may be waived at the discretion of the acquiring activity. Approval of first article samples or the subsequent contracts may be waived at the discretion of the acquiring activity. Approval of first article samples or the waiving of first article tests does not eliminate the requirement of quality conformance inspection.

6.4 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Description (DID) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/ provided and that the DID is 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 prepared to obtain the data, except where DOD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

<u>DID Number</u>	<u>DID Title</u>	<u>Reference Paragraphs</u>
DI-MISC-80653	TEST REPORTS	4.3.1, 4.3.2, 4.4.1, 4.4.2

The above DID was 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 a current, cleared DID is cited on the DD Form 1423.

MIL-L-5057F
AMENDMENT 2

6.5 Subject term (key word) listing.

Lights, aircraft
Lights, instrument
Lamp luminous intensity

6.6 Streamlining. For MIL-L-5057F acquisitions, the required portions of MIL-L-5057F tier reference documents shall be limited to the portions described in the "Applicability" column of Table I in Appendix A.

6.7 Tailoring. When MIL-L-5057F is tailored in acquisition, Appendix A must be tailored accordingly. In particular, when Appendix A is tailored, specific attention must be given to the chain of referencing. For example, if a first tier reference document in MIL-L-5057F is tailored out, all of the reference documents which are tiered to that first tier reference document must be tailored out."

Add to the end of the document:

APPENDIX A

STREAMLINING INFORMATION

10. SCOPE

10.1 Scope. This Appendix is a list of documents referenced in MIL-L-5057F or tiered to documents referenced in MIL-L-5057F. These documents have the same status as those referenced directly in MIL-L-5057F (first tier documents). This Appendix is a mandatory part of this specification. The information contained herein is intended for compliance.

10.2 Application. This Appendix identifies the applicability of the documents cited in MIL-L-5057F or tiered to documents referenced in MIL-L-5057F through the fifth tier. Only that portion of a document, listed in Table I of this Appendix and described in the "Applicability" column, is pertinent in the use of MIL-L-5057F. If MIL-L-5057F is tailored in acquisition, this Appendix must also be tailored.

20. DOCUMENTS

20.1 Documents. The documents listed herein and corresponding applicability data have been identified as required. All other documents referenced through tiering are not considered required and may be used for guidance and information.

MIL-L-5057F
AMENDMENT 2

TABLE I. Required documents and corresponding applicability data.

DOCUMENT NUMBER:	DOCUMENT TITLE:	APPLICABILITY:	REFERENCED BY:
<u>First Tier (1 of 11 documents)</u>			
MIL-C-6390	Clamps and Instruments, Aircraft Installation	Entire Document	MIL-L-5057
<u>Second Tier</u>			
MS28042	Clamp, Instrument Mounting, Aircraft	Clamp Size Requirements	MIL-C-6390
The remaining second tier references, tiered to MIL-C-6390, are for guidance and information.			
<u>Third Tier</u>			
MIL-C-6818	Clamps, Instrument, Mounting, Aircraft	Procurement	MS28042
The remaining third tier references, tiered to MIL-C-6390, are for guidance and information.			
<u>Fourth through fifth tiers</u>			
All fourth through fifth tier references, tiered to MIL-C-6390, are for guidance and information.			
<u>First Tier (2 of 11 documents)</u>			
MIL-C-25050	Colors, Aeronautical Lights and Lighting Equipment, General Requirements for	Red Lighting Requirements	MIL-L-5057
<u>Second Tier</u>			
MIL-L-25467	Lighting, Integral, Red, Aircraft Instrument	Chromaticity for Ware of Red Lighting Requirements	MIL-C-25050

MIL-L-5057F
AMENDMENT 2

TABLE I. Required documents and corresponding applicability data (continued).

DOCUMENT NUMBER:	DOCUMENT TITLE:	APPLICABILITY:	REFERENCED BY:
	The remaining second tier references, tiered to MIL-C-25050, are for guidance and information.		
	<u>Third through Fifth Tiers</u>		
	All third through fifth tier references, tiered to MIL-C-25050, are for guidance and information.		
	<u>First Tier (3 of 11 documents)</u>		
MIL-L-85762	Lighting, Aircrafts Interior, AN/AVS-6, Aviators Night Vision Imaging System (NVIS)	Night Vision Compatible Lighting Requirements	MIL-L-5057
	<u>Second Tier</u>		
MIL-L-25467	Lighting, Integral, Red, Aircraft Instrument	Requirements for Integral Lighted Instruments	MIL-L-85762
	The remaining second tier references, tiered to MIL-C-85762, are for guidance and information only.		
	<u>Third through Fifth Tiers</u>		
	All third through fifth tier references, tiered to MIL-L-85762, are for guidance and information.		
	<u>First Tier (4 of 11 documents)</u>		
MIL-STD-810	Environmental Test Methods and Engineering Guidelines	Methods 509.2 & 507.2	MIL-L-5057
	<u>Second through Fifth Tiers</u>		
	All second through fifth tier references, tiered to MIL-STD-810, are for guidance and information.		
	<u>First Tier (5 of 11 documents)</u>		
MS25237	Lamp, Incandescent, Single Contact, Midget Flange Based	Lamp Conformance and Requirements	MIL-L-5057

MIL-L-5057F
AMENDMENT 2

TABLE I. Required documents and corresponding applicability data (continued).

DOCUMENT NUMBER:	DOCUMENT TITLE:	APPLICABILITY:	REFERENCED BY:
<u>Second Tier</u>			
MIL-C-25050	Colors, Aeronautical Lights and Lighting Equipment	Red Light Requirements	MS25237
MIL-L-6363	Lamp, Incandescent, Aviation Service, General Requirement for	Procurement	MS25237
	The remaining second tier references, tiered to MS25237, are for guidance and information.		
	<u>Third through Fifth Tiers</u>		
	All third through fifth tier references, tiered to MS25237, are for guidance and information.		
	<u>First tier (6 of 11 documents)</u>		
MS33545	Case, Instrument, 5x5-1/4, Standard Dimension for	Instrument Case Dimension	MIL-L-5057
	<u>Second Through Fifth Tiers</u>		
	All second through fifth tier references, tiered to MS33545, are for guidance and information.		
	<u>First Tier (7 of 11 documents)</u>		
MS33549(AS)	Case, Instrument, 2-3/4 Dial, with Sump, Standard Dimension for	Uniformity of Case Dimensions	MIL-L-5057
	<u>Second Tier</u>		
STANAG 3319	Dimensions for cases of Control Boxes, Instruments and Panel Mounted Equipment	Entire Document	MS33549(AS)

MIL-L-5057F
AMENDMENT 2

TABLE I. Required documents and corresponding applicability data (continued).

DOCUMENT NUMBER:	DOCUMENT TITLE:	APPLICABILITY:	REFERENCED BY:
	The remaining second tier references, tiered to MS33549(AS), are for guidance and information.		
	<u>Third through Fifth Tiers</u>		
	All third through fifth tier references, tiered to MS33549(AS), are for guidance and information.		
	<u>First Tier (8 of 11 documents)</u>		
MS33556	Housing, Indicator	Design Standard	MIL-L-5057
	<u>Second Tier</u>		
AIR-STD-10/7H	Dimensions for Instrument Cases	Entire Document	MS33556
STANAG 3319	Dimensions for Cases of Control Boxes, Instruments and Panel Mounted Equipment	Entire Document	MS33556
	The remaining second tier references, tiered to MS33556, are for guidance and information.		
	<u>Third through Fifth Tiers</u>		
	All third through fifth tier references, tiered to MS33556, are for guidance and information.		
	<u>First Tier (9 of 11 documents)</u>		
MS33638	Dimensions for Instrument Cases	Case Size Requirement 1-1/2", 2" or 3"	MIL-L-5057
	<u>Second Tier</u>		
AIR-STD-10/7H	Dimension for Instrument Cases	Entire Document	MS33638

MIL-L-5057F
AMENDMENT 2TABLE I. Required documents and corresponding applicability data (continued).

DOCUMENT NUMBER:	DOCUMENT TITLE:	APPLICABILITY:	REFERENCED BY:
STANAG 3319	Dimensions for Cases of Control Boxes, Instrument and Panel Mounted Equipment	Entire Document	MS33638
	The remaining second tier references, tiered to MS33638, are for guidance and information.		
	<u>Third through Fifth Tiers</u>		
	All third through fifth tier references, tiered to MS33638, are for guidance and information.		
	<u>First Tier (10 of 11 documents)</u>		
MS33639	Cases, Instruments, Clamp Mounted, Aircraft	Case Size Requirements 1", 1-1/2", 2" or 3"	MIL-L-5057
	<u>Second Tier</u>		
AIR-STD-10/7H	Dimension for Instrument Cases	Entire Document	MS33639
	The remaining second tier references, tiered to MS33639, are for guidance and information.		
	<u>Third through Fifth Tier</u>		
	All third through fifth tier references, tiered to MS33639, are for guidance and information.		
	<u>First Tier (11 of 11 documents)</u>		
FED-STD-595	Colors	Lusterless Color Numbers 37038, 36231, 37875	MIL-L-5057
	<u>Second through Fifth Tiers</u>		
	All second through fifth tier references, tiered to FED-STD-595, are for guidance and information.		

MIL-L-5057F
AMENDMENT 2

Custodians:
Army - AV
Navy - AS
Air Force - 11

Preparing Activity:
Navy - AS
(Project No. 6220-1034)