

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES  
SAFETY EVALUATION OF A SEALED SOURCE  
(AMENDED IN ITS ENTIRETY)

No.: NR-0155-S-114-S

DATE: March 7, 2006

PAGE 1 OF 2

SOURCE TYPE: Radioluminous Lamp

MODEL: 11739179-1 or 11739179-2

MANUFACTURER/DISTRIBUTOR: Department of the Army  
U.S. Army TACOM Life Cycle  
Management Command  
AMSTA-CS-CZR  
(Previously U.S. Army Tank-  
Automotive & Armaments Command)  
Rock Island, IL 61299-7630

ISOTOPE:

MAXIMUM ACTIVITY:

Hydrogen-3

5.0 Curies (185 GBq) for 11739179-1

9.0 Curies (333 GBq) for 11739179-2

LEAK TEST FREQUENCY:

As specified in the user's materials  
license

PRINCIPAL USE:

(R) Gas Sources for use in the following  
device model numbers:

M58 (Green lamp-Model #11739179-1)

M59 (Orange lamp-Model #11739179-2) aiming post lights

CUSTOM SOURCE:  YES  NO

CUSTOM USER: U.S. Department of Defense

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DIAGRAM:

See Attachments 1 & 2.

REFERENCES:

The following supporting documents for the Model 11739179-1 and 11739179-2 radioluminous lamp are hereby incorporated by reference and are made a part of this registry document.

- Department of the Army letter dated March 20, 1995, requesting changes to specific certificates, and letters dated January 22, 2001, May 23, 2001, and March 24, 2004, with enclosures thereto.
- Department of the Army email received September 23, 2005, with enclosures thereto.
- Department of the Army facsimile dated December 12, 2005, with enclosures thereto.
- U.S. Department of the Army License No. 12-00722-06.

ISSUING AGENCY:

US Nuclear Regulatory Commission

Date: March 7, 2006

Reviewer: Tomas Herrera  
Tomas Herrera

Date: March 7, 2006

Concurrence: John P. Jankovich  
John P. Jankovich

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ATTACHMENT 1 OF 2

21. PERFORM IN ACCORDANCE WITH MIL-STD-188.

**REQUIREMENTS:**

- A. DESIGN, LABELING AND SHIPPING OF PACKAGES AND CONTAINERS SHALL BE IN ACCORDANCE WITH MIL-STD-188 "RADIOACTIVE REQUIREMENTS IN THE SEALED SOURCE SYSTEM."
- B. THERE SHALL BE NO EVIDENCE OF PHYSICAL FAILURE SUCH AS FRACTURE OR LEAKAGE AFTER EXPOSURE TO LIGHT SOURCE TO -50°F AND +100°F FOR A PERIOD OF SEVEN HOURS AT EACH TEMPERATURE.
- C. INSTRUMENT TO MEASURE THE LIGHT SOURCE TO ENTER FOR FOUR HOURS AT EACH TEMPERATURE. RADIOACTIVE CONTENT OF THE BATTER SHALL NOT EXCEED 100 MICROCURIES.
- D. TUBE TO BE FILLED IN PRODUCTION ORDER WITHIN 30 MINUTES OF FILL, LESS THAN 10 MINUTES FROM THE END OF CONTAINER TO BE INDICALLY MARKED. 2.5 GAGE MEASUREMENT FOR SOURCE LAMP, 2.5 GAGE MEASUREMENT FOR SOURCE LAMP.
- E. TUBE INTERNAL CL. CLASS, TYPE I, CLASS A, SPEC 20-4-447.
- F. APPROXIMATE INTERNAL PRESSURE OF 70-75 SHOULD NOT EXCEED 1.0 ATM.
- G. THE COLOR OF PHOSPHOR AND BRIGHTNESS CHARACTERISTICS ON ENLIGHTENED GEL INDICATORS.
- H. PRIOR TO SOURCE ENLIGHTENMENT OPERATIONS, LAMP SHALL BE ALLOWED TO STABILIZE FOR A PERIOD OF 20 DAYS FROM MANUFACTURE.
- I. FOLLOWING THE STABILIZATION PERIOD AND UP TO ONE HOUR FROM THE DATE OF MANUFACTURE-OPERATIONS OPERATIONS SHALL NOT EXCEED A VALUE OF 0.5% OVER THE STABILIZED VALUE. SUBSEQUENT TO ONE HOUR FROM THE DATE OF MANUFACTURE-OPERATIONS OPERATIONS SHALL NOT EXCEED AN ACCEPTABLE BRIGHTNESS LEVEL SHOWN IN TABLE.

**3- MAP-SPORTS APPLIES.**

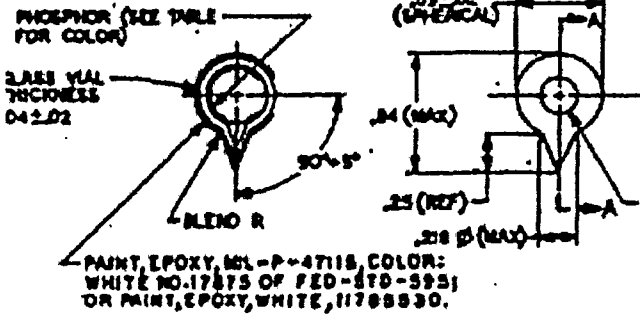
4. IDENTIFICATION OF THE "SUSPECTED SOURCE" OF SUPPLY WHICH IS NOT TO BE CONTINUED AS A SOURCE OF FAILURE TO BE CONTINUED AVAILABILITY AS A SOURCE OF SUPPLY FOR THE [PARTS].

**5- SUSPECTED SOURCE OF SUPPLY:**

NAME	YOUR PART NO.
SELF-POWERED LIGHTING LTD 2 WEST CHESTER PLACE CLAREMONT, NY 10917	NOT AVAILABLE
GEORGETOWN DR. LTD. P.O. BOX 10 1400 EVIDENCE SARASOTA, FLORIDA 34135-0010	NOT AVAILABLE
DIAMOND-ONE DEVELOPMENT LTD. 2115 NORTH ROAD NEVER SHILDECH TOWN G87 9B	NOT AVAILABLE
WEST & SOUTHERN NUCLEAR, INC. P.O. BOX 1000 201-8175-1000 BRITAIN	NOT AVAILABLE

6- PREPARE SURFACE OF GLASS AND WELLS, APPLY AND CURE EPOXY PAINT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

REPLACES KEYD 18-0000	DO-000
NOR FB2008 20/01/00	20-000
NOR FB2008 20/01/00	20-000



PART NUMBER	PHOSPHOR COLOR	SPECTRAL PEAK	1/2 PEAK WIDTH	MINIMUM ACCEPTABLE BRIGHTNESS
M58	GREEN	5250Å ± 20Å	700Å ± 20Å	2500cd/l
M59	ORANGE	6350Å ± 20Å	700Å ± 20Å	2000cd/l

**SPECIFICATION CONTROL DRAWING  
PART NO. SEE TABLE**

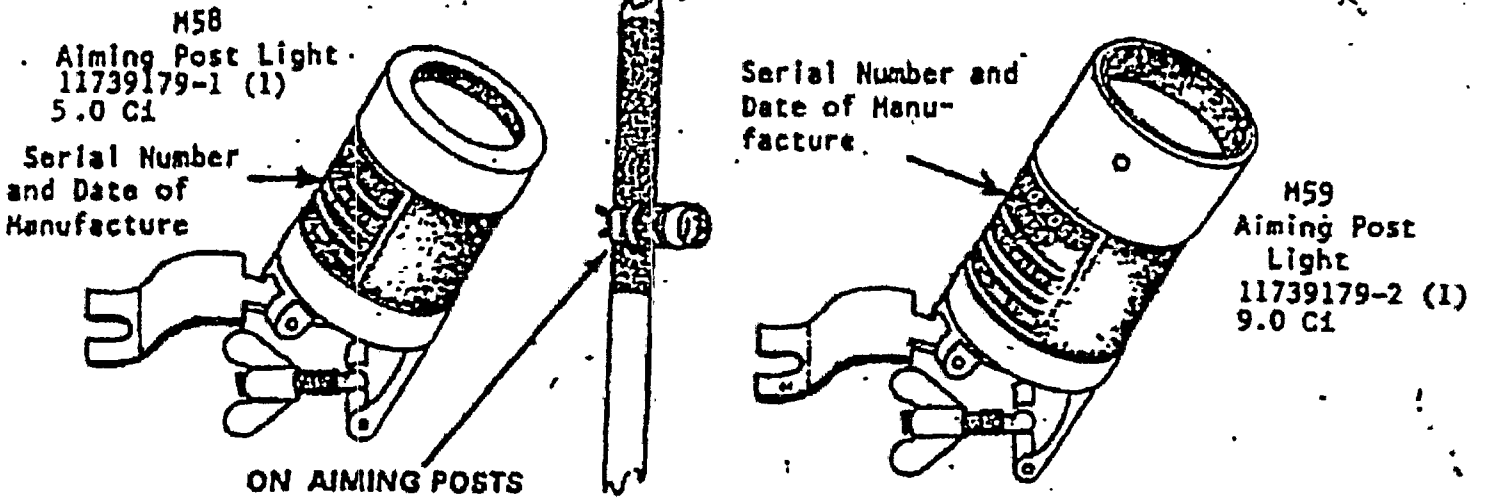
SOURCE USED ON: M58 LIGHT, AIMING POST M59 LIGHT, AIMING POST	<table border="1"> <tr> <th>REVISION</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REVISION	DATE	BY	CHKD					<table border="1"> <tr> <th>TO WHOM ISSUED</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>	TO WHOM ISSUED	DATE			<table border="1"> <tr> <th>DATE OF ISSUE</th> <th>ISSUE NO.</th> </tr> <tr> <td>75-02-03</td> <td> </td> </tr> </table>	DATE OF ISSUE	ISSUE NO.	75-02-03		<table border="1"> <tr> <th>DESCRIPTION</th> </tr> <tr> <td>LAMP, RADIOLUMINOUS</td> </tr> </table>	DESCRIPTION	LAMP, RADIOLUMINOUS		
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ATTACHMENT 2 OF 2



M58 and M59 Aiming Post Lights

Total Activity	M58	5.0 Ci
	M59	9.0 Ci