Group A FOIA/PA NO: 2014-0175

RECORDS BEING RELEASED IN THEIR ENTIRETY

<u>NO.</u> : NR-1119-D-101-	E <u>DATE</u> : M	arch 11, 2014	PAGE 1 OF 6
DEVICE TYPE: Gun an	d Archery Sig	hts	
MODEL SERIES:		-200A ML-300A -260 ML-300N	
DISTRIBUTOR:	MEPROLIGHT, C/O Klein & 521 Fifth Av New York, NY	enue)ffice)
	170-20 Centr	Inc. MEPROLI al Ave. 125 Gal NY 11735 Teaneck	way Place, Unit B
MANUFACTURER:	MEPROLIGHT, (formerly Sc Kibbutz Maay Hof HaCarmel Israel	opus Light (1990) an Zvi	Ltd)
SEALED SOURCE MODEL	DESIGNATION:	SRB Technologies Mb-Microtec Mode	
ISOTOPE:	MAXIMUM ACTI	VITY:	
Hydrogen-3	230 millicur	ies (8.51 GBq) pe ies (8.51 GBq) pe tion for maximum odel series)	er sight model
LEAK TEST FREQUENCY	: Not require	đ	

PRINCIPAL USE: (W) Self-Luminous Light Sources

CUSTOM DEVICE: YES X NO

NO.: NR-1119-D-101-E DATE: March 11, 2014

PAGE 2 OF 6

<u>DEVICE TYPE</u>: Gun and Archery Sights DESCRIPTION:

The sights are primarily used by military, law enforcement personnel and sportsmen to improve low-light shooting capability. Since the sights are attached to the weapons, therefore are normally found in close proximity to the shooter on a limited basis (with exception of law enforcement personnel who may carry them for prolonged periods).

All by-product material used is tritium (H-3) in gaseous form, sealed into borosilicate glass tubes. The sources used are Mb-Microtec Model 400/1 or 400/3, or SRB Technology, Inc. Model MH. Sight sets, identified by model numbers, consist of one or two sights per gun and one to three sights per bow. The maximum number of sources per sight set is 8 with total activity not exceeding 230 mCi (8.51 GBq)(H-3 gas) per sight set with no source being more than 230 mCi (8.51 GBq).

MODEL SERIES	TYPE	MAXIMUM ACTIVITY
		· · · · · · · · · · · · · · · · · · ·
ML-100	front or archery	20 millicuries (740 MBq)
ML-1150	front	20 millicuries (740 MBq)
	rear	24 millicuries (888 MBq)
	total	44 millicuries (1.63 GBq)
ML-115P	front	20 millicuries (740 MBq)
ML-200A	front	6 millicuries (222 MBq)
·	rear	24 millicuries (888 MBq)
	total	30 millicuries (1.11 GBq)
ML-260	front	12 millicuries (444 MBq)
	rear	12 millicuries (444 MBq)
	total	24 millicuries (888 MBq)
ML-300A	front	12 millicuries (444 MBq)
	rear	16 millicuries (592 MBq)
	total	28 millicuries (1.04 GBq)
ML-300N	front	12 millicuries (444 MBq)
· .	rear	16 millicuries (592 MBq)
	total	28 millicuries (1.04 GBq)
ML-400	front	18 millicuries (666 MBq)
ML-750	front	230 millicuries (8.51 GBq)
	rear or archery	230 millicuries (8.51 GBq)
	total	230 millicuries (8.51 GBq)
· · ·		

NO.: NR-1119-D-101-E DATE: March 11, 2014 PAGE 3 OF 6

DEVICE TYPE: Gun and Archery Sights

DESCRIPTION (Cont.):

For each gun or archery sight set (referred to as a model from hereon) covered by this certificate, MEPROLIGHT, Inc. has submitted a cross-reference list relating each model number under which the sight set will be distributed to the NRC registration model series number. In addition, for each model currently being distributed, MEPROLIGHT submitted a description of the model including the weapon for which the model is designed, the mounting configuration (i.e., mounting to weapon by dovetail, a screw, a pin, or by swaging), the light source's mounting configuration (i.e., source is mounted so that the end or side of the sight is viewed through the sight), the maximum allowable activity of tritium, and the applicable drawing(s).

MEPROLIGHT may distribute additional sight models provided the model meets the design specifications approved by NRC for the registered model series and is consistent with the drawings attached to this certificate.

Each cross reference model has a minimum wall thickness around the light source of 0.012" (0.3 mm). Most are designed with a minimum wall thickness of 0.020" (0.5 mm). The basic material for all sights is metal. Most tritium sources are held in using the "MV gluing/sealing system" as described in the application.

The expected useful life of the sights is 6 years. This is the length of time which the brightness decreases to one-half of its initial value (Reference: British Defense Standard 62-4 Issue 3). Some model sights may be usable for 12 years as specified in the user manual.

NO.: NR-1119-D-101-E DATE: March 11, 2014 PAGE 4 OF 6

DEVICE TYPE: Gun and Archery Sights

LABELING:

Each sight is permanently marked, by stamping or with epoxy paint, with the MEPROLIGHT logo (\checkmark) or an AM@ and the symbol for tritium (H3). Stamping is the common method for most sights. The epoxy paint will only be used on those sights where stamping is not possible due to the metal hardness or the likelihood of damaging the sight by stamping. Some archery flag models are cast with the AM@ and H3 as an integral part of the mold.

DIAGRAMS:

See Attachments 1 through 24. The drawings are mostly identified by an alpha-numeric code with the alpha prefix indicating the sight type and how the tritium light source is installed, and the numerical suffix indicating how the sight mounts to the weapon.

"FS" represents a front sight, typically one light source. "RS" represents a rear sight, typically two lights sources. "FRS" represents a front rifle sight. "FA" represents a front archery pin sight. "FF" represents a fiber flag archery sight.

"A" represents light sources which are installed such that the end of the light source is seen through the sight "window" when aiming the sight. In fiber optic sights, a virtual image is seen since the light is not visible and the fiber transfers the light to the plane of vision.

"B" represents light sources which are installed such that the side of the light source is seen through the sight "window" when aiming the sight.

"1", "2", "3", and "4" represent sights which mount to the weapon via a dovetail, a screw, a pin, or the swaging of a tenon respectively.

NO.: NR-1119-D-101-E DATE: March 11, 2014

PAGE 5 OF 6

DEVICE TYPE: Gun and Archery Sights

DIAGRAMS (Cont.):

As an example of the code, "FSA1" indicates a front sight whose light source is installed so that its end is viewed through the sight "window" when the weapon is being aimed, and which mounts by means of a dovetail.

REFERENCES:

The following supporting documents for MEPROLIGHT's gun and bow sights are hereby incorporated by reference and are made a part of this registry document.

- MEPROLIGHT, Inc.'s (as Scopus Light USA, Inc.) device registration and exempt materials license applications dated June 27, 2000, with enclosures thereto.
- MEPROLIGHT, Inc.'s letter dated December 4, 2000, April 10, 2001, March 10, 2003, and June 24, 2004, with enclosures thereto.
- MEPROLIGHT, Inc.'s facsimiles dated December 5, 2000, December 27, 2000, August 20, 2001, December 30, 2001, February 21, 2002 (2 documents), August 16, 2002, August 18,2005, and August 31, 2005, with enclosures thereto.
- MEPROLIGHT, Inc.'s letters dated November 13, 2006, June 21, 2007, September 21, 2007, and e-mails dated November 07, 2007 and November 13, 2007 with enclosures thereto.
- MEPROLIGHT, Inc.'s email dated December 07, 2007 with enclosures thereto.
- MEPROLIGHT, Inc.'s letter dated March 24, 2009 with enclosures thereto.

NO.: NR-1119-D-101-E DATE: March 11, 2014 PAGE 6 OF 6

DEVICE TYPE: Gun and Archery Sights

REFERENCES (Cont.):

- MEPROLIGHT, Inc.'s letter dated October 6, 2009 with enclosures thereto.
- MEPROLIGHT, Inc.'s electronic emails dated February 26, 2010 and March 11, 2010 with enclosures thereto.
- MEPROLIGHT, Inc.'s letter and emails dated March 11, 2010, March 29, 2010, April 6, 2010, and April 12, 2010 with enclosures thereto.
- MEPROLIGHT, Inc.'s electronic email dated May 6, 2010, with enclosures thereto.
- MEPROLIGHT, Inc.'s letter dated January 7, 2014, with enclosures thereto.

Reviewer:

ISSUING AGENCY:

U.S. Nuclear Regulatory Commission

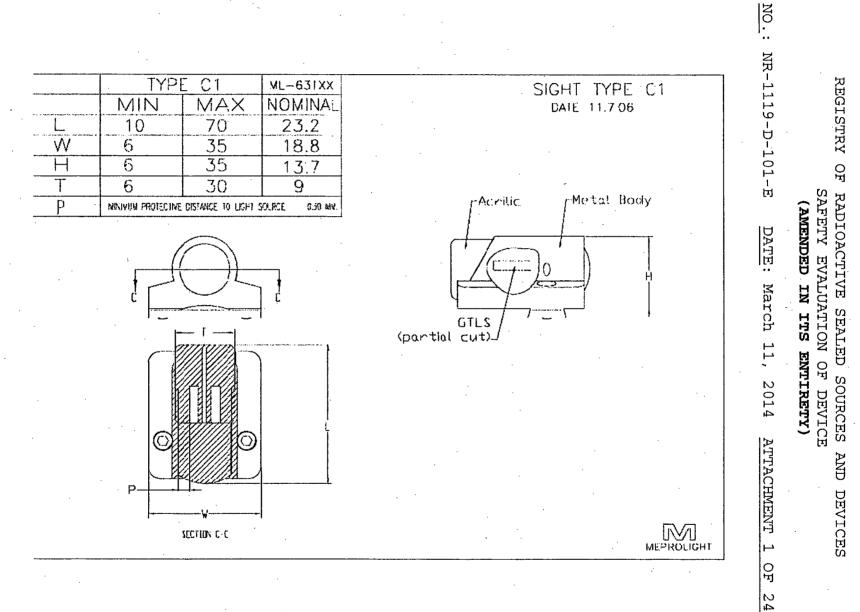
Date: March 11, 2014

plun Ppurou's

Date: March 11, 2014

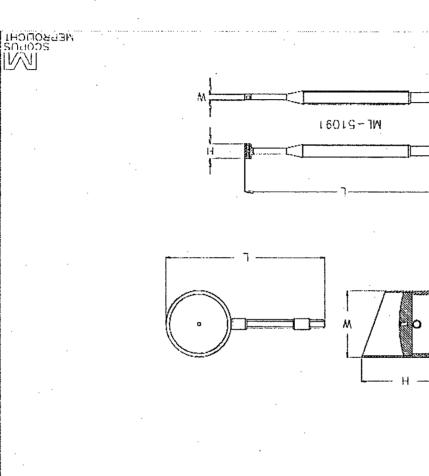
Reviewer:

romas Herrera



AND DEVICES RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) ОF REGISTRY

24 ОF 2 ATTACHMENT 2014 11, March DATE: <u>NO.</u>: NR-1119-D-101-E

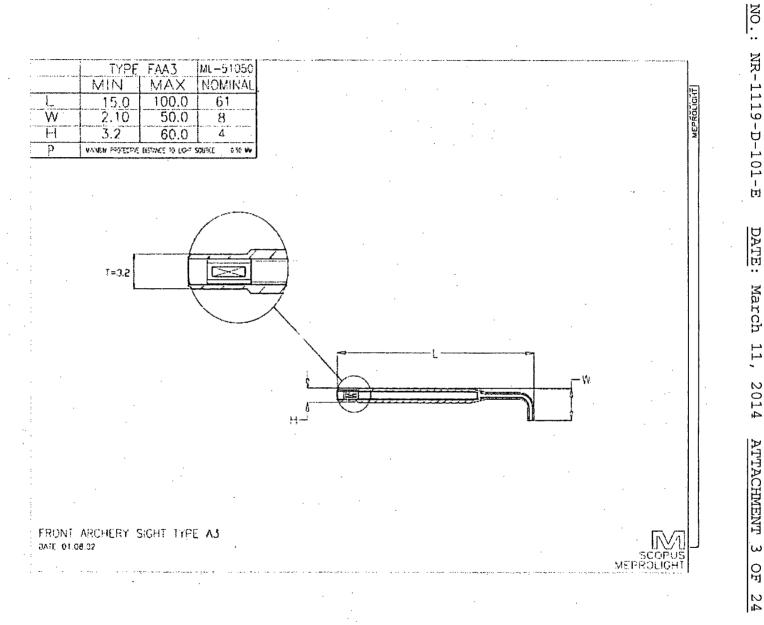


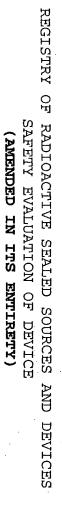
NEA 41 201210. PATE DRIVIDERY SIGHT TYPE A2

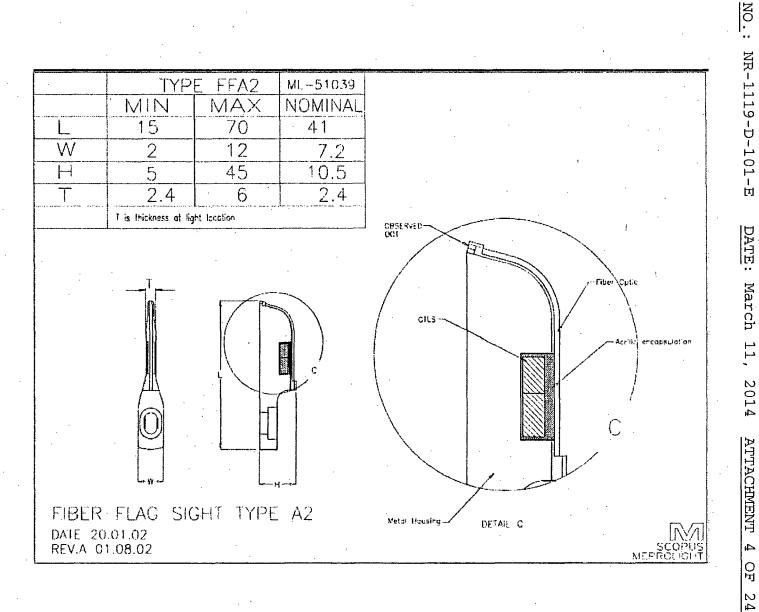
4A 650 SUPPOS LICH OF BONVISO BALDBERG REVIEW d 12 5'↓ 5'10 12'0 WIN 0.42 0.01 0.96 0.03 50.0 100.0 H M IVNIMON DZJIS-JM MAX YAN JAL

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

NR-1119-D-101-E DATE: March 11, 2014 ATTACHMENT ĺω С_Я



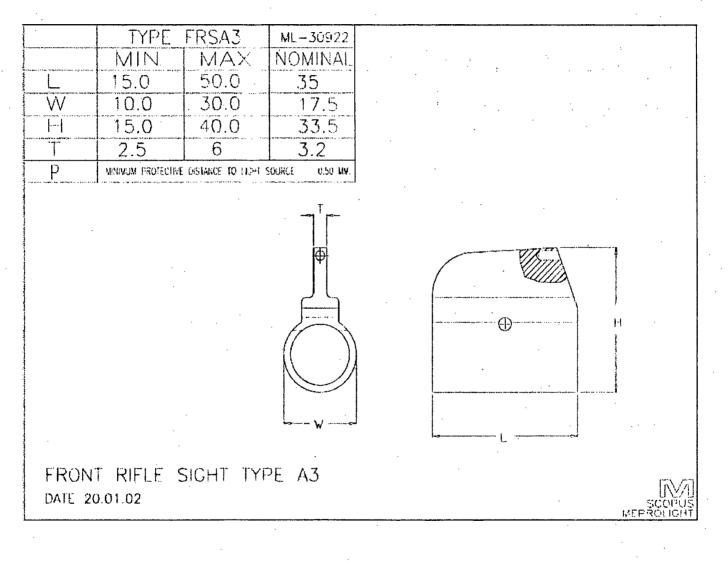




REGISTRY OF RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) AND DEVICES

NO. NR-1119-D-101-E DATE: March 1 1-1-1-2014 ATTACHMENT ហ OF

24

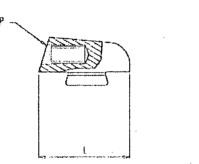


NO.: NR-1119-D-101-E DATE: March 11,

2014 ATTACHMENT 6 о Ч 24

SCOPUS MEPROLIGHT

	TYP	TYPE FSA1	
	MIN	MAX	NOMINAL
	6.5	20.0	10.9
V	3.0	20.0	12.0
-	4.2	13.0	5.6
•	2.8	4.5	3.6
)	MRIMUM PROTECTIV	e distance to light	SOURCE 0.50 MM.



л:

FRONT SIGHT TYPE A1 DATE 13.09.92 Rev A: 20.01.02

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

NO. NR-1119-D-101-E DATE: March 11, 2014

ATTACHMENT 7 OF 24

SCOPUS MEPROLIGHT

		1
		- 1
		1
		1
		1
		1
		· 1
		-
		-
		1
		ł
		1
		1
		1
		- 1
		1
		•
-		
· · · ·		1
		1
/		1
/		1
•		
•		
		1
		1
		1
		1
		1
		1
		1
		1
		1
		1
		1
		1
		1
		1

	TYF	TYPE FSAL	
	MIN	MAX	NOMINAL
L	5.0	17.0	5.5
W	2.5	7.7	3.4
Н	5.0	25	5.8
T	3.0	4.5	4.0
P	MINIMUM FROTECTIM	L DISTANCE TO LIGHT	SOURCE 0.50 VM.

w

FRONT SIGHT TYPE A2 DATE 13.09.92 Rev B: 14.06.06

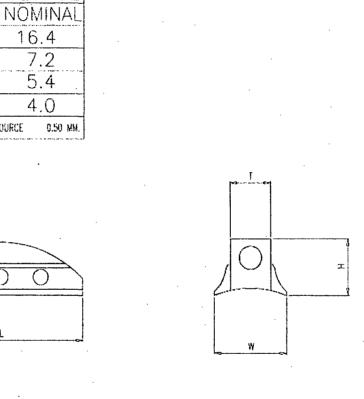
REGISTRY OF RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) AND DEVICES

NR-1119-D-101-E DATE: March 11,

NO.:

2014ATTACHMENT ∞ 0 F 24

SCOPUS MEPROLIGHT



20.0 16.4 10.0 3.0 12.0 7.2 W 5.4 5.0 16.2 ---4.5 2.8 4.0 р MINIMUM PROTECTIVE DISTANCE TO LIGHT SOURCE

FSA3

MAX

ML-762

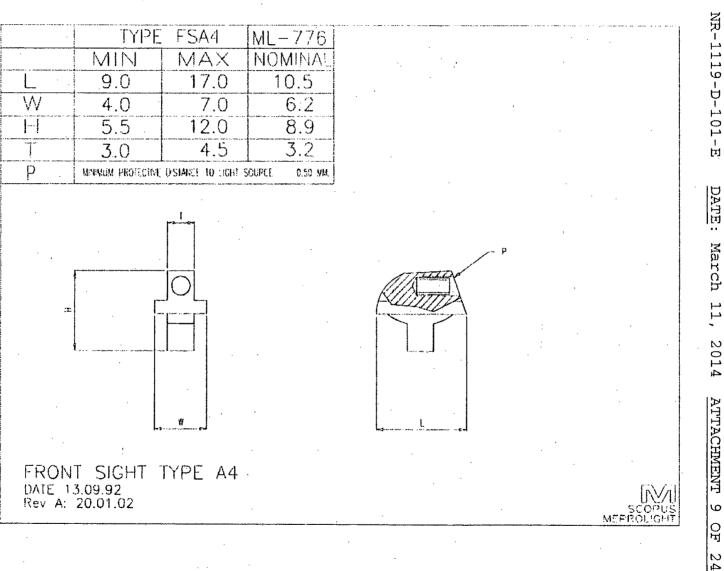
TYPE

MIN

SIGHT TYPE -A3 FRONT DATE 13.09.92 Rev A: 20.01.02

REGISTRY OH RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) AND DEVICES

NO. NR-1119-D-101-E DATE: March 11, 2014



REGISTRY 0F RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) AND DEVICES

NR-1119-D-101-E DATE: March 11 11 , 2014ATTACHMENT 10 0F 24

NO.:

ML-2004 TYPE FSB1 NOMINAI MIN MAX 6.6 3.2 .6.5 7.0 3.0 4.5 4.2 5.0 4.4 2.8 3.5 3.2 MINIMUM PROTECTIVE DISTANCE TO LIGHT SOURCE 0.50 MV 0 FRONT SIGHT TYPE B1 DATE 13.09.92 Rev A: 20.01.02

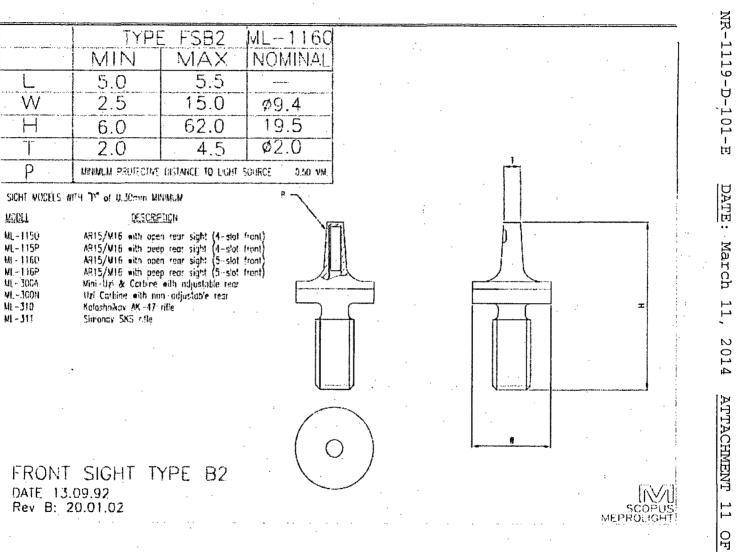
W

H

р

REGISTRY 1119-D-101-E OF SAFETY EVALUATION OF (AMENDED IN ITS ENT) RADIOACTIVE DATE: March SEALED 11 11, ENTIRETY) SOURCES 2014 DEVICE ATTACHMENT AND DEVICES

24



NO.

NO.: NR-1119-D-101-E DATE: March 11,

2014ATTACHMENT 12 OF 24

	TYPE	FSB3	ML-260	
	MIN	MAX	NOMINAL.	
_	12.0	20.0	14.0	
V	5.0	7.0	6.0	
	5.0	7.0	5.6	
	3.0	3.5	3.2	
)	MENMUM PROTECTIVE	DISTANCE IN LIGHT	SOURCE 0.50 MV.	
	· P			· ·
		YTH-		r- (

自 0

1 A.

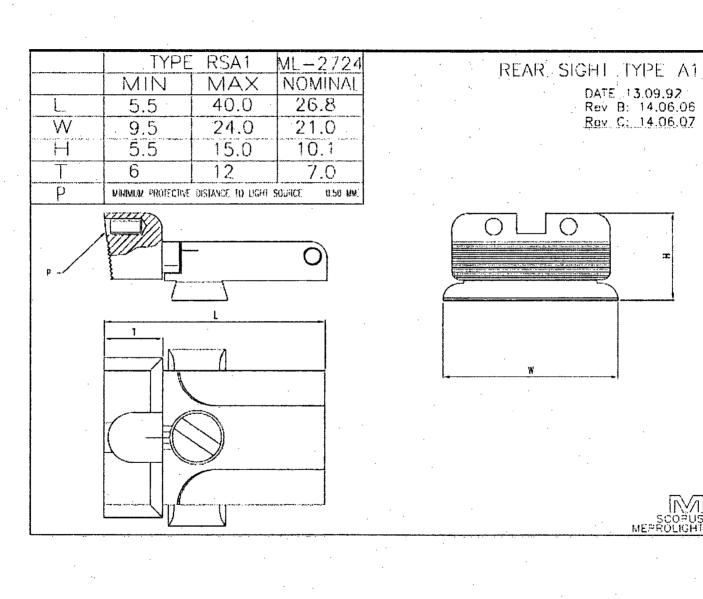
Β3 FRONT SIGHT TYPE DATE 13.09.92 Rev A: 20.01.02

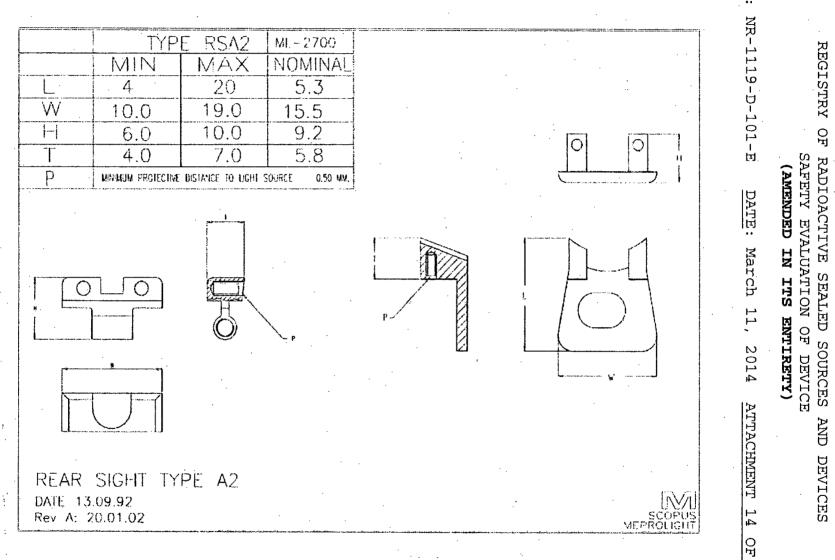
REGISTRY 0_F RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) AND DEVICES

.

NO.

NR-1119-D-101-E DATE: March 11, 2014 ATTACHMENT 13 O_开 24





NO:

REGISTRY

OF

AND

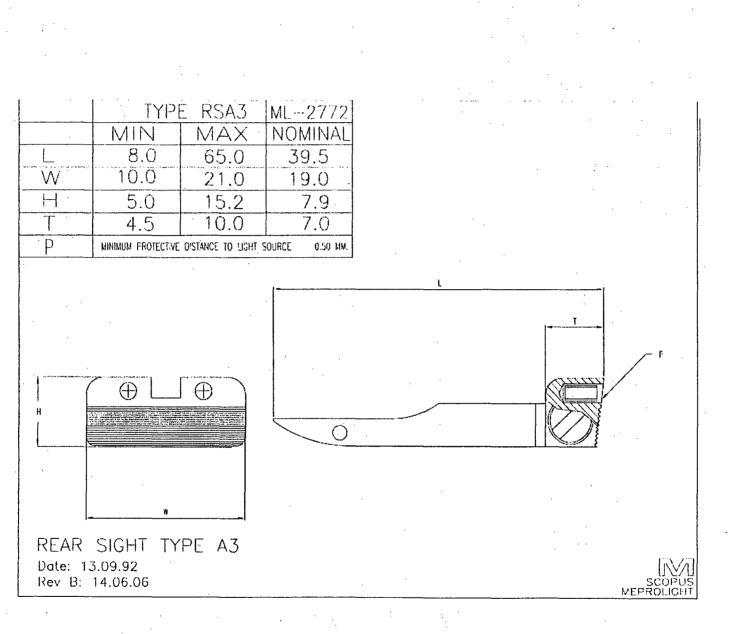
DEVICES

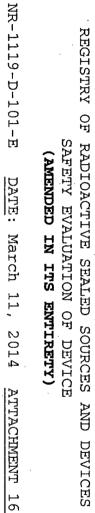
24

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

NO.: NR-1119-D-101-E DATE: March 11 11 , 2014

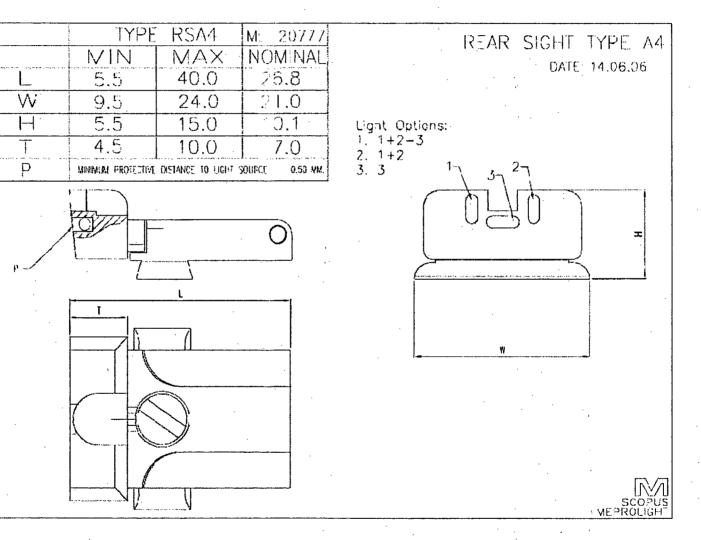
4 ATTACHMENT 15 OF 24



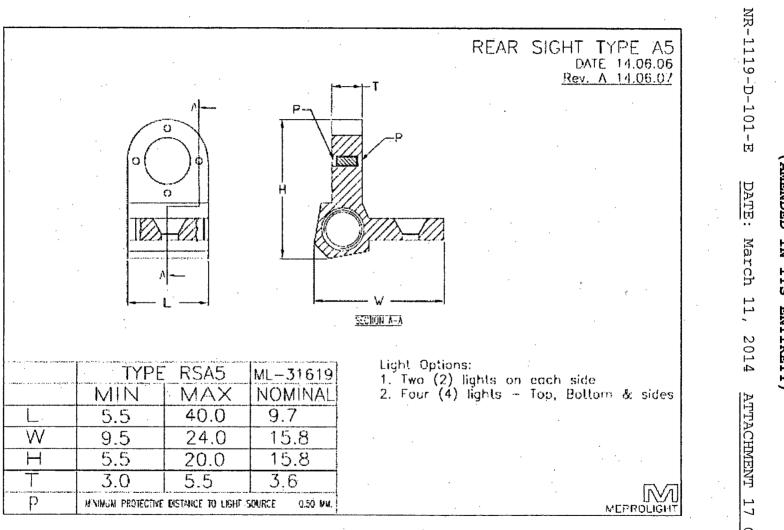


Q

24



NO.:

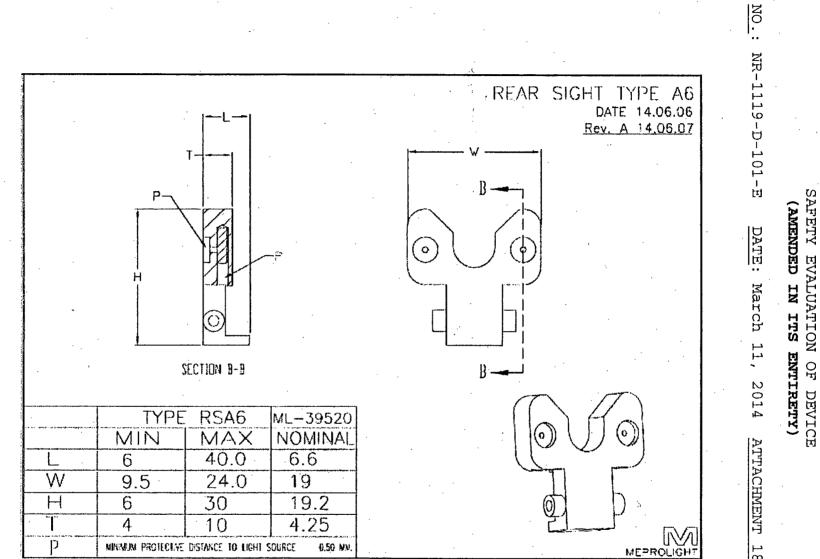


REGISTRY $O_{\mathbf{F}}$ RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED EVALUATION OF ENTIRETY) AND DEVICES

윾

24

NO



18 OF 24

AND DEVICES

REGISTRY

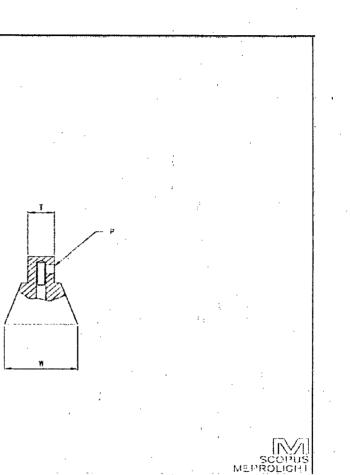
Оŗ

RADIOACTIVE SEALED SOURCES

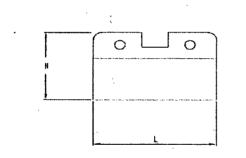
REGISTRY OF RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) AND DEVICES

NO.: NR-1119-D-101-E DATE: March 11, 2014ATTACHMENT 19 OF

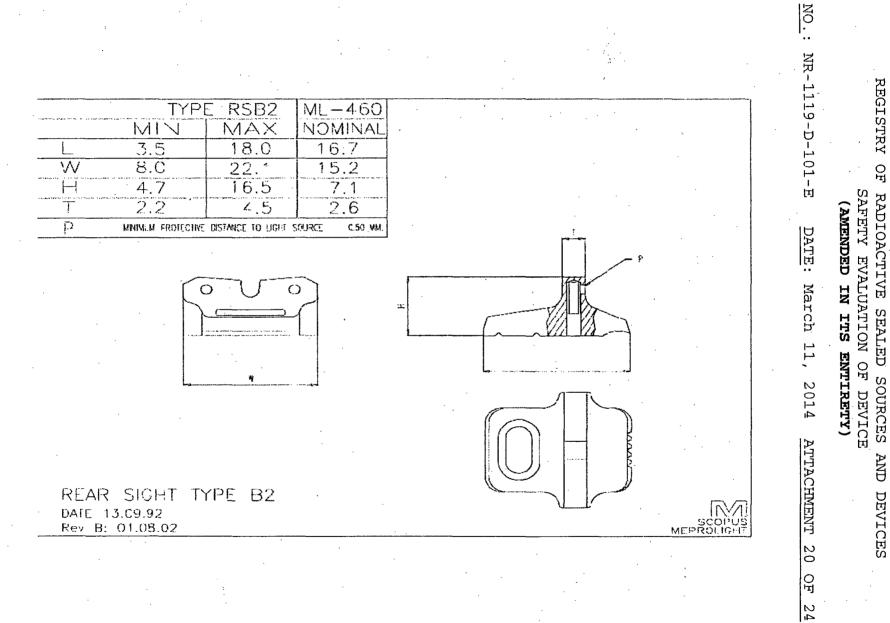
24



	TYF	TYPE RSB1		
	MIN	MAX	NOMINAL	
(12.0	20.0	14.0	
W	7.0	12.5	8.4	
H	8.0	13.0	9.0	
7	2.3	4.0	3.0	
P	MINIMUM PROTECTIN	AT DISTANCE TO LIGHT	SOURCE 0.50 MM	

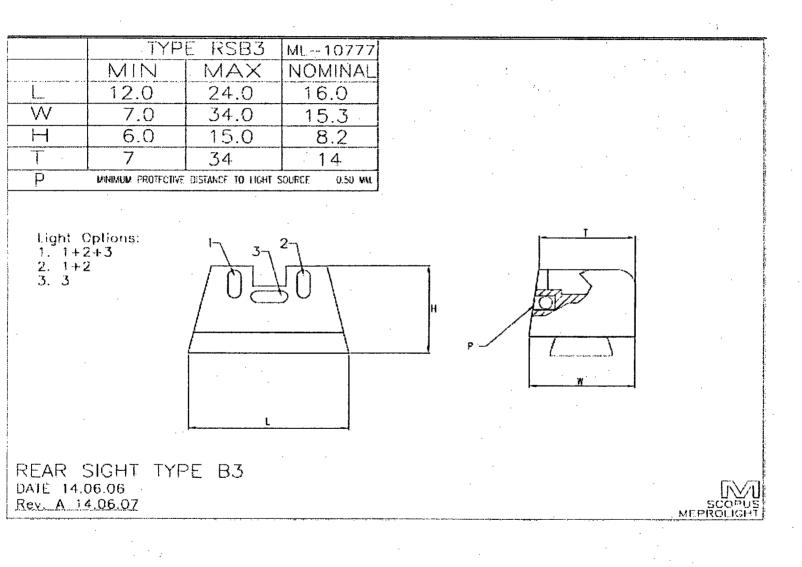


REAR SIGHT TYPE B1 DATE 13.09.92 Rev A: 20.01.02

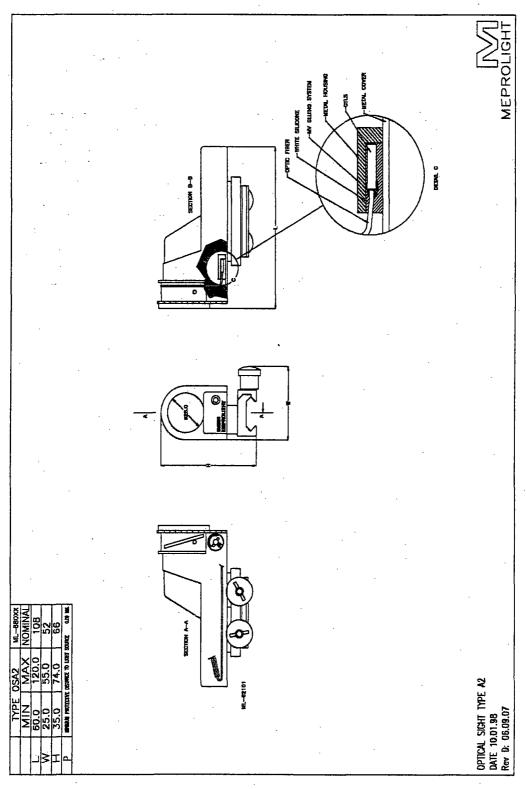


REGISTRY OF RADIOACTIVE SEALED SOURCES SAFETY EVALUATION OF DEVICE (AMENDED IN ITS ENTIRETY) AND DEVICES

NO. NR-1119-D-101-E DATE: March 11, 2014 ATTACHMENT 21 С_Н 24

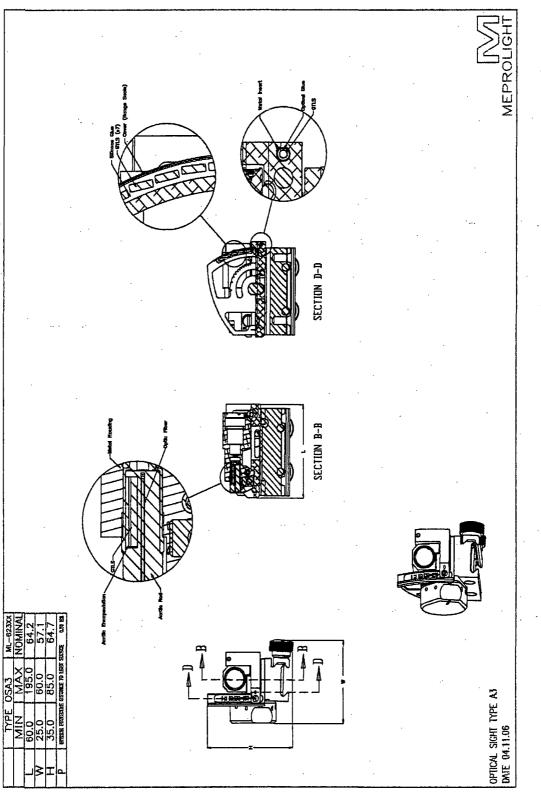


NO.: NR-1119-D-101-E DATE: March 11, 2014 ATTACHMENT 22 OF 24



.

NO.: NR-1119-D-101-E DATE: April 12, 2010 ATTACHMENT 23 OF 24



NO.: NR-1119-D-101-E DATE: April 12, 2010 ATTACHMENT 24 OF 24

