

INCH-POUND

A-A-55132  
December 10, 1992

COMMERCIAL ITEM DESCRIPTION

LIGHT, CHEMILUMINESCENT, 6-IN - 30 MIN E, F

The General Services Administration has authorized the use of this commercial item description.

Abstract.

This description covers 30 minute 6 inch chemiluminescent lights (commonly known as a light wand) used for a variety of lighting, marking, and identification purposes.

Salient characteristics.

1. Color. The colors of the chemiluminescent light described in this CID are yellow and red. The color wand required shall be identified in the Part Identification Number (PIN) paragraph of this CID.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be sent to: Commander, Space and Naval Warfare Command, ATTN: SPAWAR 003-114/031, Washington, DC 20363.

AMSC N/A

FSC 6260

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

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2. Design. The chemiluminescent light shall be elongated having an overall length of 6 inches plus 0.043 minus 0.375 inches. The mid point diameter shall be no less than .500 inches and the wand shall have a flat base on one end. The diameter of the flat end shall not exceed .750 inches. The end opposite the flat base shall have a hole .188 inches nominal. Lightsticks shall have a tapered shape and shall be compatible with the following accessory items; Lightstick Shield (NSN 6260-01-196-0637), Ground Stake (NSN 6260-01-230-8555), Flare, Surface Trip (NSN 6260-01-247-2937), Handle, six (6) inch (NSN 6260-01-255-3345), and Magnetic Base (NSN 6260-01-255-3346). Lightsticks shall be individually wrapped in an airtight foil wrapper.

3. Interior. The chemiluminescent lights specified in this Commercial Item Description shall produce a level of light intensity as specified in Table I for a specified length of time (30 minutes).

4. Material Safety Data Sheet. Manufacturer shall provide evidence in the form of a Material Safety Data Sheet (MSDS) (Fed-Std-313) that the components shall not be highly toxic, toxic, corrosive or irritant in terms of the definitions and tests in Code of Federal Regulations, Title 16, Part 1500 (Federal Hazardous Substances Act).

5. Test criteria. Illuminance must meet or exceed the data presented in Table I. The integrated luminance over 15 minutes starting 5 seconds after activation measured at 75 degrees F on lightsticks a minimum of 30 days after manufacture, but not more than 90 days, must meet or exceed:

Color E (red) 7.89 foot lambert-hours

Color F (yellow) 32.40 foot lambert-hours

After Ageing Test, illuminance must meet or exceed data in Table II. Activated by manually flexing the plastic tube, breaking the inner vial and shaking to combine components. Plastic tube shall not leak and vial will not break when subjected to an external pressure equivalent to 30,000 feet at 75 degrees F in a vacuum chamber. Must withstand, while in wrapper, a free fall from a height of 8.5 feet on a hard surface (concrete) without activating or leakage.

6. Test conditions.

a. Meter: Digital Photometer, TEKTRONIX, Model J16, Sensor Probe J6501. All meters traceable to NIST.

b. Wand to Meter Distance: 1.50 inches  $\pm$  0.02 inches.

c. Temperature stabilization: Wands while still in sealed foil wrappers, will be placed in a water bath at test temperature for a minimum of one (1) hour before activation for the 75 F test temperature and for a minimum of two (2) hours for the 32 F test temperature.

d. Remove wand from sealed foil wrapper immediately before activation. Light wand shall be handled by cap end during testing.

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- e. Activation method: Bend; agitate for ten (10) seconds.
- f. Wands shall be agitated for ten (10) seconds before each reading.
- g. Wands kept under cover or in darkness; may be exposed to light during movement to and from light meter.
- h. All meter readings made in darkness.
- i. Meter kept at 75 degrees F for all tests.
- j. Temperature tolerances: plus or minus 2 F.
- k. Holder, wand test fixture in accordance with DGSC drawing, DGSCV-91-03, Part Number 3. (Enclosure 1)
- l. Chemiluminescent lights shall be held in a vertical position with cap end down when light output measurement is made.
- m. Ageing Test - test conditions to be added at a future date.

Contractor certification. The contractor shall certify, and maintain objective quality evidence that the product offered to the Government meets the salient characteristics of this description and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices and is the same produced as the manufacturer's current product offered by the contractor in the commercial marketplace for at least one year preceding the solicitation. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of Federal Standard No. 376, and all other requirements of this Commercial Item Description are met.

If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch-pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

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TABLE I  
LIGHT INTENSITY VS TIME  
(MINIMUM REQUIREMENTS)

COLOR	5 MIN	10 MIN	15 MIN	20 MIN	25 MIN	30 MIN
Y	11.984	11.148	10.219	9.094	8.051	6.742
E	129.00	120.00	110.00	97.89	86.66	72.58
L	1.365	1.134	0.978	0.909	0.724	0.692
O	14.70	12.21	10.53	9.32	7.80	7.45
W	1.900	1.669	1.669	1.420	1.283	1.187
R	20.46	17.97	17.97	15.29	13.82	12.78
E	0.445	0.366	0.360	0.360	0.312	0.312
D	4.80	3.95	3.88	3.88	3.36	3.36

## NOTES:

- (a) UNIT OF MEASURE IS LUMENS PER SQUARE FOOT  
 (b) UNIT OF MEASURE IS LUMENS PER SQUARE METER  
 DUAL DIMENSIONS ARE CITED AS A CONVENIENCE TO MANUFACTURERS  
 USING METRIC CALIBRATED INSTRUMENTS.
- ALL TESTS TO BE CONDUCTED AT 75 DEGREES F  $\pm$  2 DEGREES F AND  
 32 DEGREES F  $\pm$  2 DEGREES F OR 24 DEGREES C  $\pm$  1 DEGREE C  
 AND 0 DEGREES C  $\pm$  1 DEGREE C

TABLE II  
LIGHT INTENSITY VS TIME  
(MINIMUM REQUIREMENTS)

Table Data to be Added . a Future Revision Date

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REVISIONS			
LTR	DESCRIPTION	DATE (CR-HR-DA)	APPROVED
A	CHG'D NOTE 1 PAINT SPEC FOR IR VAND WAS ECP-2000 BLACK NEXTEL (IR NON-REFLECTIVE)	91-02-05	G. REYNOLDS
B	DIMENSIONS CHANGED TO INCH-POUNDS	92-09-04	R. THOMAS

**NOTES:**

- FINISH - WHEN USED WITH VISIBLE LIGHT VAND - FLAT, NONREFLECTIVE BLACK. - WHEN USED WITH NON-VISIBLE IR VAND - PAINT WITH IIT RESEARCH INSTITUTE M4-2200 (IR NON-REFLECTIVE) PAINT (IIT RESEARCH INSTITUTE, 10 WEST 35TH STREET, CHICAGO, IL 60616, TELEPHONE 312 567-4432) OR WITH KYRYLON ULTRA FLAT (UF) BLACK \ 101J-2 PAINT.
- MATERIAL, UNSPECIFIED.
- ALL DIMENSIONS IN INCHES.
- DRAWING NOT TO SCALE.

NO.	A	B	C	D	E
1	2.156±.031	.516	.625 (Ref.)	.234±.031	4.000 (Ref.)
2	5.125±.031	.703±.062	.859 (Ref.)	6.297±.391	15.000 (Ref.)
3	3.938±.031	.625	.781 (Ref.)	.234±.031	6.000 (Ref.)

ID = B

OD = C

CUTOUT DEPTH = 1/2 OD

SCREWS (4) TO POSITION AND SECURE HOLDER ON HANDLE (Reference)

HANDLE SECURED TO TEST STAND (Reference)

DRAWN BY T. MOSS	91-04-18	DEFENSE LOGISTICS AGENCY DEFENCE GENERAL SUPPLY CENTER RICHMOND, VA 23097-5000	
CHECKED BY R. THOMAS	91-04-18	HOLDER, WAND TEST FIXTURE	
ENG. APPROVAL G. REYNOLDS	91-04-18	SIZE A	REV B
DGSC APPROVAL R. SCHAFFER	91-04-18	CAGE NO. A 13873	DWG. NO. DGSCV-91-03
MILACT. APPROVAL		SCALE: NONE	SHEET 1 OF 1

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Regulatory requirements. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

Quality assurance.

Foil leakage. Samples will be tested for foil leakage by application of 6 psi air pressure into the inside of the foil wrap while submerged under water. A steady stream of air bubbles coming from any portion of the foil, except where the foil has been penetrated by the air supply shall be classified as an airtight foil failure.

Shelf life. Each chemiluminescent light shall have a minimum of 46 months life remaining at the time of delivery to the Government and must have been manufactured within 6 months of the date of delivery to the Government.

Fluid Level. The vertical fluid level, when measured from the exterior of the flat base shall be no less than 3 1/4 inches.

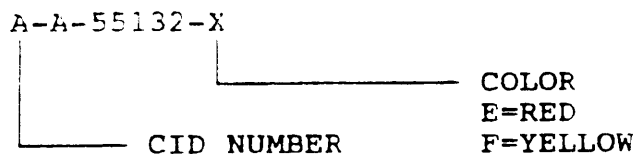
Preservation, packaging, packing, labeling, and marking.

The preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order.

Foil wrapping and all other packaging shall be marked with manufacturer's lot number and expiration date.

Foil wrapping shall be color coded and contain operating instructions.

CID based Part Identification Number. The following Part Identification Numbering procedure is for Government purposes and does not constitute a requirement for the contractor.



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Notes.

Ordering data. Acquisition documents must specify the following:

a. Title, number, part identification number with applicable color code letter, and date of this document.

b. Material Safety Data Sheet (MSDS) shall be provided to Contracting Officer prior to award (FAR 52.223-3 and MSDS Page 2).

c. Contracting Officer may request proof of certification of commercial item prior to first contract delivery (See Contractor Certification, Page 3).

MILITARY INTEREST: CIVIL AGENCY COORDINATING ACTIVITY:

MILITARY COORDINATING ACTIVITY:

Custodians  
Navy-EC  
Air Force-99

GSA-FSS  
PREPARING ACTIVITY:

Reviewing Activities  
DLA-GS

Navy-EC  
AGENT: DLA-GS

User Activities  
Navy-YD

PROJECT NO. 6260-1062

FSC 6260