

**11<sup>th</sup> CSPCWG-1<sup>st</sup> NCWG MEETING**  
**Rostock, Germany 27-30 April 2015**

**Paper for Consideration by NCWG**  
**Development of MLP 2000 Lite Pipe**

<b>Submitted by:</b>	UK
<b>Executive Summary:</b>	Information about MLP 2000 LED Lite Pipe – for information only
<b>Related Documents:</b>	S-4 B-478.4
<b>Related Projects:</b>	None

**Introduction / Background.**

The MLP 2000 LED Lite Pipe is a luminous system made up of high-intensity LED diodes, with linear array, very useful since it reinforces the conspicuity of an aids-to-navigation light (can be integrated in day marks).

This new light form may be used as a navigational light in its own right, or to enhance existing navigation lights to stand out from background light pollution (see B-478.4).

Submitted for information only.

**Action required of NCWG.**

The NCWG is invited to note the development of the MLP 2000 Lite pipe.



## MLP 2000 LED Lite Pipe

The MLP 2000 Led Lite Pipe is a luminous system made up of high-intensity LED diodes, with linear array, very useful since it reinforces the conspicuity of an aids-to-navigation light (can be integrated in day marks).

This system is conceived to enhance port entrance lights, in order to avoid that they are confused with other lights polluting the background. It can also be used as leading light in those places where two stations are needed, or as emergency light in lighthouses.

With only 30W power, it can be visible at a distance of 21.8 nautical miles, thus it may be installed in places where electrical mains supply is not available. The quality and resistance of the materials used in the manufacture allow for a long service life in severe marine environment.

Designed according to IALA Recommendations.

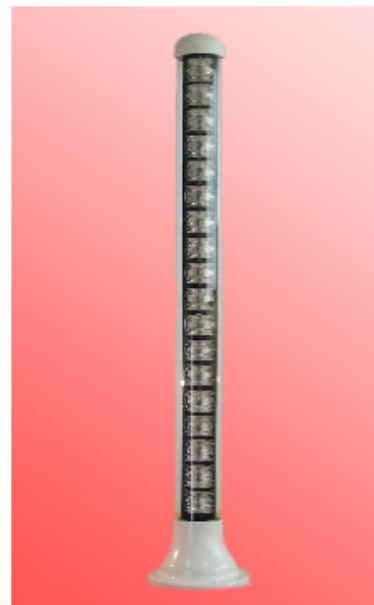
### Optical System

- Maximum luminous efficiency thanks to the high-precision lens, especially designed for LEDs.
- LED light source consisting of 18 nos. high-power Led diodes (2m height).
- UV stabilized, methacrylate lens cover of 80mm diameter.
- Luminous nominal range (2m height) up to 14.5 n.m. (T = 0.74). Range of 21.8 n.m. (T = 0.85)
- Vertical divergence (at 50% Io): 4° .
- Horizontal divergence (50% Io): 120°.
- Colour chromaticity according to IALA Recommendations.
- Clear, red, green or amber colours are available.
- Average life of LEDs: 100,000 hours.
- Adjustable power consumption.
- Modular manufacturing allowing heights of 2, 4 or 6 metres.
- Easily synchronizable with main beacon, if any.

F  
E  
A  
T  
U  
R  
E  
S

### Electronic Flasher MF 12

- Microprocessor based circuit.
- 256 flash characters, selectable by using minidips.
- Solar charge regulation up to 8A.
- Internal photocell.
- Lux-adjustable day/night threshold and hysteresis cycle.
- LED failure detection.
- LED intensity adjustment by PC.
- Individual LED current adjustment, lineal and high-precision.
- Integrated temperature sensor .
- Short-circuit protection.



### PATENTED OPTICAL SYSTEM

- Reverse-polarity and transient-overvoltage protections.
- Operation status and alarms ready for connection to a remote monitoring system.
- Double RS-232 serial port for settings adjustment by PC and remote monitoring system.



## MLP 2000 LED Lite Pipe

### Specifications (for 2m height)

- Nominal Range (T = 0.74) ..... up to 14.5 n.m.
- Vertical Divergence (50% Io).....4°.
- Horizontal Divergence (50% Io) ..... 120°.
- Height: ..... 2,300 mm.
- Led average life ..... 100,000 hours.
- Adjustable power consumption.

### Materials and Environment

- Housing made from stainless steel, covered by a Teflon coat, very resistant to marine atmosphere.
- UV stabilized methacrylate lens cover.
- Temperature range .....-30° to 70° C.
- Watertightness..... IP67.

### Packing data (for 2m height)

- Net weight: ..... 12 Kg.
- Gross weight: ..... 15 Kg.
- Cartoon box: .....30 x 30 x 250 cm.

### Others

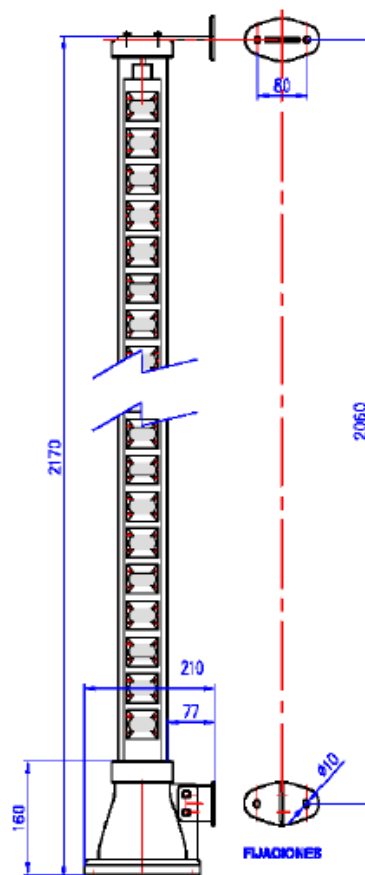
- Minimum maintenance
- Electromagnetic compatibility C E .

### Options

- Other heights available under request.
- GSM remote monitoring module.
- Synchronisation by GPS receiver.

### Fixings

- Fixing to a wall or pole by means of 4 nos. M10 bolts.



MLP		PEAK INTENSITIES (Cd)						
		Height	2 (m)		4 (m)		6 (m)	
		Power	18 (W)	36 (W)	36 (W)	96 (W)	54 (W)	144 (W)
COLOUR	WHITE	6,840	11,502	12,960	23,000	19,440	34,506	
	GREEN	4,550	7,900	9,100	15,800	13,650	23,700	
	RED	2,714	4,122	5,428	8,244	8,142	12,366	
	AMBER	2,050	3,100	4,100	6,200	6,150	9,300	



**MEDITERRANEO SEÑALES MARÍTIMAS, S.L.L.**  
 Polig. Ind. Mas de Tous, calle Belgrado, nave 6 • 46185 La Pobla de Vallbona (Valencia) SPAIN  
 Tel.: +34 96 276 10 22 • Fax: +34 96 276 15 98 • VAT No.: ESB-97686158  
[mesemar@mesemar.com](mailto:mesemar@mesemar.com) • [www.mesemar.com](http://www.mesemar.com)

