# ILLARD TOWERS LTD.

# **FRANGIBLE ALS MASTS - LIGHTBAR**

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Millard Towers Approach Lighting System (ALS) masts are used to rigidly support equipment, yet yield if accidentally impacted. Frangibility has been confirmed by third-party full-scale impact testing and FEA modelling. In fact, Millard masts are present in ICAO Doc 9157 as examples of proper frangible design and testing.

Serviceability features are simple and reliable. Tilt bases allow for installation without the use of a crane, while a center hinge provides a mechanical, safe, and easy alternative to climbing or using a service truck. Standard solutions are available up to 14m, with XTALL solutions available for heights above this.

Millard's Aluminum design is engineered for all climatic conditions and backed by a standard 10-year warranty. Millard's frangible designs have been installed at over 500 airports in over 65 countries.



## **DESIGN**

DESIGN	95	135	185
MAX LAMP HEIGHT	3.42m	6.39m	14.08m
LAMP MOUNT	60mm OD	60mm OD	60mm OD
MAX LIGHTBAR LENGTH	6.00m	6.00m	6.00m
SERVICING <sup>1</sup>	Tilt Base	Tilt Base	Center Hinge
QTY OF SECTIONS	1	2	4-8
FOOTPRINT	330mm Square	457mm Square	610mm Square

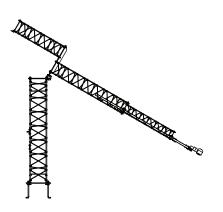
<sup>&</sup>lt;sup>1</sup> Standard offering shown. Other Servicing features available upon request.

## **SERVICING**

**TILT BASE** 



**CENTER HINGE** 



# **SPECIFICATIONS**

#### CONSTRUCTION.



SECTIONS, PLATES, ACCESSORIES (ASTM): 6061 Aluminum



HARDWARE (ASTM): ECO GUARD Grade 8 Steel



POWDER COATING (AAMA): Aviation Orange



RECYCLABLE (LEED): Made from 75% Recycled Aluminum



TYPICAL LIFESPAN: 25 Years

### PERFORMANCE.



OPERATIONAL: 120km/h Wind Gust SURVIVAL: 185km/h Wind Gust



MAX DEFLECTION (ICAO): 2° Vertical, 5° Horizontal



FRANGIBILITY (ICAO): 3rd Party Full-Scale Impact Tested



LAMP LOAD: Max. Surface Area 0.35m<sup>2</sup>, Weight 25kg



WARRANTY: 10 Years

## **FRANGIBILITY**

#### **ICAO DOC 9157, PART 6:**

- **1.3.2:** Elevated approach lights and their supporting structures should be frangible.
- 4.9.19: Any approach lighting structure required to be frangible should be designed to withstand the static and operational/survival wind loads with a suitable factor of safety but should break, distort or yield readily when subjected to the sudden collision forces of a 3,000kg aircraft air and travelling in any direction at 140km/h.
- 5.2.8: Navigational aids having an overall height over 1.20m should be verified for frangibility by dynamic testing. Tests should be conducted with a vehicle-driven impactor.
- **5.3.1:** Full-scale testing is complex and costly; however, it is the manufacturer's responsibility to carry out these tests.



