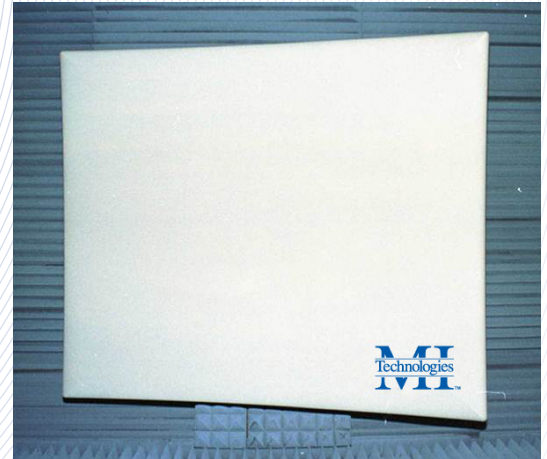


## MI-8472B Mini-Range Reflector



The MI-8472B Mini-Range Reflector applies the latest in manufacturing materials, metrology and modeling capabilities providing a side-fed compact range parabolic dish with a 7.5' focal length and an 18" rolled-edge termination. This reflector is one of MI's family of off-the-shelf, commercially available rolled-edge compact range reflectors.

- Optimized blended rolled-edge reflector termination resulting in minimal diffraction levels
- Single piece construction with a single precision tool
- Cost effective and affordable
- Extremely rigid and stable
- Side-fed to minimize distance between feed & RF equipment, improving overall sensitivity
- Exceptionally light weight at approximately 100 pounds
- Precision surface with  $\leq .002$  in RMS Deviation

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### Introduction

Compact Range equipment is designed for accurate, indoor antenna and radar cross section (RCS) measurements. A compact range allows plane wave illumination, normally achieved by use of a large distance between the microwave source and the antenna or target under test, to be realized in a small space.

### Description

The MI-8472B continues MI Technologies' heritage and leadership in the design, fabrication, integration and delivery of compact range test systems.

This particular reflector is a single piece all graphite-epoxy composite reflector measuring 7'x 6' and providing a 3'x4' potential quiet zone. Using a single precision tool and the latest in composite materials results in a strong, light weight, precision surface reflector with very low diffraction levels at frequencies above 2 GHz.

The result is an accurate rolled-edge reflector that may be easily mounted on the back wall, if desired, or via a single post support. Adjustment capability is provided using three adjuster rods to properly position it in the room. This system is very easily installed and configured into a chamber.

## Construction

MI Technologies uses a single precision tool to manufacture the lightest rolled-edge reflector on the market at 100 lbs. This single piece reflector is composed of graphite-epoxy-honeycomb to create a very rigid and stable reflector with an accurate surface without needing to be machined. The absence of machining also allows for a quick turnaround time from order to delivery.

## Affordability & Availability

Due to low production costs and materials the MI-8472B dismisses the perception that rolled edge reflectors are not an affordable option.

MI Technologies uses a single precision tool and a graphite-epoxy composite resulting in decreased turnaround time.

This reflector also operates in a small chamber decreasing customer space needs and cost

## Performance

At 7' x 6' this reflector can achieve extremely low diffraction levels at frequencies above 2 GHz in a 10' high chamber and is side-fed to minimize the distance between the feed and RF equipment, improving overall sensitivity.

## Specifications

Parameter	MI-8472B Mini-Range Reflector
Reflector Type	Side-Fed Single Piece Rolled-Edge Reflector
Reflector Aperture Dimensions	7' x 6'
Reflector Weight	~ 100 lbs.
Chamber Dimensions (min)	12' x 10' x 21' (side fed)
Parabolic Region Size	4'W x 3'H
Potential Quiet Zone Dimensions <sup>1</sup>	4'W x 3'H (elliptical cylinder)
QZ Performance (typ)	
Amplitude Taper	1.0dB
Amplitude Ripple	± 0.5 dB
Phase Variation	10° < 18 GHz; 20° > 18 GHz
Cross-Pol Level	-24 dB
Virtual Vertex	6" Offset
Focal Length	7.5'
Rolled-Edge Dimension	18"
Frequency Range	2 - 50 GHz
Surface Tolerance	≤ .002" RMS
Fabrication	Graphite-Epoxy-Honeycomb

<sup>1</sup> Potential Quiet Zone indicates the size of the parabola over which the specified performance will be met at most frequencies.

