



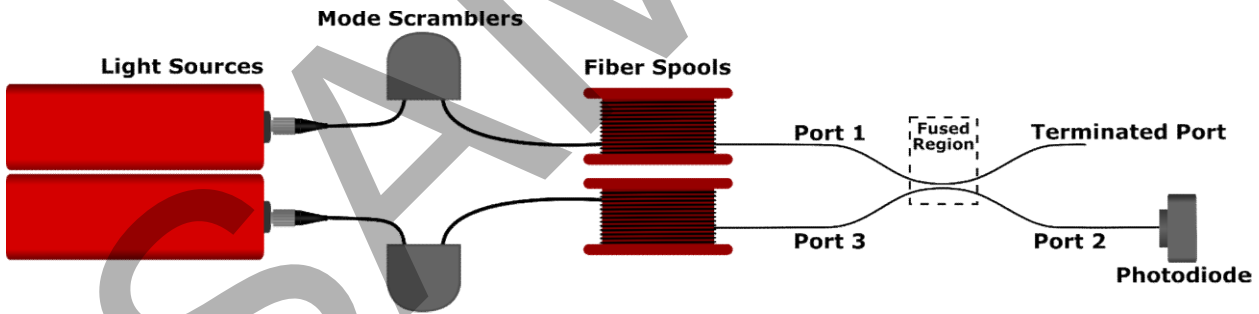
**FINAL INSPECTION REPORT**  
**Wideband Multimode Circulator/Combiner**  
**50  $\mu\text{m}$  Core, 0.22 NA to 105  $\mu\text{m}$  Core, 0.22 NA**

Item #: WMC1H1S
SN: T059104

Test Data <sup>a,b</sup>			
Input-Output Path	Port 1 to Port 2	Port 2 to Port 3	Port 3 to Port 2
Transfer Insertion Loss	1.19 dB	NA	NA
Transmission Insertion Loss	NA	0.84 dB	0.57 dB

- a. Measured at room temperature over the bandwidth without connectors using Thorlabs' MWWHF2 LED source.
- b. See Verification Test Setup.

**Verification Test Setup**



A WMC is made with two different fibers. Each fiber spool receives the multimode (MM) output of a LED light connected through a mode scrambler to ensure all core modes are filled. A Si photodiode optical power meter is used to make a reference measurement through each spool before the fibers are fused. Light from Port 1 is measured at the Terminated Port, while light from Port 3 is measured at Port 2. Then, the component is fabricated by fusing the fibers. A second series of measurements is made at Port 2. The Transfer Insertion Loss (Port 1  $\rightarrow$  Port 2) and Transmission Insertion Loss (Port 3  $\rightarrow$  Port 2) are defined as the ratio of the post-fabrication measurements to the reference measurements.

For Insertion loss from Port 2 to Port 3, the fiber spool at Port 3 is cleaved and spliced to Port 2 and light is measured at Port 3. The Transmission Insertion Loss (Port 2  $\rightarrow$  Port 3) is defined as the ratio of the previous measurement to the Port 3 to Port 2 reference measurement pre-fabrication.