# FD TABLE AND ACCESSORIES ASSEMBLY

## PURPOSE

This document describes different measurement configurations that can be assembled using FD Table and accessories. Following configurations are described:

a Face-down configuration. In this configuration measurement is performed by placing sample face (measurement surface) down on the table

b. Transmittance configuration. In this configuration the sample is placed between 2 collimating lenses

c. Transmittance & reflectance configuration. In this configuration, both transmittance and reflectance can be measured. However, fiber reflectance/or transmittance output need to be manually reattached to the MProbe for relevant measurement

d. Transmittance & reflectance measurement with TO Switch. Both measurements can be done without manual change of configuration. TO Switch is controlled by computer, to multiplex channels

e. Reflectance measurement using focusing lens

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## DETAILS OF CONFIGURATION

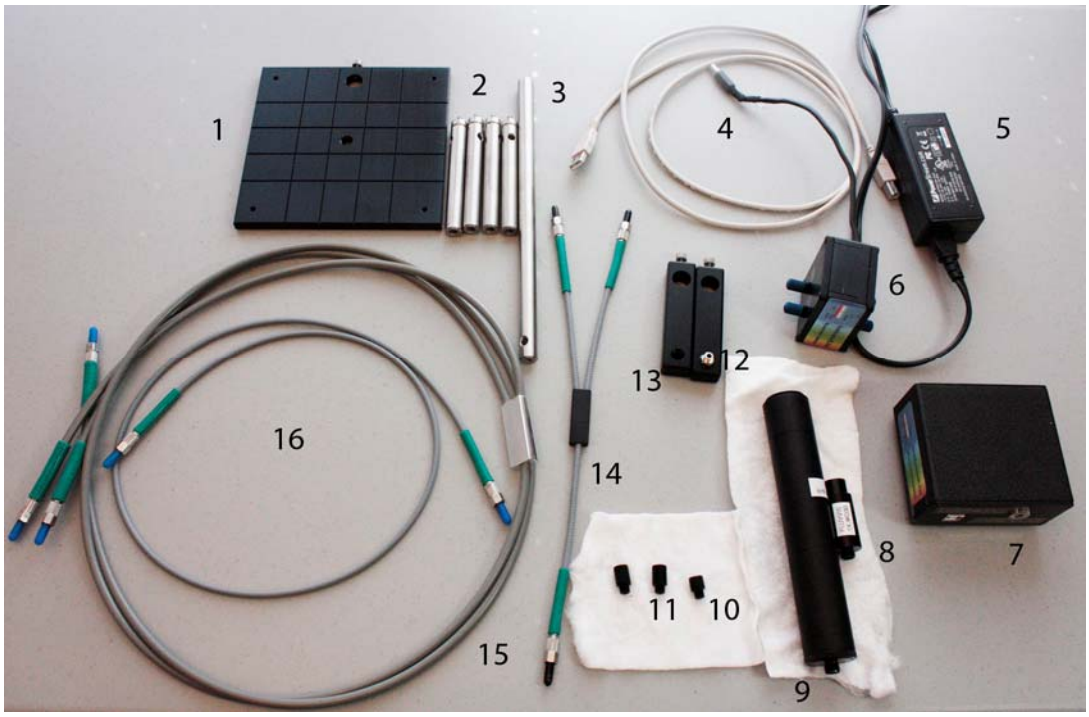


**Fig. 1 FD table and different accessories**.

1. FD table
2. FD table legs (4" )
3. Holding post (10". Note. Long (10") post is needed only for use of UVVisNIR-ACH lens (9). In all other cases, similar 4" post can be used)
4. USB cable
5. 24V power adapter
6. TO Switch
7. TO Switch controller
8. UVVis Quartz lens (FLUV-Q)
   (For Vis system, similar FLVis-ACH lens is used )
9. UVVisNIR triplet achromatic lens (FLUV-AHR)
10. FD adapter
11. Quartz collimating lenses (2 lenses)
12. Probe Holder w/SMA connector
13. Probe Holder w/o SMA connector
14. UVSR Bifurcated cable (for Vis and NIR system different cable is used)
15. UVSR Reflectance probe (for Vis and NIR system different probe is used)
16. UVSR fiberoptics cable (for Vis and NIR system different cable is used)

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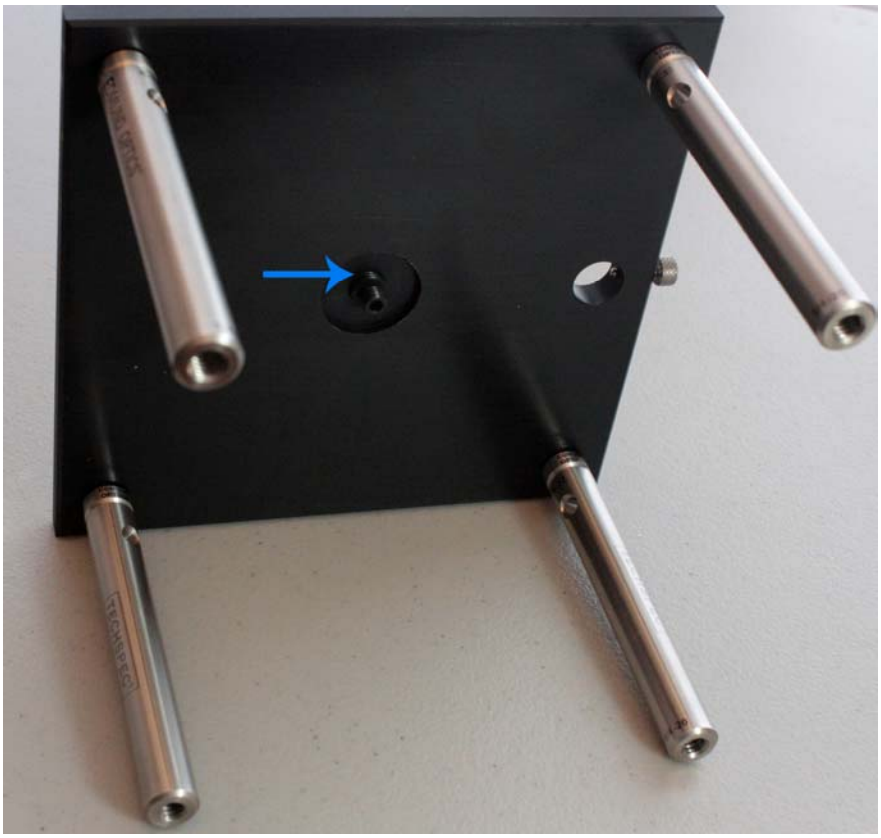
## I. FACE DOWN CONFIGURATION



Fig, 2  FD table with legs attached and FD adapter inserted (see arrow)

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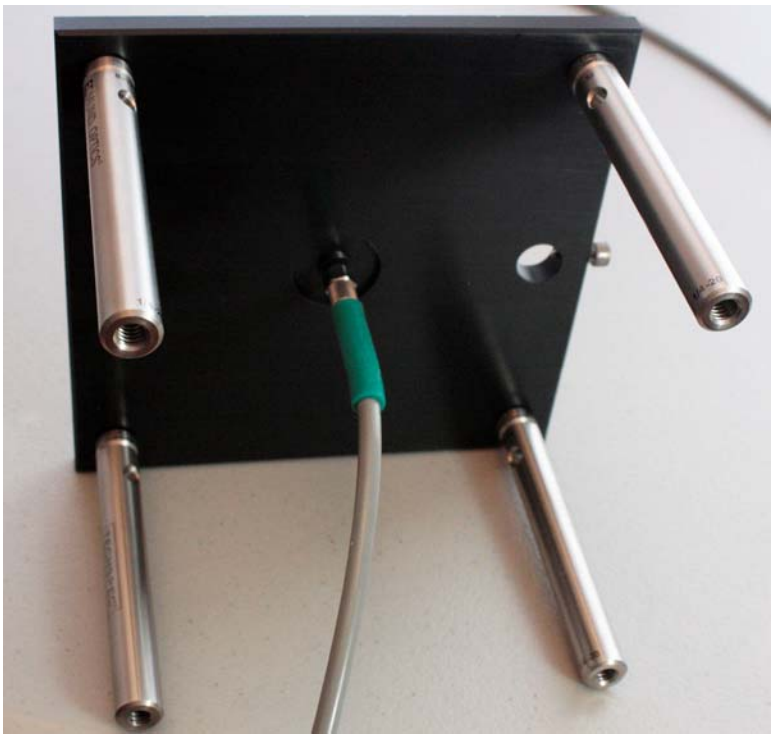

**Fig.3** FD table with fiber (reflectance probe) connected to adapter

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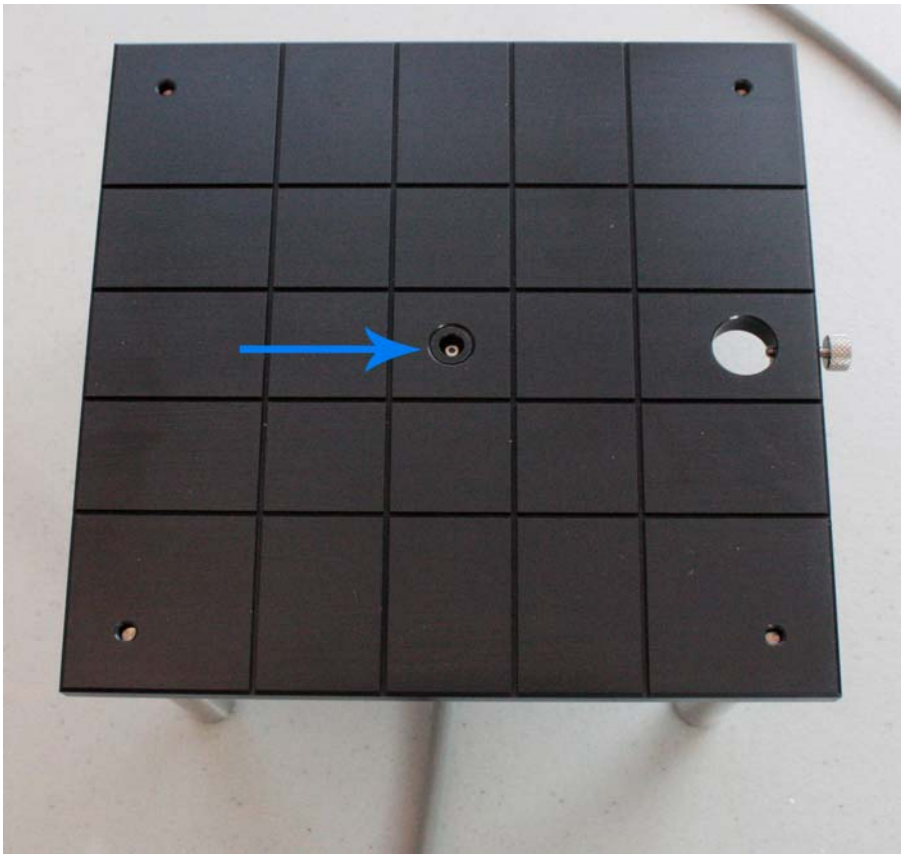

**Fig, 4** FD table assembled for face-down measurements. FD Adapter is leveled with the surface of the table and reflectance probe is fully screwed in the adapter (in this position the end of the reflectance probe is recessed ~ 3 mm below the surface).
**For measurement, sample is placed face (measurement surface) down on the table. This configuration is similar to inverted microscope arrangement.**

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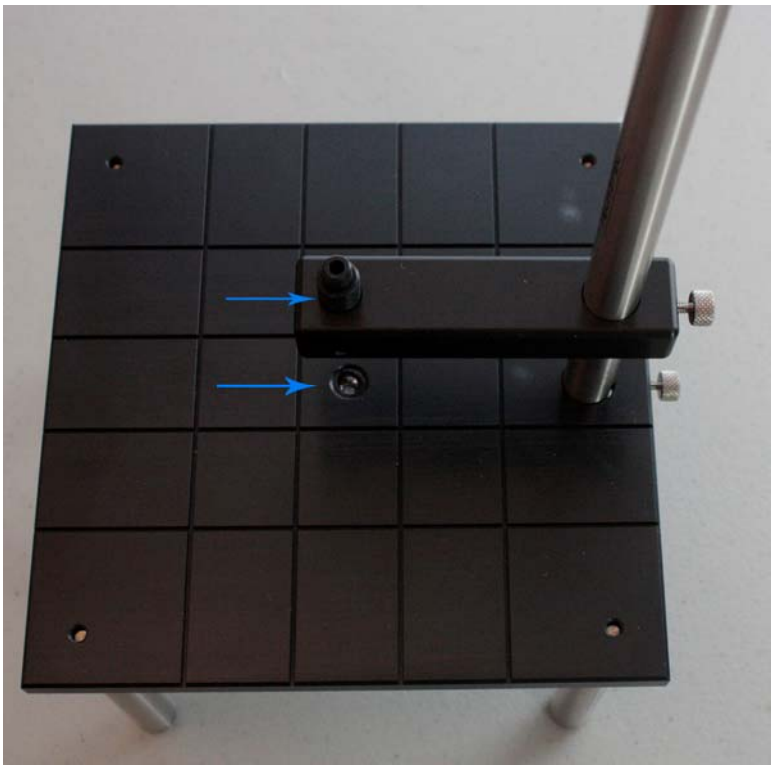
## II. TRANSMITTANCE CONFIGURATION



**Fig, 5.** Transmittance configuration.
Collimating lenses are inserted in probe holder and FD table (instead of FD adapter). The holding post and probe holder are fixed with the thumb screws. Arraws show the location of the collimating lenses (Fiberoptics is not attached on this picture)

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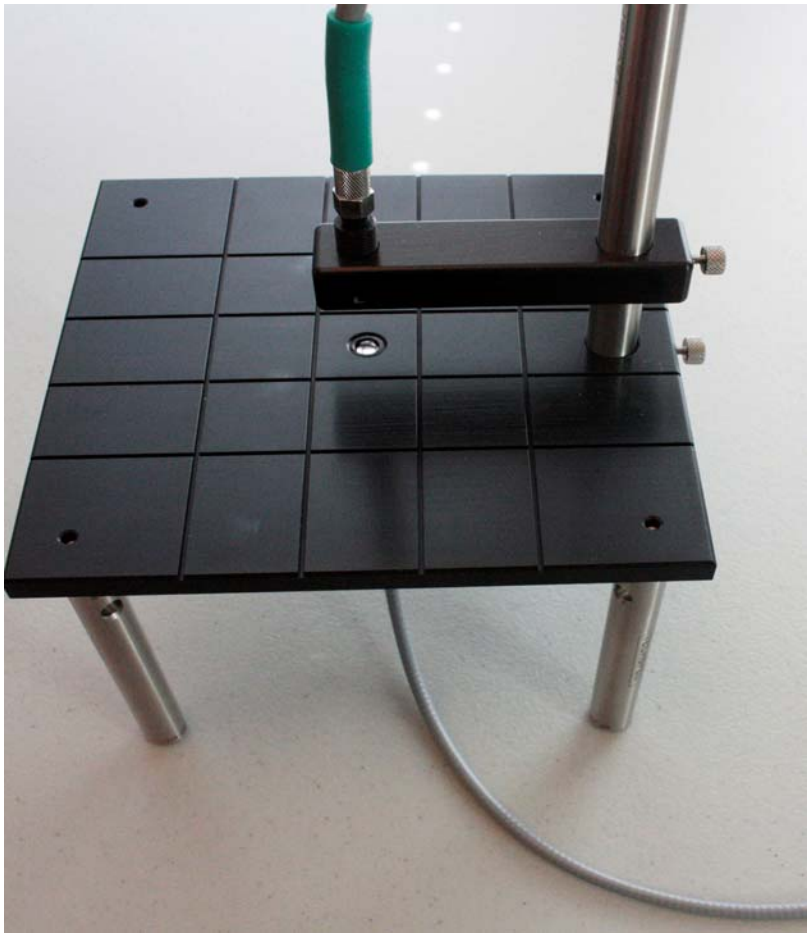

**Fig, 6**. Transmittance configuration with fibers attached. If only transmittance measurement is desired – 2 fiberoptics cable can be attached to collkmators. If both reflectance and transmittance measurements are needed, reflectance probe is attached to the top (shown on the picture) or to the bottom (**preferred configuration**) using a FD adapter (no lens collimator)
**For measurement, sample is placed on the FD table between the fibers/adapters.**

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## III. **REFLECTANCE AND TRANSMITTANCE CONFIGURATION WITH TO SWITCH..**

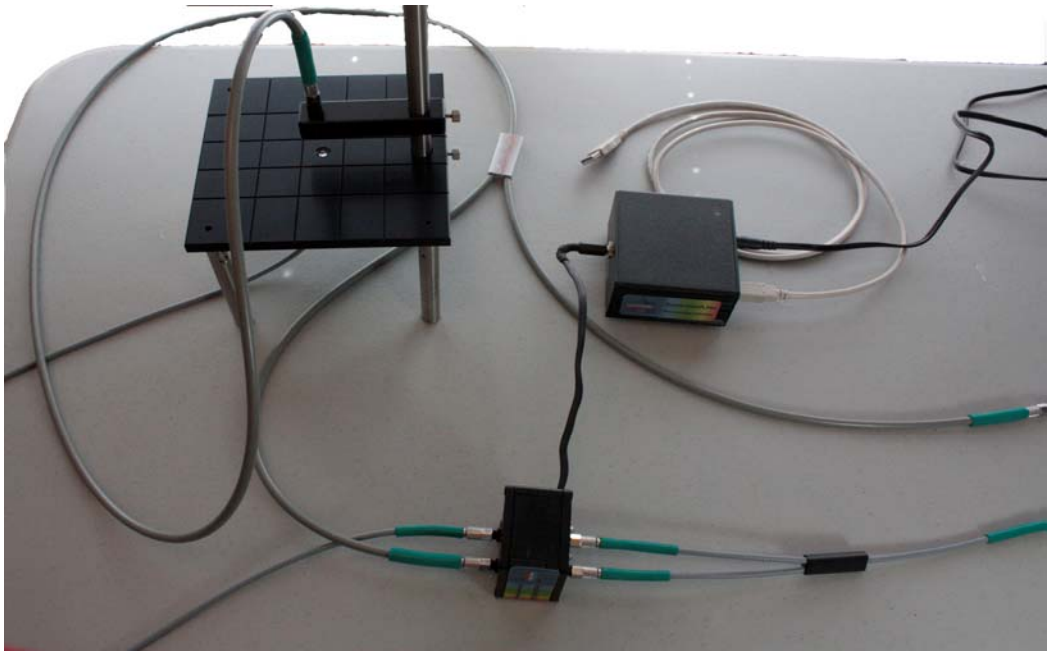

**Fig. 7**. Reflectance and transmittance configuration using TOSwitch. The end of transmittance cable and "Read" end of reflectance probe are connected to TOSwitch. Bifurcated cable is connected to the other side of TOSwitch. The end of the bifurcated cable is connected to MProbe spectrometer entrance (see Fig. 8)

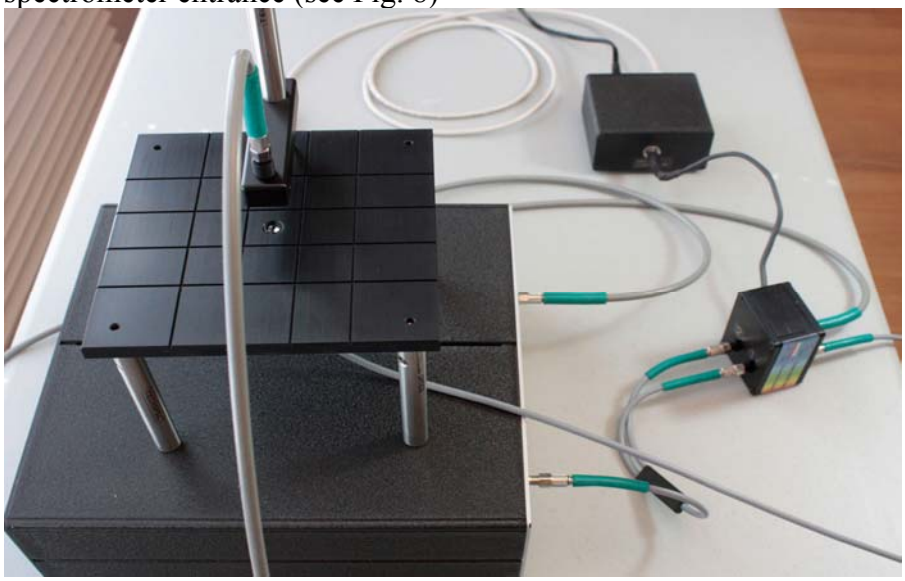

Fig.8. Reflectance & transmittance configuration (fully assembled)

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## IV. **REFLECTANCE MEASURMENT WITH FOCUSING LENS CONFIGURATION.**

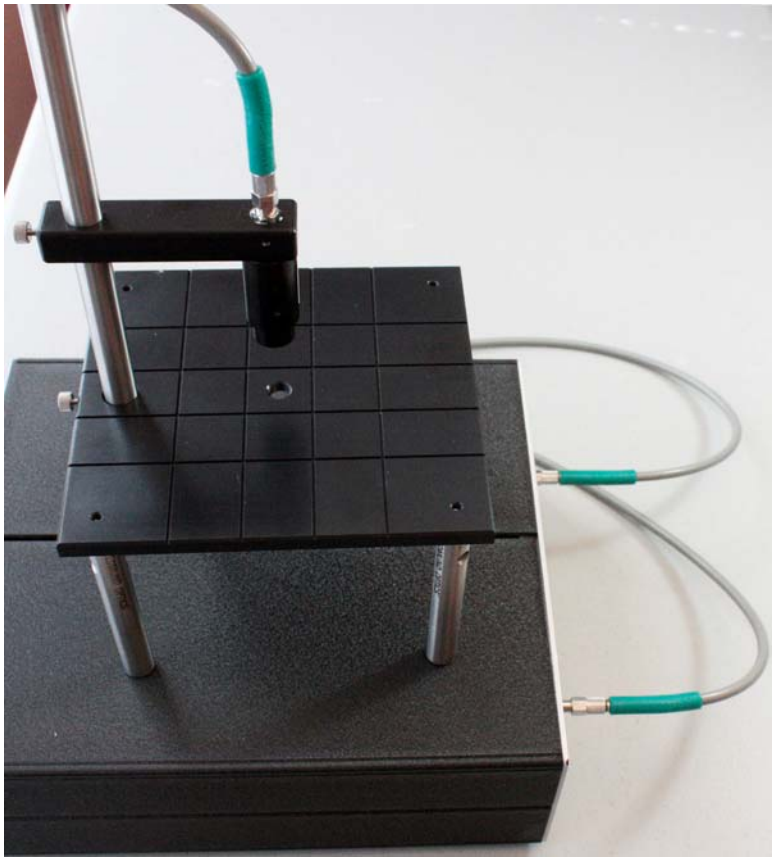

**Fig. 9.Reflectance configuration with quartz lens.**

Probe holder with SMA connector is used: Reflectance probe is attached to SMA connector, lens is attached to the thread at the bottom of the probe holder.

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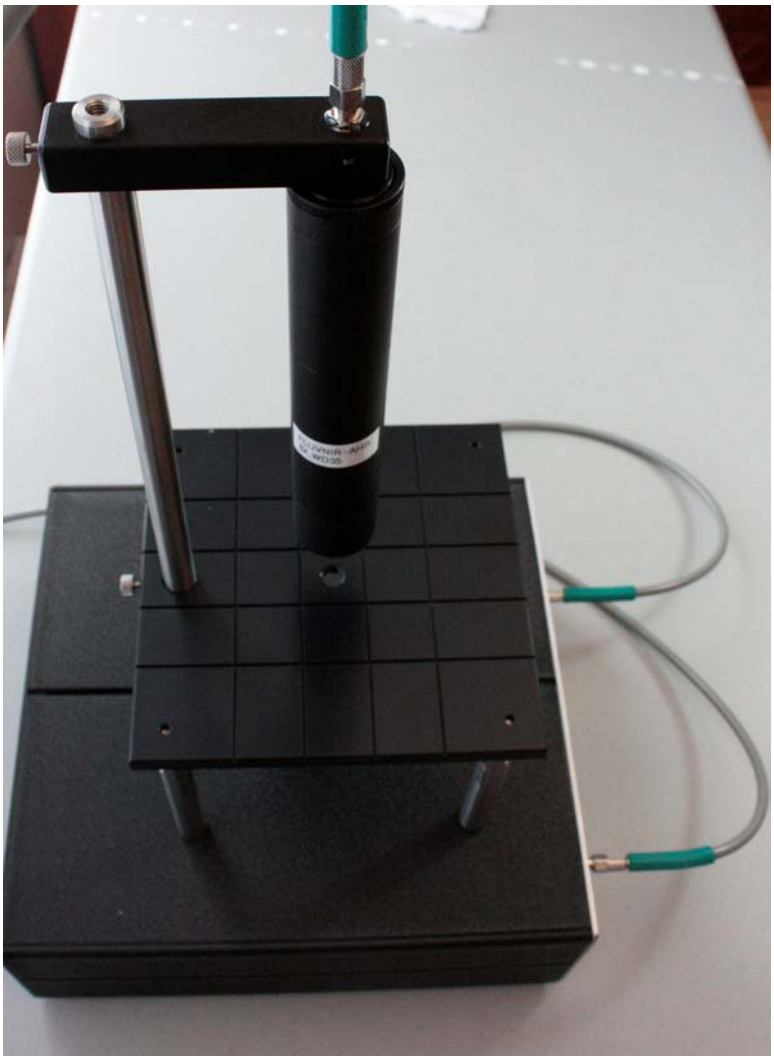

**Fig, 10 Reflectance configuration with UVVisNIR -ACH lens**
Same as on Fig. 9 – only different lens.
**Note.** UVVisNIR -ACH lens is recommended for use with SS100 or SS300 table for better stability.

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