Electronic Incoming Solar Radiation Methodology

(Last rev. 15/03/2017)

Incoming solar radiation was originally measured electronically using LiCor Model Li200x Pyranometers (see figure 1). Originally, one pyranometers was used, but in April of 2010 a second pyranometers was installed (see Figure 2). The reported value is the larger of both sensors for any given reporting interval. The sensors are designated as Back (b) and Front (f). Solar radiation files have the format: "Sherman_crane_sr[f/b]".

On July 13, 2016 the 'Back' sensor was replaced with a Kipp&Zonen SPLite2 pyranometer (see Figure 3). A comparison of daily average solar radiation between the two sensors is shown in Figure 4

Incoming solar radiation is sampled once every 10 seconds. The average, minimum and maximum values are recorded every 15 minutes.

Sensor elements are replaced with newly recalibrated sensors every year according to the manufacture's recommendations.

Figure 1

Close-up of LiCor Li200x Pyranometer

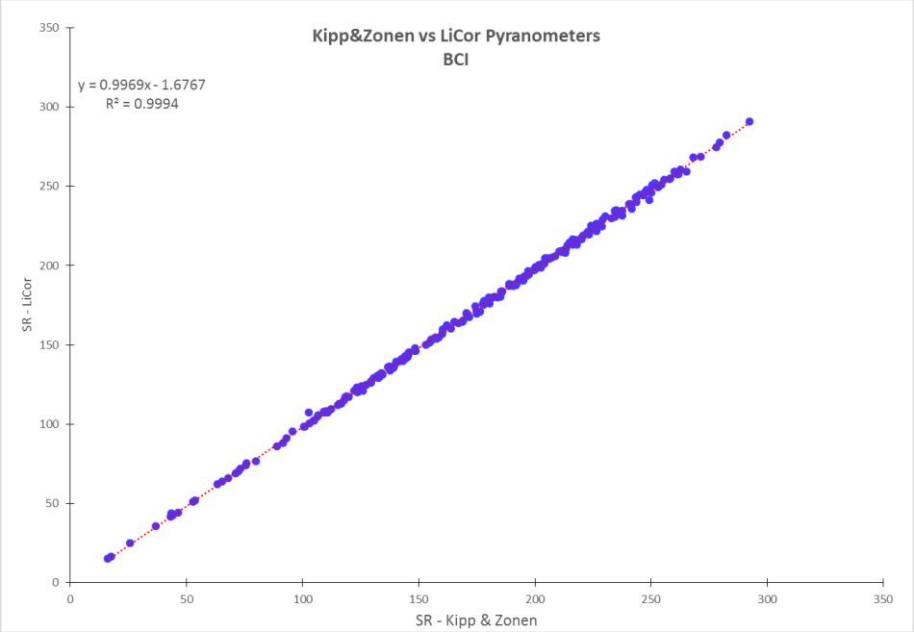
Figure 2

Paired Pyranometers (with protective caps used during installation)

Figure 3

Kipp & Zonen SPLite2

Figure 4



Comparison of Daily average solar radiation between LiCor Li200SB and Kipp&Zonen SPLite2 Pyranometers