# Eclipse Report – Dick Suiter

Anita and I traveled to Russellville KY for totality (calculated at about 2 min 27 sec). It was predicted to be less of a zoo than Hopkinsville, of whose Chamber of Commerce anticipated 100,000 visitors. Most of the CoC probably expected another Woodstock. The rest of the other places I looked at seemed to take a very laid-back attitude about the eclipse, saying that they would begin to allow visitors to enter at 11:00 AM (or other non-starters). On the other hand, the Logan County Public Library was super-organized, opening officially at 7 AM but allowing people to enter prior to this to set up equipment. They already had areas reserved for activities taped off, had pavilions set up for outdoor activities, had extra port-a-johns contracted-for, ran shuttle buses to overflow parking lots, arranged for bottled water on ice, and in general showed that they understood the process of hosting a massive daytime event. They had readings and stories on the inside of the library and scientific experiments on the outside. They changed toilet paper when it ran out; they iced more bottled water when it got used up. I was told by one person going around taking photos (Mark) that all the associates of the Library worked hard, but that the spark plug was director King Simpson. He and other Logan County planners deserve applause for their competent organization of this event.


The Logan County Public Library where I viewed the eclipse. Staff and volunteers were wearing red shirts and running around making things happen. This is in the early morning before the crowds got there. The easels are holding maps where you could stick markers to show where you were from.

I made the deliberate decision to view this one without looking through a camera. I had wasted far too much time taking pictures in 1979 and didn't spend enough time enjoying the view. I wouldn't make that mistake again; it was to be all visual, all the way. The only concession to photography that I made was to set up a point-and-shoot camera on a tripod and video Anita, myself, and my neighbors on "Telescope Row" for about 7.5 minutes starting 1.5 minutes before totality to about 3.5 minutes afterward. I wish I had set the exposure to manual. As it is, it tracked the exposure along the way, and although it looked a little darker, the camera diminished the effect (it was not bad, though).

We arrived about 6:50 am, before few but experienced astronomers, vendors, and organizers were there. We were in the main parking lot in front of the library on the south side, where I could set up in a grass belt. A lot of other amateurs were already there, including some that used tents. We had a golf umbrella and sun-block, so we survived. Before the day got too hot, Anita walked to the post office to see if they had special solar eclipse thermographic stamps for her postcards, to get them marked with a special postmark, and to look around for souvenir t-shirts. Neither the t-shirts nor the special postmark was in the offing, but she did get a sheet of stamps.

I set up an equatorially-mounted Orion 100 mm *f*/12 Maksutov-Cassegrainian telescope. For use on partial phases, a commercial white-light solar filter was attached with tightened screws (so it couldn't blow off). As it happened, there was little wind all day. About 1:00 pm, I believe a hot-air balloon went up, although it may have been a weather balloon, it was so calm. From the angle, I guess it was launched at or near the airport.

The hard part was the morning. I thought I could drowse in our comfy folding chairs to make up for the lack of sleep the night before. But I was too keyed up. Besides, every 5 minutes someone would ask to look through the telescope, and I advanced the equatorial screw (it had no clock drive) and showed it to him or her. Even this was a welcome diversion. I

had to kill 4.5 hours of waiting before the moon began obscuring the sun. Someone thanked me and said that the people at the other end (with the tent and fancy telescope) said they were too busy. These were poor ambassadors for astronomy.


(Left) Jason, my neighbor on Telescope Row, with his daughter and her friend pose for Anita's photo. The girls were playing hooky from high school (they actually wrote a STEM report). Also seen is the rest of the Row.
(Right) My setup; note the lens cap on the finder. I planned only to uncap it if I lost the image when I removed the solar filter. I found the partial sun by aligning the shadows of the plastic filter screws.

There seemed to be a surprising amount of sunspot activity on the face of the sun. If it were as good on the limb, we were to be in for quite a show. I had bought a cheap solar 5 W USB charger for $20. I thought this was a good time to try it. I put it beneath the equatorial tripod and hid the phone from direct sunlight by shading it under the solar array. It worked like a champ.

I had been worried about all the stuff I had to do before totality, and how I would clock the length of coverage so I wouldn't be looking into "the barrel when the gun went off," so to speak. Jason, the guy next to me, said he was setting his cell phone alarm to 5 minutes ahead of totality so he could start the video camera on his telescope. Of course! After checking the synchronization between the cell tower and WWV radio time (my watch sets itself every night and is seldom even a second off) I set my cell phone alarm to 13:28:00, leaving me 29 seconds until 3rd contact to get my eye out of the line of fire. I wasn't too worried about it personally, since I had looked into a sliver of photosphere during the 1979 eclipse through John Kerns's 10-inch *f*/6 and was saved by the blink response, but if I were to show anyone else, I would be reluctant.

(Left) Balloon at 1:22:32 PM, a little before totality. Already the light looks diminished.
(Right) Checking out totality through a monocular. It wasn't focused, so I dropped it into my chair.

Finally, I detected first contact within 10 secs of predicted time. Now, the moon moved too fast. It seemed to fly across the disk of the sun. It covered sunspot after sunspot, and the temperature dropped markedly – about 9 degrees according to the weather service. Two minutes before totality, I went to the video camera and fiddled with it. I got it started about 1.5 minutes prior to second contact and totality. Back to the scope, I waited for the photosphere to completely cover. It got dark fast. I dared look into the sky and saw the diamond ring. Then deep twilight came with complete coverage. The crowd cheered.

I first looked around. I thought I might see Regulus or Mars. Nothing was easily visible close to the sun. I saw Venus and forgot to hunt for Jupiter. I took off the filter. Luckily, I hadn't knocked the scope enough to lose the field. The eclipse was, in a word, stunning. I have owned a narrow-band telescope filter that shows prominences in the monochromatic red light of hydrogen-alpha, but these prominences display not only that narrow-band light, but a pinkish glow from multiple wavelengths. Most beautiful was one hedgerow prominence on the west side. Nearer the moon, little flickers of orange showed themselves in a beaded line, apparently they were spicules or bits of the chromosphere seen in lunar valleys.

And then there was the corona. Photography colors the corona too blue and shows a sharp drop-off beyond a certain radius. The eyeball corona was steely gray, and lies like tousled hair against a darker background. It did not quickly drop off but just faded away slowly with increasing radius. It is best depicted by high-dynamic range techniques using multiple exposures. The corona was braided in some areas, straight in others, and wavy in yet more. The corona I saw was the platinum blond of a Jean Harlow or Daenerys Targaryen. It seemed to be gathered into three broad spikes, visible with the unaided eye out to about 5 solar radii.

I looked through the little scope again, and I pointed out the hedgerow prominence to Anita. Then Anita asked some of the nearby visual observers if they wanted to look, and you didn't have to ask them twice. As the alarm in my shirt pocket had not yet gone off, I knew it was safe. I had to bark orders, though; otherwise they would just say "awesome" and stand at the eyepiece. I kept saying "step aside" to let the next person see. I managed to get three people through the gate. Then my alarm went off and I rushed to put on the filter. Arriving late, one lady asked if she could look through the telescope. I said we had less than thirty seconds to third contact. I hope she understood.

Then the brightness came back suddenly and the realization that it was over sunk in. The crowd gave a round of applause. I remember making a comment about it being the fastest two minutes I ever spent. One Kentuckian said that it was like the Derby Day of astronomy.

I shut off the crowd camera. One guy from France asked what the little white light was in the sky. I looked and saw that Venus was still visible, even though there was some sunlight showing. I guess that makes sense. It was still "evening" in the amount of light in the sky.

During the February 1979 eclipse in Montana, everyone stood around chatting about what they'd seen and enjoying coffee in the growing warmth of the day (it remember it got up to about 40 degrees F) as the moon exited the face of the sun. Not this time; after baking in the heat all day we were ready to quit. By about 2:10 PM I took off, and the field was nearly empty.

Now we had a problem. I-65 was plugged up north of Nashville, so it would be a mistake going back to Bowling Green. I took US431 down to the Nashville outer belt and tried to enter I-65 below Nashville at the I-440 intersection. Still, the freeway was a parking lot. It was mile marker 56 before the traffic eased, past all the Nashville bedroom communities, “yea, even unto Franklin and beyond.” We drove an additional 2 hours to get to our reserved room in Cullman AL.

But the day had been successful. If we had to fight through that traffic without having seen the eclipse, we would have been weeping. When I got home, I took one of the thermographic stamps and affixed it to the little Maksutov as a "battle decoration."

Video of crowd noise about 45 seconds before to shortly after the eclipse (snipped from my larger video and compressed)

https://youtu.be/UQ7athmuUm4