

This file *CIJJYY.nnn* provides counts from measurement of internal incandescent lamp.

The manual “*Brewer MKIV Spectrophotometer Operator’s Manual OM-BA-C231 REV B*”, August 15, 1999 does not provide information on the format of this file.

The file is not annotated. The example of a file fragment is given below:

```
dh
28
12
06
Boulder
40.126
105.238
1.86
pr
830
CI SCAN-INST #101 dt 4.2E-08
cy 4
DARK = 0.300 ← Note 1
733.16 2865 241 23991.00 105042.60
733.21 2870 308 25352.00 111029.60
733.25 2875 375 26618.00 116601.50
733.29 2880 443 28306.00 124034.60
733.33 2885 510 29892.00 131022.90
733.37 2890 578 31479.00 138019.70
733.40 2895 645 33095.00 145148.50
733.44 2900 713 34828.00 152798.30
733.48 2905 781 36676.00 160961.10
733.52 2910 848 38285.00 168072.80
733.56 2915 916 40410.00 177471.80
733.60 2920 984 41745.00 183380.40
```

The dark is measured at cy=40 cycles and all wavelengths from $\lambda=286.5\text{nm}$ to $\lambda=363.0\text{nm}$ at steps of 0.5nm are measured at cy=4 cycles. The five columns are: (1) time in GMT minutes since midnight, (2) wavelength in Angstroms, (3) micrometer position, (4) raw counts, (5) dark corrected, cycle normalized, dead time corrected counts per second.

The last column is obtained from the 4th columns as follows:

$$C5th = DTC(\tau, (C4th - DARK) / cy * div / \Delta t)$$

where

τ is dead time, $cy=4$, $div=4$, and integration time $\Delta t=0.2294s$ and $y=DTC(\tau, x)$ is dead time correction function that in Brewer software is implemented as a recursive procedure as subroutine (lines 8350-8370) in the MAIN program which is describe on page 111 in the Manual.

Note 1: The listed DARK in the file is in counts per cycle [cpc] times 4. This means that it was normalized by $cy=40$ but then multiplied by 4.

In Figure 1 we plot 5th and 4th columns versus wavelength.

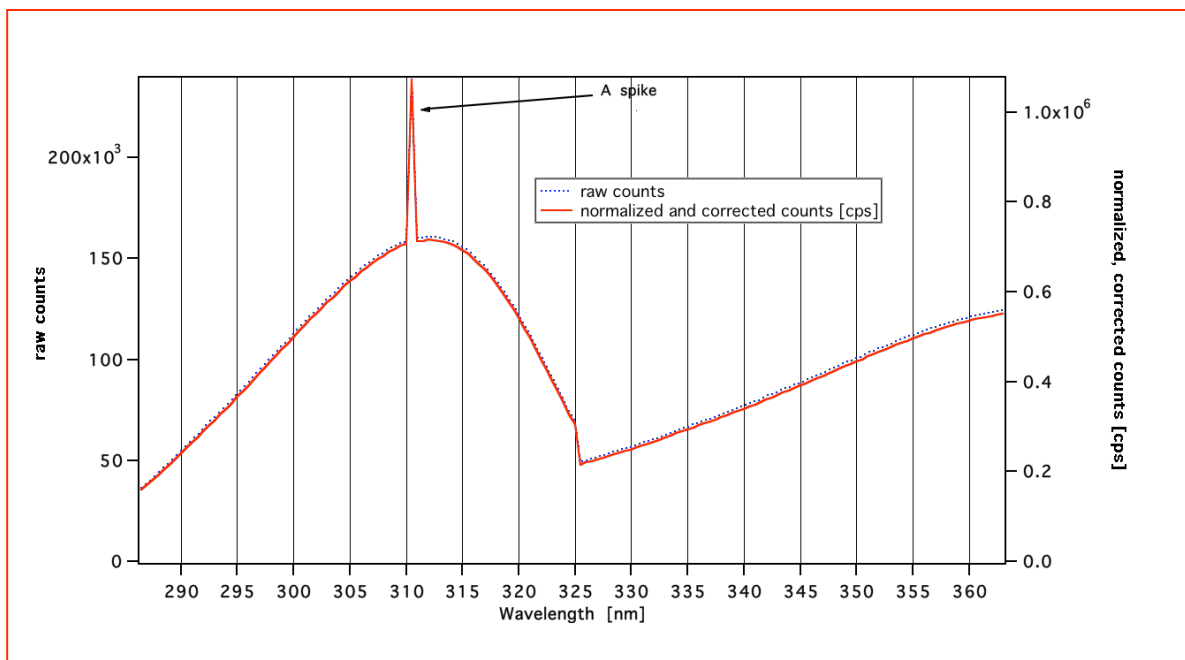


Figure 1. Example of ci-file data.