

Determining the Solar Index  
for Madison, Wisconsin

THE SCHWERDTFEGER LIBRARY  
1225 W. Dayton Street  
Madison, WI 53706

by

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I. Introduction

The solar index is the fraction of daily hot water that can be delivered by a hypothetical solar hot water system. The daily usage by a family of four is assumed to be 80 gal of water at 50°C. This corresponds to a solar index of 1. The initial water temperature is 10°C, so that a solar index of 0.5 would correspond to 80 gal of water heated from 10°C to 30°C during the day. The hypothetical collector area is 60 sq ft, and the collector is tilted up at 45° to the horizon with the fall line pointing due south.

II. Method

A solar collector was constructed with a black copper receiving surface 30 cm X 60 cm insulated on the back with 10 cm of fiberglass insulation and covered with one pane of single strength window glass. The sides are 2" x 4" and the back is covered with 1/4" plywood. A single junction thermocouple measures the temperature of the copper plate at a point 45 cm up from the bottom and another thermocouple measures the temperature difference from 15 cm to 45 cm. The solar collector is mounted at 45 deg from the horizon and the fall line is approximately south.

The heat budget of the collector can be written as

$$[BI \cdot \cos(SCA) + DI \cdot SA + (BI \cdot \cos\zeta + DI)(1-SA)a] \alpha_S^C \\ + [LW + SA + LW \cdot (1-SA)] \cdot \alpha_L^C = S + Q + \alpha_L^C \sigma T_c^4$$

where

BI = beam solar radiation from the sun

SCA = sun-collector angle

DI = Diffuse solar radiation from sky

SA = fraction of sky seen by collector

$\alpha_S^c$  = absorbtivity of collector for solar radiation

$\zeta$  = sun's zenith angle

a = surface albedo of area in front of the collector

LW $\downarrow$  = long wave radiation from sky

LW $\uparrow$  = long wave radiation from the ground

$\alpha_L^c$  = absorbtivity of collector for long wave radiation

S = heat removed from collector

Q = collector heat loss to air

$\sigma$  = Stefan Boltzmann constant

$T_c$  = collector Kelvin temperature

The solar collector does not have heat removed so that the temperature which is measured is the temperature for  $S = 0$ .

The assumption is made that the energy for removal from the collector to heat the water will lower the collector temperature to the water temperature.

Then

$$S = \alpha_L^c \sigma (T_c^4 - T_w^4)$$

where

$T_w$  = water temperature

S = energy/area/time

and must be positive. By this method if the water temperature is above the collector temperature or the collector temperature is below 21°C, no energy is delivered to the water.

The hypothetical solar hot water heater is of 60 sq. ft. area and has a capacity of 80 gal. of water or 10.67 lbs. of water per sq. ft. of collector. The initial water temperature is 10°C and for a solar index of 1 or 100% the final water temperature is 50°C. The solar index is calculated as the fraction of the water temperature rise from 10°C.

The solar collector temperature is the linear average of the top and bottom temperature. Measurements are made every 30 minutes and the amount of energy available per sq. ft. for 30 minutes is used to raise the temperature of the storage water. The water temperature can change as much as 5°C in 30 minutes but the change in  $T_w^4$  during this time is neglected. An efficiency factor of .81 is used as the heat transfer is not perfect in practice. The decrease in Q due to the lower collector to air temperature difference is also neglected.

The above method does not follow the conventional engineering approach.

### III. Experimental Set-up

The sensor location is the south side of the roof of the Meteorology and Space Science Building located at 1225 W. Dayton Street, Madison, Wisconsin. The roof top is surrounded by a parapet five or more feet high. The penthouse to the north has two satellite antennas mounted on the south side and painted white which can reflect sunlight onto the sensors. The penthouse obscures most of the northern sky.

The solar collector is mounted on a frame about 2.5 ft. off the deck and thus slightly below the parapet. The pyrheliometer with equatorial

drive is mounted on the same frame. In back and about 4 ft. higher is a board on which are mounted two Eppley pyranometers.

The thermocouples measuring air temperature and collector temperature are referenced to an oil filled thermos bottle in room 1547 and the reference temperature is assumed to be 20°C.

The actual measurements made and the sensors are:

1. collector temperature near top-thermocouple
2. collector temperature difference-thermocouple
3. air temperature-thermocouple
4. beam solar radiation-solar cell pyrheliometer
5. global solar radiation - two Eppley pyranometers
6. solar radiation on collector - solar cell.

The recording system is a 0-2.5 mv Brown recorder located in room 1325. The recorder cycles through the data every five minutes between 8:00 a.m. and 5:00 p.m.

#### IV. Data Processing

Once each week the data is digitized to punch cards using a digitizing table. The year, Julian date and time are initially punched on the card. Then channels 1 through 9 are entered in order corresponding to the same channel number printed by the recorder. Full scale on the chart is 550 units and the resolution is  $\pm 1$  unit.

The instruments are occasionally intercalibrated by shading the two pyranometers and the solar cell from the sun's beam radiation. The intercalibrations are included in the data set as is the program for processing the data.

## V. Presentation of Results

The printed output from the original data consists of year, Julian day and time followed by the data and computations in units of Watts·m<sup>-2</sup> for

PHR - pyrhalimeter measuring beam solar radiation

GLOB1 - pyranometer measuring global solar radiation

GLOB2 - pyranometer measuring global solar radiation

SOLCL - solar cell measuring solar radiation falling on the collector

EM -  $\sigma T_c^4$  of the collector

EM1 - solar radiation falling on collector calculated from PHR and GLOB1

EM2 - solar radiation falling on collector calculated from PHR and GLOB2  
then in °C.

TA - air temperature behind collector

TCOL - average collector temperature

TW - hypothetical water temperature

The printout at the end of each day is year, day, number of cards in day, solar index, equivalent BTU's ft<sup>-2</sup>, Watt hrs m<sup>-2</sup> and the cumulative watt hrs m<sup>-2</sup> from the solar cell.

Data collection started 17 September 1978. The pyranometers used at that time were not satisfactory so the only data presented are the temperatures. On October 13, 1978 two good Eppley pyranometers were installed along with the solar cell at the tilt of the collector. By this time the pyrhalimeter was no longer operational. On November 2, 1978 the pyrhalimeter sensor was replaced by a solar cell and calibrated against the two Eppley pyranometers on 2 Nov. 1978. On 28 Oct. 1978 the chart ran out over the weekend and recording did not commence until 1000 30 October 1978.

The present calibration is based on the manufacturer's calibration of the Eppley pyranometers. A new Eppley pyrhemliometer has been ordered at a cost of \$890 and will be used as the standard in the future.

Fig. 1 gives the weekly average solar index for Madison, Wisconsin for the measurement period in 1978. Fig. 2 shows the relationship between the daily solar index and the watt hours per day falling on the solar cell at the collector orientation. Approximately 1000 watt hours per day are required before the collector delivers useable energy above 21°C.

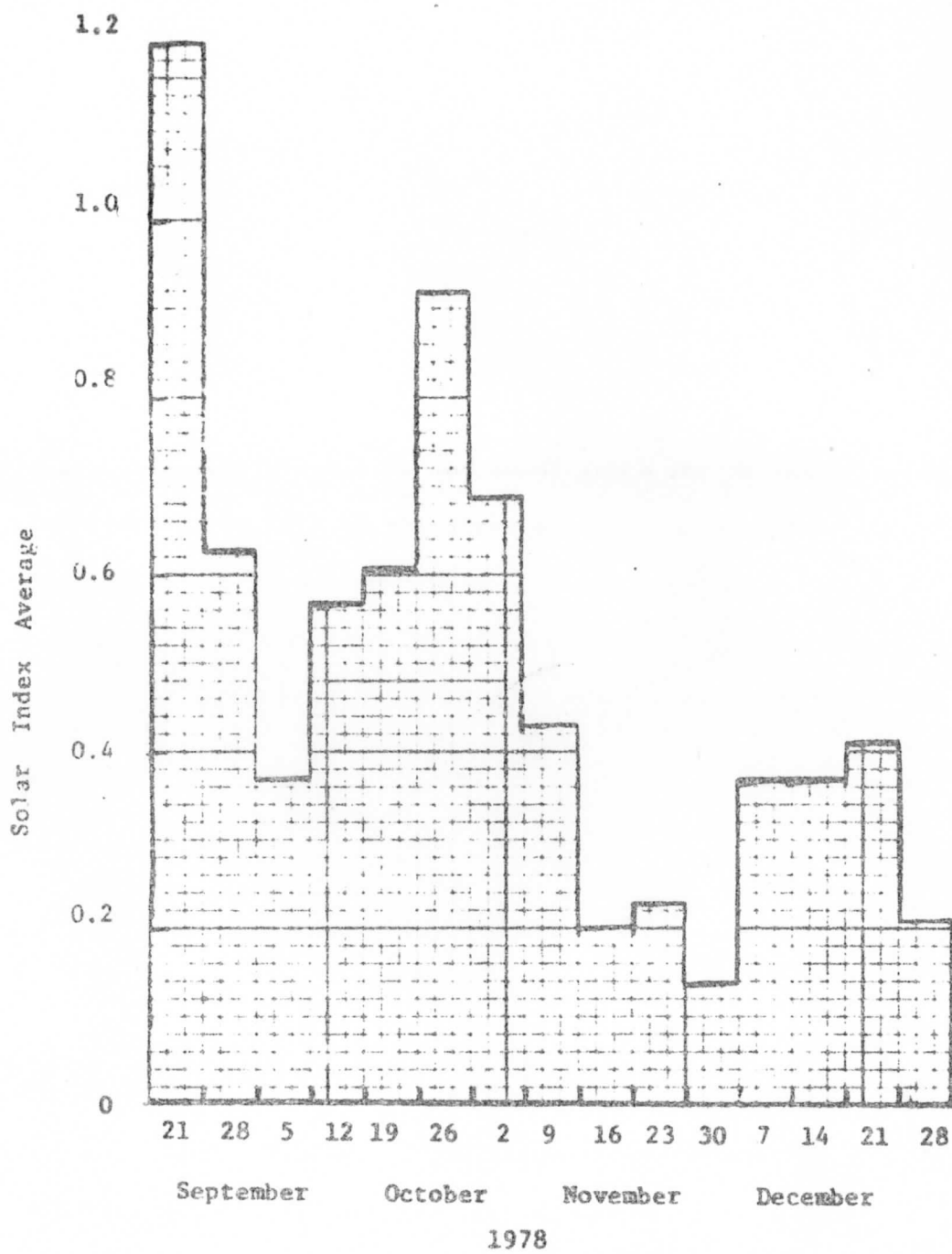


Fig. 1. Weekly average of the solar index for Madison, Wisconsin as a function of the data of the first day of the week which is a Thursday. The period is 21 September 1978 to 3 January 1979.

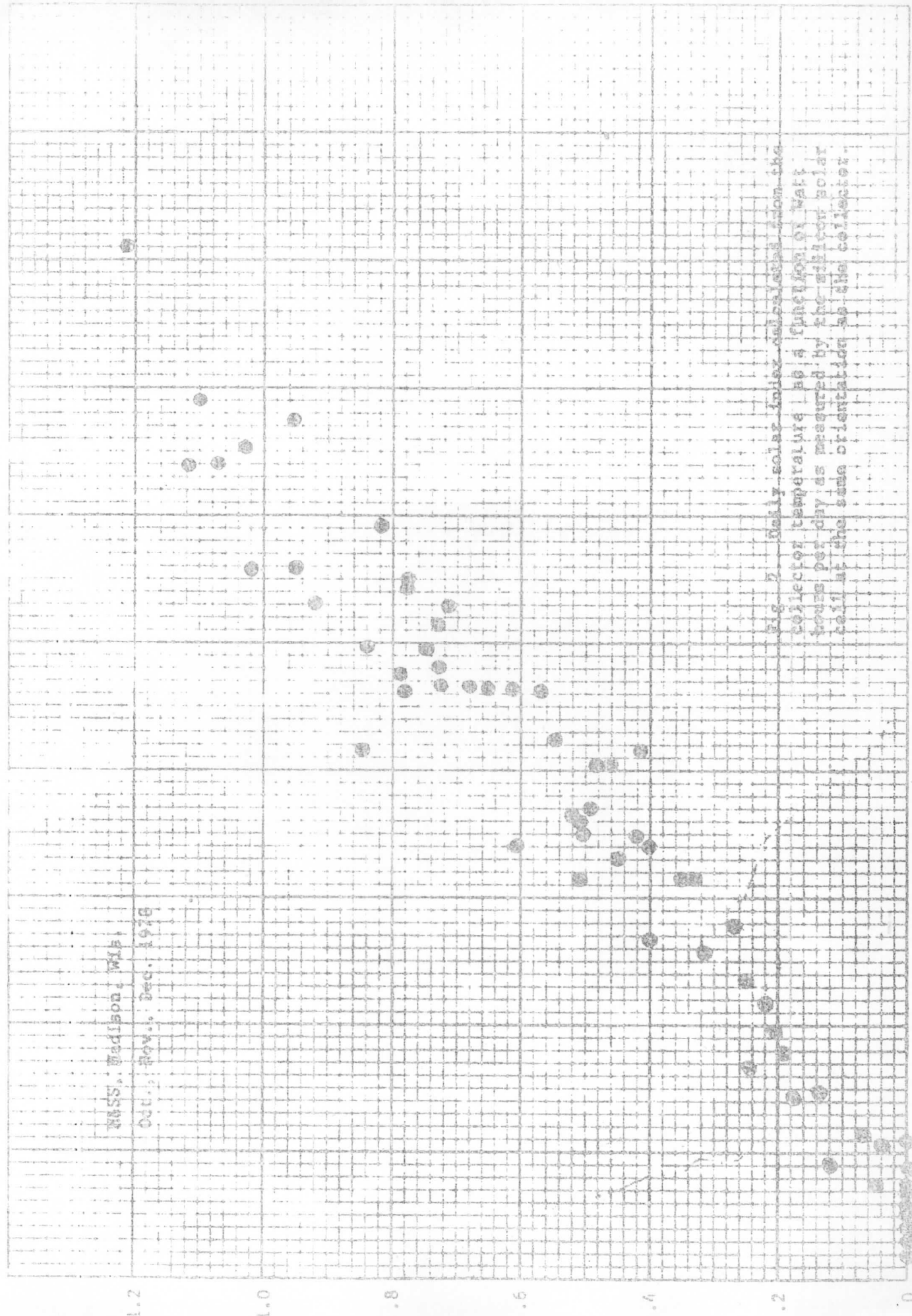


Fig. 2. Daily solar index calculated from the collector temperature as a function of Watt hours per day as measured by the silicon solar cell at the same orientation as the collector.



SOLAR INDEX				SOLAR CELL		
YR	DAY	OBS	S.I.	BTU/FT/FT	WHR/M/M	WHR/M/M
17 SEPTEMBER 1978						
78	260	18.	.391	300,300	986,722	.000
78	261	17.	.687	527,573	1663,220	.000
78	262	16.	1.103	847,240	2670,995	.000
78	263	17.	.267	204,709	645,362	.000
78	264	17.	.760	583,447	1839,367	.000
78	265	19.	1.443	1108,181	3493,510	.000
78	266	19.	1.307	1003,538	3163,740	.000
78	267	18.	1.297	996,058	3140,158	.000
78	269	19.	1.436	1102,869	3476,888	.000
78	269	18.	.998	766,325	2415,905	.000
78	270	19.	.895	686,996	2165,813	.000
78	271	19.	1.255	963,821	3038,529	.000
78	272	18.	.279	218,407	675,936	.000
78	273	18.	.185	142,376	448,853	.000

SOLAR INDEX				SOLAR CELL		
YR	DAY	OBS	S.I.	BTU/FT/FT	WHR/M/M	WHR/M/M
1 OCTOBER 1978						
78	274	18.	1.359	1043,409	3289,437	.000
78	275	18.	.384	295,005	930,027	.000
78	276	18.	.628	482,444	1520,985	.000
78	277	17.	.215	165,216	520,858	.000
78	278	18.	.390	299,753	944,997	.000
78	279	18.	.236	180,980	570,553	.000
78	280	18.	.195	149,936	472,685	.000
78	281	18.	1.216	934,020	2944,578	.000
78	282	19.	.305	234,259	738,522	.000
78	283	18.	.010	7,844	24,729	.000
78	284	18.	.162	124,208	391,578	.000
78	285	18.	.257	197,258	621,873	.000
78	286	18.	.844	648,292	2043,796	4138,406
78	287	18.	.728	559,170	1762,830	4649,114
78	288	18.	.180	137,905	434,758	1429,990
78	289	18.	1.097	842,389	2635,702	6906,129
78	290	18.	.512	392,987	1238,928	3887,661
78	291	18.	.397	308,610	960,308	2645,612
78	292	18.	.791	607,122	1914,008	5806,986
78	293	18.	1.208	927,958	2925,853	7088,946
78	294	18.	.509	396,537	1231,201	3140,888
78	295	18.	.049	37,688	118,802	733,117
78	296	18.	.747	573,963	1809,467	4911,062
78	297	18.	.980	726,572	2296,884	6711,729
78	297	5.	.386	265,398	836,691	1744,658
78	298	18.	.856	43,374	136,739	488,352
78	299	18.	.820	629,691	1989,153	5902,829
78	300	18.	1.026	787,857	2483,786	6517,330
78	301	12.	.966	781,787	2338,295	6662,296
78	303	18.	.918	784,662	2221,506	5313,841
78	304	18.	.652	730,856	2306,396	5373,338

YR	DAY	DES	SOLAR INDEX S.I.	BTU/FT/FT	MHR/M/M	SOLAR CELL MHR/M/M
1 NOVEMBER 1978						
78	305	17.	1,074	825,126	2601,279	6289,981
78	306	18.	1,121	860,800	2713,746	6289,981
78	306	6.	,556	426,794	1345,506	2591,486
78	307	18.	,788	605,564	1909,091	4719,957
78	308	18.	,840	645,416	2034,729	4960,485
78	309	18.	,250	192,027	605,382	1645,807
78	310	18.	,192	147,455	464,863	1774,309
78	311	18.	1,063	816,652	2574,565	4909,414
78	312	18.	,602	462,133	1456,915	640,860
78	313	18.	1,021	783,837	2471,111	5586,518
78	314	18.	,608	467,168	1472,786	3395,404
78	315	18.	,000	,000	,000	39,539
78	316	18.	,000	,000	,000	168,040
78	317	18.	,120	92,291	290,954	899,510
78	318	18.	,452	347,161	1094,456	3299,851
78	319	18.	,784	601,855	1897,400	4604,635
78	320	18.	,068	52,536	165,624	1133,449
78	321	18.	,000	,000	,000	69,193
78	322	18.	,681	523,118	1649,174	4612,872
78	323	18.	,420	322,561	1016,902	3484,366
78	324	17.	,000	,000	,000	370,677
78	325	18.	,219	168,294	530,562	2159,813
78	326	18.	,000	,000	,000	163,098
78	327	18.	,000	,000	,000	438,223
78	328	18.	,352	270,131	851,611	3128,516
78	329	18.	,734	563,599	1776,794	4817,157
78	330	18.	,000	,000	,000	276,772
78	331	18.	,000	,000	,000	629,328
78	332	18.	,487	373,981	1179,007	3683,708
78	333	18.	,040	31,093	98,024	1087,320
78	334	18.	,139	106,504	335,764	1466,234

		SOLAR INDEX		SOLAR CELL		
YR	DAY	DBS	S.I.	BTU/FT/FT	WHR/M/M	WHR/M/M
1 DECEMBER 1978						
78	335	1A.	.000	.000	.000	691,578
78	336	1B.	.000	.000	.000	1082,378
78	337	1B.	.000	.000	.000	403,626
78	338	1B.	.333	256,088	807,214	3146,638
78	339	1B.	.000	.000	.000	719,938
78	340	1B.	.509	390,940	1232,471	3593,098
78	341	1A.	.000	.000	.000	497,531
78	342	1A.	.544	417,728	1316,923	4237,253
78	343	1A.	.464	356,151	1122,798	4031,321
78	344	1B.	.717	550,755	1736,302	5130,173
78	345	1A.	.000	.000	.000	729,822
78	346	1A.	.252	193,819	611,032	2352,565
78	347	1B.	.614	471,586	1486,716	4684,174
78	348	1B.	.266	204,594	645,001	2785,846
78	349	1B.	.774	594,517	1874,265	5490,966
78	350	1A.	.207	158,943	501,080	1957,176
78	351	1B.	.715	549,085	1731,039	5286,681
78	352	1B.	.624	479,487	1511,625	4041,206
78	353	1A.	.000	.000	.000	289,952
78	354	1A.	.000	.000	.000	196,047
78	355	1A.	.572	439,587	1385,834	4611,225
78	356	1A.	.399	306,402	965,960	3393,756
78	357	1A.	.313	240,480	758,135	2560,184
78	358	1B.	.000	.000	.000	546,955
78	359	1B.	.651	499,947	1576,124	4268,558
78	360	1A.	.413	317,140	999,811	4159,823
78	361	1B.	.518	397,734	1253,890	3657,349
78	362	1B.	.000	.000	.000	861,619
78	363	1B.	.000	.000	.000	393,742
78	364	1B.	.000	.000	.000	578,257
78	365	1B.	.000	.000	.000	492,589

```

C      CALCULATE SOLAR INDEX FOR MADISON WISCONSIN.
C      INITIAL TEMP. OF WATER ID C
C      FINAL TEMP OF WATER 50 C
C      STORAGE IS 80 GAL OF WATER
C      COLLECTOR AREA IS 60 SQ FT
C      SOLAR INDEX IS FINAL WATER TEMP. RISE DIVIDED BY 40 C
55     FORMAT(6PH1YR DAY TIME PHR GLOB1 GLOB2 SOLCL EM EM1 EM2
      TA TCOL TH)
      PRINT 55
      PH1=45.*3.1416/180.
      SP=SIN(PH1)
      CP=COS(PH1)
      TWI=10.
      TWF=50.
      RAGE=640./70.*1.6
      ITLC=800
      Th=TWI
      AF=0.0
      A1=PH1
      SA=1.-0.5*SIN(A1)*.2
      CA1=CP
      XX=2.5*697./55.
      CALP=XX*(.95./267.)/3.44*.835
      CALZ=XX*(.319/81.6)/2.41
      CALE=XX*(154.5/108.8)/1.85
      SOCLM=0.0
      AN=0.0
50     FORMAT(12,13,212,963.1)
      CONTINUE
      READ 50, IY, ID, IH, IM, ZERO, PHR, 70, EPP, DTC, TA, TC, BIAS, SOCL
      ZONN=ZON
      SOCLL=SOCL
      PHPP=PHR
      EPPP=EPP
      DTCC=DTC
      TAA=TA
      TCC=TC
      IF(IY.EQ.0) GO TO 3
      ITC=IH*100+IM
      IDTI=ITC-ITLC
      IF(IDTI.LT.150) GO TO 3
4     CONTINUE
      ITLC=ITC
      IF(IDTI.LT.150) PRINT 55
      IF(IDTI.LT.150) Th=TWI
      PHR=(PHR-ZERO)*CALP
      ZON=(ZON-ZERO)*CALZ
      EPP=(EPP-ZERO)*CALE
      SOCL=(SOCL-ZERO)*XX*1.040
      SOCLM=SOCLM+SOCL

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AN=AN+1
TA=(BIAS-TA)*2.5/55./04+20.
TC=(TC-ZERO)*2.5/55./57.2/30.3
A=.000044
B=.0384
C=A*20.+20.+B*20.+TC
C=C*A
TTOP=(-B+SQRT(B*B+4.*C))/(2.*A)
DTC=(DTC-BIAS)*2.5/55.
TTC=TTOP
C=A*TTC*TTC+B*TTC+DTC
C=C*A
TBC=(-B+SQRT(B*B+4.*C))/(2.*A)
TCOL=(TTC+TBC)*.5
DEC=23.45*3.1416/180.
A=ID
DEC=DEC*SIN(6.2832*(A-80.)/365.)
CD=COS(DEC)
SD=SIN(DEC)
Y=IH+IM/60.*12.08
CYY=COS(6.2832/24.*Y)
CZETA=SP*SD+CP*CD*CYY
ZETA=ACOS(CZETA)
SZETA=SIN(ZETA)
CAS=(1-CP*SD)+SP*CD*CYY) / SZETA
AAS=ABS(ACOS(CAS))
AS=AAS
CSCA=CAI*CZETA+SZETA*SIN(AII)*COS(AS-AF)
IF(CSCA.LE.0.0) CSCA=0.0
PHRZ=PHR*SZETA
PHRC=PHR*CSCA
EM1=PHRC+1.75*(ZON-PHRZ)*SA
EM2=PHRC+1.75*(EPP-PHRZ)*SA
IF(PH-C.LT.100.) EM1=0.0
IF(PHRC.LT.100.) EM2=0.0
EM=5.735*.00000001*(TCOL+273.161)**4
IF(EPP.GE.50.) RAT=ZON/EFF*100.
IF(EM1.GE.50.) RAT1=EM/EM1*100.
IF(EM2.GE.50.) RAT2=EM/EM2*100.
IF(EPP.LT.50.) RAT=0.0
IF(EM1.LT.50.) RAT1=0.0
IF(EM2.LT.50.) RAT2=0.0
5 CONTINUE
C CALCULATE ENERGY USED TO HEAT WATER FOR 30 MIN
TWL=TW
AX=TCOL-TW
AY=5.735*.00000001*((TCOL+273.21)**4-(TW+273.2)**4)
IF(AY.LE.0.0) AY=0.0
IF(TCOL.LE.21.) AY=0.0
AY=.81*AY
IF(IDTI.EQ.5) AY=AY*.167
IF(IDTI.EQ.45) AY=AY*.167
TW=TW+AY*.3172*.5/RAGE
52 FORMAT(13X,15F7.1)
CZETA=CZETA*100.
CSCA=CSCA*100.
56 FORMAT(13,14,13,12.7F 6.0,3F 6.1)

```

PRINT 56, IY, ID, IH, IM, PHR, ZON, EPP, SOCL, EM, EM1, EM2, YA, TCBL, TW

IB=ID

IA=IY

GO TO 1

2 CONTINUE

3 CONTINUE

SOLIN=(TW-TWI)/(TWF-TWI)

SOCLM=SOCLM\*.5

BTUIN=(T<sub>b</sub>-TWI)\*RAGE

WHM=BTUIN/.3172

53 FORMAT(I3, I4, F5.0, 4F10.3)

PRINT 53, IA, IB, AN, SOLIN, BTUIN, WHM, SOCLM

PUNCH 53, IA, IB, AN, SOLIN, BTUIN, WHM, SOCLM

SOCLM=0.0

AN=0.0

IF(IY.EQ.0) GO TO 99

GO TO 4

99 STOP

END

17 Sept 75

MSN M+SS

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	260	8 0	0.	0.	0.	0.	432.	0.	0.	13.7	21.4	10.4
78	260	830	0.	0.	0.	0.	460.	0.	0.	14.7	26.1	11.0
78	260	9 0	0.	0.	0.	0.	564.	0.	0.	16.8	41.8	12.3
78	260	930	0.	0.	0.	0.	607.	0.	0.	16.9	47.6	13.8
78	260	10 0	0.	0.	0.	0.	933.	0.	0.	19.0	84.0	17.5
78	260	1030	0.	0.	0.	0.	889.	0.	0.	18.1	79.7	20.7
78	260	11 0	-3.	0.	0.	0.	616.	0.	0.	17.8	48.8	21.9
78	260	1130	0.	0.	0.	0.	536.	0.	0.	17.4	37.7	22.6
78	260	12 0	0.	0.	0.	0.	520.	0.	0.	17.5	35.4	23.1
78	260	1230	0.	0.	0.	0.	536.	0.	0.	17.5	37.8	23.8
78	260	13 0	0.	0.	0.	0.	545.	0.	0.	17.6	39.0	24.4
78	260	1330	0.	0.	0.	0.	536.	0.	0.	17.3	37.7	25.0
78	260	14 0	0.	0.	0.	0.	513.	0.	0.	17.3	34.3	25.4
78	260	1430	0.	0.	0.	0.	482.	0.	0.	16.6	29.5	25.6
78	260	15 0	0.	0.	0.	0.	465.	0.	0.	19.9	26.9	25.6
78	260	1530	0.	0.	0.	0.	452.	0.	0.	16.5	24.7	25.6
78	260	16 0	0.	0.	0.	0.	442.	0.	0.	16.6	23.1	25.6
78	260	1630	0.	0.	0.	0.	425.	0.	0.	16.5	20.2	25.6
78	260	18.		.391	300.300		946.722		.000			

18 Sept 75

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	261	8 0	0.	0.	0.	0.	472.	0.	0.	17.3	28.0	10.7
78	261	830	0.	0.	0.	0.	497.	0.	0.	17.5	32.0	11.5
78	261	9 0	0.	0.	0.	0.	490.	0.	0.	18.0	30.8	12.3
78	261	930	0.	0.	0.	0.	561.	0.	0.	18.8	41.4	13.5
78	261	10 0	0.	0.	0.	0.	637.	0.	0.	19.1	51.4	15.2
78	261	1030	0.	0.	0.	0.	535.	0.	0.	19.8	37.6	16.1
78	261	11 0	0.	0.	0.	0.	654.	0.	0.	21.7	53.6	17.8
78	261	1130	0.	0.	0.	0.	927.	0.	0.	19.8	83.4	21.2
78	261	12 0	0.	0.	0.	0.	722.	0.	0.	22.0	61.8	23.2
78	261	1230	0.	0.	0.	0.	902.	0.	0.	24.2	81.0	26.3
78	261	13 0	0.	0.	0.	0.	871.	0.	0.	24.9	77.9	29.0
78	261	1330	0.	0.	0.	0.	973.	0.	0.	25.1	87.7	32.3
78	261	14 0	0.	0.	0.	0.	783.	0.	0.	24.7	68.7	34.2
78	261	1430	0.	0.	0.	0.	871.	0.	0.	26.0	77.9	36.6
78	261	15 0	0.	0.	0.	0.	578.	0.	0.	24.9	43.6	36.9
78	261	1530	0.	0.	0.	0.	609.	0.	0.	25.3	47.8	37.5
78	261	16 0	0.	0.	0.	0.	535.	0.	0.	25.0	37.6	37.5
78	261	17.		.687	527.573		1663.220		.000			

19 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	262	8 0	15.	0.	0.	0.	644.	0.	0.	22.2	52.9	11.8
78	262	830	0.	0.	0.	0.	760.	0.	0.	24.4	66.1	14.4
78	262	9 0	0.	0.	0.	0.	812.	0.	0.	25.8	71.7	17.2
78	262	930	0.	0.	0.	0.	929.	0.	0.	26.4	83.6	20.7
78	262	10 0	0.	0.	0.	0.	1010.	0.	0.	26.8	91.1	24.6
78	262	1030	0.	0.	0.	0.	939.	0.	0.	20.0	84.6	27.9
78	262	11 0	0.	0.	0.	0.	1076.	0.	0.	27.5	97.0	31.9
78	262	12 0	0.	0.	0.	0.	1084.	0.	0.	27.6	97.6	35.8
78	262	1230	0.	0.	0.	0.	1158.	0.	0.	28.1	103.8	40.1
78	262	13 0	0.	0.	0.	0.	1179.	0.	0.	28.7	105.5	44.3
78	262	1330	0.	0.	0.	0.	1007.	0.	0.	28.6	90.8	47.1
78	262	14 0	0.	0.	0.	0.	1086.	0.	0.	30.7	97.8	50.4
78	262	1430	0.	0.	0.	0.	978.	0.	0.	29.1	88.2	52.7
78	262	15 0	0.	0.	0.	0.	739.	0.	0.	28.2	63.8	53.3
78	262	1530	0.	0.	0.	0.	754.	0.	0.	28.3	65.4	54.0
78	262	16 0	0.	0.	0.	0.	674.	0.	0.	28.4	56.1	54.1
78	262	16.	1.103	847.240	2670.995	.000						

20 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	263	8 0	0.	0.	0.	0.	484.	0.	0.	15.7	30.0	10.8
78	263	830	0.	0.	0.	0.	489.	0.	0.	16.0	30.7	11.6
78	263	9 0	0.	0.	0.	0.	622.	0.	0.	17.2	49.6	13.2
78	263	930	0.	0.	0.	0.	593.	0.	0.	17.9	45.8	14.6
78	263	10 0	0.	0.	0.	0.	744.	0.	0.	17.7	64.3	16.9
78	263	1030	0.	0.	0.	0.	822.	0.	0.	20.7	72.8	19.7
78	263	11 0	0.	0.	0.	0.	517.	0.	0.	16.8	35.0	20.4
78	263	1130	0.	0.	0.	0.	450.	0.	0.	16.9	24.5	20.5
78	263	12 0	0.	0.	0.	0.	422.	0.	0.	14.7	19.8	20.5
78	263	1230	0.	0.	0.	0.	448.	0.	0.	14.9	24.1	20.7
78	263	13 0	0.	0.	0.	0.	424.	0.	0.	14.8	20.1	20.7
78	263	1330	0.	0.	0.	0.	423.	0.	0.	15.1	19.9	20.7
78	263	14 0	0.	0.	0.	0.	425.	0.	0.	15.0	20.3	20.7
78	263	1430	0.	0.	0.	0.	425.	0.	0.	14.2	20.2	20.7
78	263	15 0	0.	0.	0.	0.	425.	0.	0.	14.1	20.2	20.7
78	263	1530	0.	0.	0.	0.	425.	0.	0.	13.6	20.3	20.7
78	263	16 0	0.	0.	0.	0.	425.	0.	0.	12.3	20.3	20.7
78	263	17.	.267	204.709	445.362	.000						



21 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	264	8 0	0.	0.	0.	0.	443.	0.	0.	11.1	23.3	10.5
78	264	830	0.	0.	0.	0.	476.	0.	0.	11.8	28.7	11.2
78	264	9 0	0.	0.	0.	0.	498.	0.	0.	12.2	32.0	12.0
78	264	930	0.	0.	0.	0.	573.	0.	0.	12.8	43.0	13.3
78	264	10 0	0.	0.	0.	0.	726.	0.	0.	13.4	62.2	15.6
78	264	1030	0.	0.	0.	0.	916.	0.	0.	15.1	82.4	19.1
78	264	11 0	0.	0.	0.	0.	810.	0.	0.	15.1	71.6	21.7
78	264	1130	0.	0.	0.	0.	687.	0.	0.	14.5	57.7	23.4
78	264	12 0	0.	0.	0.	0.	684.	0.	0.	16.0	79.2	26.3
78	264	1230	0.	0.	0.	0.	1107.	0.	0.	16.1	99.6	30.6
78	264	13 0	0.	0.	0.	0.	723.	0.	0.	15.2	61.9	32.2
78	264	1330	0.	0.	0.	0.	599.	0.	0.	20.0	46.5	32.9
78	264	14 0	0.	0.	0.	0.	741.	0.	0.	16.7	63.9	34.5
78	264	1430	0.	0.	0.	0.	930.	0.	0.	19.1	83.7	37.3
78	264	15 0	0.	0.	0.	0.	765.	0.	0.	17.8	66.6	38.8
78	264	1530	0.	0.	0.	0.	779.	0.	0.	18.4	68.3	40.4
78	264	16 0	0.	0.	0.	0.	528.	0.	0.	16.0	36.6	40.4
78	264	17.		.760	583.447	1839.367			.000			

22 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	265	8 0	0.	0.	0.	0.	656.	0.	0.	13.1	53.9	11.9
78	265	830	0.	0.	0.	0.	602.	0.	0.	14.3	70.7	14.8
78	265	9 0	0.	0.	0.	0.	926.	0.	0.	17.2	83.3	18.3
78	265	930	0.	0.	0.	0.	1046.	0.	0.	18.3	94.3	22.6
78	265	10 0	0.	0.	0.	0.	1141.	0.	0.	17.4	102.4	27.3
78	265	1030	0.	0.	0.	0.	1228.	0.	0.	18.0	109.4	32.4
78	265	11 0	0.	0.	0.	0.	1279.	0.	0.	17.8	113.2	37.6
78	265	1130	0.	0.	0.	0.	1297.	0.	0.	17.8	114.6	42.7
78	265	12 0	0.	0.	0.	0.	1335.	12.	12.	18.5	117.4	47.8
78	265	1230	0.	0.	0.	0.	1329.	0.	0.	19.7	117.0	52.6
78	265	13 0	0.	0.	0.	0.	1284.	0.	0.	19.7	113.7	56.9
78	265	1330	0.	0.	0.	0.	1236.	0.	0.	20.7	110.0	60.6
78	265	14 0	0.	0.	0.	0.	1163.	0.	0.	19.5	104.2	63.6
78	265	1430	0.	0.	0.	0.	1072.	0.	0.	21.6	96.6	65.9
78	265	15 0	0.	0.	0.	0.	961.	0.	0.	21.1	86.6	67.2
78	265	1530	0.	0.	0.	0.	844.	0.	0.	19.3	75.2	67.7
78	265	16 0	0.	0.	0.	0.	719.	0.	0.	21.4	61.5	67.7
78	265	1630	0.	0.	0.	0.	604.	0.	0.	21.8	47.1	67.7
78	265	17 0	0.	0.	0.	0.	506.	0.	0.	20.3	33.3	67.7
78	265	19.		1.443	1108.141	3493.510			.000			

23 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	266	8 0	0.	0.	0.	0.	638.	0.	0.	13.4	51.6	11.8
78	266	830	0.	0.	0.	0.	775.	0.	0.	14.8	67.8	14.5
78	266	9 0	0.	0.	0.	0.	882.	0.	0.	15.6	79.0	17.7
78	266	930	0.	0.	0.	0.	969.	0.	0.	15.7	87.3	21.5
78	266	10 0	0.	0.	0.	0.	1081.	0.	0.	16.5	97.4	25.8
78	266	1030	0.	0.	0.	0.	1147.	0.	0.	18.8	102.9	30.4
78	266	11 0	0.	0.	0.	0.	1213.	0.	0.	19.1	108.2	35.3
78	266	1130	0.	0.	0.	0.	1249.	0.	0.	20.6	111.0	40.2
78	266	12 0	0.	0.	0.	0.	1247.	0.	0.	18.2	110.8	44.8
78	266	1230	0.	0.	0.	0.	1252.	0.	0.	20.0	111.2	49.3
78	266	13 0	0.	0.	0.	0.	1189.	0.	0.	19.7	106.3	53.1
78	266	1330	0.	0.	0.	0.	1137.	0.	0.	19.8	102.0	56.3
78	266	14 0	0.	0.	0.	0.	1063.	0.	0.	20.6	95.8	58.9
78	266	1430	0.	0.	0.	0.	974.	0.	0.	20.5	87.8	60.8
78	266	15 0	0.	0.	0.	0.	886.	0.	0.	20.6	79.4	61.9
78	266	1530	0.	0.	0.	0.	774.	0.	0.	20.6	67.6	62.3
78	266	16 0	0.	0.	0.	0.	662.	0.	0.	19.0	54.6	62.3
78	266	1630	0.	0.	0.	0.	563.	0.	0.	20.8	41.7	62.3
78	266	17 0	0.	0.	0.	0.	480.	0.	0.	19.1	29.3	62.3
78	266	19.		1.307	1003.53A		3143.240					

24 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	267	8 0	0.	0.	0.	0.	628.	0.	0.	15.1	50.4	11.7
78	267	830	0.	0.	0.	0.	727.	0.	0.	15.9	62.4	14.1
78	267	9 0	0.	0.	0.	0.	864.	0.	0.	18.2	77.2	17.2
78	267	930	0.	0.	0.	0.	968.	0.	0.	18.6	87.3	21.0
78	267	10 0	0.	0.	0.	0.	1086.	0.	0.	20.0	97.8	25.4
78	267	1030	0.	0.	0.	0.	1176.	0.	0.	19.8	105.3	30.2
78	267	11 0	0.	0.	0.	0.	1239.	0.	0.	20.1	110.2	35.3
78	267	1130	0.	0.	0.	0.	1276.	0.	0.	22.2	113.1	40.3
78	267	12 0	0.	0.	0.	0.	1273.	0.	0.	23.0	112.8	45.1
78	267	1230	0.	0.	0.	0.	1242.	0.	0.	16.7	110.4	49.5
78	267	13 0	0.	0.	0.	0.	1188.	0.	0.	23.7	106.2	53.3
78	267	1330	0.	0.	0.	0.	1141.	0.	0.	23.4	102.4	56.6
78	267	14 0	0.	0.	0.	0.	1030.	0.	0.	23.2	93.0	58.9
78	267	1430	0.	0.	0.	0.	956.	0.	0.	23.3	86.1	60.7
78	267	15 0	0.	0.	0.	0.	859.	0.	0.	23.4	76.7	61.6
78	267	1530	0.	0.	0.	0.	755.	0.	0.	22.7	65.6	61.9
78	267	16 0	0.	0.	0.	0.	566.	0.	0.	23.2	42.0	61.9
78	267	17 0	0.	0.	0.	0.	490.	0.	0.	22.8	30.9	61.9
78	267	18.		1.297	996.058		3140.158					

25 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	268	8 0	0.	0.	0.	0.	644.	0.	0.	11.6	52.4	11.8
78	268	830	0.	0.	0.	0.	771.	0.	0.	11.9	67.4	14.5
78	268	9 0	776.	0.	0.	0.	895.	7.	7.	14.3	80.3	17.8
78	268	930	777.	0.	0.	0.	1022.	78.	78.	15.2	92.2	21.9
78	268	10 0	807.	0.	0.	0.	1112.	84.	84.	15.3	100.0	26.5
78	268	1030	827.	0.	0.	0.	1210.	90.	90.	16.3	108.0	31.5
78	268	11 0	830.	0.	0.	0.	1260.	92.	92.	15.6	111.8	36.6
78	268	1130	831.	0.	0.	0.	1321.	94.	94.	15.8	116.4	41.9
78	268	12 0	827.	0.	0.	0.	1305.	94.	94.	18.9	115.2	46.8
78	268	1230	827.	0.	0.	0.	1316.	94.	94.	17.8	116.0	51.6
78	268	13 0	807.	0.	0.	0.	1294.	91.	91.	18.3	114.4	56.0
78	268	1330	807.	0.	0.	0.	1258.	88.	88.	19.9	111.7	59.9
78	268	14 0	774.	0.	0.	0.	1161.	83.	83.	20.1	104.0	63.0
78	268	1430	774.	0.	0.	0.	1088.	79.	79.	17.6	98.0	65.4
78	268	15 0	775.	0.	0.	0.	970.	70.	70.	20.3	87.5	66.8
78	268	1530	775.	0.	0.	0.	860.	62.	62.	20.5	76.8	67.4
78	268	16 0	660.	0.	0.	0.	725.	52.	52.	17.7	62.2	67.4
78	268	1630	55.	0.	0.	0.	600.	40.	40.	17.8	46.7	67.4
78	268	17 0	410.	0.	0.	0.	499.	26.	26.	17.3	32.3	67.4
78	268	19.		1.436	1102.869	3476.888			.000			

25 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	269	8 0	0.	0.	0.	0.	619.	0.	0.	10.9	49.2	11.7
78	269	830	0.	0.	0.	0.	729.	0.	0.	14.2	62.6	14.0
78	269	9 0	0.	0.	0.	0.	745.	0.	0.	13.2	64.4	16.4
78	269	930	0.	0.	0.	0.	923.	0.	0.	14.7	83.0	19.9
78	269	10 0	0.	0.	0.	0.	1009.	0.	0.	14.1	91.0	23.8
78	269	1030	0.	0.	0.	0.	1106.	0.	0.	17.2	99.5	28.2
78	269	1130	0.	0.	0.	0.	1165.	0.	0.	18.1	104.4	32.8
78	269	12 0	0.	0.	0.	0.	1192.	0.	0.	19.5	106.6	37.5
78	269	1230	0.	0.	0.	0.	915.	0.	0.	18.3	82.2	40.0
78	269	13 0	0.	0.	0.	0.	850.	0.	0.	19.2	75.7	42.0
78	269	1330	0.	0.	0.	0.	808.	0.	0.	19.1	71.3	43.6
78	269	14 0	0.	0.	0.	0.	902.	0.	0.	20.2	81.0	45.8
78	269	1430	0.	0.	0.	0.	825.	0.	0.	20.6	73.1	47.3
78	269	15 0	0.	0.	0.	0.	858.	0.	0.	20.8	76.6	49.0
78	269	1530	0.	0.	0.	0.	737.	0.	0.	21.0	63.5	49.8
78	269	16 0	0.	0.	0.	0.	636.	0.	0.	19.8	51.4	49.9
78	269	1630	0.	0.	0.	0.	544.	0.	0.	19.4	38.9	49.9
78	269	17 0	0.	0.	0.	0.	466.	0.	0.	18.6	27.0	49.9
78	269	18.		.998	766.325	2415.905			.000			

27 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	270	8 0	0.	0.	0.	0.	453.	0.	0.	11.1	25.0	10.6
78	270	830	0.	0.	0.	0.	672.	0.	0.	13.0	55.8	12.6
78	270	9 0	0.	0.	0.	0.	722.	0.	0.	12.0	61.8	14.8
78	270	930	0.	0.	0.	0.	833.	0.	0.	12.5	74.0	17.8
78	270	10 0	0.	0.	0.	0.	891.	0.	0.	13.3	79.9	21.0
78	270	1030	0.	0.	0.	0.	925.	0.	0.	13.2	83.2	24.3
78	270	11 0	0.	0.	0.	0.	1072.	0.	0.	13.9	96.6	28.5
78	270	1130	0.	0.	0.	0.	761.	0.	0.	13.9	66.3	30.4
78	270	12 0	0.	0.	0.	0.	978.	0.	0.	14.1	88.2	33.7
78	270	1230	0.	0.	0.	0.	871.	0.	0.	14.1	77.9	36.1
78	270	13 0	0.	0.	0.	0.	1074.	0.	0.	15.3	96.8	39.8
78	270	1330	0.	0.	0.	0.	937.	0.	0.	14.0	84.4	42.4
78	270	14 0	0.	0.	0.	0.	653.	0.	0.	13.7	53.5	42.9
78	270	1430	0.	0.	0.	0.	885.	0.	0.	15.6	79.3	45.0
78	270	15 0	0.	0.	0.	0.	692.	0.	0.	15.2	58.2	45.7
78	270	1530	0.	0.	0.	0.	568.	0.	0.	13.7	42.2	45.7
78	270	16 0	0.	0.	0.	0.	600.	0.	0.	14.4	46.7	45.8
78	270	1630	0.	0.	0.	0.	494.	0.	0.	14.2	31.4	45.8
78	270	17 0	0.	0.	0.	0.	436.	0.	0.	13.4	22.1	45.8
78	270	19.		.895	686.996	2165.813			.000			

28 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	271	8 0	0.	0.	0.	0.	646.	0.	0.	9.3	52.6	11.9
78	271	830	7.	0.	0.	0.	770.	69.	69.	11.6	67.2	14.5
78	271	9 0	7.	0.	0.	0.	869.	78.	66.	11.6	77.7	17.7
78	271	930	7.	0.	0.	0.	986.	84.	45.	11.8	88.9	21.5
78	271	10 0	7.	0.	0.	0.	1093.	91.	11.	12.6	98.4	25.9
78	271	1030	7.	0.	0.	0.	1194.	99.	55.	14.9	106.7	30.9
78	271	11 0	6.	0.	0.	0.	1087.	91.	16.	12.7	97.9	34.8
78	271	1130	2.	0.	0.	0.	1001.	81.	45.	15.2	90.3	38.1
78	271	12 0	7.	0.	0.	0.	1302.	100.	100.	15.2	115.0	43.2
78	271	1230	7.	0.	0.	0.	1216.	98.	98.	16.0	108.4	47.5
78	271	13 0	7.	0.	0.	0.	1200.	96.	96.	14.7	107.2	51.5
78	271	1330	7.	0.	0.	0.	1120.	93.	93.	16.6	100.7	54.7
78	271	14 0	7.	0.	0.	0.	1040.	84.	84.	14.5	93.8	57.2
78	271	1430	6.	0.	0.	0.	962.	78.	78.	14.4	86.7	59.1
78	271	15 0	5.	0.	0.	0.	852.	71.	71.	15.9	75.9	60.1
78	271	1530	3.	0.	0.	0.	720.	61.	61.	15.9	61.6	60.2
78	271	16 0	3.	0.	0.	0.	587.	51.	51.	14.1	44.9	60.2
78	271	1630	1.	0.	0.	0.	493.	41.	41.	13.4	31.4	60.2
78	271	17 0	0.	0.	0.	0.	442.	31.	31.	13.3	23.2	60.2
78	271	19.		1.255	963.821	3038.527			.000			

29 Sept 78

YR	DAY	TIME	PHP	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	272	8 0	0.	0.	0.	0.	423.	0.	0.	9.3	19.9	10.0
78	272	830	0.	0.	0.	0.	473.	0.	0.	10.5	28.2	10.7
78	272	9 0	0.	0.	0.	0.	439.	0.	0.	10.8	22.7	11.1
78	272	930	0.	0.	0.	0.	468.	0.	0.	10.8	27.5	11.8
78	272	10 0	0.	0.	0.	0.	677.	0.	0.	12.8	56.4	13.8
78	272	1030	0.	0.	0.	0.	508.	0.	0.	13.4	33.6	14.6
78	272	11 0	0.	0.	0.	0.	475.	0.	0.	13.5	28.5	15.1
78	272	1130	0.	0.	0.	0.	630.	0.	0.	15.1	50.6	16.7
78	272	12 0	0.	0.	0.	0.	591.	0.	0.	15.5	45.9	17.9
78	272	1230	0.	0.	0.	0.	462.	0.	0.	15.5	26.4	18.3
78	272	13 0	0.	0.	0.	0.	457.	0.	0.	15.7	25.6	18.6
78	272	1330	0.	0.	0.	0.	665.	0.	0.	16.8	55.0	20.2
78	272	14 0	0.	0.	0.	0.	503.	0.	0.	16.9	32.9	20.7
78	272	1430	0.	0.	0.	0.	470.	0.	0.	16.9	27.7	21.0
78	272	15 0	0.	0.	0.	0.	450.	0.	0.	16.7	24.5	21.2
78	272	1530	0.	0.	0.	0.	424.	0.	0.	15.8	20.0	21.2
78	272	16 0	0.	0.	0.	0.	423.	0.	0.	14.4	19.9	21.2
78	272	1630	0.	0.	0.	0.	423.	0.	0.	13.4	19.9	21.2
78	272	18.		.279	219.407		675.936		.000			

30 Sept 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	273	8 0	0.	0.	0.	0.	484.	0.	0.	9.9	29.9	10.8
78	273	830	0.	0.	0.	0.	514.	0.	0.	10.3	34.5	11.7
78	273	9 0	0.	0.	0.	0.	462.	0.	0.	10.2	26.4	12.3
78	273	930	0.	0.	0.	0.	448.	0.	0.	9.9	24.1	12.7
78	273	10 0	0.	0.	0.	0.	489.	0.	0.	10.6	30.0	13.4
78	273	1030	0.	0.	0.	0.	455.	0.	0.	10.5	25.4	13.8
78	273	11 0	0.	0.	0.	0.	475.	0.	0.	10.9	28.6	14.4
78	273	1130	0.	0.	0.	0.	444.	0.	0.	10.7	23.4	14.8
78	273	12 0	0.	0.	0.	0.	460.	0.	0.	10.5	26.0	15.2
78	273	1230	0.	0.	0.	0.	522.	0.	0.	10.9	35.8	16.1
78	273	13 0	0.	0.	0.	0.	519.	0.	0.	10.8	35.3	16.9
78	273	1330	0.	0.	0.	0.	444.	0.	0.	10.6	23.4	17.1
78	273	14 0	0.	0.	0.	0.	453.	0.	0.	11.2	25.0	17.4
78	273	1430	0.	0.	0.	0.	422.	0.	0.	10.6	19.8	17.4
78	273	15 0	0.	0.	0.	0.	423.	0.	0.	10.6	19.9	17.4
78	273	1530	0.	0.	0.	0.	424.	0.	0.	10.3	20.0	17.4
78	273	16 0	0.	0.	0.	0.	424.	0.	0.	10.1	20.9	17.4
78	273	1630	0.	0.	0.	0.	423.	0.	0.	10.3	19.9	17.4
78	273	18.		.165	142.376		848.853		.000			

1 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	274	8 0	0.	0.	0.	0.	695.	0.	0.	10.9	58.7	12.2
78	274	830	0.	0.	0.	0.	830.	0.	0.	14.3	73.7	15.2
78	274	9 0	0.	0.	0.	0.	929.	0.	0.	12.4	83.5	18.8
78	274	930	0.	0.	0.	0.	1009.	0.	0.	13.5	91.0	22.7
78	274	10 0	0.	0.	0.	0.	1181.	0.	0.	16.1	105.6	27.7
78	274	1030	0.	0.	0.	0.	1264.	0.	0.	16.8	112.2	33.0
78	274	11 0	0.	0.	0.	0.	1357.	0.	0.	14.8	119.0	38.7
78	274	1130	0.	0.	0.	0.	1320.	0.	0.	16.0	116.3	43.9
78	274	12 0	0.	0.	0.	0.	1235.	0.	0.	15.7	109.9	48.3
78	274	1230	0.	0.	0.	0.	1245.	0.	0.	16.6	110.7	52.5
78	274	13 0	0.	0.	0.	0.	1208.	0.	0.	16.5	107.8	56.3
78	274	1330	0.	0.	0.	0.	1144.	0.	0.	17.7	102.7	59.4
78	274	14 0	0.	0.	0.	0.	1079.	0.	0.	17.8	97.2	62.0
78	274	1430	0.	0.	0.	0.	976.	0.	0.	18.5	88.0	63.7
78	274	15 0	0.	0.	0.	0.	842.	0.	0.	17.3	74.9	64.3
78	274	1530	0.	0.	0.	0.	718.	0.	0.	16.5	61.4	64.3
78	274	16 0	0.	0.	0.	0.	586.	0.	0.	15.1	44.8	64.3
78	274	1630	0.	0.	0.	0.	501.	0.	0.	15.3	32.6	64.3
78	274	18.		1.359	1043.409		3289.437					

.000

2 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	275	8 0	0.	0.	0.	0.	442.	0.	0.	9.3	23.1	10.5
78	275	830	0.	0.	0.	0.	492.	0.	0.	11.0	31.1	11.3
78	275	9 0	0.	0.	0.	0.	587.	0.	0.	12.2	44.9	12.7
78	275	930	0.	0.	0.	0.	753.	0.	0.	13.2	65.3	15.2
78	275	10 0	0.	0.	0.	0.	675.	0.	0.	13.9	56.2	17.0
78	275	1030	0.	0.	0.	0.	582.	0.	0.	14.5	44.2	18.2
78	275	11 0	0.	0.	0.	0.	716.	0.	0.	15.3	61.1	20.2
78	275	1130	0.	0.	0.	0.	876.	0.	0.	16.9	78.4	23.3
78	275	12 0	0.	0.	0.	0.	630.	0.	0.	16.6	50.6	24.5
78	275	1230	0.	0.	0.	0.	513.	0.	0.	16.1	34.3	24.9
78	275	13 0	0.	0.	0.	0.	503.	0.	0.	16.2	32.8	25.3
78	275	1330	0.	0.	0.	0.	469.	0.	0.	16.0	27.6	25.4
78	275	14 0	0.	0.	0.	0.	424.	0.	0.	15.8	20.0	25.4
78	275	1430	0.	0.	0.	0.	423.	0.	0.	15.6	19.9	25.4
78	275	15 0	0.	0.	0.	0.	423.	0.	0.	14.7	19.9	25.4
78	275	1530	0.	0.	0.	0.	425.	0.	0.	12.5	20.3	25.4
78	275	16 0	0.	0.	0.	0.	424.	0.	0.	11.1	20.1	25.4
78	275	1630	0.	0.	0.	0.	423.	0.	0.	10.3	19.9	25.4
78	275	18.		.384	295.005		930.027					

.000

2 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	27	8 0	0.	0.	0.	0.	577.	0.	0.	10.2	43.6	11.4
78	27	830	0.	0.	0.	0.	650.	0.	0.	11.8	53.2	13.2
78	27	9 0	0.	0.	0.	0.	510.	0.	0.	10.2	34.0	14.1
78	27	930	0.	0.	0.	0.	692.	0.	0.	10.9	58.3	16.1
78	27	10 0	0.	0.	0.	0.	777.	0.	0.	11.4	68.1	18.6
78	27	1030	0.	0.	0.	0.	597.	0.	0.	11.0	46.3	19.8
78	27	11 0	0.	0.	0.	0.	642.	0.	0.	11.2	52.2	21.3
78	27	1130	0.	0.	0.	0.	718.	0.	0.	11.2	61.4	23.2
78	27	12 0	0.	0.	0.	0.	635.	0.	0.	12.3	51.3	24.5
78	27	1230	0.	0.	0.	0.	901.	0.	0.	12.8	80.9	27.5
78	27	13 0	0.	0.	0.	0.	615.	0.	0.	12.2	48.6	28.5
78	27	1330	0.	0.	0.	0.	992.	0.	0.	13.1	89.5	32.0
78	27	14 0	0.	0.	0.	0.	909.	0.	0.	12.3	81.7	34.7
78	27	1430	0.	0.	0.	0.	577.	0.	0.	11.4	43.6	35.1
78	27	15 0	0.	0.	0.	0.	421.	0.	0.	7.8	19.5	35.1
78	27	1530	0.	0.	0.	0.	421.	0.	0.	8.1	19.6	35.1
78	27	16 0	0.	0.	0.	0.	422.	0.	0.	6.6	19.8	35.1
78	27	1630	0.	0.	0.	0.	437.	0.	0.	8.2	22.3	35.1
78	27	18.		.628	482.044	1520.945			.000			

4 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	27	8 0	0.	0.	0.	0.	423.	0.	0.	6.6	19.9	10.0
78	27	830	0.	0.	0.	0.	423.	0.	0.	6.9	19.9	10.0
78	27	9 0	0.	0.	0.	0.	423.	0.	0.	7.4	19.9	10.0
78	27	930	0.	0.	0.	0.	423.	0.	0.	7.3	19.9	10.0
78	27	10 0	0.	0.	0.	0.	423.	0.	0.	7.3	19.9	10.0
78	27	1030	0.	0.	0.	0.	428.	0.	0.	7.5	20.7	10.0
78	27	11 0	0.	0.	0.	0.	505.	0.	0.	8.5	33.2	10.9
78	27	1130	0.	0.	0.	0.	562.	0.	0.	9.3	41.4	12.2
78	27	12 0	0.	0.	0.	0.	458.	0.	0.	8.9	25.8	12.7
78	27	1230	0.	0.	0.	0.	454.	0.	0.	9.1	25.1	13.2
78	27	13 0	0.	0.	0.	0.	488.	0.	0.	9.8	30.5	13.9
78	27	1330	0.	0.	0.	0.	468.	0.	0.	10.0	27.4	14.4
78	27	14 0	0.	0.	0.	0.	693.	0.	0.	11.1	58.3	16.4
78	27	1430	0.	0.	0.	0.	507.	0.	0.	10.3	33.5	17.1
78	27	15 0	0.	0.	0.	0.	451.	0.	0.	10.1	24.6	17.4
78	27	1530	0.	0.	0.	0.	531.	0.	0.	10.9	37.0	18.2
78	27	16 0	0.	0.	0.	0.	473.	0.	0.	10.2	28.3	18.6
78	27	17.		.215	165.216	520.858			.000			

5 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	278	8 0	0.	0.	0.	0.	424.	0.	0.	20.0	20.0	10.0
78	278	830	0.	0.	0.	0.	666.	0.	0.	8.3	55.2	12.0
78	278	9 0	0.	0.	0.	0.	606.	0.	0.	6.8	47.4	13.5
78	278	930	0.	0.	0.	0.	534.	0.	0.	7.0	37.5	14.5
78	278	10 0	0.	0.	0.	0.	473.	0.	0.	6.6	28.2	15.0
78	278	1030	0.	0.	0.	0.	448.	0.	0.	6.6	24.1	15.4
78	278	11 0	0.	0.	0.	0.	494.	0.	0.	7.4	31.5	16.0
78	278	1130	0.	0.	0.	0.	501.	0.	0.	8.6	32.6	16.7
78	278	12 0	0.	0.	0.	0.	538.	0.	0.	8.3	38.0	17.6
78	278	1230	0.	0.	0.	0.	744.	0.	0.	9.5	64.3	19.8
78	278	13 0	0.	0.	0.	0.	661.	0.	0.	9.3	54.5	21.4
78	278	1330	0.	0.	0.	0.	741.	0.	0.	10.8	64.0	23.5
78	278	14 0	0.	0.	0.	0.	455.	0.	0.	8.1	25.3	23.6
78	278	1430	0.	0.	0.	0.	506.	0.	0.	9.2	33.3	24.0
78	278	15 0	0.	0.	0.	0.	638.	0.	0.	8.6	51.6	25.3
78	278	1530	0.	0.	0.	0.	504.	0.	0.	9.1	33.1	25.6
78	278	16 0	0.	0.	0.	0.	461.	0.	0.	8.4	26.3	25.6
78	278	1630	0.	0.	0.	0.	424.	0.	0.	8.0	20.1	25.6
78	278	18.		.390	299.753	944.997			.000			

6 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	279	8 0	0.	0.	0.	0.	424.	0.	0.	6.6	20.0	10.0
78	279	830	0.	0.	0.	0.	421.	0.	0.	6.5	19.6	10.0
78	279	9 0	0.	0.	0.	0.	423.	0.	0.	6.1	19.8	10.0
78	279	930	0.	0.	0.	0.	424.	0.	0.	6.1	20.0	10.0
78	279	10 0	0.	0.	0.	0.	441.	0.	0.	6.6	23.0	10.5
78	279	1030	0.	0.	0.	0.	834.	0.	0.	8.3	74.1	13.6
78	279	11 0	0.	0.	0.	0.	467.	0.	0.	6.7	27.2	14.1
78	279	1130	0.	0.	0.	0.	540.	0.	0.	7.4	38.3	15.1
78	279	12 0	0.	0.	0.	0.	630.	0.	0.	8.0	50.6	16.7
78	279	1230	0.	0.	0.	0.	608.	0.	0.	7.8	47.7	18.0
78	279	13 0	0.	0.	0.	0.	524.	0.	0.	7.7	36.1	18.8
78	279	1330	0.	0.	0.	0.	471.	0.	0.	8.0	27.8	19.1
78	279	14 0	0.	0.	0.	0.	451.	0.	0.	7.4	24.6	19.4
78	279	1430	0.	0.	0.	0.	428.	0.	0.	7.4	20.7	19.4
78	279	15 0	0.	0.	0.	0.	430.	0.	0.	7.4	21.1	19.4
78	279	1530	0.	0.	0.	0.	422.	0.	0.	7.3	19.7	19.4
78	279	16 0	0.	0.	0.	0.	423.	0.	0.	6.8	19.9	19.4
78	279	1630	0.	0.	0.	0.	425.	0.	0.	6.6	20.2	19.4
78	279	18.		.236	180.980	570.553			.000			



2 out 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	280	8 0	0.	0.	0.	0.	421.	0.	0.	4.3	19.6	10.0
78	280	9 0	0.	0.	0.	0.	422.	0.	0.	4.7	19.7	10.0
78	280	9 30	0.	0.	0.	0.	422.	0.	0.	5.1	19.7	10.0
78	280	10 0	0.	0.	0.	0.	458.	0.	0.	5.9	25.7	10.6
78	280	10 30	0.	0.	0.	0.	421.	0.	0.	5.9	19.6	10.6
78	280	11 0	0.	0.	0.	0.	564.	0.	0.	6.6	41.7	11.9
78	280	11 30	0.	0.	0.	0.	526.	0.	0.	6.6	36.4	12.9
78	280	12 0	0.	0.	0.	0.	421.	0.	0.	6.3	19.6	12.9
78	280	12 30	0.	0.	0.	0.	422.	0.	0.	6.3	19.8	12.9
78	280	13 0	0.	0.	0.	0.	483.	0.	0.	6.4	19.7	12.9
78	280	13 30	0.	0.	0.	0.	485.	0.	0.	6.8	29.8	13.5
78	280	14 0	0.	0.	0.	0.	513.	0.	0.	7.4	30.0	14.2
78	280	14 30	0.	0.	0.	0.	469.	0.	0.	6.6	34.3	15.0
78	280	15 0	0.	0.	0.	0.	512.	0.	0.	7.3	27.5	15.5
78	280	15 30	0.	0.	0.	0.	565.	0.	0.	6.9	34.3	16.3
78	280	16 0	0.	0.	0.	0.	479.	0.	0.	10.6	41.8	17.3
78	280	16 30	0.	0.	0.	0.	420.	0.	0.	6.9	29.1	17.8
78	280	18.		.195	149.936	472.685			.000	6.5	19.4	17.8

8 out 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	281	8 0	0.	0.	0.	0.	607.	0.	0.	9.2	47.6	11.6
78	281	8 30	0.	0.	0.	0.	755.	0.	0.	7.6	65.5	14.1
78	281	9 0	0.	0.	0.	0.	863.	0.	0.	9.3	77.1	17.3
78	281	9 30	0.	0.	0.	0.	928.	0.	0.	10.8	83.5	20.8
78	281	10 0	0.	0.	0.	0.	1046.	0.	0.	10.1	94.3	24.9
78	281	10 30	0.	0.	0.	0.	1137.	0.	0.	12.5	102.1	29.5
78	281	11 0	0.	0.	0.	0.	1172.	0.	0.	11.6	104.9	34.1
78	281	11 30	0.	0.	0.	0.	1219.	0.	0.	12.4	108.7	38.8
78	281	12 0	0.	0.	0.	0.	1251.	0.	0.	12.8	111.1	43.6
78	281	12 30	3.	0.	0.	0.	1180.	0.	0.	12.2	105.6	47.6
78	281	13 0	0.	0.	0.	0.	1133.	0.	0.	13.0	101.8	51.1
78	281	13 30	0.	0.	0.	0.	977.	0.	0.	13.3	88.1	53.4
78	281	14 0	0.	0.	0.	0.	1017.	0.	0.	13.3	91.8	55.9
78	281	14 30	0.	0.	0.	0.	939.	0.	0.	12.3	84.5	57.7
78	281	15 0	0.	0.	0.	0.	835.	0.	0.	14.5	74.2	58.6
78	281	15 30	0.	0.	0.	0.	649.	0.	0.	13.8	52.9	58.6
78	281	16 0	0.	0.	0.	0.	578.	0.	0.	11.8	43.7	58.6
78	281	16 30	0.	0.	0.	0.	490.	0.	0.	10.8	30.8	58.6
78	281	18.		1.216	934.020	2944.578			.000			

9 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	282	8 0	0.	0.	0.	0.	438.	0.	0.	8.8	22.5	10.5
78	282	830	0.	0.	0.	0.	529.	0.	0.	9.1	36.8	11.5
78	282	9 0	0.	0.	0.	0.	695.	0.	0.	10.0	58.7	13.7
78	282	930	0.	0.	0.	0.	790.	0.	0.	11.2	69.4	16.3
78	282	10 0	0.	0.	0.	0.	631.	0.	0.	13.2	50.8	17.9
78	282	1030	0.	0.	0.	0.	664.	0.	0.	13.2	54.8	19.6
78	282	11 0	0.	0.	0.	0.	707.	0.	0.	12.5	60.1	21.5
78	282	1130	0.	0.	0.	0.	466.	0.	0.	12.0	27.1	21.7
78	282	12 0	8.	0.	0.	0.	487.	0.	0.	11.6	30.3	22.1
78	282	1230	0.	0.	0.	0.	445.	0.	0.	11.4	23.7	22.1
78	282	13 0	0.	0.	0.	0.	425.	0.	0.	11.5	20.3	22.1
78	282	1330	0.	0.	0.	0.	423.	0.	0.	10.6	19.9	22.1
78	282	14 0	0.	0.	0.	0.	422.	0.	0.	10.8	19.8	22.1
78	282	1430	0.	0.	0.	0.	423.	0.	0.	11.7	19.9	22.1
78	282	15 0	0.	0.	0.	0.	447.	0.	0.	12.0	24.0	22.2
78	282	1530	0.	0.	0.	0.	423.	0.	0.	12.2	19.8	22.2
78	282	16 0	0.	0.	0.	0.	423.	0.	0.	11.9	19.9	22.2
78	282	1630	0.	0.	0.	0.	423.	0.	0.	12.3	19.9	22.2
78	282	18.		.305	234.259	738.522			.000			

10 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	283	8 0	0.	0.	0.	0.	425.	0.	0.	10.3	20.2	10.0
78	283	830	0.	0.	0.	0.	425.	0.	0.	10.3	20.3	10.0
78	283	9 0	0.	0.	0.	0.	423.	0.	0.	10.4	19.9	10.0
78	283	930	0.	0.	0.	0.	422.	0.	0.	10.9	19.7	10.0
78	283	10 0	0.	0.	0.	0.	423.	0.	0.	10.5	19.9	10.0
78	283	1030	0.	0.	0.	0.	423.	0.	0.	10.8	19.8	10.0
78	283	11 0	0.	0.	0.	0.	423.	0.	0.	10.5	19.9	10.0
78	283	1130	0.	0.	0.	0.	423.	0.	0.	10.9	19.9	10.0
78	283	12 0	0.	0.	0.	0.	424.	0.	0.	10.4	20.0	10.0
78	283	1230	0.	0.	0.	0.	423.	0.	0.	11.4	19.9	10.0
78	283	13 0	0.	0.	0.	0.	422.	0.	0.	11.4	19.8	10.0
78	283	1330	0.	0.	0.	0.	430.	0.	0.	11.2	21.1	10.4
78	283	14 0	0.	0.	0.	0.	424.	0.	0.	11.5	20.1	10.4
78	283	1430	0.	0.	0.	0.	424.	0.	0.	11.0	20.0	10.4
78	283	15 0	0.	0.	0.	0.	425.	0.	0.	11.1	20.3	10.4
78	283	1530	0.	0.	0.	0.	426.	0.	0.	11.9	20.4	10.4
78	283	16 0	0.	0.	0.	0.	424.	0.	0.	11.5	20.1	10.4
78	283	1630	0.	0.	0.	0.	425.	0.	0.	11.0	20.2	10.4
78	283	18.		.010	7.844	24.729			.000			

11 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	284	8 0	0.	0.	0.	0.	423.	0.	0.	8.2	19.9	10.0
78	284	830	0.	0.	0.	0.	423.	0.	0.	8.4	19.9	10.0
78	284	9 0	0.	0.	0.	0.	425.	0.	0.	8.4	20.2	10.0
78	284	930	0.	0.	0.	0.	423.	0.	0.	9.0	19.9	10.0
78	284	10 0	0.	0.	0.	0.	423.	0.	0.	9.2	19.9	10.0
78	284	1030	0.	0.	0.	0.	426.	0.	0.	9.1	20.4	10.0
78	284	11 0	0.	0.	0.	0.	423.	0.	0.	9.1	19.9	10.0
78	284	1130	0.	0.	0.	0.	423.	0.	0.	9.4	19.9	10.0
78	284	12 0	0.	0.	0.	0.	423.	0.	0.	9.7	19.9	10.0
78	284	1230	0.	0.	0.	0.	540.	0.	0.	10.9	38.4	11.1
78	284	13 0	0.	0.	0.	0.	646.	0.	0.	11.1	52.6	13.0
78	284	1330	0.	0.	0.	0.	624.	0.	0.	11.8	49.8	14.6
78	284	14 0	0.	0.	0.	0.	539.	0.	0.	12.0	38.2	15.5
78	284	1430	0.	0.	0.	0.	537.	0.	0.	12.2	37.9	16.5
78	284	14.		.162	124.208		391.578		.000			

12 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	285	8 0	0.	15.	97.	0.	504.	0.	0.	12.8	33.0	10.9
78	285	830	0.	18.	141.	0.	526.	0.	0.	11.9	34.2	11.9
78	285	9 0	0.	21.	7.	0.	423.	0.	0.	10.8	19.8	11.9
78	285	930	0.	4.	7.	0.	425.	0.	0.	9.8	20.2	11.9
78	285	10 0	0.	6.	7.	0.	426.	0.	0.	6.6	20.4	11.9
78	285	1030	0.	4.	61.	0.	425.	0.	0.	7.0	20.3	11.9
78	285	11 0	0.	8.	71.	0.	427.	0.	0.	8.2	20.6	11.9
78	285	1130	0.	5.	105.	0.	427.	0.	0.	8.5	20.6	11.9
78	285	12 0	0.	6.	151.	0.	426.	0.	0.	9.2	20.4	11.9
78	285	1230	0.	5.	229.	0.	531.	0.	0.	10.2	37.1	12.9
78	285	13 0	0.	6.	126.	0.	484.	0.	0.	10.5	29.9	13.6
78	285	1330	0.	5.	233.	0.	523.	0.	0.	10.9	35.9	14.5
78	285	14 0	0.	6.	139.	0.	460.	0.	0.	10.9	26.1	15.0
78	285	1430	0.	3.	277.	0.	505.	0.	0.	11.9	33.1	15.7
78	285	15 0	0.	6.	175.	0.	491.	0.	0.	11.6	31.1	16.3
78	285	1530	0.	1.	511.	0.	760.	0.	0.	13.5	66.1	18.7
78	285	16 0	0.	2.	168.	0.	576.	0.	0.	11.9	43.5	19.8
78	285	1630	0.	4.	105.	0.	497.	0.	0.	11.8	31.9	20.3
78	285	16.		.257	197.258		621.873		.000			

Installed 2 Epply pyranometers  
and solar cell at collector orientation

13 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	286	8 0	0.	45.	214.	0.	601.	0.	0.	5.0	46.8	11.6
78	286	830	0.	96.	430.	0.	755.	0.	0.	6.1	65.6	14.1
78	286	9 0	0.	110.	482.	0.	847.	0.	0.	8.2	75.5	17.1
78	286	930	0.	4.	562.	0.	938.	0.	0.	8.0	84.4	20.7
78	286	10 0	0.	618.	601.	619.	1003.	0.	0.	8.2	90.5	24.5
78	286	1030	0.	620.	603.	1021.	1017.	0.	0.	6.3	91.7	28.3
78	286	11 0	0.	648.	630.	1058.	1048.	0.	0.	8.2	94.5	32.2
78	286	1130	0.	659.	647.	1064.	1093.	0.	0.	9.2	98.4	36.2
78	286	12 0	0.	170.	165.	234.	725.	0.	0.	8.0	62.2	37.5
78	286	1230	0.	535.	550.	959.	768.	0.	0.	9.5	67.0	39.1
78	286	13 0	0.	193.	190.	254.	851.	0.	0.	9.8	75.8	41.1
78	286	1330	0.	701.	703.	1012.	885.	0.	0.	10.6	79.3	43.3
78	286	14 0	0.	93.	95.	125.	565.	0.	0.	8.4	41.9	43.3
78	286	1430	0.	329.	178.	600.	507.	0.	0.	9.2	33.5	43.3
78	286	15 0	0.	174.	173.	254.	501.	0.	0.	8.8	32.6	43.3
78	286	1530	0.	329.	323.	573.	646.	0.	0.	9.8	52.6	43.8
78	286	16 0	0.	189.	180.	310.	509.	0.	0.	8.8	33.8	43.8
78	286	1630	0.	113.	109.	194.	452.	0.	0.	6.8	24.9	43.8
78	286	18.		.844	646.292	2043.796	4138.406					

14 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	287	8 0	0.	317.	280.	468.	545.	0.	0.	24.8	39.1	11.2
78	287	830	0.	397.	396.	659.	656.	0.	0.	3.0	53.9	13.1
78	287	9 0	0.	157.	148.	171.	648.	0.	0.	2.2	52.9	14.8
78	287	930	0.	380.	141.	369.	592.	0.	0.	2.6	45.6	16.1
78	287	10 0	0.	455.	477.	1094.	532.	0.	0.	3.4	37.2	17.0
78	287	1030	0.	336.	319.	386.	927.	0.	0.	5.2	83.4	20.5
78	287	11 0	0.	312.	302.	409.	725.	0.	0.	4.2	62.2	22.5
78	287	1130	0.	684.	681.	1094.	854.	0.	0.	5.2	76.2	25.3
78	287	12 0	0.	603.	567.	639.	1049.	0.	0.	6.6	94.6	29.3
78	287	1230	0.	708.	696.	965.	1041.	0.	0.	6.4	95.7	33.2
78	287	13 0	0.	127.	124.	168.	600.	0.	0.	19.9	46.7	33.8
78	287	1330	0.	531.	535.	820.	616.	0.	0.	5.3	48.7	34.5
78	287	14 0	0.	119.	114.	152.	593.	0.	0.	8.0	45.7	36.0
78	287	1430	0.	504.	503.	764.	871.	0.	0.	7.0	77.9	37.4
78	287	15 0	0.	433.	423.	666.	791.	0.	0.	7.6	69.5	39.1
78	287	1530	0.	136.	122.	99.	484.	0.	0.	5.9	29.9	39.1
78	287	16 0	0.	104.	107.	257.	439.	0.	0.	5.5	22.6	39.1
78	287	1630	0.	62.	63.	119.	423.	0.	0.	5.3	19.9	39.1
78	287	18.		.728	559.170	1762.830	4649.116					

15 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	288	8 0	0.	30.	32.	46.	429.	0.	0.	2.0	21.0	10.0
78	288	830	0.	4.	5.	10.	425.	0.	0.	2.0	20.3	10.0
78	288	9 0	0.	0.	0.	3.	429.	0.	0.	2.5	21.0	10.0
78	288	930	0.	153.	158.	171.	425.	0.	0.	3.4	20.2	10.0
78	288	10 0	0.	140.	151.	171.	428.	0.	0.	3.8	20.7	10.0
78	288	1030	0.	593.	608.	969.	809.	0.	0.	5.7	71.5	12.9
78	288	11 0	0.	198.	197.	257.	594.	0.	0.	5.7	45.8	14.4
78	288	1130	0.	49.	56.	63.	438.	0.	0.	6.1	22.4	14.7
78	288	12 0	0.	123.	124.	165.	473.	0.	0.	7.2	28.2	15.2
78	288	1230	0.	253.	250.	303.	490.	0.	0.	7.7	30.9	15.8
78	288	13 0	0.	108.	109.	122.	439.	0.	0.	8.3	22.7	16.1
78	288	1330	0.	62.	58.	76.	449.	0.	0.	8.2	24.3	16.4
78	288	14 0	0.	28.	32.	36.	428.	0.	0.	7.6	20.8	16.4
78	288	1430	0.	36.	39.	46.	429.	0.	0.	7.3	21.0	16.6
78	288	15 0	0.	0.	0.	0.	428.	0.	0.	7.2	20.7	16.6
78	288	1530	0.	276.	265.	418.	471.	0.	0.	8.6	27.9	17.0
78	288	16 0	0.	2.	2.	3.	430.	0.	0.	5.2	21.2	17.2
78	288	1630	0.	2.	2.	0.	427.	0.	0.	5.1	20.6	17.2
78	288	18.		.180	137.905	434.758	1429.990					

16 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	289	8 0	0.	276.	243.	428.	516.	0.	0.	25.5	34.9	11.0
78	289	830	0.	393.	355.	603.	637.	0.	0.	3.4	51.5	12.7
78	289	9 0	0.	444.	418.	712.	727.	0.	0.	4.3	62.4	15.1
78	289	930	0.	508.	484.	811.	794.	0.	0.	4.9	69.9	17.7
78	289	10 0	0.	419.	413.	942.	907.	0.	0.	5.5	81.5	21.0
78	289	1030	0.	671.	661.	1077.	840.	0.	0.	5.8	74.7	23.8
78	289	11 0	0.	671.	657.	1061.	1035.	0.	0.	6.1	93.3	27.7
78	289	1130	0.	654.	640.	1041.	1096.	0.	0.	7.5	98.6	31.9
78	289	12 0	0.	644.	652.	1051.	1130.	0.	0.	10.0	101.5	36.2
78	289	1230	0.	645.	635.	1031.	1097.	0.	0.	8.4	98.8	40.0
78	289	13 0	0.	646.	644.	946.	1197.	0.	0.	9.7	102.9	44.0
78	289	1330	0.	572.	562.	850.	1063.	0.	0.	9.1	95.8	47.2
78	289	14 0	0.	518.	513.	814.	1012.	0.	0.	9.5	91.3	49.9
78	289	1430	0.	446.	443.	745.	933.	0.	0.	8.8	84.0	52.0
78	289	15 0	0.	387.	375.	679.	852.	0.	0.	9.9	76.0	53.4
78	289	1530	0.	280.	272.	521.	722.	0.	0.	11.2	61.8	53.9
78	289	16 0	0.	174.	163.	336.	588.	0.	0.	9.1	95.0	53.9
78	289	1630	0.	85.	83.	165.	497.	0.	0.	8.0	32.0	53.9
78	289	18.		1.097	842.389	2655.702	6906.129					

17 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	290	8 0	0.	272.	241.	392.	527.	0.	0.	4.5	36.5	11.1
78	290	830	0.	323.	297.	484.	581.	0.	0.	5.2	44.0	12.4
78	290	9 0	0.	293.	282.	451.	587.	0.	0.	4.9	44.9	13.8
78	290	930	0.	283.	272.	405.	611.	0.	0.	5.6	48.2	15.3
78	290	10 0	0.	329.	316.	514.	709.	0.	0.	7.2	60.2	17.4
78	290	1030	0.	657.	637.	1081.	989.	0.	0.	8.3	89.2	21.3
78	290	11 0	0.	620.	601.	982.	964.	0.	0.	8.9	86.9	24.8
78	290	1130	0.	612.	596.	952.	927.	0.	0.	9.5	83.4	28.0
78	290	12 0	3.	489.	309.	442.	793.	0.	0.	9.5	69.8	30.2
78	290	1230	0.	147.	146.	168.	518.	0.	0.	9.0	35.1	30.4
78	290	13 0	0.	106.	105.	125.	445.	0.	0.	8.8	23.7	30.4
78	290	1330	0.	210.	214.	260.	495.	0.	0.	9.2	31.7	30.4
78	290	14 0	0.	144.	148.	201.	491.	0.	0.	9.3	31.0	30.5
78	290	1430	0.	106.	107.	125.	451.	0.	0.	9.0	24.7	30.5
78	290	15 0	0.	140.	139.	198.	457.	0.	0.	9.4	25.5	30.5
78	290	1530	0.	68.	66.	86.	452.	0.	0.	8.9	24.8	30.5
78	290	16 0	0.	83.	80.	109.	427.	0.	0.	9.7	20.6	30.5
78	290	1630	0.	0.	0.	0.	422.	0.	0.	9.3	19.7	30.5
78	290	18.		.512	392.987	1238.924	3487.661					

18 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	291	8 0	0.	319.	306.	458.	538.	0.	0.	8.5	38.1	11.1
78	291	830	0.	106.	100.	145.	499.	0.	0.	6.7	32.2	12.0
78	291	9 0	0.	229.	221.	333.	563.	0.	0.	8.3	41.6	13.2
78	291	930	0.	132.	136.	168.	483.	0.	0.	8.1	29.8	13.8
78	291	10 0	0.	208.	212.	273.	548.	0.	0.	8.5	39.6	14.9
78	291	1030	0.	117.	117.	145.	475.	0.	0.	8.4	28.5	15.5
78	291	11 0	0.	76.	80.	99.	445.	0.	0.	8.2	23.6	15.8
78	291	1130	0.	227.	224.	297.	542.	0.	0.	9.9	38.7	16.7
78	291	12 0	0.	238.	243.	320.	560.	0.	0.	9.7	41.2	17.8
78	291	1230	0.	70.	68.	89.	447.	0.	0.	8.2	23.9	18.0
78	291	13 0	0.	202.	209.	254.	499.	0.	0.	9.1	32.3	18.6
78	291	1330	0.	172.	175.	198.	470.	0.	0.	9.2	27.7	19.0
78	291	14 0	0.	212.	216.	511.	566.	0.	0.	9.5	42.0	19.9
78	291	1430	0.	372.	367.	639.	715.	0.	0.	10.3	61.0	21.9
78	291	15 0	0.	304.	294.	547.	723.	0.	0.	11.5	61.9	23.9
78	291	1530	0.	232.	226.	438.	648.	0.	0.	11.9	52.9	25.2
78	291	16 0	0.	149.	143.	270.	555.	0.	0.	12.3	40.5	25.9
78	291	1630	0.	62.	58.	109.	460.	0.	0.	10.5	26.1	25.9
78	291	18.		.397	304.610	968.308	2645.212					

19 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	292	8 0	0.	200.	187.	270.	454.	0.	0.	2.5	25.2	10.6
78	292	830	0.	274.	258.	405.	544.	0.	0.	3.4	38.9	11.7
78	292	9 0	0.	246.	241.	478.	547.	0.	0.	5.0	42.2	13.0
78	292	930	0.	237.	280.	422.	605.	0.	0.	6.5	47.3	14.5
78	292	10 0	0.	406.	394.	652.	672.	0.	0.	7.7	55.9	16.3
78	292	1030	0.	529.	516.	880.	821.	0.	0.	9.5	72.7	19.1
78	292	11 0	0.	538.	523.	939.	699.	0.	0.	10.3	80.7	22.4
78	292	1130	0.	559.	547.	923.	933.	0.	0.	11.2	84.0	25.7
78	292	12 0	0.	395.	389.	626.	815.	0.	0.	11.6	72.1	28.1
78	292	1230	0.	489.	477.	797.	846.	0.	0.	11.7	75.3	30.6
78	292	13 0	0.	535.	520.	903.	916.	0.	0.	10.3	82.4	33.4
78	292	1330	0.	546.	533.	926.	936.	0.	0.	13.3	84.2	36.3
78	292	14 0	0.	387.	362.	613.	810.	0.	0.	14.2	71.5	38.2
78	292	1430	0.	397.	392.	675.	799.	0.	0.	14.4	70.4	39.9
78	292	15 0	0.	331.	319.	596.	739.	0.	0.	15.1	63.8	41.2
78	292	1530	0.	227.	219.	435.	623.	0.	0.	15.7	49.7	41.6
78	292	16 0	0.	115.	109.	221.	523.	0.	0.	15.1	35.9	41.6
78	292	1630	0.	8.	27.	53.	439.	0.	0.	14.0	22.6	41.6
78	292	18.		791	607.122	1914.004	5406.946					

20 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	293	8 0	0.	174.	238.	455.	571.	0.	0.	8.2	42.7	11.4
78	293	830	0.	237.	319.	593.	683.	0.	0.	8.1	57.2	13.4
78	293	9 0	0.	411.	389.	718.	790.	0.	0.	10.6	69.5	16.1
78	293	930	0.	407.	455.	847.	898.	0.	0.	11.9	80.6	19.4
78	293	10 0	0.	539.	501.	939.	1003.	0.	0.	13.1	90.5	23.3
78	293	1030	0.	555.	537.	1002.	1066.	0.	0.	14.0	96.0	27.5
78	293	11 0	0.	591.	571.	1061.	1141.	0.	0.	14.8	102.4	32.0
78	293	1130	0.	613.	586.	1071.	1187.	0.	0.	15.6	106.2	36.6
78	293	12 0	0.	616.	589.	1074.	1207.	0.	0.	15.8	107.8	41.2
78	293	1230	0.	578.	584.	1061.	1209.	0.	0.	16.8	107.9	45.8
78	293	13 0	0.	576.	562.	1031.	1174.	0.	0.	18.2	105.1	49.4
78	293	1330	0.	518.	528.	949.	1102.	0.	0.	17.7	99.1	52.6
78	293	14 0	0.	417.	479.	853.	1028.	0.	0.	18.2	92.7	55.2
78	293	1430	0.	415.	413.	745.	941.	0.	0.	17.6	84.7	57.0
78	293	15 0	0.	313.	355.	656.	838.	0.	0.	18.3	74.2	58.0
78	293	1530	0.	214.	265.	547.	732.	0.	0.	20.2	63.0	58.3
78	293	1630	0.	17.	83.	191.	531.	0.	0.	14.5	37.1	58.3
78	293	16 0	0.	113.	178.	386.	643.	0.	0.	19.1	52.2	58.3
78	293	18.		1.201	927.954	2925.453	7088.996					

21 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	294	0 0	0.	227.	212.	354.	638.	0.	0.	11.0	38.1	11.1
78	294	030	0.	187.	182.	293.	546.	0.	0.	12.0	42.4	12.4
78	294	9 0	0.	229.	224.	374.	647.	0.	0.	13.0	52.8	14.2
78	294	930	0.	325.	319.	537.	885.	0.	0.	12.4	44.6	15.5
78	294	10 0	0.	202.	195.	313.	634.	0.	0.	13.4	51.1	17.1
78	294	1030	0.	221.	224.	316.	588.	0.	0.	14.4	45.1	18.3
78	294	11 0	0.	270.	268.	418.	656.	0.	0.	15.8	53.8	19.9
78	294	1130	0.	200.	204.	270.	608.	0.	0.	16.0	47.7	21.2
78	294	12 0	0.	204.	207.	297.	569.	0.	0.	16.4	42.4	23.1
78	294	1230	0.	387.	387.	956.	672.	0.	0.	18.3	58.3	23.8
78	294	13 0	0.	474.	460.	837.	941.	0.	0.	20.2	86.8	27.2
78	294	1330	0.	157.	183.	231.	618.	0.	0.	19.0	49.1	28.3
78	294	14 0	0.	178.	180.	283.	570.	0.	0.	18.6	42.8	28.4
78	294	1430	0.	157.	156.	360.	531.	0.	0.	19.1	37.8	29.3
78	294	15 0	0.	127.	126.	227.	544.	0.	0.	19.4	39.0	29.7
78	294	1530	0.	147.	139.	254.	577.	0.	0.	19.8	43.6	30.3
78	294	16 0	0.	45.	44.	64.	447.	0.	0.	18.8	27.2	30.3
78	294	1630	0.	0.	0.	0.	423.	0.	0.	18.3	19.8	30.3
78	294	18.		.509	390.537	1231.201	3140.048					

22 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	295	0 0	0.	100.	100.	125.	423.	0.	0.	8.2	19.9	10.0
78	295	030	0.	108.	107.	125.	428.	0.	0.	8.2	20.2	10.0
78	295	9 0	0.	55.	54.	76.	424.	0.	0.	8.9	20.8	10.0
78	295	930	0.	181.	124.	158.	427.	0.	0.	8.2	20.8	10.0
78	295	10 0	0.	242.	233.	343.	539.	0.	0.	8.2	28.1	11.1
78	295	1030	0.	157.	180.	185.	498.	0.	0.	7.6	32.1	12.0
78	295	11 0	0.	83.	83.	102.	485.	0.	0.	7.2	20.3	12.0
78	295	1130	0.	42.	46.	52.	424.	0.	0.	7.3	20.1	12.0
78	295	12 0	0.	49.	51.	63.	423.	0.	0.	6.9	19.8	12.0
78	295	1230	0.	0.	0.	56.	423.	0.	0.	6.3	19.8	12.0
78	295	13 0	0.	40.	44.	51.	424.	0.	0.	5.1	20.0	12.0
78	295	1330	0.	45.	44.	59.	424.	0.	0.	4.8	20.8	12.0
78	295	14 0	0.	0.	0.	40.	424.	0.	0.	4.7	20.0	12.0
78	295	1430	0.	0.	0.	20.	423.	0.	0.	4.0	19.9	12.0
78	295	15 0	0.	0.	0.	0.	426.	0.	0.	4.0	20.4	12.0
78	295	1530	0.	0.	0.	0.	424.	0.	0.	3.8	20.1	12.0
78	295	16 0	0.	0.	0.	0.	423.	0.	0.	3.8	20.8	12.0
78	295	1630	0.	0.	0.	0.	423.	0.	0.	3.1	19.9	12.0
78	295	18.		.047	37.684	118.882	733.187					



23 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	296	8 0	0.	300.	270.	494.	534.	0.	0.	-0.0	37.5	11.1
78	296	830	0.	327.	299.	593.	617.	0.	0.	-0.7	48.8	12.7
78	296	9 0	0.	134.	129.	194.	554.	0.	0.	-0.9	40.4	13.9
78	296	930	0.	132.	134.	175.	517.	0.	0.	-0.3	35.0	14.7
78	296	10 0	0.	183.	180.	965.	637.	0.	0.	-0.2	51.4	16.4
78	296	1030	0.	183.	185.	241.	502.	0.	0.	.6	32.8	17.0
78	296	11 0	0.	470.	424.	939.	681.	0.	0.	.3	56.9	18.9
78	296	1130	0.	255.	246.	428.	909.	0.	0.	2.2	81.7	22.1
78	296	12 0	0.	540.	593.	1160.	842.	0.	0.	3.4	75.0	24.9
78	296	1230	0.	661.	649.	1064.	1023.	0.	0.	2.5	92.3	28.7
78	296	13 0	0.	208.	197.	297.	755.	0.	0.	1.8	65.5	30.6
78	296	1330	0.	147.	141.	247.	664.	0.	0.	2.4	54.8	31.7
78	296	14 0	0.	489.	479.	787.	930.	0.	0.	3.9	83.7	34.6
78	296	1430	0.	359.	353.	685.	875.	0.	0.	3.9	78.3	37.0
78	296	15 0	0.	336.	326.	629.	787.	0.	0.	5.3	69.1	38.8
78	296	1530	0.	249.	241.	491.	688.	0.	0.	5.3	57.8	39.1
78	296	16 0	0.	151.	143.	300.	574.	0.	0.	5.9	43.1	39.9
78	296	1630	0.	49.	46.	132.	466.	0.	0.	3.4	27.1	39.9
78	296	18.		.747	573.963	1809.467	4911.062					

24 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	297	8 0	0.	241.	233.	425.	503.	0.	0.	.5	32.9	10.9
78	297	830	0.	348.	316.	573.	610.	0.	0.	.5	48.0	12.5
78	297	9 0	0.	442.	413.	725.	722.	0.	0.	1.9	61.8	14.8
78	297	930	0.	489.	460.	807.	778.	0.	0.	3.0	68.1	17.3
78	297	10 0	0.	546.	516.	914.	863.	0.	0.	3.8	77.1	20.9
78	297	1030	0.	578.	554.	995.	934.	0.	0.	5.0	84.1	23.8
78	297	11 0	0.	612.	584.	1028.	991.	0.	0.	6.1	89.4	27.4
78	297	1130	0.	620.	596.	1028.	1009.	0.	0.	4.1	91.1	31.0
78	297	12 0	0.	597.	584.	1021.	1012.	0.	0.	7.5	91.3	34.5
78	297	1230	0.	599.	581.	1012.	1021.	0.	0.	7.8	92.1	37.9
78	297	13 0	0.	565.	550.	972.	989.	0.	0.	7.8	89.2	41.0
78	297	1330	0.	521.	506.	903.	926.	0.	0.	8.5	83.3	43.4
78	297	14 0	0.	457.	445.	811.	872.	0.	0.	8.6	78.0	45.4
78	297	1430	0.	402.	394.	725.	813.	0.	0.	8.5	71.9	46.9
78	297	15 0	0.	323.	311.	593.	731.	0.	0.	9.1	62.8	47.8
78	297	1530	0.	238.	229.	458.	637.	0.	0.	9.1	51.5	47.9
78	297	16 0	0.	147.	139.	287.	539.	0.	0.	9.1	38.2	47.9
78	297	1630	0.	70.	68.	145.	465.	0.	0.	7.8	26.9	47.9
78	297	18.		.949	728.572	2296.884	6711.729					

29 October 1978

Inter-Calibration  
by Shading

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	297	1342	0.	493.	482.	883.	917.	0.	0.	9.5	82.4	13.7
78	297	1347	0.	81.	474.	853.	907.	0.	0.	8.2	81.4	14.2
78	297	1350	0.	478.	68.	847.	895.	0.	0.	8.4	80.3	17.6
78	297	1353	0.	476.	469.	76.	887.	0.	0.	8.5	79.5	20.8
78	297	1355	0.	474.	464.	830.	878.	0.	0.	8.4	77.6	23.8
78	297	5.		.346	265.398	836.691	1744.654					

25 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	298	8 0	0.	0.	0.	0.	424.	0.	0.	5.9	20.1	10.0
78	298	830	0.	0.	0.	0.	424.	0.	0.	6.6	20.0	10.0
78	298	9 0	0.	0.	0.	0.	424.	0.	0.	7.3	20.1	10.0
78	298	930	0.	42.	49.	56.	424.	0.	0.	7.8	20.1	10.0
78	298	10 0	0.	0.	0.	0.	424.	0.	0.	8.1	20.1	10.0
78	298	1030	0.	0.	0.	0.	424.	0.	0.	8.2	20.1	10.0
78	298	11 0	0.	0.	0.	0.	424.	0.	0.	8.2	20.1	10.0
78	298	1130	0.	34.	39.	33.	424.	0.	0.	8.2	20.1	10.0
78	298	12 0	0.	0.	0.	0.	424.	0.	0.	8.2	20.1	10.0
76	298	1230	0.	0.	0.	0.	423.	0.	0.	8.4	19.9	10.0
76	298	13 0	0.	0.	0.	0.	424.	0.	0.	8.5	20.0	10.0
78	298	1330	0.	0.	0.	0.	424.	0.	0.	7.7	20.1	10.0
78	298	14 0	0.	66.	68.	79.	423.	0.	0.	7.3	19.9	10.0
78	298	1430	0.	174.	173.	231.	494.	0.	0.	8.3	31.5	10.8
78	298	15 0	0.	234.	231.	501.	585.	0.	0.	20.0	44.4	12.3
78	298	1530	0.	59.	58.	69.	422.	0.	0.	8.0	19.7	12.3
78	298	16 0	0.	0.	0.	0.	425.	0.	0.	7.5	20.2	12.1
78	298	1630	0.	0.	0.	0.	423.	0.	0.	7.4	19.9	12.3
78	298	18.		.056	43.374	136.739	484.352					

26 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	299	8 0	0.	110.	105.	135.	418.	0.	0.	1.8	19.0	10.0
78	299	830	0.	225.	224.	409.	437.	0.	0.	2.2	22.4	10.5
78	299	9 0	0.	340.	326.	616.	627.	0.	0.	4.3	50.2	12.2
78	299	930	0.	491.	455.	761.	766.	0.	0.	4.4	66.9	14.8
78	299	10 0	0.	319.	311.	659.	634.	0.	0.	4.9	51.1	14.4
78	299	1030	0.	552.	535.	965.	929.	0.	0.	5.7	83.5	19.9
78	299	11 0	0.	586.	562.	1008.	982.	0.	0.	7.0	88.5	23.6
78	299	1130	0.	620.	603.	1071.	1052.	0.	0.	7.6	94.9	27.7
78	299	12 0	0.	671.	652.	1130.	1091.	0.	0.	8.5	98.3	31.8
78	299	1230	0.	733.	725.	1301.	1204.	0.	0.	8.5	107.5	36.6
78	299	13 0	0.	652.	640.	1107.	971.	0.	0.	7.4	87.6	39.5
78	299	1330	0.	195.	185.	929.	834.	0.	0.	7.8	74.1	41.5
78	299	14 0	0.	319.	282.	244.	694.	0.	0.	8.8	58.5	42.3
78	299	1430	0.	185.	180.	231.	534.	0.	0.	7.0	37.4	42.3
78	299	15 0	0.	202.	195.	623.	636.	0.	0.	7.8	51.4	42.8
78	299	1530	0.	100.	92.	125.	641.	0.	0.	6.9	38.5	42.8
78	299	16 0	0.	195.	190.	362.	467.	0.	0.	8.4	27.2	42.8
78	299	1630	0.	59.	54.	129.	437.	0.	0.	6.7	22.2	42.8
78	299	18.		.820	629.491	1985.153	5902.829					

27 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	100	8 0	0.	229.	204.	395.	510.	0.	0.	2.7	34.0	10.9
78	300	830	0.	302.	275.	527.	612.	0.	0.	3.3	48.2	12.5
78	300	9 0	0.	378.	350.	646.	733.	0.	0.	4.0	63.1	14.9
78	300	930	0.	453.	428.	794.	851.	0.	0.	6.5	75.9	17.9
78	300	10 0	0.	510.	477.	890.	931.	0.	0.	8.0	83.8	21.4
78	300	1030	0.	550.	525.	985.	1018.	0.	0.	9.0	91.8	25.3
78	300	11 0	0.	423.	396.	702.	880.	0.	0.	9.4	78.8	28.2
78	300	1130	0.	576.	557.	985.	981.	0.	0.	9.8	88.5	31.6
78	300	12 0	0.	591.	574.	1041.	1045.	0.	0.	11.8	94.3	35.3
78	300	1230	0.	578.	562.	1005.	1043.	0.	0.	11.4	94.0	38.8
78	300	13 0	0.	555.	535.	962.	1021.	0.	0.	12.0	92.1	42.0
78	300	1330	0.	504.	489.	883.	970.	0.	0.	12.5	87.4	44.7
78	300	14 0	0.	459.	450.	801.	966.	0.	0.	13.2	87.1	47.2
78	300	1430	0.	410.	401.	705.	895.	0.	0.	12.7	80.3	49.2
78	300	15 0	0.	414.	319.	616.	819.	0.	0.	13.0	72.5	50.5
78	300	1530	0.	223.	216.	524.	707.	0.	0.	13.1	60.0	51.0
78	300	16 0	0.	178.	170.	382.	601.	0.	0.	13.6	46.8	51.0
78	100	1630	0.	81.	78.	185.	505.	0.	0.	10.9	33.2	51.0
78	300	18.		1.026	787.657	2483.786	6517.330					

28 Oct 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	301	8 0	0.	119.	112.	191.	409.	0.	0.	2.0	17.5	10.0
78	301	830	0.	149.	143.	247.	511.	0.	0.	2.7	34.1	11.0
78	301	9 0	0.	310.	292.	372.	594.	0.	0.	3.6	45.9	12.4
78	301	930	0.	395.	382.	675.	755.	0.	0.	4.3	65.5	14.9
78	301	10 0	0.	527.	501.	952.	974.	0.	0.	4.4	67.9	18.8
78	301	1030	0.	574.	552.	1061.	968.	0.	0.	6.9	87.3	22.5
78	301	11 0	0.	589.	567.	1048.	1147.	0.	0.	6.3	102.9	27.2
78	301	1130	0.	593.	579.	1044.	1166.	0.	0.	7.0	104.4	31.9
78	301	12 0	0.	574.	567.	1008.	1186.	0.	0.	7.6	106.0	36.5
78	301	1230	0.	565.	552.	972.	1199.	0.	0.	10.2	107.1	41.0
78	301	13 0	0.	540.	533.	926.	1164.	0.	0.	9.2	104.3	45.1
78	301	1330	0.	493.	484.	827.	1120.	0.	0.	9.9	100.7	48.6
78	301	12.		.966	741.707	2338.295	4662.296					

Start record - Chart can cut

29 October 1978 No record - Chart ran out

30 October 1978 Short record

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	303	10 0	0.	504.	469.	896.	902.	0.	0.	10.6	80.9	13.6
78	303	1030	0.	535.	511.	975.	979.	0.	0.	11.8	88.3	17.5
78	303	11 0	0.	569.	540.	1012.	1026.	0.	0.	12.7	92.6	21.7
78	303	1130	0.	582.	557.	1031.	1067.	0.	0.	12.8	96.2	25.9
78	303	12 0	0.	569.	552.	1035.	1096.	0.	0.	14.2	98.6	30.2
78	303	1230	0.	555.	533.	1002.	1075.	0.	0.	14.2	96.9	34.1
78	303	13 0	0.	521.	506.	962.	1047.	0.	0.	15.8	94.5	37.7
78	303	1330	0.	476.	464.	893.	1007.	0.	0.	15.9	90.9	40.9
78	303	14 0	0.	419.	404.	794.	930.	0.	0.	15.5	83.6	43.3
78	303	1430	0.	348.	336.	692.	848.	0.	0.	16.9	75.5	45.2
78	303	15 0	0.	283.	268.	580.	760.	0.	0.	16.1	66.1	46.3
78	303	1530	0.	200.	190.	445.	656.	0.	0.	16.6	53.9	46.7
78	303	16 0	0.	106.	102.	250.	552.	0.	0.	16.1	40.0	46.7
78	303	1630	0.	4.	5.	59.	445.	0.	0.	14.8	23.7	46.7
78	303	14.		.918	704.662	2221.506	5313.041					

31 Oct 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	304	8 0	0.	212.	192.	395.	515.	0.	0.	4.2	34.7	11.0
78	304	830	0.	300.	275.	540.	619.	0.	0.	3.9	49.2	12.6
78	304	9 0	0.	378.	353.	675.	727.	0.	0.	4.9	62.4	14.9
78	304	930	0.	444.	416.	794.	817.	0.	0.	5.2	72.4	17.8
78	304	10 0	0.	510.	484.	906.	893.	0.	0.	5.8	80.1	21.0
78	304	1030	0.	561.	547.	1005.	995.	0.	0.	6.3	89.8	24.8
78	304	11 0	0.	527.	494.	563.	1005.	0.	0.	7.7	90.7	28.5
78	304	1130	0.	244.	226.	333.	935.	0.	0.	6.8	84.2	31.6
78	304	12 0	0.	563.	557.	1021.	1052.	0.	0.	7.7	94.8	35.3
78	304	1230	0.	563.	550.	985.	1099.	0.	0.	9.2	98.9	39.2
78	304	13 0	0.	516.	508.	900.	1063.	0.	0.	9.4	95.8	42.6
78	304	1330	0.	487.	482.	847.	963.	0.	0.	8.8	86.9	45.3
78	304	14 0	0.	389.	389.	705.	856.	0.	0.	11.0	76.4	47.0
78	304	1430	0.	189.	182.	376.	694.	0.	0.	9.4	58.5	47.7
78	304	15 0	0.	236.	226.	494.	667.	0.	0.	8.5	55.2	48.1
78	304	15 0	0.	172.	163.	349.	613.	0.	0.	8.8	48.4	48.1
78	304	16 0	0.	102.	102.	217.	481.	0.	0.	8.8	29.5	48.1
78	304	1630	0.	6.	5.	40.	411.	0.	0.	7.3	17.8	48.1
78	304	18.		.952	730.954	2304.396	5573.338					

1 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	305	8 0	0.	227.	202.	425.	535.	0.	0.	4.4	37.0	11.1
78	305	830	0.	306.	277.	557.	667.	0.	0.	3.4	55.2	13.1
78	305	9 0	0.	376.	353.	685.	802.	0.	0.	5.1	70.7	15.9
78	305	930	0.	444.	416.	804.	898.	0.	0.	5.2	80.6	19.2
78	305	10 0	0.	499.	467.	896.	964.	0.	0.	5.7	86.9	22.0
78	305	1030	0.	525.	503.	956.	1014.	0.	0.	7.8	91.5	24.7
78	305	11 0	0.	561.	533.	995.	1080.	0.	0.	7.3	97.3	30.8
78	305	1130	0.	569.	545.	1018.	1117.	0.	0.	8.9	100.4	35.0
78	305	12 0	0.	559.	547.	1012.	1128.	0.	0.	8.3	101.4	39.1
78	305	1230	0.	552.	530.	998.	1100.	0.	0.	9.4	99.0	42.8
78	305	13 0	0.	508.	499.	936.	1072.	0.	0.	10.6	96.6	46.2
78	305	1330	0.	470.	457.	903.	1016.	0.	0.	10.3	91.7	49.0
78	305	14 0	0.	317.	306.	580.	889.	0.	0.	10.0	79.6	50.8
78	305	1430	0.	344.	333.	672.	854.	0.	0.	9.8	76.1	52.3
78	305	15 0	0.	266.	255.	544.	749.	0.	0.	10.5	64.9	53.0
78	305	1530	0.	178.	170.	392.	632.	0.	0.	10.9	50.8	53.0
78	305	16 0	0.	87.	43.	208.	524.	0.	0.	9.8	36.0	53.0
78	305	17.		1.074	825.126	201.279	6289.981					

2 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	306	8 0	0.	200.	178.	382.	503.	0.	0.	5.9	32.9	10.9
78	306	830	0.	285.	258.	527.	615.	0.	0.	6.5	48.6	12.5
78	306	9 0	0.	376.	348.	682.	734.	0.	0.	7.8	63.2	14.9
78	306	930	0.	423.	396.	784.	857.	0.	0.	8.9	76.4	18.0
78	306	10 0	0.	467.	445.	883.	963.	0.	0.	11.4	86.8	21.7
78	306	1030	77.	506.	486.	979.	1089.	0.	0.	13.5	98.1	26.0
78	306	11 0	0.	540.	511.	1008.	1143.	0.	0.	12.4	102.6	30.6
78	306	1130	915.	540.	88.	998.	1190.	1005.	411.	12.7	106.4	35.3
78	306	12 0	923.	525.	520.	1002.	1163.	988.	982.	13.5	104.2	39.6
78	306	1230	925.	525.	506.	995.	1134.	989.	961.	14.1	101.8	43.5
78	306	13 0	907.	487.	474.	932.	1094.	931.	915.	15.5	98.5	47.0
78	306	1330	879.	438.	428.	847.	1053.	854.	841.	15.5	94.9	50.0
78	306	14 0	887.	397.	389.	771.	970.	802.	791.	16.7	87.4	52.3
78	306	1430	820.	323.	316.	652.	883.	679.	670.	16.8	79.1	53.9
78	306	15 0	730.	244.	236.	530.	789.	543.	532.	16.6	67.3	54.8
78	306	1530	603.	164.	153.	382.	648.	395.	381.	20.0	55.3	54.8
78	306	16 0	395.	81.	75.	191.	553.	221.	214.	16.1	40.3	54.8
78	306	1630	95.	0.	0.	33.	443.	0.	0.	14.1	23.0	54.8
78	306	18.		1.121	860.800	2713.746	6289.981					

Installed pyrheliometer

2 Nov 1978

Tator calibration by shading

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	306	1119	936.	546.	520.	1025.	1188.	1019.	985.	14.1	106.2	15.5
78	306	1124	933.	546.	520.	1021.	1199.	1018.	985.	14.4	107.1	16.4
78	306	1126	918.	100.	516.	1008.	1197.	428.	973.	14.0	106.9	21.7
78	306	1131	915.	540.	88.	1005.	1190.	1005.	411.	13.6	106.4	22.5
78	306	1134	923.	533.	525.	112.	1178.	999.	988.	13.5	105.4	27.5
78	306	1136	931.	538.	525.	1012.	1177.	1007.	991.	14.0	105.3	32.2
78	306	6.		.556	426.794	1345.506	2591.446					

3 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	307	8 0	0.	144.	153.	303.	449.	0.	0.	7.3	24.3	10.5
78	307	830	465.	242.	231.	445.	564.	464.	449.	8.0	41.8	11.8
78	307	9 0	500.	132.	131.	198.	583.	327.	326.	8.0	44.4	13.2
78	307	930	490.	348.	333.	560.	706.	611.	591.	9.8	59.9	15.3
78	307	10 0	0.	210.	209.	369.	692.	0.	0.	11.1	58.2	17.3
78	307	1030	0.	334.	333.	573.	702.	0.	0.	13.3	59.4	19.3
78	307	11 0	784.	506.	484.	939.	984.	919.	891.	14.3	88.8	23.1
78	307	1130	622.	510.	489.	956.	1022.	939.	911.	15.6	92.2	26.9
78	307	12 0	673.	431.	447.	725.	692.	787.	809.	15.8	58.3	28.5
78	307	1230	647.	465.	452.	870.	926.	823.	806.	16.1	83.3	31.5
78	307	13 0	760.	459.	447.	893.	961.	851.	836.	16.9	86.7	34.6
78	307	1330	714.	414.	404.	814.	914.	775.	761.	17.0	82.2	37.3
78	307	14 0	647.	348.	343.	695.	830.	665.	657.	16.9	73.7	39.3
78	307	1430	595.	283.	277.	580.	765.	559.	552.	17.3	66.7	40.7
78	307	15 0	485.	210.	199.	432.	676.	426.	412.	16.9	56.4	41.5
78	307	1530	0.	34.	32.	56.	488.	0.	0.	16.0	30.5	41.5
78	307	16 0	0.	0.	0.	33.	422.	0.	0.	15.6	19.7	41.5
78	307	1630	0.	0.	0.	0.	423.	0.	0.	15.2	19.9	41.5
78	307	18.		.788	605.564	1909.091	4719.957					

4 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	308	8 0	0.	157.	146.	283.	479.	0.	0.	6.6	29.2	10.7
78	308	830	0.	249.	233.	455.	583.	0.	0.	4.7	44.3	12.1
78	308	9 0	0.	312.	294.	573.	677.	0.	0.	7.0	56.5	14.1
78	308	930	0.	374.	357.	689.	759.	0.	0.	7.3	66.0	16.6
78	308	10 0	0.	410.	394.	781.	844.	0.	0.	8.6	75.1	19.5
78	308	1030	0.	444.	433.	847.	902.	0.	0.	9.8	80.9	22.8
78	308	11 0	0.	474.	462.	880.	958.	0.	0.	9.8	86.3	26.2
78	308	1130	0.	476.	464.	880.	975.	0.	0.	11.6	87.9	29.7
78	308	12 0	0.	489.	489.	923.	1032.	0.	0.	12.2	93.1	33.3
78	308	1230	0.	421.	416.	764.	1004.	0.	0.	12.6	90.6	36.7
78	308	13 0	0.	412.	413.	758.	915.	0.	0.	11.9	82.2	39.3
78	308	1330	0.	336.	336.	610.	824.	0.	0.	12.5	73.0	41.1
78	308	14 0	0.	198.	197.	349.	697.	0.	0.	12.5	58.9	42.0
78	308	1430	0.	261.	255.	507.	725.	0.	0.	12.7	62.1	43.1
78	308	15 0	0.	185.	175.	366.	650.	0.	0.	11.9	53.2	43.6
78	308	1530	0.	100.	92.	194.	533.	0.	0.	11.1	37.3	43.6
78	308	16 0	0.	40.	36.	63.	449.	0.	0.	10.1	24.3	43.6
78	308	1630	0.	0.	0.	0.	420.	0.	0.	9.1	19.4	43.6
78	308	18.		.840	645.416	2034.729	4960.485					



5 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	309	8 0	0.	157.	148.	320.	461.	0.	0.	10.2	26.3	10.6
78	309	830	0.	223.	207.	428.	576.	0.	0.	10.6	43.4	12.0
78	309	9 0	0.	295.	280.	573.	670.	0.	0.	11.9	55.6	13.9
78	309	930	0.	140.	141.	241.	404.	0.	0.	12.4	47.1	15.4
78	309	10 0	0.	144.	143.	185.	538.	0.	0.	13.0	38.0	16.3
78	309	1030	0.	195.	197.	458.	514.	0.	0.	12.8	34.5	17.0
78	309	11 0	0.	215.	212.	277.	636.	0.	0.	13.1	51.4	18.6
78	309	1130	0.	172.	175.	244.	512.	0.	0.	13.1	34.2	19.2
78	309	12 0	0.	168.	170.	211.	534.	0.	0.	13.1	37.5	20.0
78	309	1230	0.	8.	0.	33.	424.	0.	0.	12.2	20.1	20.0
78	309	13 0	0.	0.	0.	0.	424.	0.	0.	8.5	20.1	20.0
78	309	1330	0.	36.	39.	56.	423.	0.	0.	7.5	19.9	20.0
78	309	14 0	0.	79.	85.	92.	423.	0.	0.	5.9	19.8	20.0
78	309	1430	0.	53.	54.	56.	424.	0.	0.	5.8	20.0	20.0
78	309	15 0	0.	68.	68.	79.	422.	0.	0.	6.6	19.8	20.0
78	309	1530	0.	36.	36.	40.	423.	0.	0.	6.4	19.8	20.0
78	309	16 0	0.	0.	0.	0.	423.	0.	0.	6.3	19.9	20.0
78	309	1630	0.	0.	0.	0.	424.	0.	0.	5.9	20.0	20.0
78	309	18.		.250	192.027	605.382	1645.807					

6 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	310	8 0	0.	38.	41.	49.	423.	0.	0.	1.7	19.9	10.0
78	310	830	0.	70.	75.	76.	423.	0.	0.	1.5	19.9	10.0
78	310	9 0	0.	85.	92.	102.	423.	0.	0.	1.6	19.8	10.0
78	310	930	0.	117.	119.	135.	422.	0.	0.	1.9	19.7	10.0
78	310	10 0	0.	121.	129.	138.	423.	0.	0.	1.7	19.8	10.0
78	310	1030	0.	151.	156.	178.	422.	0.	0.	2.6	19.8	10.0
78	310	11 0	0.	183.	185.	227.	459.	0.	0.	2.6	25.9	10.6
78	310	1130	0.	178.	185.	227.	468.	0.	0.	2.6	27.9	11.2
78	310	12 0	0.	238.	243.	320.	518.	0.	0.	3.4	35.1	12.2
78	310	1230	0.	274.	277.	527.	558.	0.	0.	3.6	40.9	13.9
78	310	13 0	0.	331.	353.	570.	607.	0.	0.	4.2	47.6	14.9
78	310	1330	0.	202.	202.	273.	551.	0.	0.	4.0	34.9	15.9
78	310	14 0	0.	202.	204.	264.	552.	0.	0.	2.5	40.0	16.9
78	310	1430	0.	174.	175.	350.	485.	0.	0.	4.1	30.1	17.5
78	310	15 0	0.	102.	95.	138.	443.	0.	0.	4.8	23.9	17.7
78	310	1530	0.	62.	51.	72.	421.	0.	0.	3.4	19.5	17.7
78	310	16 0	0.	0.	0.	0.	423.	0.	0.	3.8	19.8	17.7
78	310	1630	0.	0.	0.	0.	423.	0.	0.	3.6	19.8	17.7
78	310	18.		.192	147.455	464.863	1774.309					

7 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	311	8 0	0.	189.	180.	0.	424.	0.	0.	0.8	20.1	10.0
78	311	830	0.	268.	255.	534.	634.	0.	0.	0.9	51.0	11.8
78	311	9 0	0.	336.	323.	0.	803.	0.	0.	2.5	70.8	14.6
78	311	930	0.	410.	392.	787.	894.	0.	0.	2.7	80.2	18.0
78	311	10 0	0.	450.	440.	873.	999.	0.	0.	5.2	90.1	21.9
78	311	1030	0.	474.	464.	926.	1040.	0.	0.	5.9	93.8	25.9
78	311	11 0	0.	525.	518.	988.	1110.	0.	0.	5.2	99.8	30.3
78	311	1130	0.	531.	518.	982.	1128.	0.	0.	4.2	101.4	34.6
78	311	12 0	0.	552.	316.	507.	1018.	0.	0.	5.0	91.9	38.0
78	311	1230	0.	508.	499.	1035.	1089.	0.	0.	6.3	98.1	41.7
78	311	13 0	0.	487.	479.	939.	1077.	0.	0.	6.1	97.0	45.1
78	311	1330	0.	463.	457.	884.	1027.	0.	0.	9.7	92.6	48.0
78	311	14 0	0.	0.	396.	784.	899.	0.	0.	5.3	80.7	50.0
78	311	1430	0.	348.	338.	0.	865.	0.	0.	5.5	77.3	51.6
78	311	15 0	0.	268.	260.	577.	755.	0.	0.	5.7	65.6	52.4
78	311	1530	0.	215.	199.	0.	670.	0.	0.	5.7	55.6	52.5
78	311	16 0	0.	0.	0.	0.	590.	0.	0.	5.6	45.4	52.5
78	311	1630	0.	0.	0.	0.	469.	0.	0.	5.7	27.6	52.5
78	311	18.		1.063	816.652	2574.565	4909.414					

8 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	312	8 0	0.	0.	0.	0.	491.	0.	0.	1.7	31.0	10.8
78	312	830	0.	0.	0.	0.	580.	0.	0.	2.0	49.0	12.2
78	312	9 0	0.	348.	328.	0.	696.	0.	0.	3.2	58.7	14.3
78	312	930	0.	0.	0.	0.	814.	0.	0.	4.5	72.3	17.2
78	312	10 0	0.	0.	0.	0.	842.	0.	0.	6.4	75.0	20.1
78	312	1030	0.	385.	382.	616.	816.	0.	0.	7.0	72.2	22.9
78	312	11 0	0.	0.	0.	0.	690.	0.	0.	7.8	58.0	24.4
78	312	1130	0.	0.	0.	0.	783.	0.	0.	9.3	68.7	26.6
78	312	12 0	0.	0.	0.	660.	718.	0.	0.	9.8	61.4	28.3
78	312	1230	0.	0.	0.	0.	757.	0.	0.	6.7	65.8	30.2
78	312	13 0	0.	0.	0.	0.	841.	0.	0.	10.6	74.9	32.6
78	312	1330	0.	0.	0.	0.	687.	0.	0.	10.0	57.7	33.8
78	312	14 0	0.	140.	139.	0.	535.	0.	0.	10.2	37.6	34.8
78	312	1430	0.	0.	0.	0.	520.	0.	0.	9.9	35.5	34.1
78	312	15 0	0.	0.	0.	0.	491.	0.	0.	9.4	31.0	34.1
78	312	1530	0.	0.	0.	0.	454.	0.	0.	9.4	25.1	34.1
78	312	16 0	0.	0.	0.	0.	423.	0.	0.	8.5	19.9	34.1
78	312	1630	0.	0.	0.	0.	423.	0.	0.	8.2	19.8	34.1
78	312	18.		.602	462.133	1456.915	640.860					

9 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	313	8 0	0.	217.	192.	432.	607.	0.	0.	4.1	47.5	11.6
78	313	830	0.	270.	277.	557.	698.	0.	0.	5.0	59.0	13.7
78	313	9 0	0.	312.	292.	606.	748.	0.	0.	6.4	64.8	16.1
78	313	930	0.	365.	350.	725.	868.	0.	0.	8.6	77.6	19.3
78	313	10 0	0.	410.	399.	814.	969.	0.	0.	8.8	87.4	23.0
78	313	1030	0.	444.	433.	883.	1029.	0.	0.	10.9	92.8	26.4
78	313	11 0	0.	470.	457.	863.	1093.	0.	0.	11.8	98.4	31.1
78	313	1130	0.	423.	413.	843.	1074.	0.	0.	11.6	96.8	35.0
78	313	12 0	0.	463.	457.	919.	1094.	0.	0.	12.2	98.6	38.9
78	313	1230	0.	450.	443.	890.	1066.	0.	0.	11.8	96.1	42.4
78	313	13 0	0.	408.	404.	873.	1001.	0.	0.	13.2	90.4	45.3
78	313	1330	0.	374.	367.	748.	952.	0.	0.	15.8	85.8	47.7
78	313	14 0	0.	321.	314.	652.	866.	0.	0.	11.8	77.4	49.4
78	313	1430	0.	259.	250.	554.	779.	0.	0.	12.0	68.2	50.5
78	313	15 0	0.	187.	178.	425.	681.	0.	0.	12.4	57.0	50.8
78	313	1530	0.	117.	112.	287.	577.	0.	0.	12.4	43.6	50.8
78	313	16 0	0.	40.	39.	102.	472.	0.	0.	11.9	28.0	50.8
78	313	1630	0.	0.	0.	0.	419.	0.	0.	10.9	19.3	50.8
78	313	18.		1.021	783.837	2471.111	5586.218					

10 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	314	8 0	0.	32.	27.	0.	424.	0.	0.	3.4	20.1	10.0
78	314	830	0.	45.	44.	53.	423.	0.	0.	3.5	19.9	10.0
78	314	9 0	0.	68.	71.	72.	453.	0.	0.	4.1	24.9	10.6
78	314	930	0.	79.	83.	89.	424.	0.	0.	4.2	20.1	10.6
78	314	10 0	0.	134.	139.	161.	425.	0.	0.	4.5	20.2	10.6
78	314	1030	0.	306.	299.	435.	537.	0.	0.	5.2	37.9	11.7
78	314	11 0	0.	170.	168.	231.	548.	0.	0.	6.3	39.5	12.8
78	314	1130	0.	529.	525.	1038.	792.	0.	0.	9.3	69.7	15.6
78	314	12 0	0.	285.	277.	445.	911.	0.	0.	9.9	81.8	19.0
78	314	1230	0.	521.	516.	883.	962.	0.	0.	11.7	86.7	22.6
78	314	13 0	0.	380.	353.	596.	974.	0.	0.	11.9	87.8	26.2
78	314	1330	0.	433.	430.	873.	1003.	0.	0.	11.2	90.5	29.8
78	314	14 0	0.	380.	379.	801.	920.	0.	0.	12.6	82.7	32.8
78	314	1430	0.	198.	190.	905.	679.	0.	0.	12.0	56.7	33.9
78	314	15 0	0.	102.	100.	171.	532.	0.	0.	11.4	37.2	34.1
78	314	1530	0.	161.	158.	366.	548.	0.	0.	12.5	39.5	34.3
78	314	16 0	0.	81.	73.	171.	501.	0.	0.	12.0	22.5	34.3
78	314	1630	0.	0.	0.	0.	421.	0.	0.	10.1	19.6	34.3
78	314	18.		.608	467.168	1472.786	3395.404					

11 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	315	8 0	0.	0.	0.	0.	424.	0.	0.	2.0	20.0	10.0
78	315	830	0.	0.	0.	0.	424.	0.	0.	2.0	20.1	10.0
78	315	9 0	0.	0.	0.	0.	424.	0.	0.	1.6	20.1	10.0
78	315	930	0.	0.	0.	0.	424.	0.	0.	1.5	20.0	10.0
78	315	10 0	0.	0.	0.	0.	424.	0.	0.	1.5	20.0	10.0
78	315	1030	0.	0.	0.	0.	423.	0.	0.	1.1	19.9	10.0
78	315	11 0	0.	0.	0.	0.	424.	0.	0.	.3	20.1	10.0
78	315	1130	0.	0.	0.	0.	424.	0.	0.	.5	20.0	10.0
78	315	12 0	0.	32.	32.	33.	424.	0.	0.	-.2	20.1	10.0
78	315	1230	0.	0.	0.	0.	423.	0.	0.	-.9	19.9	10.0
78	315	13 0	0.	34.	34.	36.	424.	0.	0.	-.8	20.1	10.0
78	315	1330	0.	8.	10.	10.	423.	0.	0.	-.9	19.9	10.0
78	315	14 0	0.	0.	0.	0.	423.	0.	0.	-.7	19.9	10.0
78	315	1430	0.	0.	0.	0.	424.	0.	0.	-1.4	20.0	10.0
78	315	15 0	0.	0.	0.	0.	424.	0.	0.	-1.3	20.0	10.0
78	315	1530	0.	0.	0.	0.	424.	0.	0.	-2.2	20.0	10.0
78	315	16 0	0.	0.	0.	0.	424.	0.	0.	-1.9	20.0	10.0
78	315	1630	0.	0.	0.	0.	424.	0.	0.	-2.2	20.0	10.0
78	315	18.		.000	.000	.000		39.539				

12 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	316	8 0	0.	0.	0.	0.	424.	0.	0.	-3.5	20.0	10.0
78	316	830	0.	0.	0.	0.	423.	0.	0.	-3.3	19.9	10.0
78	316	9 0	0.	0.	0.	7.	423.	0.	0.	-3.4	19.9	10.0
78	316	930	0.	0.	0.	0.	424.	0.	0.	-2.6	20.0	10.0
78	316	10 0	0.	0.	0.	0.	424.	0.	0.	-2.4	20.0	10.0
78	316	1030	0.	0.	0.	43.	423.	0.	0.	-2.2	19.9	10.0
78	316	11 0	0.	0.	0.	53.	423.	0.	0.	-2.2	19.8	10.0
78	316	1130	0.	32.	36.	33.	423.	0.	0.	-2.0	19.9	10.0
78	316	12 0	0.	45.	51.	49.	423.	0.	0.	-1.4	19.9	10.0
78	316	1230	0.	34.	39.	30.	424.	0.	0.	-1.4	19.9	10.0
78	316	13 0	0.	34.	39.	40.	424.	0.	0.	-.8	20.0	10.0
78	316	1330	0.	34.	39.	36.	424.	0.	0.	-1.1	20.1	10.0
78	316	14 0	0.	11.	12.	36.	423.	0.	0.	-.3	20.1	10.0
78	316	1430	0.	0.	0.	10.	424.	0.	0.	.8	19.9	10.0
78	316	15 0	0.	0.	0.	0.	424.	0.	0.	.5	20.1	10.0
78	316	1530	0.	0.	0.	0.	424.	0.	0.	.7	20.1	10.0
78	316	16 0	0.	0.	0.	0.	424.	0.	0.	.9	20.1	10.0
78	316	1630	0.	0.	0.	0.	423.	0.	0.	.8	20.1	10.0
78	316	18.		.000	.000	.000		166.040		.9	19.9	10.0

13 Nov 78

YR	DAY	TIME	FHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	317	8 0	0.	0.	0.	0.	423.	0.	0.	6.3	19.9	10.0
78	317	830	0.	0.	0.	0.	423.	0.	0.	6.6	19.9	10.0
78	317	9 0	0.	0.	0.	0.	423.	0.	0.	7.0	19.9	10.0
78	317	930	0.	0.	0.	0.	424.	0.	0.	7.3	20.0	10.0
78	317	10 0	0.	0.	0.	0.	424.	0.	0.	7.7	20.0	10.0
78	317	1030	0.	0.	0.	0.	424.	0.	0.	8.6	20.1	10.0
78	317	11 0	0.	0.	0.	40.	424.	0.	0.	9.7	20.0	10.0
78	317	1130	0.	0.	0.	33.	424.	0.	0.	10.5	20.0	10.0
78	317	12 0	0.	36.	41.	63.	423.	0.	0.	11.0	19.9	10.0
78	317	1230	0.	104.	109.	129.	439.	0.	0.	11.8	22.7	10.5
78	317	13 0	0.	110.	112.	105.	424.	0.	0.	12.6	20.0	10.5
78	317	1330	0.	38.	41.	43.	425.	0.	0.	11.9	20.2	10.5
78	317	14 0	0.	76.	78.	86.	426.	0.	0.	11.6	20.4	10.5
78	317	1430	0.	123.	117.	560.	630.	0.	0.	11.8	50.5	12.2
78	317	15 0	0.	189.	178.	402.	590.	0.	0.	12.2	45.4	13.6
78	317	1530	0.	85.	80.	211.	513.	0.	0.	11.9	34.3	14.4
78	317	16 0	0.	47.	44.	129.	447.	0.	0.	11.6	23.9	14.8
78	317	1630	0.	0.	0.	0.	421.	0.	0.	10.7	19.5	14.8
79	317	18.		.120	92.291	290.954	899.510					

14 Nov 78

YR	DAY	TIME	FHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	318	8 0	0.	36.	41.	40.	424.	0.	0.	-3.2	20.0	10.0
78	318	830	0.	59.	63.	59.	422.	0.	0.	-3.0	19.8	10.0
78	318	9 0	0.	102.	105.	115.	420.	0.	0.	-2.6	19.4	10.0
78	318	930	0.	91.	92.	99.	420.	0.	0.	-2.7	19.4	10.0
78	318	10 0	0.	113.	119.	125.	421.	0.	0.	-2.0	19.6	10.0
78	318	1030	0.	115.	117.	119.	422.	0.	0.	-2.5	19.7	10.0
78	318	11 0	0.	81.	83.	92.	422.	0.	0.	-2.3	19.7	10.0
78	318	1130	0.	113.	114.	115.	423.	0.	0.	-2.4	19.9	10.0
78	318	12 0	0.	389.	392.	643.	671.	0.	0.	-1.4	55.7	12.0
78	318	1230	0.	595.	584.	1068.	951.	0.	0.	-.1	85.7	15.9
78	318	13 0	0.	548.	540.	956.	893.	0.	0.	-.6	80.1	19.1
78	318	1330	0.	455.	443.	827.	836.	0.	0.	-.1	74.3	21.9
78	318	14 0	0.	370.	357.	715.	808.	0.	0.	.6	71.4	24.4
78	318	1430	0.	304.	289.	613.	735.	0.	0.	.6	63.3	26.3
78	318	15 0	0.	227.	216.	498.	646.	0.	0.	.5	52.6	27.6
78	318	1530	0.	144.	136.	349.	544.	0.	0.	.6	38.9	28.1
78	318	16 0	0.	64.	56.	168.	433.	0.	0.	-.1	21.6	28.1
78	318	1630	0.	0.	0.	0.	420.	0.	0.	-1.4	19.3	28.1
78	318	18.		.452	347.161	1094.456	3299.851					

15 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	YW
78	319	8 0	0.	0.	0.	30.	424.	0.	0.	-1.5	20.0	10.0
78	319	830	0.	283.	285.	521.	440.	0.	0.	-1.8	22.8	10.5
78	319	9 0	495.	278.	265.	504.	595.	541.	524.	-1.7	46.0	12.0
78	319	930	227.	240.	238.	353.	565.	397.	395.	0.1	41.8	13.2
78	319	10 0	0.	155.	156.	277.	477.	0.	0.	-0.7	28.8	13.8
78	319	1030	0.	151.	151.	237.	494.	0.	0.	-0.9	31.5	14.5
78	319	11 0	791.	476.	469.	903.	931.	920.	911.	1.5	83.8	18.1
78	319	1130	625.	482.	479.	909.	1036.	942.	938.	0.6	93.4	22.3
78	319	12 0	797.	474.	467.	896.	1032.	921.	912.	2.2	93.1	26.3
78	319	1230	812.	472.	460.	880.	1015.	924.	908.	2.7	91.6	30.0
78	317	13 0	784.	427.	426.	797.	950.	854.	852.	2.8	85.6	33.1
78	319	1330	786.	393.	392.	751.	932.	808.	806.	2.7	83.9	36.0
78	319	14 0	753.	342.	336.	679.	877.	726.	717.	3.0	78.5	38.3
78	319	1430	717.	291.	285.	593.	817.	642.	633.	3.0	72.3	40.2
78	319	15 0	642.	210.	207.	471.	699.	505.	500.	3.6	59.1	41.2
78	319	1530	485.	123.	122.	308.	587.	332.	329.	4.3	44.9	41.3
78	319	16 0	229.	40.	41.	105.	426.	132.	133.	2.3	20.4	41.3
78	319	1630	0.	0.	0.	0.	416.	0.	0.	2.3	18.0	41.3
78	319	18.		.784	601.855	1897.400	4604.435					

16 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	YW
78	320	8 0	168.	81.	75.	145.	415.	0.	0.	-4.0	18.6	10.0
78	320	830	0.	79.	78.	89.	417.	0.	0.	-3.0	18.8	10.0
78	320	9 0	75.	134.	131.	188.	417.	0.	0.	-3.5	18.9	10.0
78	320	930	242.	278.	270.	409.	522.	454.	443.	-0.5	35.8	11.0
78	320	10 0	193.	291.	269.	425.	548.	453.	451.	0.8	39.5	12.2
78	320	1030	0.	157.	161.	185.	462.	0.	0.	-1.3	26.4	12.7
78	320	11 0	0.	142.	143.	168.	420.	0.	0.	-1.3	19.4	12.7
78	320	1130	0.	132.	134.	155.	421.	0.	0.	0.6	19.5	12.7
78	320	12 0	0.	96.	100.	105.	423.	0.	0.	0.5	19.8	12.7
78	320	1230	0.	81.	83.	96.	423.	0.	0.	-0.1	19.9	12.7
78	320	13 0	0.	57.	61.	63.	424.	0.	0.	0.2	20.1	12.7
78	320	1330	0.	38.	41.	43.	423.	0.	0.	-0.9	19.9	12.7
78	320	14 0	0.	76.	78.	82.	424.	0.	0.	-0.7	20.0	12.7
78	320	1430	0.	11.	10.	30.	424.	0.	0.	-0.2	20.1	12.7
78	320	15 0	0.	19.	22.	30.	424.	0.	0.	-0.7	20.0	12.7
78	320	1530	0.	45.	44.	56.	423.	0.	0.	0.0	19.9	12.7
78	320	16 0	0.	0.	0.	0.	424.	0.	0.	0.6	20.1	12.7
78	320	1630	0.	0.	0.	0.	424.	0.	0.	0.2	20.0	12.7
78	320	18.		.068	52.536	165.624	1133.449					

17 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	321	8 0	0.	0.	0.	0.	423.	0.	0.	3.2	19.9	10.0
78	321	830	0.	0.	0.	0.	424.	0.	0.	3.1	20.0	10.0
78	321	9 0	0.	0.	0.	0.	423.	0.	0.	3.0	19.9	10.0
78	321	930	0.	0.	0.	0.	424.	0.	0.	2.7	20.1	10.0
78	321	10 0	0.	0.	0.	1.	423.	0.	0.	3.0	19.9	10.0
78	321	1030	0.	0.	0.	0.	424.	0.	0.	3.0	20.1	10.0
78	321	11 0	0.	0.	0.	0.	424.	0.	0.	2.8	20.0	10.0
78	321	1130	0.	0.	0.	0.	424.	0.	0.	2.3	20.1	10.0
78	321	12 0	0.	0.	0.	0.	424.	0.	0.	1.7	20.0	10.0
78	321	1230	0.	6.	7.	23.	424.	0.	0.	.8	20.0	10.0
78	321	13 0	0.	0.	0.	0.	424.	0.	0.	.6	20.1	10.0
78	321	1330	0.	0.	0.	23.	424.	0.	0.	.0	20.1	10.0
78	321	14 0	0.	30.	34.	30.	424.	0.	0.	-1.0	20.1	10.0
78	321	1430	0.	0.	0.	23.	424.	0.	0.	-1.0	20.1	10.0
78	321	15 0	0.	0.	0.	23.	424.	0.	0.	-1.3	20.0	10.0
78	321	1530	0.	0.	0.	0.	424.	0.	0.	-.9	20.1	10.0
78	321	16 0	0.	0.	0.	0.	424.	0.	0.	-1.4	20.0	10.0
78	321	1630	0.	0.	0.	0.	423.	0.	0.	-1.1	19.9	10.0
78	321	18.		.000	.000	.000		69.193				

18 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	322	8 0	0.	34.	39.	43.	423.	0.	0.	-1.3	19.8	10.0
78	322	830	0.	55.	61.	53.	423.	0.	0.	-1.4	19.8	10.0
78	322	9 0	0.	47.	46.	53.	423.	0.	0.	-1.8	19.9	10.0
78	322	930	505.	274.	285.	666.	510.	547.	561.	-1.5	33.9	10.9
78	322	10 0	0.	161.	165.	537.	469.	0.	0.	-1.5	27.6	11.6
78	322	1030	637.	436.	440.	801.	688.	814.	820.	.5	57.8	13.7
78	322	11 0	755.	463.	452.	873.	854.	897.	883.	.2	76.2	16.8
78	322	1130	799.	472.	469.	896.	926.	927.	923.	1.0	83.3	20.3
78	322	12 0	822.	470.	460.	900.	967.	933.	920.	2.5	87.2	23.9
78	322	1230	789.	453.	440.	860.	960.	898.	881.	2.5	86.5	27.3
78	322	13 0	781.	427.	423.	834.	913.	860.	855.	3.3	82.0	30.3
78	322	1330	742.	378.	375.	758.	867.	779.	774.	3.8	77.5	32.9
78	322	14 0	742.	334.	326.	679.	812.	718.	708.	3.8	71.8	34.9
78	322	1430	670.	259.	253.	567.	733.	590.	582.	4.7	63.1	36.4
78	322	15 0	590.	191.	185.	438.	644.	467.	459.	4.4	52.3	37.2
78	322	1530	397.	110.	105.	257.	545.	288.	280.	4.9	39.0	37.2
78	322	16 0	0.	0.	0.	10.	418.	0.	0.	4.1	19.0	37.2
78	322	1630	0.	0.	0.	3.	423.	0.	0.	4.0	19.9	37.2
78	322	18.		.681	523.118	1649.174		4612.872				

19 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	323	8 0	513.	127.	122.	152.	409.	349.	341.	-6.8	17.5	10.0
78	323	830	565.	183.	180.	395.	422.	444.	440.	-7.2	19.7	10.0
78	323	9 0	549.	240.	229.	461.	498.	517.	502.	-7.0	32.0	10.9
78	323	930	768.	359.	338.	666.	639.	758.	731.	-6.1	51.7	12.6
78	323	10 0	771.	419.	399.	755.	719.	841.	815.	-6.0	61.4	14.9
78	323	1030	791.	419.	409.	834.	792.	852.	839.	-4.7	69.6	17.5
78	323	11 0	263.	340.	333.	593.	748.	548.	539.	-4.5	64.8	19.8
78	323	1130	822.	489.	484.	883.	795.	960.	954.	-4.9	70.0	22.3
78	323	12 0	0.	232.	226.	287.	656.	0.	0.	-4.3	53.9	23.8
78	323	1230	108.	355.	353.	498.	673.	508.	505.	-4.0	56.0	25.3
78	323	13 0	121.	348.	336.	458.	655.	504.	487.	-2.0	53.8	26.6
78	323	1330	0.	115.	117.	129.	449.	0.	0.	-4.2	24.3	26.6
78	323	14 0	0.	72.	75.	82.	419.	0.	0.	-4.8	19.2	26.6
78	323	1430	0.	110.	109.	138.	433.	0.	0.	-3.8	21.7	26.6
78	323	15 0	186.	142.	143.	175.	415.	255.	257.	-4.5	18.6	26.6
78	323	1530	518.	127.	124.	310.	488.	356.	351.	-2.7	30.5	26.8
78	323	16 0	340.	57.	54.	155.	400.	196.	191.	-3.3	15.7	26.8
78	323	1630	0.	0.	0.	0.	418.	0.	0.	-4.7	19.0	26.8
78	323	18.		.420	322.561	1016.902		3484.366				

20 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	324	8 0	0.	0.	0.	0.	423.	0.	0.	-7.0	19.9	10.0
78	324	830	0.	36.	39.	36.	421.	0.	0.	-7.3	19.6	10.0
78	324	9 0	0.	53.	56.	56.	421.	0.	0.	-7.2	19.5	10.0
78	324	930	0.	51.	58.	56.	420.	0.	0.	-6.8	19.3	10.0
78	324	10 0	0.	66.	71.	69.	418.	0.	0.	-7.0	19.1	10.0
78	324	1030	0.	72.	75.	76.	419.	0.	0.	-7.4	19.1	10.0
78	324	11 0	0.	72.	75.	79.	417.	0.	0.	-6.6	18.9	10.0
78	324	1130	0.	66.	68.	66.	418.	0.	0.	-6.9	19.0	10.0
78	324	12 0	0.	53.	56.	56.	419.	0.	0.	-7.0	19.1	10.0
78	324	1230	0.	68.	71.	72.	418.	0.	0.	-6.5	19.0	10.0
78	324	13 0	0.	57.	61.	63.	418.	0.	0.	-7.2	19.1	10.0
78	324	1330	0.	34.	34.	33.	420.	0.	0.	-6.5	19.3	10.0
78	324	14 0	0.	30.	34.	30.	421.	0.	0.	-7.2	19.5	10.0
78	324	1430	0.	0.	0.	23.	421.	0.	0.	-6.9	19.5	10.0
78	324	15 0	0.	17.	19.	13.	422.	0.	0.	-7.7	19.7	10.0
78	324	1530	0.	0.	0.	10.	422.	0.	0.	-7.4	19.7	10.0
78	324	16 0	0.	0.	0.	3.	423.	0.	0.	-7.4	19.8	10.0
78	324	17.		.000	.000	.000		370.677				



21 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	325	8 0	0.	0.	0.	23.	422.	0.	0.	-7.5	19.8	10.0
78	325	830	0.	97.	51.	46.	422.	0.	0.	-7.3	19.7	10.0
78	325	9 0	0.	74.	80.	79.	421.	0.	0.	-6.8	19.5	10.0
78	325	930	0.	59.	61.	69.	419.	0.	0.	-7.0	19.3	10.0
78	325	10 0	0.	176.	175.	194.	414.	0.	0.	-6.4	18.3	10.0
78	325	1030	662.	444.	433.	787.	610.	840.	826.	-6.0	48.0	11.6
78	325	11 0	745.	459.	452.	847.	824.	894.	886.	-5.1	73.1	14.6
78	325	1130	487.	444.	440.	741.	603.	775.	769.	-4.7	47.1	16.0
78	325	12 0	0.	268.	268.	455.	633.	0.	0.	-5.8	51.0	17.6
78	325	1230	0.	193.	195.	247.	495.	0.	0.	-5.7	31.6	18.1
78	325	13 0	0.	215.	214.	264.	486.	0.	0.	-4.1	30.2	18.6
78	325	1330	0.	174.	175.	204.	436.	0.	0.	-5.5	22.2	18.8
78	325	14 0	0.	127.	131.	145.	417.	0.	0.	-5.5	18.9	18.8
78	325	1430	0.	79.	73.	82.	420.	0.	0.	-5.5	19.4	18.8
78	325	15 0	0.	85.	85.	99.	420.	0.	0.	-4.9	19.3	18.8
78	325	1530	0.	30.	34.	30.	422.	0.	0.	-5.0	19.8	18.8
78	325	16 0	0.	0.	0.	3.	424.	0.	0.	-4.7	20.1	18.8
78	325	1630	0.	0.	0.	3.	426.	0.	0.	-4.8	20.4	18.8
78	325	18.		.219	168.294	530.562	2159.813					

22 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	326	8 0	0.	0.	0.	0.	425.	0.	0.	-4.9	20.3	10.0
78	326	830	0.	0.	0.	0.	424.	0.	0.	-5.1	20.0	10.0
78	326	9 0	0.	28.	32.	23.	425.	0.	0.	-5.2	20.2	10.0
78	326	930	0.	23.	27.	30.	424.	0.	0.	-5.2	20.0	10.0
78	326	10 0	0.	32.	36.	30.	424.	0.	0.	-5.3	20.1	10.0
78	326	1030	0.	40.	44.	40.	424.	0.	0.	-4.9	20.1	10.0
78	326	11 0	0.	38.	39.	40.	424.	0.	0.	-4.9	20.0	10.0
78	326	1130	0.	38.	44.	43.	424.	0.	0.	-4.4	20.0	10.0
78	326	12 0	0.	32.	36.	30.	424.	0.	0.	-4.4	20.1	10.0
78	326	1230	0.	23.	27.	23.	424.	0.	0.	-3.8	20.0	10.0
78	326	13 0	0.	19.	22.	20.	424.	0.	0.	-4.0	20.1	10.0
78	326	1330	0.	15.	17.	13.	424.	0.	0.	-4.5	20.0	10.0
78	326	14 0	0.	0.	0.	10.	425.	0.	0.	-4.2	20.2	10.0
78	326	1430	0.	2.	2.	10.	424.	0.	0.	-5.0	20.0	10.0
78	326	15 0	0.	11.	12.	7.	424.	0.	0.	-4.5	20.0	10.0
78	326	1530	0.	0.	0.	7.	424.	0.	0.	-5.0	20.1	10.0
78	326	16 0	0.	0.	0.	1.	424.	0.	0.	-4.2	20.1	10.0
78	326	1630	0.	0.	0.	0.	424.	0.	0.	-4.8	20.1	10.0
78	326	18.		.000	.000	.000	163.098					

23 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	327	8 0	0.	11.	12.	0.	423.	0.	0.	-.2	19.9	10.0
78	327	830	0.	38.	41.	23.	423.	0.	0.	-.1	19.9	10.0
78	327	9 0	0.	47.	46.	43.	422.	0.	0.	.1	19.7	10.0
78	327	930	0.	51.	49.	43.	419.	0.	0.	.2	19.2	10.0
78	327	10 0	0.	64.	63.	69.	415.	0.	0.	.2	18.6	10.0
78	327	1030	0.	89.	88.	99.	409.	0.	0.	.5	17.5	10.0
78	327	11 0	0.	74.	75.	82.	408.	0.	0.	.5	17.2	10.0
78	327	1130	0.	93.	97.	105.	404.	0.	0.	.6	16.5	10.0
78	327	12 0	0.	66.	68.	79.	404.	0.	0.	.6	16.5	10.0
78	327	1230	0.	53.	58.	59.	406.	0.	0.	.8	17.0	10.0
78	327	13 0	0.	76.	78.	79.	403.	0.	0.	.7	16.3	10.0
78	327	1330	0.	89.	92.	89.	404.	0.	0.	.5	16.6	10.0
78	327	14 0	0.	66.	68.	69.	407.	0.	0.	.3	17.1	10.0
78	327	1430	0.	19.	22.	20.	415.	0.	0.	.2	18.6	10.0
78	327	15 0	0.	11.	12.	10.	417.	0.	0.	.3	18.9	10.0
78	327	1530	0.	0.	0.	3.	422.	0.	0.	-.2	19.8	10.0
78	327	16 0	0.	0.	0.	0.	422.	0.	0.	-.5	11.8	10.0
78	327	1630	0.	0.	0.	3.	423.	0.	0.	-.2	19.9	10.0
78	327	18.		.000	.000	.000		438.723				

24 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	328	8 0	0.	0.	0.	0.	420.	0.	0.	-4.2	19.3	10.0
78	328	830	0.	0.	0.	34.	417.	0.	0.	-3.6	18.8	10.0
78	328	9 0	0.	72.	78.	82.	411.	0.	0.	-3.2	17.7	10.0
78	328	930	0.	117.	122.	132.	403.	0.	0.	-3.4	16.3	10.0
78	328	10 0	62.	181.	178.	293.	392.	0.	0.	-2.7	14.3	10.0
78	328	1030	719.	431.	411.	787.	660.	852.	825.	-1.6	54.3	11.9
78	328	11 0	637.	429.	421.	771.	757.	818.	807.	-1.9	65.8	17.5
78	328	1130	652.	419.	450.	708.	685.	811.	852.	-1.8	57.4	17.4
78	328	12 0	750.	535.	528.	979.	732.	1005.	994.	-1.7	67.0	18.6
78	328	1230	621.	459.	416.	692.	847.	852.	746.	-1.0	75.4	21.5
78	328	13 0	531.	385.	392.	517.	698.	717.	727.	-1.8	59.0	23.2
78	328	1330	47.	193.	197.	484.	492.	0.	0.	-1.6	31.2	13.1
78	328	14 0	0.	170.	173.	234.	456.	0.	0.	-1.5	25.5	23.1
78	328	1430	46.	134.	131.	201.	499.	0.	0.	-1.3	32.3	24.1
78	328	15 0	116.	91.	90.	181.	432.	0.	0.	-1.4	21.5	21.1
78	328	1530	70.	53.	51.	102.	415.	0.	0.	-1.6	18.6	24.1
78	328	16 0	57.	34.	34.	56.	408.	0.	0.	-2.4	17.3	24.1
78	328	1630	0.	0.	0.	0.	422.	0.	0.	-3.0	19.7	24.1
78	328	18.		.352	270.131	.051.611		3128.516				

25 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	329	8 0	52.	30.	36.	59.	418.	0.	0.	-6.6	19.1	10.0
78	329	830	510.	172.	175.	382.	402.	419.	423.	-5.0	16.2	10.0
78	329	9 0	637.	251.	241.	507.	560.	574.	561.	-2.9	41.1	11.3
78	329	930	559.	276.	263.	547.	685.	581.	563.	-3.3	57.4	13.4
78	329	10 0	711.	372.	362.	755.	751.	769.	757.	-3.2	65.2	15.6
78	329	1030	789.	433.	423.	857.	840.	884.	870.	-1.7	74.7	18.7
78	329	11 0	786.	459.	450.	903.	908.	919.	907.	-1.4	81.6	22.0
78	329	1130	662.	459.	450.	863.	955.	870.	858.	-1.7	86.1	25.5
78	329	12 0	724.	482.	477.	890.	954.	926.	919.	-0.2	86.0	28.8
78	329	1230	467.	355.	353.	659.	800.	655.	652.	-0.1	70.5	31.0
78	329	13 0	536.	376.	375.	712.	823.	710.	708.	-0.0	73.0	33.2
78	329	1330	438.	293.	292.	600.	754.	560.	558.	.9	65.4	34.9
78	329	14 0	784.	361.	362.	725.	871.	785.	786.	1.5	77.9	37.3
78	329	1430	580.	236.	231.	458.	717.	537.	531.	.9	61.3	38.5
78	329	15 0	639.	208.	204.	474.	669.	520.	515.	1.0	55.5	39.4
78	329	1530	258.	76.	73.	198.	517.	198.	194.	-0.3	35.0	39.4
78	329	16 0	0.	0.	0.	46.	409.	0.	0.	-0.5	16.5	39.4
78	329	1630	0.	0.	0.	0.	420.	0.	0.	-0.6	19.3	39.4
78	329	18.		.734	563.599	1776.794	4817.157					

26 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	330	8 0	0.	0.	0.	0.	423.	0.	0.	-3.4	19.9	10.0
78	330	830	0.	51.	56.	56.	422.	0.	0.	-2.5	19.8	10.0
78	330	9 0	0.	85.	88.	92.	420.	0.	0.	-1.7	19.4	10.0
78	330	930	0.	64.	66.	66.	419.	0.	0.	-1.4	19.2	10.0
78	330	10 0	0.	45.	46.	53.	420.	0.	0.	-1.6	19.4	10.0
78	330	1030	0.	64.	63.	66.	421.	0.	0.	-1.0	19.5	10.0
78	330	11 0	0.	32.	34.	40.	422.	0.	0.	-0.9	19.7	10.0
78	330	1130	0.	47.	49.	53.	422.	0.	0.	-0.8	19.7	10.0
78	330	12 0	0.	38.	41.	40.	422.	0.	0.	-0.9	19.7	10.0
78	330	1230	0.	21.	24.	26.	422.	0.	0.	-0.8	19.8	10.0
78	330	13 0	0.	30.	34.	33.	423.	0.	0.	-1.4	19.9	10.0
78	330	1330	0.	21.	24.	20.	423.	0.	0.	-1.1	19.9	10.0
78	330	14 0	0.	11.	12.	0.	423.	0.	0.	-1.0	19.9	10.0
78	330	1430	0.	11.	12.	7.	423.	0.	0.	-1.0	19.9	10.0
78	330	15 0	0.	6.	7.	3.	424.	0.	0.	-1.2	20.0	10.0
78	330	1530	0.	0.	0.	0.	423.	0.	0.	-1.9	19.9	10.0
78	330	16 0	0.	0.	0.	0.	423.	0.	0.	-1.9	19.9	10.0
78	330	1630	0.	0.	0.	0.	424.	0.	0.	-2.0	20.1	10.0
78	330	18.		.000	.000	.000	276.772					

27 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EN	EM1	EM2	TA	TCOL	TW
78	331	8 0	0.	0.	0.	0.	423.	0.	0.	-2.4	19.9	10.0
78	331	830	0.	21.	24.	23.	423.	0.	0.	-2.5	19.9	10.0
78	331	9 0	0.	36.	41.	46.	423.	0.	0.	-2.7	19.8	10.0
78	331	930	0.	68.	78.	86.	422.	0.	0.	-2.6	19.8	10.0
78	331	10 0	0.	64.	73.	86.	422.	0.	0.	-2.5	19.7	10.0
78	331	1030	0.	72.	80.	102.	421.	0.	0.	-1.7	19.6	10.0
78	331	11 0	0.	76.	83.	94.	421.	0.	0.	-2.2	19.5	10.0
78	331	1130	0.	130.	161.	194.	418.	0.	0.	-2.5	19.1	10.0
78	331	12 0	0.	121.	151.	171.	413.	0.	0.	-1.7	18.2	10.0
78	331	1230	0.	96.	119.	132.	408.	0.	0.	-2.6	17.3	10.0
78	331	13 0	0.	87.	117.	122.	408.	0.	0.	-2.3	17.3	10.0
78	331	1330	0.	68.	88.	82.	411.	0.	0.	-2.3	17.7	10.0
78	331	14 0	0.	33.	27.	43.	418.	0.	0.	-2.0	19.1	10.0
78	331	1430	0.	30.	39.	43.	420.	0.	0.	-2.2	19.4	10.0
78	331	15 0	0.	15.	17.	16.	421.	0.	0.	-2.0	19.6	10.0
78	331	1530	0.	4.	5.	7.	423.	0.	0.	-1.9	19.9	10.0
78	331	16 0	0.	0.	0.	3.	424.	0.	0.	-2.0	20.0	10.0
78	331	1630	0.	7.	0.	3.	427.	0.	0.	-2.4	20.5	10.0
78	331	18.		.000	.000	.000		629.128				

28 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EN	EM1	EM2	TA	TCOL	TW
78	332	8 0	0.	0.	0.	23.	422.	0.	0.	-11.0	19.8	10.0
78	332	830	0.	38.	44.	36.	422.	0.	0.	-11.4	19.8	10.0
78	332	9 0	0.	85.	85.	92.	419.	0.	0.	-11.0	19.2	10.0
78	332	930	0.	119.	122.	129.	418.	0.	0.	-10.6	19.0	10.0
78	332	10 0	608.	399.	377.	689.	524.	769.	739.	-10.3	34.0	11.0
78	332	1030	621.	423.	406.	725.	631.	807.	785.	-10.2	50.7	12.8
78	332	11 0	727.	487.	464.	834.	806.	936.	907.	-10.5	71.1	15.6
78	332	1130	730.	493.	479.	853.	826.	947.	922.	-9.5	73.2	18.4
78	332	12 0	755.	495.	479.	893.	854.	961.	940.	-10.1	76.1	21.4
78	332	1230	400.	325.	311.	517.	751.	591.	573.	-10.6	65.1	23.5
78	332	13 0	773.	474.	462.	880.	829.	939.	923.	-9.7	73.6	26.1
78	332	1330	678.	402.	396.	751.	730.	803.	796.	-10.1	62.7	27.9
78	332	14 0	160.	174.	165.	273.	584.	293.	282.	-10.8	44.5	28.7
78	332	1430	374.	204.	192.	386.	599.	417.	401.	-10.5	46.5	29.5
78	332	15 0	10.	110.	109.	148.	429.	0.	0.	-10.5	20.9	29.5
78	332	1530	64.	83.	81.	115.	417.	0.	0.	-9.8	18.8	29.5
78	332	16 0	0.	23.	27.	23.	421.	0.	0.	-10.5	19.5	29.5
78	332	1630	0.	0.	0.	0.	426.	0.	0.	-9.8	20.3	29.5
78	332	18.		.487	373.981	1179.007		3683.708				

29 Nov 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	333	8 0	0.	0.	0.	7.	423.	0.	0.	-0.2	19.9	10.0
78	333	830	0.	23.	27.	26.	422.	0.	0.	-0.2	19.8	10.0
78	333	9 0	0.	30.	34.	30.	423.	0.	0.	0.0	19.9	10.0
78	333	930	0.	62.	68.	66.	421.	0.	0.	0.0	19.6	10.0
78	333	10 0	0.	55.	58.	66.	420.	0.	0.	0.1	19.3	10.0
78	333	1030	0.	59.	66.	72.	422.	0.	0.	0.2	19.6	10.0
78	333	11 0	0.	89.	90.	115.	420.	0.	0.	0.7	19.3	10.0
78	333	1130	0.	76.	75.	89.	420.	0.	0.	0.6	19.4	10.0
78	333	12 0	0.	151.	153.	194.	421.	0.	0.	0.7	19.5	10.0
78	333	1230	0.	66.	66.	69.	421.	0.	0.	0.7	19.5	10.0
78	333	13 0	0.	79.	85.	89.	422.	0.	0.	0.7	19.7	10.0
78	333	1330	0.	47.	46.	46.	422.	0.	0.	0.9	19.7	10.0
78	333	14 0	0.	96.	100.	119.	421.	0.	0.	1.4	19.6	10.0
78	333	1430	0.	96.	95.	316.	420.	0.	0.	1.5	19.3	10.0
78	333	15 0	660.	187.	185.	461.	523.	506.	503.	1.5	35.8	11.0
78	333	1530	500.	113.	112.	306.	462.	342.	341.	1.5	26.4	11.6
78	333	16 0	222.	30.	29.	92.	404.	124.	123.	0.1	16.5	11.6
78	333	1630	0.	13.	15.	10.	419.	0.	0.	-0.6	19.3	11.6
78	333	18.		.040	31.093	98.024	1087.320					

30 Nov 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	334	8 0	0.	32.	36.	40.	423.	0.	0.	-12.8	19.8	10.0
78	334	830	0.	68.	73.	66.	422.	0.	0.	-12.8	19.7	10.0
78	334	9 0	0.	102.	107.	102.	421.	0.	0.	-12.2	19.5	10.0
78	334	930	82.	198.	197.	346.	410.	0.	0.	-11.6	17.6	10.0
78	334	10 0	0.	187.	190.	250.	467.	0.	0.	-10.9	27.2	10.7
78	334	1030	168.	280.	287.	626.	643.	437.	445.	-8.1	52.2	12.5
78	334	11 0	80.	329.	331.	471.	677.	0.	0.	-8.6	56.5	14.4
78	334	1130	0.	238.	243.	300.	498.	0.	0.	-8.4	32.1	15.1
78	334	12 0	0.	204.	207.	283.	456.	0.	0.	-8.7	25.4	15.5
78	334	1230	0.	185.	190.	194.	416.	0.	0.	-9.4	18.7	15.5
78	334	13 0	0.	68.	68.	76.	420.	0.	0.	-8.7	19.4	15.5
78	334	1330	0.	70.	71.	76.	422.	0.	0.	-9.3	19.7	15.5
78	334	14 0	0.	36.	41.	36.	423.	0.	0.	-9.1	19.9	15.5
78	334	1430	0.	40.	46.	46.	425.	0.	0.	-8.6	20.2	15.5
78	334	15 0	0.	23.	27.	20.	426.	0.	0.	-9.1	20.3	15.5
78	334	1530	0.	4.	5.	0.	426.	0.	0.	-8.3	20.4	15.5
78	334	16 0	0.	0.	0.	0.	427.	0.	0.	-8.3	20.5	15.5
78	334	1630	0.	0.	0.	0.	427.	0.	0.	-8.8	20.6	15.5
78	334	18.		.139	106.504	335.764	1466.234					

1 Dec 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	335	8 0	0.	13.	15.	16.	424.	0.	0.	-6.5	20.0	10.0
78	335	830	0.	25.	29.	30.	423.	0.	0.	-6.4	19.9	10.0
78	335	9 0	0.	57.	66.	69.	423.	0.	0.	-6.2	19.8	10.0
78	335	930	0.	76.	78.	86.	421.	0.	0.	-6.9	19.5	10.0
78	335	10 0	0.	66.	71.	74.	422.	0.	0.	-6.6	19.7	10.0
78	335	1030	0.	76.	80.	86.	422.	0.	0.	-7.2	19.8	10.0
78	335	11 0	0.	76.	78.	89.	422.	0.	0.	-7.2	19.8	10.0
78	335	1130	0.	70.	75.	82.	423.	0.	0.	-7.3	19.8	10.0
78	335	12 0	0.	98.	102.	115.	422.	0.	0.	-6.9	19.8	10.0
78	335	1230	0.	106.	109.	122.	422.	0.	0.	-7.3	19.7	10.0
78	335	13 0	0.	149.	153.	142.	420.	0.	0.	-7.5	19.4	10.0
78	335	1330	0.	110.	112.	125.	421.	0.	0.	-6.8	19.6	10.0
78	335	14 0	0.	72.	73.	79.	424.	0.	0.	-7.6	20.1	10.0
78	335	1430	0.	91.	95.	102.	422.	0.	0.	-7.2	19.7	10.0
78	335	15 0	0.	72.	73.	72.	422.	0.	0.	-6.9	19.7	10.0
78	335	1530	0.	62.	61.	63.	423.	0.	0.	-6.5	19.8	10.0
78	335	16 0	0.	28.	27.	33.	423.	0.	0.	-7.3	19.9	10.0
78	335	1630	0.	0.	0.	0.	424.	0.	0.	-6.9	20.1	10.0
78	335	18.		.000	.000	.000						
								693.578				

2 Dec 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	336	8 0	0.	36.	41.	36.	422.	0.	0.	-11.1	19.8	10.0
78	336	830	0.	59.	66.	63.	421.	0.	0.	-11.5	19.5	10.0
78	336	9 0	0.	87.	90.	92.	420.	0.	0.	-11.1	19.3	10.0
78	336	930	0.	132.	136.	142.	414.	0.	0.	-11.0	18.4	10.0
78	336	10 0	0.	234.	236.	220.	401.	0.	0.	-10.5	15.9	10.0
78	336	1030	28.	238.	241.	336.	404.	0.	0.	-10.0	16.6	10.0
78	336	11 0	0.	229.	231.	257.	404.	0.	0.	-10.0	16.6	10.0
78	336	1130	0.	189.	192.	201.	407.	0.	0.	-9.3	17.2	10.0
78	336	12 0	0.	170.	170.	201.	411.	0.	0.	-9.3	17.7	10.0
78	336	1230	0.	121.	124.	132.	414.	0.	0.	-9.1	18.3	10.0
78	336	13 0	0.	108.	109.	119.	416.	0.	0.	-7.6	18.6	10.0
78	336	1330	0.	79.	80.	96.	418.	0.	0.	-9.0	19.0	10.0
78	336	14 0	0.	87.	88.	82.	419.	0.	0.	-9.0	19.2	10.0
78	336	1430	0.	66.	68.	66.	421.	0.	0.	-8.9	19.5	10.0
78	336	15 0	0.	40.	41.	43.	422.	0.	0.	-8.8	19.8	10.0
78	336	1530	0.	17.	19.	23.	423.	0.	0.	-8.1	19.9	10.0
78	336	16 0	0.	0.	0.	7.	424.	0.	0.	-8.5	20.1	10.0
78	336	1630	0.	0.	0.	0.	424.	0.	0.	-8.2	20.0	10.0
78	336	18.		.000	.000	.000						
								1082.378				

3 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	337	8 0	0.	0.	0.	10.	424.	0.	0.	-.9	20.0	10.0
78	337	830	0.	0.	0.	26.	423.	0.	0.	-.5	19.9	10.0
78	337	9 0	0.	0.	0.	26.	423.	0.	0.	-.3	19.9	10.0
78	337	930	0.	23.	27.	30.	423.	0.	0.	-.2	19.9	10.0
78	337	10 0	0.	30.	34.	40.	423.	0.	0.	-.5	19.8	10.0
78	337	1030	0.	34.	39.	43.	422.	0.	0.	-.8	19.8	10.0
78	337	11 0	0.	28.	32.	36.	422.	0.	0.	-.6	19.7	10.0
78	337	1130	0.	70.	73.	92.	421.	0.	0.	-.7	19.5	10.0
78	337	12 0	0.	79.	80.	96.	420.	0.	0.	-.6	19.4	10.0
78	337	1230	0.	89.	92.	99.	420.	0.	0.	-.7	19.4	10.0
78	337	13 0	0.	87.	88.	102.	419.	0.	0.	-.7	19.3	10.0
78	337	1330	0.	51.	51.	59.	420.	0.	0.	-.7	19.4	10.0
78	337	14 0	0.	62.	63.	66.	420.	0.	0.	-.5	19.4	10.0
78	337	1430	0.	21.	24.	23.	422.	0.	0.	-.9	19.8	10.0
78	337	15 0	0.	0.	0.	23.	423.	0.	0.	-1.1	19.9	10.0
78	337	1530	0.	15.	17.	20.	423.	0.	0.	-1.7	19.9	10.0
78	337	16 0	0.	11.	12.	16.	423.	0.	0.	-2.3	19.9	10.0
78	337	1630	0.	0.	0.	0.	424.	0.	0.	-2.5	20.1	10.0
78	337	18.		.000	.000	.000		403.626				

4 Dec 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	338	8 0	400.	89.	90.	231.	390.	272.	273.	-1.6	19.0	10.0
78	338	830	588.	136.	180.	409.	420.	411.	469.	-2.7	19.3	10.0
78	338	9 0	699.	161.	163.	529.	503.	493.	495.	-12.4	32.9	10.9
78	338	930	753.	302.	277.	659.	600.	703.	671.	-12.4	46.7	12.4
78	338	10 0	809.	336.	282.	755.	687.	725.	705.	-12.0	57.7	19.5
78	338	1030	848.	476.	477.	916.	779.	979.	980.	-11.0	68.2	17.0
78	338	11 0	858.	376.	489.	916.	794.	854.	1002.	-10.3	69.9	19.6
78	338	1130	155.	219.	209.	468.	637.	353.	340.	-10.1	51.5	21.1
78	338	12 0	531.	472.	450.	771.	755.	844.	815.	-9.8	65.6	23.3
78	338	1230	0.	134.	136.	161.	454.	0.	0.	-9.2	25.1	23.3
78	338	13 0	0.	125.	129.	158.	418.	0.	0.	-8.3	19.1	23.3
78	338	1330	0.	64.	66.	76.	421.	0.	0.	-7.6	19.6	23.3
78	338	14 0	0.	72.	71.	92.	422.	0.	0.	-7.2	19.7	23.3
78	338	1430	0.	59.	63.	69.	423.	0.	0.	-6.7	19.8	23.3
78	338	15 0	0.	32.	36.	36.	424.	0.	0.	-6.6	20.1	23.3
78	338	1530	0.	38.	44.	46.	425.	0.	0.	-6.3	20.2	23.3
78	338	16 0	0.	11.	12.	16.	426.	0.	0.	-6.4	20.4	23.3
78	338	1630	0.	0.	0.	0.	426.	0.	0.	-6.0	20.5	23.3
78	338	18.		.333	256.048	807.214		3146.638				

5 Dec 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	339	8 0	0.	8.	10.	13.	423.	0.	0.	-1.4	19.5	10.0
78	339	830	0.	12.	16.	21.	422.	0.	0.	-1.4	19.5	10.0
78	339	9 0	0.	55.	56.	56.	422.	0.	0.	-1.8	19.7	10.0
78	339	930	0.	62.	63.	72.	421.	0.	0.	-1.4	19.5	10.0
78	339	10 0	0.	68.	71.	84.	421.	0.	0.	-1.8	19.5	10.0
78	339	1030	0.	113.	117.	138.	419.	0.	0.	-1.7	19.1	10.0
78	339	11 0	0.	159.	163.	188.	418.	0.	0.	-1.1	19.0	10.0
78	339	1130	0.	110.	109.	138.	418.	0.	0.	-1.1	19.0	10.0
78	339	12 0	0.	100.	100.	138.	419.	0.	0.	-1.7	19.2	10.0
78	339	1230	0.	72.	75.	82.	420.	0.	0.	-1.8	19.4	10.0
78	339	13 0	0.	87.	88.	97.	420.	0.	0.	-1.5	19.4	10.0
78	339	1330	0.	79.	80.	82.	421.	0.	0.	-1.9	19.1	10.0
78	339	14 0	0.	91.	92.	102.	420.	0.	0.	-1.4	19.4	10.0
78	339	1430	0.	62.	64.	72.	421.	0.	0.	-1.7	19.5	10.0
78	339	15 0	0.	64.	66.	76.	421.	0.	0.	-1.5	19.5	10.0
78	339	1530	0.	28.	32.	33.	423.	0.	0.	-1.7	19.8	10.0
78	339	16 0	0.	17.	19.	20.	423.	0.	0.	-1.5	19.8	10.0
78	339	1630	0.	0.	0.	0.	424.	0.	0.	-1.6	20.0	10.0
78	339	18.		.000	.000		.000		719.938			

6 Dec 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	340	8 0	0.	17.	19.	16.	424.	0.	0.	-10.2	20.0	10.0
78	340	830	0.	51.	58.	56.	423.	0.	0.	-10.0	19.8	10.0
78	340	9 0	0.	81.	80.	89.	421.	0.	0.	-10.3	19.6	10.0
78	340	930	0.	123.	126.	138.	419.	0.	0.	-10.2	19.2	10.0
78	340	10 0	0.	154.	151.	168.	419.	0.	0.	-10.7	19.1	10.0
78	340	1030	0.	331.	323.	550.	515.	0.	0.	-10.1	34.7	11.0
78	340	11 0	0.	300.	289.	590.	652.	0.	0.	-9.9	53.4	12.8
78	340	1130	0.	487.	477.	880.	795.	0.	0.	-9.7	69.9	15.4
78	340	12 0	0.	482.	472.	896.	850.	0.	0.	-9.1	75.8	18.6
78	340	1230	0.	467.	460.	883.	855.	0.	0.	-9.7	76.2	21.6
78	340	13 0	0.	436.	433.	827.	858.	0.	0.	-8.8	76.6	23.4
78	340	1330	0.	393.	394.	774.	831.	0.	0.	-9.0	73.8	27.0
78	340	14 0	0.	323.	321.	600.	768.	0.	0.	-8.6	67.0	29.0
78	340	1430	0.	187.	175.	257.	430.	0.	0.	-9.0	50.4	30.0
78	340	15 0	0.	119.	114.	241.	539.	0.	0.	-8.9	38.2	30.4
78	340	1530	0.	47.	46.	86.	413.	0.	0.	-9.7	18.2	30.4
78	340	16 0	0.	40.	39.	107.	405.	0.	0.	-9.7	16.7	30.4
78	340	18.		.509	.390.948	.1232.471	.3593.078			-10.1	19.7	30.4

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7 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	341	8 0	0.	13.	15.	13.	423.	0.	0.	-11.8	19.9	10.0
78	341	830	0.	15.	17.	16.	423.	0.	0.	-11.4	19.9	10.0
78	341	9 0	0.	36.	41.	46.	423.	0.	0.	-11.7	19.8	10.0
78	341	930	0.	34.	39.	36.	422.	0.	0.	-11.7	19.8	10.0
78	341	10 0	0.	36.	41.	53.	422.	0.	0.	-11.7	19.8	10.0
78	341	1030	0.	42.	49.	49.	422.	0.	0.	-11.5	19.7	10.0
78	341	11 0	0.	89.	95.	102.	421.	0.	0.	-11.0	19.5	10.0
78	341	1130	0.	59.	63.	66.	421.	0.	0.	-11.2	19.5	10.0
78	341	12 0	0.	47.	51.	69.	422.	0.	0.	-11.0	19.7	10.0
78	341	1230	0.	64.	66.	66.	421.	0.	0.	-11.5	19.6	10.0
78	341	13 0	0.	83.	85.	92.	421.	0.	0.	-11.4	19.6	10.0
78	341	1330	0.	110.	114.	112.	420.	0.	0.	-11.5	19.4	10.0
78	341	14 0	0.	83.	88.	96.	421.	0.	0.	-11.2	19.5	10.0
78	341	1430	0.	76.	80.	86.	421.	0.	0.	-11.1	19.6	10.0
78	341	15 0	0.	45.	49.	46.	422.	0.	0.	-10.9	19.7	10.0
78	341	1530	0.	25.	29.	33.	423.	0.	0.	-10.7	19.8	10.0
78	341	16 0	0.	11.	12.	13.	423.	0.	0.	-10.5	19.9	10.0
78	341	1630	0.	0.	0.	0.	424.	0.	0.	-10.3	20.1	10.0
78	341	18.		.000	.000	.000		497.	.531			

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15 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	342	8 0	0.	21.	24.	23.	423.	0.	0.	-13.1	19.8	10.0
78	342	830	0.	72.	75.	79.	421.	0.	0.	-12.8	19.6	10.0
78	342	9 0	0.	108.	109.	125.	418.	0.	0.	-12.7	19.0	10.0
78	342	930	0.	346.	333.	501.	472.	0.	0.	-11.5	28.0	10.7
78	342	10 0	0.	397.	387.	787.	668.	0.	0.	-11.1	55.4	12.7
78	342	1030	0.	302.	321.	909.	728.	0.	0.	-11.1	62.4	15.0
78	342	11 0	0.	223.	212.	333.	647.	0.	0.	-11.2	52.7	16.7
78	342	1130	384.	425.	418.	975.	734.	722.	713.	-10.3	63.2	18.9
78	342	12 0	693.	470.	469.	908.	805.	913.	913.	-9.4	71.0	21.5
78	342	1230	781.	455.	445.	824.	894.	931.	918.	-8.8	80.2	24.6
78	342	13 0	253.	253.	248.	418.	707.	440.	433.	-9.2	60.1	26.3
78	342	1330	229.	268.	270.	405.	685.	449.	452.	-9.4	57.4	27.8
78	342	14 0	784.	370.	372.	731.	743.	815.	818.	-8.4	64.2	29.6
78	342	1430	724.	274.	270.	586.	697.	661.	655.	-8.6	58.9	31.0
78	342	15 0	621.	195.	192.	461.	598.	511.	507.	-9.1	46.5	31.8
78	342	1530	485.	115.	109.	287.	465.	346.	339.	-8.6	26.9	31.8
78	342	16 0	242.	42.	39.	122.	405.	152.	147.	-10.2	16.8	31.8
78	342	1630	0.	0.	0.	0.	422.	0.	0.	-10.8	19.7	31.8
78	342	18.		.544	417.728	1316.923		4237.251				

9 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	343	8 0	0.	49.	51.	63.	422.	0.	0.	-15.0	19.7	10.0
78	343	830	0.	85.	85.	96.	420.	0.	0.	-15.1	19.4	10.0
78	343	9 0	0.	108.	107.	122.	419.	0.	0.	-14.4	19.2	10.0
78	343	930	0.	115.	117.	135.	420.	0.	0.	-13.6	19.4	10.0
78	343	10 0	0.	136.	146.	194.	416.	0.	0.	-13.2	18.6	10.0
78	343	1030	632.	425.	399.	735.	541.	826.	791.	-11.6	38.5	11.2
78	343	11 0	626.	440.	438.	781.	750.	845.	842.	-11.4	65.0	13.7
78	343	1130	755.	476.	474.	797.	794.	949.	946.	-11.8	69.8	16.4
78	343	12 0	766.	470.	460.	830.	805.	945.	932.	-13.2	71.0	19.1
78	343	1230	771.	461.	452.	817.	788.	936.	924.	-11.9	69.3	21.5
78	343	13 0	750.	423.	421.	781.	779.	876.	873.	-11.8	68.2	23.9
78	343	1330	711.	387.	382.	705.	731.	810.	804.	-12.5	62.8	25.8
78	343	14 0	668.	340.	338.	613.	651.	728.	725.	-13.0	53.3	27.1
78	343	1430	632.	266.	263.	537.	621.	612.	608.	-12.5	49.5	28.1
78	343	15 0	572.	202.	195.	438.	539.	500.	491.	-12.8	38.3	28.5
78	343	1530	446.	119.	117.	303.	429.	337.	334.	-12.4	21.0	28.5
78	343	16 0	222.	45.	44.	115.	404.	147.	146.	-13.7	16.5	28.5
78	343	1630	0.	0.	0.	0.	425.	0.	0.	-14.1	20.2	28.5
78	343	18.		.464	356.151	1122.798		4031.321				

10 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	344	8 0	420.	85.	85.	198.	401.	278.	278.	-18.1	16.0	10.0
78	344	830	570.	191.	187.	389.	405.	481.	476.	-17.3	16.7	10.0
78	344	9 0	686.	249.	233.	484.	479.	608.	588.	-15.7	29.1	10.7
78	344	930	750.	319.	306.	603.	613.	730.	714.	-14.4	48.4	12.3
78	344	10 0	789.	374.	362.	708.	728.	823.	808.	-11.7	62.5	14.7
78	344	1030	817.	423.	416.	794.	819.	902.	893.	-11.7	72.6	17.5
78	344	11 0	827.	453.	443.	850.	877.	948.	935.	-11.8	78.5	20.7
78	344	1130	835.	470.	460.	870.	940.	975.	962.	-11.6	84.7	24.1
78	344	12 0	843.	476.	467.	870.	941.	988.	976.	-11.8	84.8	27.4
78	344	1230	835.	461.	452.	857.	931.	964.	953.	-10.9	83.8	30.5
78	344	13 0	817.	433.	428.	807.	906.	919.	912.	-10.9	81.3	33.3
78	344	1330	789.	395.	396.	748.	829.	855.	856.	-10.8	73.6	35.4
78	344	14 0	742.	346.	340.	669.	751.	768.	760.	-10.7	65.2	37.0
78	344	1430	686.	285.	277.	573.	697.	660.	650.	-10.9	58.9	38.1
78	344	15 0	611.	208.	204.	494.	624.	525.	520.	-9.2	49.9	38.7
78	344	1530	436.	117.	112.	320.	486.	330.	324.	-9.2	30.3	38.7
78	344	16 0	0.	23.	19.	26.	414.	0.	0.	-11.4	18.4	38.7
78	344	1630	0.	0.	0.	0.	425.	0.	0.	-11.5	20.2	38.7
78	344	18.		.717	550.755	1736.302		5180.173				

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 Dec 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	345	8 0	0.	15.	17.	16.	423.	0.	0.	-5.0	19.9	10.0
78	345	830	0.	19.	22.	23.	422.	0.	0.	-4.9	19.8	10.0
78	345	9 0	0.	30.	34.	36.	422.	0.	0.	-4.2	19.8	10.0
78	345	930	0.	47.	54.	59.	421.	0.	0.	-4.1	19.6	10.0
78	345	10 0	0.	85.	90.	99.	419.	0.	0.	-4.2	19.3	10.0
78	345	1030	0.	121.	126.	138.	418.	0.	0.	-3.0	19.0	10.0
78	345	11 0	0.	125.	129.	142.	416.	0.	0.	-2.8	18.7	10.0
78	345	1130	0.	125.	129.	142.	414.	0.	0.	-3.2	18.3	10.0
78	345	12 0	0.	153.	158.	171.	412.	0.	0.	-2.6	17.9	10.0
78	345	1230	0.	161.	165.	175.	413.	0.	0.	-2.8	18.1	10.0
78	345	13 0	0.	127.	129.	142.	416.	0.	0.	-2.5	18.6	10.0
78	345	1330	0.	89.	92.	99.	418.	0.	0.	-2.7	19.1	10.0
78	345	14 0	0.	81.	83.	86.	420.	0.	0.	-2.6	19.4	10.0
78	345	1430	0.	49.	54.	56.	421.	0.	0.	-1.7	19.5	10.0
78	345	15 0	0.	38.	44.	46.	422.	0.	0.	-2.3	19.7	10.0
78	345	1530	0.	21.	24.	20.	423.	0.	0.	-2.4	19.9	10.0
78	345	16 0	0.	6.	7.	10.	424.	0.	0.	-2.2	20.1	10.0
78	345	1630	0.	0.	0.	0.	424.	0.	0.	-1.7	20.1	10.0
78	345	18.		.000	.000	.000			729.822			

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 Dec 1978

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	346	8 0	0.	38.	44.	49.	423.	0.	0.	-1.0	19.8	10.0
78	346	830	0.	49.	56.	56.	422.	0.	0.	-1.6	19.7	10.0
78	346	9 0	0.	100.	100.	119.	419.	0.	0.	-1.6	19.2	10.0
78	346	930	0.	108.	109.	129.	417.	0.	0.	-1.1	18.9	10.0
78	346	10 0	0.	127.	129.	161.	417.	0.	0.	.1	18.9	10.0
78	346	1030	0.	225.	224.	382.	451.	0.	0.	.1	24.6	10.5
78	346	11 0	232.	270.	263.	448.	602.	454.	444.	.6	46.9	12.1
78	346	1130	191.	215.	212.	412.	578.	364.	360.	.9	43.7	13.4
78	346	12 0	162.	251.	248.	438.	573.	399.	396.	1.3	42.9	14.7
78	346	1230	273.	317.	311.	586.	685.	534.	527.	1.6	57.4	16.6
78	346	13 0	353.	340.	338.	586.	636.	598.	596.	1.6	51.3	18.2
78	346	1330	175.	276.	282.	438.	589.	438.	445.	1.4	45.1	19.3
78	346	14 0	80.	161.	168.	260.	477.	0.	0.	1.4	28.9	19.7
78	346	1430	286.	140.	143.	326.	478.	304.	308.	1.1	28.9	20.1
78	346	15 0	75.	87.	92.	155.	424.	0.	0.	1.1	20.1	20.1
78	346	1530	0.	68.	71.	132.	418.	0.	0.	1.1	19.0	20.1
78	346	16 0	0.	19.	22.	26.	422.	0.	0.	.8	19.8	20.1
78	346	1630	0.	0.	0.	0.	424.	0.	0.	.2	20.0	20.1
78	346	18.		.252	193.819	611.032			2352.565			

13 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	347	8 0	206.	53.	51.	105.	415.	0.	0.	-4.5	18.5	10.0
78	347	8 30	21.	76.	78.	99.	417.	0.	0.	-4.2	18.9	10.0
78	347	9 0	446.	178.	178.	185.	421.	418.	417.	-5.0	19.6	10.0
78	347	9 30	714.	304.	294.	613.	610.	698.	685.	-5.0	48.0	11.6
78	347	10 0	76.	153.	131.	257.	655.	0.	0.	-5.6	53.8	13.5
78	347	10 30	848.	410.	399.	814.	756.	901.	886.	-5.7	65.7	15.9
78	347	11 0	864.	444.	430.	863.	810.	955.	937.	-5.8	71.6	18.7
78	347	11 30	866.	455.	445.	886.	839.	971.	959.	-5.8	74.6	21.5
78	347	12 0	876.	461.	455.	890.	856.	985.	976.	-5.9	76.3	24.4
78	347	12 30	874.	448.	440.	876.	864.	967.	956.	-5.5	77.2	27.1
78	347	13 0	853.	423.	416.	837.	836.	923.	914.	-5.5	74.3	29.6
78	347	13 30	853.	416.	416.	860.	800.	912.	911.	-4.8	70.5	31.7
78	347	14 0	271.	238.	233.	313.	606.	427.	421.	-4.9	47.5	32.5
78	347	14 30	619.	310.	306.	649.	702.	667.	662.	-4.3	59.5	33.8
78	347	15 0	678.	236.	231.	521.	620.	591.	584.	-4.7	49.2	34.6
78	347	15 30	552.	140.	136.	353.	492.	409.	404.	-5.0	31.1	34.6
78	347	16 0	312.	57.	51.	152.	402.	200.	192.	-5.5	16.2	34.6
78	347	16 30	0.	6.	7.	16.	420.	0.	0.	-6.1	19.4	34.6
78	347	18.		.614	471.586	1486.716	4644.174					

14 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	348	8 0	77.	53.	51.	82.	416.	0.	0.	-7.3	18.8	10.0
78	348	8 30	131.	83.	85.	115.	415.	0.	0.	-7.4	18.5	10.0
78	348	9 0	28.	110.	114.	165.	415.	0.	0.	-6.5	18.5	10.0
78	348	9 30	49.	168.	170.	241.	487.	0.	0.	-5.5	18.9	10.0
78	348	10 0	28.	166.	173.	214.	415.	0.	0.	-5.2	18.5	10.0
78	348	10 30	472.	378.	377.	626.	596.	698.	697.	-4.2	46.1	11.5
78	348	11 0	121.	268.	270.	547.	623.	404.	407.	-3.4	49.6	13.2
78	348	11 30	299.	378.	379.	606.	615.	626.	627.	-2.3	48.7	14.7
78	348	12 0	289.	387.	389.	626.	670.	633.	636.	-1.9	55.6	16.6
78	348	12 30	18.	204.	209.	267.	494.	0.	0.	-1.3	31.5	17.2
78	348	13 0	155.	251.	250.	369.	533.	396.	396.	-1.1	37.4	18.0
78	348	13 30	173.	229.	229.	313.	544.	375.	368.	-.9	39.0	18.9
78	348	14 0	5.	166.	168.	224.	459.	0.	0.	-1.4	26.0	19.2
78	348	14 30	358.	259.	260.	481.	509.	491.	492.	-.7	33.8	19.8
78	348	15 0	632.	299.	250.	563.	554.	589.	591.	-.1	40.4	20.7
78	348	15 30	64.	64.	63.	105.	417.	0.	0.	-.7	18.8	20.7
78	348	16 0	0.	21.	24.	26.	421.	0.	0.	-.9	19.5	20.7
78	348	16 30	0.	0.	0.	0.	424.	0.	0.	-.9	20.1	20.7
78	348	18.		.266	204.594	645.001	2785.846					

15 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	349	8 0	449.	68.	66.	201.	399.	269.	266.	-3.1	15.6	10.0
78	349	830	647.	149.	139.	379.	447.	459.	445.	-2.4	23.9	10.5
78	349	9 0	737.	223.	212.	514.	551.	598.	583.	-2.2	39.9	11.7
78	349	930	799.	289.	277.	633.	646.	715.	699.	-.9	52.6	13.5
78	349	10 0	843.	346.	333.	738.	735.	813.	795.	-.3	63.3	15.8
78	349	1030	866.	399.	379.	814.	801.	896.	869.	.0	70.6	18.5
78	349	11 0	892.	431.	411.	876.	856.	951.	924.	1.0	76.4	21.5
78	349	1130	907.	446.	426.	909.	892.	979.	952.	1.8	80.0	24.6
78	349	12 0	910.	446.	430.	916.	916.	981.	960.	2.0	82.4	27.7
78	349	1230	910.	431.	418.	909.	942.	961.	944.	2.5	84.8	30.8
78	349	13 0	902.	406.	399.	890.	954.	923.	913.	3.1	86.0	33.9
78	349	1330	884.	374.	365.	814.	918.	871.	859.	1.9	82.5	36.7
78	349	14 0	856.	329.	316.	731.	850.	797.	780.	2.2	75.8	38.8
78	349	1430	812.	263.	255.	643.	786.	688.	677.	3.1	69.0	40.5
78	349	15 0	699.	217.	207.	478.	630.	575.	562.	2.2	50.6	41.0
78	349	1530	617.	117.	112.	372.	559.	407.	400.	2.6	41.1	41.0
78	349	16 0	376.	45.	41.	165.	404.	210.	206.	1.1	16.6	41.0
78	349	1630	0.	0.	0.	0.	420.	0.	0.	.2	19.4	41.0
78	349	18.		.774	594.517	1874.265	5490.966					

16 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	350	8 0	266.	68.	66.	152.	412.	196.	192.	-1.5	17.9	10.0
78	350	830	23.	62.	58.	122.	405.	0.	0.	-1.2	16.8	10.0
78	350	9 0	0.	79.	83.	119.	415.	0.	0.	-1.9	18.5	10.0
78	350	930	0.	74.	73.	92.	414.	0.	0.	.0	18.4	10.0
78	350	10 0	0.	23.	27.	33.	420.	0.	0.	-1.3	19.4	10.0
78	350	1030	0.	57.	58.	76.	420.	0.	0.	-1.4	19.3	10.0
78	350	11 0	0.	68.	78.	92.	420.	0.	0.	-1.7	19.4	10.0
78	350	1130	0.	102.	105.	158.	420.	0.	0.	-1.7	19.4	10.0
78	350	12 0	0.	206.	229.	280.	417.	0.	0.	-1.0	18.9	10.0
78	350	1230	299.	327.	323.	498.	687.	559.	554.	-.2	57.7	12.1
78	350	13 0	111.	280.	275.	422.	677.	0.	0.	-.3	56.5	14.1
78	350	1330	31.	219.	209.	320.	645.	0.	0.	-.6	52.4	15.8
78	350	14 0	668.	423.	426.	807.	520.	840.	843.	-.2	35.4	16.6
78	350	1430	688.	253.	248.	573.	652.	622.	616.	.0	53.3	18.3
78	350	15 0	0.	38.	44.	46.	418.	0.	0.	-1.3	19.0	18.3
78	350	1530	0.	64.	66.	82.	421.	0.	0.	-1.6	19.6	18.3
78	350	16 0	0.	28.	32.	43.	423.	0.	0.	-2.0	19.9	18.3
78	350	1630	0.	0.	0.	0.	424.	0.	0.	-2.5	20.1	18.3
78	350	18.		.207	158.943	501.080	1957.176					

17 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EH	EH1	EH2	TA	TCOL	YW
78	351	8 0	446.	70.	63.	198.	401.	271.	262.	-6.9	15.9	10.0
78	351	830	616.	147.	139.	362.	414.	444.	433.	-5.7	18.4	10.0
78	351	9 0	709.	223.	212.	494.	523.	587.	572.	-6.0	35.8	11.0
78	351	930	773.	293.	277.	613.	622.	710.	689.	-5.7	49.5	12.7
78	351	10 0	815.	353.	336.	718.	719.	809.	787.	-5.2	61.4	14.9
78	351	1030	838.	404.	389.	804.	795.	890.	870.	-4.5	70.0	17.8
78	351	11 0	811.	393.	377.	629.	833.	780.	759.	-3.3	74.0	20.4
78	351	1130	889.	457.	440.	903.	876.	986.	964.	-2.8	78.4	23.5
78	351	12 0	902.	459.	445.	919.	949.	995.	977.	-1.5	85.5	26.8
78	351	1230	907.	453.	435.	913.	933.	988.	966.	-1.1	84.0	30.0
78	351	13 0	900.	429.	416.	880.	872.	953.	935.	-1.0	78.0	32.6
78	351	1330	884.	389.	382.	827.	840.	891.	882.	-0.8	74.7	34.8
78	351	14 0	817.	278.	268.	643.	741.	714.	700.	-0.6	63.9	36.3
78	351	1430	817.	278.	268.	639.	741.	710.	696.	-0.6	63.9	37.8
78	351	15 0	745.	206.	195.	527.	659.	581.	566.	-0.8	54.3	38.6
78	351	1530	626.	123.	117.	376.	536.	419.	410.	-0.9	37.7	38.6
78	351	16 0	284.	36.	36.	129.	399.	165.	162.	-2.3	15.7	38.6
78	351	1630	0.	0.	0.	0.	420.	0.	0.	-2.8	19.4	38.6
78	351	18.		.715		549.085	1731.039		5286.681			

18 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EH	EH1	EH2	TA	TCOL	YW
78	352	8 0	0.	28.	32.	40.	422.	0.	0.	-3.1	19.7	10.0
78	352	830	193.	106.	105.	214.	410.	218.	216.	-1.6	17.6	10.0
78	352	9 0	98.	113.	107.	191.	428.	0.	0.	-1.5	20.8	10.0
78	352	930	423.	240.	233.	474.	601.	493.	484.	-0.9	46.8	11.6
78	352	10 0	363.	253.	250.	488.	578.	487.	483.	0	43.7	12.9
78	352	1030	719.	355.	348.	781.	828.	775.	765.	2.0	73.5	15.9
78	352	11 0	598.	363.	357.	741.	892.	736.	728.	.9	80.0	19.2
78	352	1130	778.	433.	423.	883.	893.	907.	894.	-0.3	80.1	22.3
78	352	12 0	650.	380.	370.	748.	911.	782.	768.	-0.8	81.9	25.5
78	352	1230	644.	363.	348.	712.	868.	757.	737.	-0.9	77.6	28.3
78	352	13 0	642.	363.	348.	715.	866.	755.	735.	-1.0	77.4	30.9
78	352	1330	660.	348.	343.	731.	738.	742.	734.	-2.0	63.7	32.6
78	352	14 0	614.	291.	289.	633.	697.	644.	642.	-2.0	58.9	33.9
78	352	1430	629.	259.	250.	570.	675.	606.	594.	-0.2	56.2	35.0
78	352	15 0	0.	64.	63.	112.	467.	0.	0.	-1.7	27.3	35.0
78	352	1530	0.	30.	34.	36.	421.	0.	0.	-2.4	19.6	35.0
78	352	16 0	0.	11.	12.	13.	423.	0.	0.	-3.1	19.9	35.0
78	352	1630	0.	0.	0.	0.	424.	0.	0.	-3.1	20.1	35.0
78	352	18.		.629		479.487	1511.625		4041.206			

19 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	YW
78	353	8 0	0.	0.	0.	3.	424.	0.	0.	-3.2	20.0	10.0
78	353	830	0.	6.	7.	3.	424.	0.	0.	-3.4	20.0	10.0
78	353	9 0	0.	17.	19.	20.	424.	0.	0.	-3.4	20.0	10.0
78	353	930	0.	32.	36.	40.	423.	0.	0.	-3.9	19.9	10.0
78	353	10 0	0.	34.	39.	40.	423.	0.	0.	-3.5	19.8	10.0
78	353	1030	0.	36.	41.	40.	423.	0.	0.	-3.4	19.9	10.0
78	353	11 0	0.	42.	49.	56.	423.	0.	0.	-3.2	19.9	10.0
78	353	1130	0.	47.	54.	53.	423.	0.	0.	-2.8	19.9	10.0
78	353	12 0	0.	51.	58.	59.	423.	0.	0.	-2.8	19.9	10.0
78	353	1230	0.	55.	58.	66.	422.	0.	0.	-2.6	19.7	10.0
78	353	13 0	0.	34.	39.	40.	422.	0.	0.	-2.8	19.8	10.0
78	353	1330	0.	47.	49.	56.	423.	0.	0.	-3.6	19.8	10.0
78	353	14 0	0.	38.	44.	49.	422.	0.	0.	-3.4	19.8	10.0
78	353	1430	0.	25.	29.	30.	423.	0.	0.	-3.4	19.9	10.0
78	353	15 0	0.	17.	19.	16.	423.	0.	0.	-3.8	19.9	10.0
78	353	1530	0.	8.	10.	7.	423.	0.	0.	-3.6	19.9	10.0
78	353	16 0	0.	0.	0.	3.	424.	0.	0.	-3.5	20.1	10.0
78	353	1630	0.	0.	0.	0.	424.	0.	0.	-3.5	20.1	10.0
78	353	18.		.000	.000		.000		289.952			

20 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	YW
78	354	8 0	0.	0.	0.	0.	424.	0.	0.	-2.3	20.0	10.0
78	354	830	0.	0.	0.	7.	423.	0.	0.	-2.0	19.9	10.0
78	354	9 0	0.	11.	12.	16.	423.	0.	0.	-1.9	19.9	10.0
78	354	930	0.	8.	10.	13.	423.	0.	0.	-1.8	19.9	10.0
78	354	10 0	0.	36.	44.	56.	423.	0.	0.	-1.8	19.9	10.0
78	354	1030	0.	28.	32.	40.	423.	0.	0.	-2.3	19.9	10.0
78	354	11 0	0.	30.	34.	40.	423.	0.	0.	-1.8	19.9	10.0
78	354	1130	0.	17.	19.	26.	424.	0.	0.	-2.3	20.0	10.0
78	354	12 0	0.	13.	15.	23.	423.	0.	0.	-1.9	19.9	10.0
78	354	1230	0.	32.	39.	33.	423.	0.	0.	-2.2	19.9	10.0
78	354	13 0	0.	28.	32.	36.	423.	0.	0.	-2.3	19.9	10.0
78	354	1330	0.	21.	24.	26.	423.	0.	0.	-2.3	19.9	10.0
78	354	14 0	0.	21.	24.	23.	424.	0.	0.	-2.6	20.0	10.0
78	354	1430	0.	17.	19.	20.	423.	0.	0.	-2.7	19.9	10.0
78	354	15 0	0.	21.	24.	23.	424.	0.	0.	-3.0	20.0	10.0
78	354	1530	0.	8.	10.	10.	424.	0.	0.	-3.1	20.0	10.0
78	354	16 0	0.	0.	0.	0.	424.	0.	0.	-3.2	20.1	10.0
78	354	1630	0.	0.	0.	0.	424.	0.	0.	-3.2	20.1	10.0
78	354	18.		.000	.000		.000		196.047			

21 Dec 78

YE	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	355	8 0	0.	19.	19.	20.	424.	0.	0.	-11.5	20.0	10.0
78	355	830	0.	100.	105.	181.	418.	0.	0.	-10.1	19.0	10.0
78	355	9 0	309.	164.	156.	333.	407.	343.	333.	-11.0	17.1	10.0
78	355	930	655.	272.	236.	540.	498.	632.	585.	-10.0	32.0	10.9
78	355	10 0	745.	329.	304.	675.	600.	749.	716.	-9.1	46.6	12.4
78	355	1030	766.	372.	389.	758.	747.	826.	849.	-9.0	64.6	14.8
78	355	11 0	162.	204.	204.	422.	711.	338.	338.	-9.4	60.5	16.9
78	355	1130	797.	395.	433.	850.	800.	865.	914.	-8.3	70.5	19.6
78	355	12 0	802.	444.	428.	886.	818.	932.	911.	-8.6	72.4	22.2
78	355	1230	809.	402.	413.	863.	852.	879.	895.	-8.1	75.9	25.0
78	355	13 0	807.	365.	389.	840.	853.	829.	860.	-7.0	76.0	27.7
78	355	1330	778.	372.	333.	771.	790.	823.	773.	-7.4	69.4	29.8
78	355	14 0	742.	319.	304.	689.	715.	735.	716.	-6.4	61.0	31.4
78	355	1430	709.	261.	255.	590.	652.	643.	635.	-6.2	53.3	32.4
78	355	15 0	632.	191.	187.	468.	569.	514.	509.	-6.1	42.4	32.9
78	355	1530	482.	110.	107.	313.	482.	343.	338.	-5.6	29.7	32.9
78	355	16 0	101.	25.	22.	23.	408.	0.	0.	-6.4	17.3	32.9
78	355	1630	0.	0.	0.	0.	421.	0.	0.	-6.7	19.5	32.9
78	355	18.		.572	439.587	1385.834	4611.225					

22 Dec 78

YE	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	TW
78	356	8 0	351.	55.	51.	155.	414.	213.	208.	-3.6	18.3	10.0
78	356	830	575.	130.	119.	329.	413.	405.	391.	-2.8	18.2	10.0
78	356	9 0	714.	208.	195.	481.	520.	569.	551.	-3.6	35.5	11.0
78	356	930	773.	280.	265.	600.	600.	693.	673.	-3.5	46.6	12.5
78	356	10 0	770.	329.	321.	708.	684.	762.	751.	-2.8	57.3	14.5
78	356	1030	773.	433.	379.	287.	662.	901.	830.	-2.8	54.6	16.3
78	356	11 0	0.	212.	214.	336.	609.	0.	0.	-2.4	47.9	17.7
78	356	1130	0.	155.	161.	188.	429.	0.	0.	-2.7	20.9	17.7
78	356	12 0	41.	357.	333.	359.	506.	0.	0.	-2.4	33.6	18.4
78	356	1230	835.	457.	450.	919.	670.	963.	954.	-2.3	55.6	20.1
78	356	13 0	833.	421.	411.	850.	792.	913.	900.	-1.9	69.6	22.6
78	356	1330	237.	253.	229.	422.	719.	434.	402.	-1.9	61.5	24.4
78	356	14 0	15.	310.	314.	488.	661.	0.	0.	-1.5	54.5	25.8
78	356	1430	13.	125.	124.	573.	475.	0.	0.	-1.8	28.6	26.0
78	356	15 0	0.	47.	46.	46.	420.	0.	0.	-2.0	19.4	26.0
78	356	1530	0.	28.	32.	33.	423.	0.	0.	-2.0	19.9	26.0
78	356	16 0	0.	13.	15.	13.	424.	0.	0.	-2.3	20.0	26.0
78	356	1630	0.	0.	0.	0.	424.	0.	0.	-2.2	20.0	26.0
78	356	18.		.399	306.402	965.960	3393.756					



23 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	Tb
78	357	8 0	0.	17.	19.	23.	424.	0.	0.	-5.0	20.0	10.0
78	357	830	0.	30.	34.	33.	423.	0.	0.	-4.4	19.9	10.0
78	357	9 0	0.	104.	109.	165.	420.	0.	0.	-4.1	19.3	10.0
78	357	930	0.	206.	209.	339.	444.	0.	0.	-2.7	23.4	10.5
78	357	10 0	0.	202.	199.	264.	562.	0.	0.	-1.1	41.5	11.8
78	357	1030	3.	280.	285.	451.	489.	0.	0.	-.3	30.7	12.5
78	357	11 0	0.	389.	384.	636.	682.	0.	0.	.6	57.1	14.5
78	357	1130	0.	329.	331.	521.	603.	0.	0.	1.4	47.1	15.9
78	357	12 0	0.	370.	367.	600.	680.	0.	0.	1.5	56.8	17.8
78	357	1230	0.	306.	309.	484.	649.	0.	0.	1.7	52.9	19.4
78	357	13 0	0.	329.	331.	580.	612.	0.	0.	3.1	48.3	20.7
78	357	1330	0.	263.	265.	409.	572.	0.	0.	1.4	42.9	21.7
78	357	14 0	0.	183.	187.	270.	522.	0.	0.	1.0	35.7	22.3
78	357	1430	0.	136.	134.	101.	478.	0.	0.	1.4	29.0	22.5
78	357	15 0	0.	79.	80.	99.	420.	0.	0.	1.0	19.3	22.5
78	357	1530	0.	34.	36.	43.	422.	0.	0.	1.0	19.8	22.5
78	357	16 0	0.	15.	17.	13.	424.	0.	0.	.6	20.0	22.5
78	357	1630	0.	0.	0.	0.	424.	0.	0.	.8	20.0	22.5
78	357	18.		.313	240.460	758.135	2560.144					

24 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	Tb
78	358	8 0	0.	0.	0.	0.	425.	0.	0.	-3.2	20.2	10.0
78	358	830	0.	6.	7.	10.	425.	0.	0.	-3.5	20.2	10.0
78	358	9 0	0.	21.	24.	26.	425.	0.	0.	-4.3	20.2	10.0
78	358	930	0.	19.	22.	23.	425.	0.	0.	-4.4	20.2	10.0
78	358	10 0	0.	47.	54.	53.	424.	0.	0.	-4.8	20.1	10.0
78	358	1030	0.	68.	73.	79.	423.	0.	0.	-4.9	19.9	10.0
78	358	11 0	0.	104.	112.	119.	420.	0.	0.	-5.0	19.4	10.0
78	358	1130	0.	115.	122.	129.	418.	0.	0.	-5.3	19.1	10.0
78	358	12 0	0.	110.	119.	122.	418.	0.	0.	-5.2	19.1	10.0
78	358	1230	0.	102.	109.	112.	419.	0.	0.	-5.0	19.3	10.0
78	358	13 0	0.	93.	102.	109.	419.	0.	0.	-4.7	19.3	10.0
78	358	1330	0.	89.	92.	96.	420.	0.	0.	-4.7	19.3	10.0
78	358	14 0	0.	66.	66.	72.	420.	0.	0.	-4.5	19.4	10.0
78	358	1430	0.	74.	80.	82.	420.	0.	0.	-4.7	19.4	10.0
78	358	15 0	0.	32.	36.	33.	421.	0.	0.	-4.3	19.6	10.0
78	358	1530	0.	17.	19.	23.	423.	0.	0.	-4.1	19.9	10.0
78	358	16 0	0.	8.	10.	7.	424.	0.	0.	-4.5	20.0	10.0
78	358	1630	0.	0.	0.	0.	424.	0.	0.	-4.5	20.1	10.0
78	358	18.		.000	.000	.000	546.955					

25 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	T <sub>b</sub>
78	359	8 0	0.	25.	29.	36.	423.	0.	0.	-9.7	19.8	10.0
78	359	830	0.	64.	61.	99.	418.	0.	0.	-9.2	19.1	10.0
78	359	9 0	0.	176.	165.	349.	416.	0.	0.	-8.4	18.6	10.0
78	359	930	0.	287.	265.	570.	597.	0.	0.	-7.2	46.2	11.5
78	359	10 0	0.	342.	323.	682.	720.	0.	0.	-7.0	61.6	13.8
78	359	1030	0.	389.	372.	755.	810.	0.	0.	-5.1	71.6	16.6
78	359	11 0	0.	459.	443.	834.	890.	0.	0.	-6.7	79.7	19.9
78	359	1130	0.	448.	433.	873.	899.	0.	0.	-5.8	80.6	23.1
78	359	12 0	0.	412.	435.	886.	954.	0.	0.	-5.1	86.0	26.5
78	359	1230	0.	433.	435.	870.	937.	0.	0.	-5.6	84.4	29.7
78	359	13 0	0.	331.	345.	679.	806.	0.	0.	-4.9	71.2	31.9
78	359	1330	0.	427.	430.	853.	922.	0.	0.	-3.1	82.9	34.7
78	359	14 0	0.	251.	268.	511.	629.	0.	0.	-3.9	50.4	35.5
78	359	1430	0.	195.	204.	399.	607.	0.	0.	-4.0	47.5	36.0
78	359	15 0	0.	76.	78.	86.	415.	0.	0.	-6.0	18.5	36.0
78	359	1530	0.	59.	63.	43.	419.	0.	0.	-6.6	19.3	36.0
78	359	16 0	0.	5.	10.	13.	424.	0.	0.	-6.7	20.1	36.0
78	359	1630	0.	0.	0.	0.	426.	0.	0.	-6.4	20.3	36.0
78	359	18.		.651	499.947	1576.124		4268.554				

26 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	T <sub>b</sub>
78	360	8 0	0.	64.	58.	119.	425.	0.	0.	-12.6	20.2	10.0
78	360	830	0.	164.	141.	297.	415.	0.	0.	-10.5	18.5	10.0
78	360	9 0	0.	251.	216.	425.	416.	0.	0.	-12.0	18.7	10.0
78	360	930	0.	319.	285.	557.	415.	0.	0.	-11.2	18.5	10.0
78	360	10 0	0.	219.	212.	277.	412.	0.	0.	-10.0	18.0	10.0
78	360	1030	0.	423.	392.	718.	410.	0.	0.	-8.4	17.7	10.0
78	360	11 0	0.	302.	289.	432.	597.	0.	0.	-8.1	46.3	11.5
78	360	1130	0.	340.	321.	544.	592.	0.	0.	-10.0	45.6	13.0
78	360	12 0	624.	448.	423.	814.	711.	859.	826.	-10.0	60.5	15.2
78	360	1230	722.	455.	426.	817.	780.	909.	871.	-8.5	68.4	17.7
78	360	13 0	745.	429.	409.	801.	788.	885.	858.	-8.6	69.2	20.3
78	360	1330	650.	368.	357.	712.	789.	761.	748.	-6.6	69.4	22.7
78	360	14 0	634.	329.	321.	643.	719.	702.	691.	-6.7	61.5	24.6
78	360	1430	544.	268.	258.	521.	626.	580.	567.	-8.1	50.0	25.7
78	360	15 0	495.	195.	187.	412.	564.	462.	451.	-7.4	41.8	26.4
78	360	1530	400.	132.	126.	224.	472.	336.	329.	-7.7	28.1	26.5
78	360	16 0	0.	17.	19.	10.	420.	0.	0.	-8.0	19.4	26.5
78	360	1630	0.	0.	0.	0.	425.	0.	0.	-8.4	20.2	26.5
78	360	18.		.413	317.140	999.811		4159.823				

27 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCI	EM	EM1	EM2	TA	TCOL	TR
78	361	8 0	356.	76.	85.	161.	416.	242.	253.	-13.1	18.8	10.0
78	361	830	361.	125.	129.	211.	407.	311.	316.	-12.0	17.2	10.0
78	361	9 0	567.	249.	263.	445.	421.	560.	579.	-11.9	19.6	10.0
78	361	930	724.	308.	328.	583.	548.	707.	734.	-9.8	39.5	11.2
78	361	10 0	766.	351.	379.	682.	711.	784.	822.	-9.4	60.6	13.5
78	361	1030	791.	393.	401.	771.	811.	854.	865.	-9.5	71.7	16.3
78	361	11 0	722.	412.	404.	801.	851.	851.	840.	-6.8	75.8	19.3
78	361	1130	778.	446.	443.	870.	944.	922.	917.	-6.9	85.1	22.8
78	361	12 0	740.	433.	428.	834.	950.	889.	682.	-7.6	85.6	26.2
78	361	1230	464.	433.	421.	731.	983.	770.	753.	-6.1	88.7	29.7
78	361	13 0	70.	225.	224.	339.	623.	0.	0.	-7.5	49.6	30.7
78	361	1330	0.	176.	180.	217.	498.	0.	0.	-8.8	32.1	30.7
78	361	14 0	0.	130.	134.	152.	416.	0.	0.	-9.0	18.6	30.7
78	361	1430	0.	91.	97.	112.	420.	0.	0.	-8.1	19.3	30.7
78	361	15 0	0.	117.	117.	171.	416.	0.	0.	-7.7	18.7	30.7
78	361	1530	204.	110.	109.	211.	411.	228.	227.	-8.4	17.8	30.7
78	361	16 0	0.	21.	24.	23.	422.	0.	0.	-9.4	19.7	30.7
78	361	1630	0.	0.	0.	0.	420.	0.	0.	-10.3	20.5	30.7
78	361	18.		.518	397.734	1253.890	3657.349					

28 Dec 78

YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCI	EM	EM1	EM2	TA	TCOL	TR
78	362	8 0	0.	15.	17.	16.	423.	0.	0.	-5.3	19.9	10.0
78	362	830	0.	42.	49.	49.	423.	0.	0.	-5.5	19.9	10.0
78	362	9 0	0.	64.	68.	66.	422.	0.	0.	-5.3	19.8	10.0
78	362	930	0.	79.	83.	86.	422.	0.	0.	-5.1	19.7	10.0
78	362	10 0	0.	100.	112.	122.	421.	0.	0.	-5.5	19.5	10.0
78	362	1030	0.	134.	141.	155.	420.	0.	0.	-5.5	19.3	10.0
78	362	11 0	0.	170.	175.	194.	419.	0.	0.	-4.9	19.1	10.0
78	362	1130	0.	172.	180.	198.	418.	0.	0.	-4.8	19.0	10.0
78	362	12 0	0.	178.	185.	208.	418.	0.	0.	-4.3	19.0	10.0
78	362	1230	0.	132.	136.	152.	420.	0.	0.	-4.3	19.3	10.0
78	362	13 0	0.	144.	148.	165.	419.	0.	0.	-3.9	19.3	10.0
78	362	1330	0.	104.	109.	119.	421.	0.	0.	-3.4	19.5	10.0
78	362	14 0	0.	66.	68.	79.	421.	0.	0.	-3.2	19.6	10.0
78	362	1430	0.	40.	46.	46.	422.	0.	0.	-3.3	19.8	10.0
78	362	15 0	0.	47.	49.	49.	424.	0.	0.	-3.2	20.1	10.0
78	362	1530	0.	11.	12.	13.	424.	0.	0.	-3.2	20.1	10.0
78	362	16 0	0.	8.	10.	7.	425.	0.	0.	-3.2	20.2	10.0
78	362	1630	0.	0.	0.	0.	426.	0.	0.	-3.5	20.3	10.0
78	362	18.		.000	.000	.000	861.619					

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YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	T <sub>w</sub>
78	364	8 0	0.	0.	0.	10.	424.	0.	0.	-7.7	20.1	10.0
78	364	830	0.	17.	19.	10.	424.	0.	0.	-8.0	20.1	10.0
78	364	9 0	0.	30.	34.	33.	424.	0.	0.	-7.8	20.0	10.0
78	364	930	0.	40.	46.	43.	424.	0.	0.	-8.1	20.0	10.0
78	364	10 0	0.	51.	58.	56.	423.	0.	0.	-8.0	19.9	10.0
78	364	1030	0.	74.	85.	89.	423.	0.	0.	-8.0	19.9	10.0
78	364	11 0	0.	98.	112.	115.	423.	0.	0.	-7.8	19.8	10.0
78	364	1130	0.	87.	100.	99.	423.	0.	0.	-8.3	19.8	10.0
78	364	12 0	0.	127.	146.	145.	422.	0.	0.	-8.4	19.8	10.0
78	364	1230	0.	115.	131.	125.	422.	0.	0.	-8.9	19.7	10.0
78	364	13 0	0.	85.	97.	99.	423.	0.	0.	-8.8	19.8	10.0
78	364	1330	0.	66.	75.	79.	423.	0.	0.	-9.0	19.9	10.0
78	364	14 0	0.	68.	75.	79.	423.	0.	0.	-8.5	19.8	10.0
78	364	1430	0.	40.	46.	49.	424.	0.	0.	-9.1	20.0	10.0
78	364	15 0	0.	62.	71.	72.	423.	0.	0.	-8.6	19.9	10.0
78	364	1530	0.	28.	32.	36.	424.	0.	0.	-9.2	20.0	10.0
78	364	16 0	0.	17.	19.	16.	423.	0.	0.	-9.2	19.9	10.0
78	364	1630	0.	0.	0.	0.	424.	0.	0.	-9.4	20.0	10.0
78	364	18.		.000	.000	.000			578.257			

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YR	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCOL	T <sub>w</sub>
78	363	8 0	0.	13.	15.	16.	425.	0.	0.	-2.3	20.2	10.0
78	363	830	0.	30.	34.	33.	423.	0.	0.	-2.2	19.9	10.0
78	363	9 0	0.	36.	41.	40.	422.	0.	0.	-2.0	19.8	10.0
78	363	930	0.	34.	39.	43.	423.	0.	0.	-2.0	19.8	10.0
78	363	10 0	0.	91.	95.	109.	421.	0.	0.	-1.8	19.5	10.0
78	363	1030	0.	70.	73.	89.	420.	0.	0.	-1.3	19.4	10.0
78	363	11 0	0.	108.	117.	125.	420.	0.	0.	-1.3	19.4	10.0
78	363	1130	0.	117.	124.	86.	420.	0.	0.	-1.0	19.4	10.0
78	363	12 0	0.	98.	105.	79.	421.	0.	0.	-1.0	19.4	10.0
78	363	1230	0.	23.	27.	26.	422.	0.	0.	-.8	19.5	10.0
78	363	13 0	0.	40.	46.	49.	422.	0.	0.	-1.0	19.7	10.0
78	363	1330	0.	25.	29.	30.	423.	0.	0.	-1.1	19.7	10.0
78	363	14 0	0.	30.	34.	36.	423.	0.	0.	-1.1	19.9	10.0
78	363	1430	0.	15.	17.	16.	423.	0.	0.	-.9	19.9	10.0
78	363	15 0	0.	4.	5.	10.	424.	0.	0.	-1.5	19.9	10.0
78	363	1530	0.	0.	0.	0.	423.	0.	0.	-1.5	20.0	10.0
78	363	16 0	0.	0.	0.	0.	424.	0.	0.	-1.1	19.9	10.0
78	363	1630	0.	0.	0.	0.	424.	0.	0.	-1.7	20.1	10.0
78	363	18.		.000	.000	.000			393.742			

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Y1	DAY	TIME	PHR	GLOB1	GLOB2	SOLCL	EM	EM1	EM2	TA	TCR1	TL
78	365	8 0	0.	8.	10.	10.	424.	0.	0.	-10.6	20.1	10.0
78	365	830	0.	28.	32.	33.	423.	0.	0.	-10.1	19.9	10.0
78	365	9 0	0.	45.	51.	46.	423.	0.	0.	-10.2	19.9	10.0
78	365	930	0.	64.	66.	72.	423.	0.	0.	-10.0	19.9	10.0
78	365	10 0	0.	81.	88.	92.	423.	0.	0.	-9.3	19.9	10.0
78	365	1030	0.	79.	85.	92.	423.	0.	0.	-8.4	19.9	10.0
78	365	11 0	0.	76.	83.	86.	424.	0.	0.	-9.0	20.0	10.0
78	365	1130	0.	72.	83.	86.	423.	0.	0.	-9.0	19.9	10.0
78	365	12 0	0.	64.	68.	72.	423.	0.	0.	-8.6	19.8	10.0
78	365	1230	0.	57.	63.	69.	424.	0.	0.	-9.1	20.0	10.0
78	365	13 0	0.	59.	63.	72.	423.	0.	0.	-8.6	19.9	10.0
78	365	1330	0.	62.	66.	69.	424.	0.	0.	-8.8	20.1	10.0
78	365	14 0	0.	49.	51.	56.	423.	0.	0.	-8.5	19.9	10.0
78	365	1430	0.	47.	54.	56.	423.	0.	0.	-8.3	19.9	10.0
78	365	15 0	0.	36.	41.	40.	424.	0.	0.	-8.4	20.1	10.0
78	365	1530	0.	21.	24.	23.	424.	0.	0.	-8.3	20.0	10.0
78	365	16 0	0.	6.	7.	10.	424.	0.	0.	-8.2	20.0	10.0
78	365	1630	0.	0.	0.	0.	424.	0.	0.	-8.3	20.1	10.0
78	365	18.		.000	.000		.000			492.589		