

**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Global Solar Radiation on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Instrument: Eppley PSP**  
**Watt-Hours per Square Meter**

| Day | 1 | 2 | 3 | 4 | 5 | 6    | 7    | 8    | 9     | 10    | 11   | 12    | 13    | 14   | 15    | 16    | 17    | 18   | 19   | 20   | 21 | 22 | 23 | 24 | Daily  |
|-----|---|---|---|---|---|------|------|------|-------|-------|------|-------|-------|------|-------|-------|-------|------|------|------|----|----|----|----|--------|
| 1   | 0 | 0 | 0 | 0 | 0 | 13   | 123  | 361  | 526   | 186   | 386  | 798   | 706   | 522  | 754   | 273   | 107   | 65   | 38   | 5    | 0  | 0  | 0  | 0  | 4862   |
| 2   | 0 | 0 | 0 | 0 | 0 | 20   | 57   | 252  | 231   | 318   | 276  | 651   | 584   | 729  | 433   | 226   | 99    | 34 ? | 4 ?  | 1    | 0  | 0  | 0  | 0  | 3916   |
| 3   | 0 | 0 | 0 | 0 | 0 | 3    | 25   | 72   | 97    | 114   | 73 ? | 65 ?  | 84    | 117  | 94    | 319   | 248   | 94   | 27   | 8    | 0  | 0  | 0  | 0  | 1439 ? |
| 4   | 0 | 0 | 0 | 0 | 0 | 28   | 154  | 346  | 540   | 721   | 864  | 890   | 854   | 802  | 774   | 487   | 384   | 191  | 38   | 0    | 0  | 0  | 0  | 0  | 7075   |
| 5   | 0 | 0 | 0 | 0 | 0 | 28   | 132  | 226  | 426   | 678   | 818  | 909   | 925   | 829  | 114 ? | 72 ?  | 146   | 42 ? | 20   | 0    | 0  | 0  | 0  | 0  | 5367 ? |
| 6   | 0 | 0 | 0 | 0 | 0 | 7    | 43   | 249  | 507   | 775   | 883  | 969   | 894   | 625  | 542   | 568   | 352   | 195  | 47   | 0    | 0  | 0  | 0  | 0  | 6656   |
| 7   | 0 | 0 | 0 | 0 | 0 | 30   | 172  | 380  | 584   | 762   | 899  | 933   | 904   | 942  | 844   | 710   | 494   | 258  | 64   | 0    | 0  | 0  | 0  | 0  | 7976   |
| 8   | 0 | 0 | 0 | 0 | 0 | 23   | 100  | 338  | 575   | 742   | 882  | 909   | 736   | 758  | 805   | 616   | 359   | 207  | 41   | 0    | 0  | 0  | 0  | 0  | 7089   |
| 9   | 0 | 0 | 0 | 0 | 0 | 23   | 149  | 351  | 553   | 731   | 870  | 961   | 740   | 497  | 294   | 238   | 348   | 175  | 41   | 0    | 0  | 0  | 0  | 0  | 5970   |
| 10  | 0 | 0 | 0 | 0 | 0 | 17   | 71   | 323  | 551   | 705   | 776  | 922   | 915   | 888  | 726   | 524   | 404   | 203  | 40   | 0    | 0  | 0  | 0  | 0  | 7064   |
| 11  | 0 | 0 | 0 | 0 | 0 | 9    | 58   | 330  | 529   | 693   | 847  | 926   | 930   | 832  | 715   | 559   | 410   | 199  | 32   | 0    | 0  | 0  | 0  | 0  | 7069   |
| 12  | 0 | 0 | 0 | 0 | 0 | 27   | 138  | 347  | 533   | 581   | 734  | 906   | 520   | 651  | 275   | 122   | 148   | 49   | 4    | 0    | 0  | 0  | 0  | 0  | 5036   |
| 13  | 0 | 0 | 0 | 0 | 0 | 1    | 1 ?  | ?    | 128 ? | 315   | 411  | 568   | 453   | 385  | 213   | 269   | 249   | 77   | 14   | 0    | 0  | 0  | 0  | 0  | 3085 ? |
| 14  | 0 | 0 | 0 | 0 | 0 | 9    | 34   | 109  | 134   | 87 ?  | ?    | 81    | 72    | 92   | 134   | 73 ?  | 105 ? | 92   | 22   | 0    | 0  | 0  | 0  | 0  | 1043 ? |
| 15  | 0 | 0 | 0 | 0 | 0 | 3    | 27   | 95   | 206   | 302   | 186  | 181   | 177   | 164  | 102   | 81    | 45    | 27 ? | 5    | 0    | 0  | 0  | 0  | 0  | 1601   |
| 16  | 0 | 0 | 0 | 0 | 0 | 7    | 59   | 186  | 208   | 394   | 693  | 749 ? | 658 ? | 543  | 402   | 367   | 328   | 189  | 37   | 0    | 0  | 0  | 0  | 0  | 4818   |
| 17  | 0 | 0 | 0 | 0 | 0 | 11   | 87   | 216  | 564   | 691 ? | 821  | 925   | 717   | 756  | 580   | 582   | 370   | 161  | 33   | 0    | 0  | 0  | 0  | 0  | 6513   |
| 18  | 0 | 0 | 0 | 0 | 0 | 17   | 119  | 312  | 401   | 771   | 724  | 919   | 790   | 682  | 701   | 522   | 329   | 100  | 7    | 0    | 0  | 0  | 0  | 0  | 6392   |
| 19  | 0 | 0 | 0 | 0 | 0 | 19   | 108  | 281  | 417   | 627   | 789  | 801   | 860   | 827  | 680   | 557   | 347   | 162  | 28   | 0    | 0  | 0  | 0  | 0  | 6502   |
| 20  | 0 | 0 | 0 | 0 | 0 | 13   | 110  | 281  | 487   | 675   | 815  | 894   | 883   | 683  | 654   | 541   | 291   | 136  | 26   | 0    | 0  | 0  | 0  | 0  | 6491   |
| 21  | 0 | 0 | 0 | 0 | 0 | 10   | 88   | 252  | 410   | 662   | 806  | 862   | 813   | 686  | 490   | 394   | 397   | 181  | 14   | 0    | 0  | 0  | 0  | 0  | 6065   |
| 22  | 0 | 0 | 0 | 0 | 0 | 6    | 47   | 193  | 355   | 293   | 375  | 743   | 925   | 880  | 771   | 599   | 376   | 157  | 31   | 0    | 0  | 0  | 0  | 0  | 5750   |
| 23  | 0 | 0 | 0 | 0 | 0 | 17   | 138  | 299  | 501   | 521   | 828  | 975   | 961   | 815  | 715   | 584   | 377   | 157  | 26   | 0    | 0  | 0  | 0  | 0  | 6913   |
| 24  | 0 | 0 | 0 | 0 | 0 | 20   | 107  | 327  | 507   | 668   | 786  | 805   | 729   | 857  | 764   | 569   | 362   | 154  | 27   | 0    | 0  | 0  | 0  | 0  | 6683   |
| 25  | 0 | 0 | 0 | 0 | 0 | 17   | 128  | 327  | 514   | 689   | 888  | 949 ? | ?     | 758  | 513   | 601   | 372   | 162  | 28   | 0    | 0  | 0  | 0  | 0  | 5946   |
| 26  | 0 | 0 | 0 | 0 | 0 | 15   | 121  | 309  | 532   | 700   | 856  | 936   | 934   | 752  | 763   | 508   | 363   | 154  | 26   | 0    | 0  | 0  | 0  | 0  | 6970   |
| 27  | 0 | 0 | 0 | 0 | 0 | 16   | 120  | 316  | 502   | 660   | 551  | 907   | 962   | 880  | 762   | 579   | 369   | 157  | 26   | 0    | 0  | 0  | 0  | 0  | 6807   |
| 28  | 0 | 0 | 0 | 0 | 0 | 10   | 131  | 347  | 519   | 582   | 836  | 929   | 944   | 786  | 711   | 372   | 408   | 151  | 30   | 0    | 0  | 0  | 0  | 0  | 6756   |
| 29  | 0 | 0 | 0 | 0 | 0 | 22   | 145  | 294  | 491   | 496   | 630  | 722   | 840   | 762  | 754   | 581   | 400   | 188  | 24   | 0    | 0  | 0  | 0  | 0  | 6352   |
| 30  | 0 | 0 | 0 | 0 | 0 | 9    | 85   | 242  | 481   | 564   | 458  | 649   | 453   | 226  | 123 ? | 118 ? | 35 ?  | 28   | 1    | 0    | 0  | 0  | 0  | 0  | 3471 ? |
| 31  | 0 | 0 | 0 | 0 | 0 | 10   | 90   | 252  | 359   | 610   | 768  | 797   | 494   | 499  | 200 ? | 86 ?  | 35    | 19   | 4    | 0    | 0  | 0  | 0  | 0  | 4224   |
| Avg | 0 | 0 | 0 | 0 | 0 | 15   | 96   | 274  | 431   | 559   | 684  | 782   | 715   | 652  | 529   | 410   | 292   | 134  | 26   | 0    | 0  | 0  | 0  | 0  | 5545   |
| S D | 0 | 0 | 0 | 0 | 0 | 8    | 44   | 80   | 145   | 203   | 232  | 247   | 257   | 237  | 258   | 200   | 131   | 65   | 14   | 2    | 0  | 0  | 0  | 0  | 1810   |
| S/A | 0 | 0 | 0 | 0 | 0 | 0.53 | 0.46 | 0.29 | 0.34  | 0.36  | 0.34 | 0.32  | 0.36  | 0.36 | 0.49  | 0.49  | 0.45  | 0.48 | 0.56 | 3.77 | 0  | 0  | 0  | 0  | 0.33   |
| Min | 0 | 0 | 0 | 0 | 0 | 1    | 1    | 72   | 97    | 87    | 73   | 65    | 72    | 92   | 94    | 72    | 35    | 19   | 1    | 0    | 0  | 0  | 0  | 0  | 1043   |
| Max | 0 | 0 | 0 | 0 | 0 | 30   | 172  | 380  | 584   | 775   | 899  | 975   | 962   | 942  | 844   | 710   | 494   | 258  | 64   | 8    | 0  | 0  | 0  | 0  | 7976   |
| n   | 0 | 0 | 0 | 0 | 0 | 231  | 361  | 359  | 368   | 362   | 350  | 353   | 351   | 368  | 355   | 344   | 361   | 359  | 296  | 4    | 0  | 0  | 0  | 0  | 4824   |

Daylight Data Recovery: 0.0% missing; 3.5% exceed the 15% QC threshold -- 4998 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 31256F3    Calibration Factor: 7.561 μV/W/m<sup>2</sup>    Calibration Date: 08/2003

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

August 2004

Direct Normal Solar Radiation  
 Hourly Integrated and Daily Totals  
 Instrument: Eppley NIP  
 Watt-Hours per Square Meter

| Day | 1 | 2 | 3 | 4 | 5 | 6    | 7    | 8    | 9    | 10    | 11   | 12    | 13    | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21 | 22 | 23 | 24 | Daily |
|-----|---|---|---|---|---|------|------|------|------|-------|------|-------|-------|------|------|------|------|------|------|------|----|----|----|----|-------|
| 1   | 0 | 0 | 0 | 0 | 0 | 1    | 244  | 548  | 378  | 34    | 26   | 373   | 330   | 177  | 522  | 55   | 0    | 0    | 1    | 0    | 0  | 0  | 0  | 0  | 2688  |
| 2   | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 235  | 78   | 102   | 28   | 170   | 130   | 309  | 29   | 16   | 1    | 1    | 0    | 1    | 0  | 0  | 0  | 0  | 1101  |
| 3   | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0     | 0    | 0    | 23   | 40   | 22   | 2    | 0    | 0  | 0  | 0  | 0  | 89    |
| 4   | 0 | 0 | 0 | 0 | 0 | 57   | 292  | 462  | 566  | 662   | 711  | 635   | 530   | 510  | 633  | 341  | 360  | 251  | 47   | 0    | 0  | 0  | 0  | 0  | 6056  |
| 5   | 0 | 0 | 0 | 0 | 0 | 51   | 185  | 74   | 301  | 486   | 574  | 621   | 616   | 501  | 0 ?  | 0    | 10   | 0    | 0    | 0    | 0  | 0  | 0  | 0  | 3419  |
| 6   | 0 | 0 | 0 | 0 | 0 | 0    | 1    | 178  | 377  | 712   | 746  | 783   | 564   | 326  | 279  | 538  | 367  | 389  | 222  | 0    | 0  | 0  | 0  | 0  | 5482  |
| 7   | 0 | 0 | 0 | 0 | 0 | 199  | 558  | 728  | 803  | 840   | 861  | 813   | 687   | 800  | 792  | 767  | 664  | 523  | 212  | 0    | 0  | 0  | 0  | 0  | 9247  |
| 8   | 0 | 0 | 0 | 0 | 0 | 26   | 58   | 520  | 708  | 767   | 803  | 567   | 224   | 416  | 706  | 627  | 373  | 391  | 143  | 0    | 0  | 0  | 0  | 0  | 6328  |
| 9   | 0 | 0 | 0 | 0 | 0 | 77   | 377  | 585  | 692  | 754   | 776  | 720   | 472   | 205  | 67   | 60   | 310  | 294  | 113  | 0    | 0  | 0  | 0  | 0  | 5503  |
| 10  | 0 | 0 | 0 | 0 | 0 | 11   | 31   | 378  | 532  | 596   | 460  | 611   | 523   | 665  | 437  | 362  | 516  | 386  | 137  | 0    | 0  | 0  | 0  | 0  | 5646  |
| 11  | 0 | 0 | 0 | 0 | 0 | 0    | 58   | 469  | 542  | 585   | 691  | 728   | 691   | 613  | 601  | 570  | 610  | 440  | 88   | 0    | 0  | 0  | 0  | 0  | 6686  |
| 12  | 0 | 0 | 0 | 0 | 0 | 97   | 311  | 588  | 663  | 416   | 461  | 668   | 141   | 159  | 5    | 0    | 0    | 0    | 0    | 0    | 0  | 0  | 0  | 0  | 3510  |
| 13  | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 0    | 3    | 23    | 18   | 71    | 33    | 30   | 3    | 12   | 49   | 0    | 0    | 0    | 0  | 0  | 0  | 0  | 242   |
| 14  | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 1    | 1    | 0     | 0    | 0     | 0     | 0    | 1    | 0    | 3    | 24   | 22   | 0    | 0  | 0  | 0  | 0  | 52    |
| 15  | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 0    | 1    | 3     | 1    | 0     | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0  | 0  | 0  | 0  | 5     |
| 16  | 0 | 0 | 0 | 0 | 0 | 0    | 10   | 60   | 28   | 80    | 387  | 441 ? | 289 ? | 74   | 18   | 94   | 377  | 453  | 167  | 0    | 0  | 0  | 0  | 0  | 2478  |
| 17  | 0 | 0 | 0 | 0 | 0 | 0    | 9    | 127  | 605  | 554 ? | 592  | 680   | 380   | 446  | 334  | 540  | 388  | 250  | 31   | 0    | 0  | 0  | 0  | 0  | 4938  |
| 18  | 0 | 0 | 0 | 0 | 0 | 2    | 169  | 328  | 278  | 613   | 533  | 689   | 456   | 416  | 533  | 359  | 305  | 86   | 0    | 0    | 0  | 0  | 0  | 0  | 4766  |
| 19  | 0 | 0 | 0 | 0 | 0 | 0    | 143  | 274  | 227  | 432   | 505  | 453   | 534   | 609  | 549  | 522  | 448  | 291  | 56   | 0    | 0  | 0  | 0  | 0  | 5043  |
| 20  | 0 | 0 | 0 | 0 | 0 | 5    | 95   | 272  | 472  | 582   | 641  | 660   | 570   | 380  | 473  | 474  | 204  | 149  | 14   | 0    | 0  | 0  | 0  | 0  | 4992  |
| 21  | 0 | 0 | 0 | 0 | 0 | 0    | 39   | 155  | 178  | 500   | 607  | 584   | 473   | 409  | 261  | 296  | 416  | 293  | 8    | 0    | 0  | 0  | 0  | 0  | 4219  |
| 22  | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 106  | 206  | 8     | 10   | 261   | 729   | 775  | 802  | 753  | 555  | 258  | 29   | 0    | 0  | 0  | 0  | 0  | 4493  |
| 23  | 0 | 0 | 0 | 0 | 0 | 33   | 244  | 442  | 489  | 186   | 557  | 791   | 794   | 496  | 584  | 714  | 620  | 397  | 100  | 0    | 0  | 0  | 0  | 0  | 6446  |
| 24  | 0 | 0 | 0 | 0 | 0 | 26   | 123  | 433  | 540  | 571   | 521  | 485   | 366   | 594  | 657  | 602  | 439  | 328  | 86   | 0    | 0  | 0  | 0  | 0  | 5772  |
| 25  | 0 | 0 | 0 | 0 | 0 | 74   | 394  | 605  | 634  | 685   | 772  | 722 ? | ?     | 420  | 213  | 618  | 593  | 473  | 165  | 0    | 0  | 0  | 0  | 0  | 6368  |
| 26  | 0 | 0 | 0 | 0 | 0 | 21   | 195  | 285  | 569  | 638   | 764  | 759   | 735   | 555  | 682  | 493  | 534  | 353  | 85   | 0    | 0  | 0  | 0  | 0  | 6668  |
| 27  | 0 | 0 | 0 | 0 | 0 | 47   | 296  | 587  | 598  | 549   | 330  | 654   | 728   | 688  | 717  | 706  | 647  | 463  | 134  | 0    | 0  | 0  | 0  | 0  | 7145  |
| 28  | 0 | 0 | 0 | 0 | 0 | 17   | 407  | 672  | 755  | 381   | 673  | 685   | 676   | 574  | 629  | 301  | 652  | 461  | 174  | 0    | 0  | 0  | 0  | 0  | 7058  |
| 29  | 0 | 0 | 0 | 0 | 0 | 79   | 418  | 422  | 467  | 237   | 265  | 379   | 547   | 561  | 725  | 728  | 627  | 445  | 45   | 0    | 0  | 0  | 0  | 0  | 5946  |
| 30  | 0 | 0 | 0 | 0 | 0 | 0    | 26   | 316  | 565  | 379   | 74   | 230   | 77    | 6    | 0    | 0    | 0    | 0    | 0    | 0    | 0  | 0  | 0  | 0  | 1674  |
| 31  | 0 | 0 | 0 | 0 | 0 | 1    | 33   | 153  | 185  | 437   | 437  | 481   | 143   | 124  | 3    | 1    | 0    | 0    | 0    | 0    | 0  | 0  | 0  | 0  | 1997  |
| Avg | 0 | 0 | 0 | 0 | 0 | 27   | 152  | 323  | 401  | 413   | 446  | 507   | 415   | 382  | 363  | 341  | 326  | 239  | 67   | 0    | 0  | 0  | 0  | 0  | 4389  |
| S D | 0 | 0 | 0 | 0 | 0 | 43   | 161  | 221  | 252  | 269   | 290  | 253   | 255   | 245  | 300  | 285  | 248  | 189  | 71   | 0    | 0  | 0  | 0  | 0  | 2442  |
| S/A | 0 | 0 | 0 | 0 | 0 | 1.63 | 1.06 | 0.69 | 0.63 | 0.65  | 0.65 | 0.5   | 0.61  | 0.64 | 0.83 | 0.84 | 0.76 | 0.79 | 1.06 | 4.69 | 0  | 0  | 0  | 0  | 0.56  |
| Min | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0  | 0  | 0  | 0  | 5     |
| Max | 0 | 0 | 0 | 0 | 0 | 199  | 558  | 728  | 803  | 840   | 861  | 813   | 794   | 800  | 802  | 767  | 664  | 523  | 222  | 1    | 0  | 0  | 0  | 0  | 9247  |
| n   | 0 | 0 | 0 | 0 | 0 | 231  | 372  | 371  | 372  | 366   | 367  | 365   | 356   | 370  | 365  | 368  | 371  | 372  | 299  | 4    | 0  | 0  | 0  | 0  | 4950  |

Daylight Data Recovery: 0.0% missing; 1.0% exceed the 15% QC threshold -- 4998 total daylight measurements.

Instrument: Eppley NIP Serial Number: 25521E6 Calibration Factor: 8.034 μV/W/m² Calibration Date: 06/2002

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Diffuse Solar Radiation (Shadow Band) on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Instrument: Eppley PSP**  
**Watt-Hours per Square Meter**

| Day | 1 | 2 | 3 | 4 | 5 | 6    | 7    | 8    | 9    | 10   | 11    | 12    | 13    | 14   | 15    | 16   | 17    | 18   | 19  | 20   | 21 | 22 | 23 | 24 | Daily  |
|-----|---|---|---|---|---|------|------|------|------|------|-------|-------|-------|------|-------|------|-------|------|-----|------|----|----|----|----|--------|
| 1   | 0 | 0 | 0 | 0 | 0 | 14   | 49   | 113  | 279  | 157  | 353   | 402   | 352   | 342  | 319   | 228  | 107   | 65   | 37  | 5    | 0  | 0  | 0  | 0  | 2821   |
| 2   | 0 | 0 | 0 | 0 | 0 | 22   | 57   | 134  | 178  | 243  | 229   | 463   | 430   | 404  | 401   | 214  | 99    | 29   | 5   | 1    | 0  | 0  | 0  | 0  | 2909   |
| 3   | 0 | 0 | 0 | 0 | 0 | 3    | 25   | 72   | 92   | 107  | 62 ?  | 55    | 84    | 117  | 94    | 305  | 231   | 84   | 26  | 8    | 0  | 0  | 0  | 0  | 1365   |
| 4   | 0 | 0 | 0 | 0 | 0 | 21   | 81   | 140  | 186  | 197  | 211   | 258   | 318   | 307  | 235   | 246  | 205   | 117  | 34  | 0    | 0  | 0  | 0  | 0  | 2556   |
| 5   | 0 | 0 | 0 | 0 | 0 | 26   | 93   | 188  | 231  | 297  | 293   | 296   | 310   | 351  | 114 ? | 60 ? | 142   | 39 ? | 20  | 0    | 0  | 0  | 0  | 0  | 2460 ? |
| 6   | 0 | 0 | 0 | 0 | 0 | 7    | 40   | 182  | 258  | 203  | 187   | 185   | 312   | 298  | 284   | 182  | 158   | 81   | 21  | 0    | 0  | 0  | 0  | 0  | 2399   |
| 7   | 0 | 0 | 0 | 0 | 0 | 17   | 45   | 66   | 82   | 96   | 107   | 120   | 207   | 175  | 169   | 180  | 157   | 102  | 40  | 0    | 0  | 0  | 0  | 0  | 1564   |
| 8   | 0 | 0 | 0 | 0 | 0 | 19   | 86   | 104  | 135  | 139  | 148   | 339   | 478   | 357  | 207   | 182  | 165   | 98   | 24  | 0    | 0  | 0  | 0  | 0  | 2482   |
| 9   | 0 | 0 | 0 | 0 | 0 | 20   | 65   | 102  | 124  | 139  | 161   | 252   | 266   | 293  | 235   | 193  | 198   | 94   | 28  | 0    | 0  | 0  | 0  | 0  | 2171   |
| 10  | 0 | 0 | 0 | 0 | 0 | 16   | 64   | 164  | 227  | 243  | 354   | 325   | 380   | 261  | 347   | 273  | 145   | 94   | 25  | 0    | 0  | 0  | 0  | 0  | 2919   |
| 11  | 0 | 0 | 0 | 0 | 0 | 9    | 41   | 135  | 201  | 235  | 218   | 213   | 239   | 244  | 200   | 170  | 106   | 73   | 21  | 0    | 0  | 0  | 0  | 0  | 2105   |
| 12  | 0 | 0 | 0 | 0 | 0 | 19   | 69   | 104  | 131  | 251  | 305   | 249   | 367   | 486  | 271   | 122  | 148   | 49   | 4   | 0    | 0  | 0  | 0  | 0  | 2574   |
| 13  | 0 | 0 | 0 | 0 | 0 | 1    | 1 ?  | 29 ? | 102  | 304  | 395   | 493   | 416   | 360  | 213   | 261  | 222   | 77   | 14  | 0    | 0  | 0  | 0  | 0  | 2888 ? |
| 14  | 0 | 0 | 0 | 0 | 0 | 9    | 34   | 109  | 134  | 70   | 49 ?  | 77    | 69    | 88   | 134   | 54 ? | 105 ? | 83   | 18  | 0    | 0  | 0  | 0  | 0  | 1032 ? |
| 15  | 0 | 0 | 0 | 0 | 0 | 3    | 27   | 95   | 206  | 302  | 186   | 181   | 167   | 164  | 97    | 81   | 45    | 25   | 5   | 0    | 0  | 0  | 0  | 0  | 1583   |
| 16  | 0 | 0 | 0 | 0 | 0 | 7    | 58   | 176  | 176  | 371  | 479 ? | 330 ? | 390 ? | 481  | 388   | 298  | 149   | 68   | 19  | 0    | 0  | 0  | 0  | 0  | 3388 ? |
| 17  | 0 | 0 | 0 | 0 | 0 | 11   | 85   | 195  | ?    | ?    | ?     | 268 ? | 316   | 323  | 290   | 219  | 182   | 93   | 30  | 0    | 0  | 0  | 0  | 0  | 2013 ? |
| 18  | 0 | 0 | 0 | 0 | 0 | 19   | 74   | 159  | 223  | 284  | 222   | 234   | 324   | 290  | 243   | 270  | 187   | 73   | 7   | 0    | 0  | 0  | 0  | 0  | 2607   |
| 19  | 0 | 0 | 0 | 0 | 0 | 22   | 76   | 168  | 271  | 278  | 321   | 337   | 317   | 241  | 214   | 208  | 140   | 88   | 25  | 0    | 0  | 0  | 0  | 0  | 2706   |
| 20  | 0 | 0 | 0 | 0 | 0 | 14   | 86   | 164  | 205  | 225  | 232   | 238   | 303   | 315  | 264   | 222  | 193   | 99   | 25  | 0    | 0  | 0  | 0  | 0  | 2584   |
| 21  | 0 | 0 | 0 | 0 | 0 | 12   | 79   | 191  | 298  | 273  | 252   | 277   | 326   | 288  | 261   | 213  | 214   | 109  | 13  | 0    | 0  | 0  | 0  | 0  | 2806   |
| 22  | 0 | 0 | 0 | 0 | 0 | 6    | 47   | 137  | 237  | 287  | 366   | 444   | 178   | 134  | 107   | 102  | 110   | 84   | 27  | 0    | 0  | 0  | 0  | 0  | 2266   |
| 23  | 0 | 0 | 0 | 0 | 0 | 14   | 84   | 122  | 187  | 318  | 272   | 199   | 170   | 285  | 208   | 120  | 95    | 58   | 18  | 0    | 0  | 0  | 0  | 0  | 2150   |
| 24  | 0 | 0 | 0 | 0 | 0 | 20   | 73   | 146  | 187  | 218  | 314   | 323   | 357   | 304  | 232   | 181  | 164   | 77   | 21  | 0    | 0  | 0  | 0  | 0  | 2617   |
| 25  | 0 | 0 | 0 | 0 | 0 | 16   | 53   | 84   | 129  | 152  | 195   | 239 ? | ?     | 305  | 310   | 182  | 99    | 51   | 16  | 0    | 0  | 0  | 0  | 0  | 1835 ? |
| 26  | 0 | 0 | 0 | 0 | 0 | 16   | 70   | 165  | 182  | 190  | 133   | 126   | 115   | 148  | 146   | 172  | 116   | 67   | 21  | 0    | 0  | 0  | 0  | 0  | 1666   |
| 27  | 0 | 0 | 0 | 0 | 0 | 15   | 55   | 80   | 139  | 216  | 219   | 204   | 156   | 162  | 121   | 97   | 75    | 50   | 17  | 0    | 0  | 0  | 0  | 0  | 1604   |
| 28  | 0 | 0 | 0 | 0 | 0 | 9    | 43   | 61   | 77   | 254  | 197   | 195   | 194   | 183  | 136   | 154  | 115   | 47   | 19  | 0    | 0  | 0  | 0  | 0  | 1683   |
| 29  | 0 | 0 | 0 | 0 | 0 | 18   | 54   | 119  | 191  | 301  | 366   | 287   | 209   | 193  | 105   | 85   | 114   | 86   | 21  | 0    | 0  | 0  | 0  | 0  | 2149   |
| 30  | 0 | 0 | 0 | 0 | 0 | 9    | 82   | 108  | 140  | 261  | 376   | 386   | 358   | 220  | 104   | 72 ? | 31    | 26   | 1   | 0    | 0  | 0  | 0  | 0  | 2175   |
| 31  | 0 | 0 | 0 | 0 | 0 | 10   | 82   | 195  | 245  | 260  | 343   | 283   | 331   | 358  | 180   | 81   | 35    | 19   | 4   | 0    | 0  | 0  | 0  | 0  | 2428   |
| Avg | 0 | 0 | 0 | 0 | 0 | 14   | 61   | 129  | 182  | 229  | 252   | 267   | 281   | 273  | 214   | 175  | 137   | 71   | 20  | 0    | 0  | 0  | 0  | 0  | 2274   |
| S D | 0 | 0 | 0 | 0 | 0 | 6    | 22   | 44   | 60   | 72   | 103   | 105   | 105   | 99   | 87    | 72   | 53    | 26   | 10  | 2    | 0  | 0  | 0  | 0  | 538    |
| S/A | 0 | 0 | 0 | 0 | 0 | 0.46 | 0.36 | 0.34 | 0.33 | 0.32 | 0.41  | 0.39  | 0.37  | 0.36 | 0.41  | 0.41 | 0.39  | 0.37 | 0.5 | 3.71 | 0  | 0  | 0  | 0  | 0.24   |
| Min | 0 | 0 | 0 | 0 | 0 | 1    | 1    | 29   | 77   | 70   | 49    | 55    | 69    | 88   | 94    | 54   | 31    | 19   | 1   | 0    | 0  | 0  | 0  | 0  | 1032   |
| Max | 0 | 0 | 0 | 0 | 0 | 26   | 93   | 195  | 298  | 371  | 479   | 493   | 478   | 486  | 401   | 305  | 231   | 117  | 40  | 8    | 0  | 0  | 0  | 0  | 3388   |
| n   | 0 | 0 | 0 | 0 | 0 | 215  | 363  | 360  | 359  | 357  | 338   | 355   | 355   | 372  | 360   | 354  | 364   | 366  | 297 | 4    | 0  | 0  | 0  | 0  | 4820   |

Daylight Data Recovery: 0.0% missing; 3.6% exceed the 15% QC threshold -- 4998 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 17880F3    Calibration Factor: 8.067 μV/W/m<sup>2</sup>    Calibration Date: 07/2002

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**August 2004**

**Dry Bulb Temperature (Tower)**  
**Hourly and Daily Averages**  
**Instrument: CSI HMP-35C**  
**Degrees Celsius**

| Day | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Daily |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1   | 25.4 | 25.3 | 25   | 25.1 | 25.2 | 25.3 | 25.9 | 27.9 | 28.5 | 26.9 | 26.7 | 28.9 | 29.4 | 29.1 | 28.8 | 29   | 28.6 | 28.2 | 28.1 | 27.6 | 27   | 26.6 | 26   | 26   | 27.1  |
| 2   | 25.8 | 25.7 | 25.4 | 25.2 | 25.1 | 25.1 | 25.4 | 26.8 | 27.6 | 27.7 | 24.5 | 26   | 27.6 | 28.4 | 28   | 26.3 | 24.5 | 25.4 | 25.9 | 25.8 | 24.7 | 24.2 | 24.3 | 24.3 | 25.8  |
| 3   | 24.9 | 24.7 | 24.8 | 24.6 | 24.1 | 24.3 | 23.7 | 24.3 | 24.5 | 24.4 | 23.9 | 23.4 | 23.3 | 23.7 | 24.2 | 24.8 | 25.5 | 25.5 | 24.4 | 24.3 | 23.8 | 23.3 | 22.8 | 22.6 | 24.2  |
| 4   | 22.5 | 22.4 | 22.2 | 22   | 21.7 | 21.9 | 23   | 25   | 26.8 | 28.8 | 30.2 | 31.2 | 31.8 | 32.3 | 32.9 | 32.3 | 32.2 | 31.6 | 30.4 | 28.9 | 28   | 27.3 | 26.9 | 26.4 | 27.4  |
| 5   | 26   | 25.4 | 24.7 | 24.3 | 24   | 24.1 | 24.9 | 25.9 | 26.8 | 28.5 | 29.7 | 30.8 | 31.7 | 32.6 | 26.3 | 22.4 | 23.3 | 23.6 | 23.7 | 23.4 | 22.9 | 22.6 | 22.4 | 22.1 | 25.5  |
| 6   | 21.7 | 20   | 19   | 18.5 | 18.2 | 18.1 | 18.2 | 19.6 | 21   | 22.2 | 22.6 | 22.9 | 23.5 | 22.8 | 22.8 | 22.7 | 22.4 | 22   | 21.4 | 19.9 | 18.6 | 17.8 | 17   | 16.4 | 20.4  |
| 7   | 16.1 | 15.5 | 14.7 | 14.1 | 13.7 | 13.4 | 14.5 | 17   | 19.6 | 21.3 | 22.6 | 23.3 | 24.3 | 24.5 | 25.1 | 25.7 | 25.9 | 25   | 22.8 | 21.5 | 21   | 20.4 | 20.4 | 19.7 | 20.1  |
| 8   | 19.4 | 19   | 18.8 | 18.3 | 18.2 | 17.6 | 18.3 | 19.8 | 22.2 | 23.7 | 24.8 | 25.9 | 26.1 | 26.5 | 26.9 | 27   | 26.8 | 26.3 | 25.1 | 23.6 | 22.7 | 22.1 | 22.3 | 21.9 | 22.6  |
| 9   | 21   | 20.5 | 20   | 19.3 | 19   | 18.9 | 19.7 | 21.7 | 23.5 | 25.2 | 25.8 | 27.1 | 27.9 | 27.9 | 27.7 | 27.2 | 27.3 | 26.6 | 25.4 | 24.3 | 23.4 | 22.8 | 22.5 | 22.3 | 23.6  |
| 10  | 21.9 | 21.3 | 20.7 | 20.2 | 19.9 | 19.9 | 20.2 | 22   | 24   | 25.6 | 26.4 | 27.4 | 28   | 28   | 28.1 | 27.8 | 28   | 27.5 | 26.2 | 24.6 | 23.7 | 23.1 | 22.8 | 22.7 | 24.2  |
| 11  | 22.5 | 22.1 | 21.6 | 21.3 | 21.4 | 21.5 | 21.5 | 23.3 | 25.1 | 26.1 | 27.1 | 27.9 | 28.5 | 29.3 | 28.9 | 29.2 | 29.4 | 28.6 | 26.9 | 25.4 | 24.7 | 24.2 | 23.7 | 23.4 | 25.2  |
| 12  | 23   | 22.6 | 22.2 | 21.9 | 22   | 21.9 | 22.8 | 24.2 | 25.8 | 26.8 | 27.4 | 28   | 27.9 | 27.8 | 26.2 | 25.8 | 25.7 | 25.7 | 25.6 | 23   | 22.6 | 23.1 | 22.9 | 22   | 24.5  |
| 13  | 21.7 | 21.9 | 21.5 | 21.6 | 21.7 | 21.8 | 22.1 | 22.7 | 22.5 | 24.4 | 25.5 | 26.1 | 26.2 | 25.8 | 25.2 | 25.5 | 26   | 25.7 | 25.3 | 24.7 | 24.1 | 23.9 | 23.8 | 23.9 | 23.9  |
| 14  | 23.6 | 23.1 | 22.9 | 22.9 | 22.8 | 22.8 | 22.9 | 23.6 | 24.4 | 24.4 | 22.5 | 21.9 | 22.1 | 22   | 22.2 | 22.1 | 22.8 | 22.5 | 21.4 | 20.6 | 20.5 | 20.4 | 20.4 | 20.4 | 22.3  |
| 15  | 20.3 | 20.4 | 20.4 | 20.1 | 20   | 20   | 20.1 | 20.3 | 21.2 | 22.4 | 23.1 | 23.3 | 23   | 22.7 | 22.5 | 22.3 | 21.8 | 21.8 | 22   | 22.1 | 22.2 | 22.3 | 22.8 | 22.5 | 21.6  |
| 16  | 22   | 21.6 | 21.4 | 21.4 | 21.4 | 21.5 | 22   | 22.7 | 23   | 23.8 | 25.2 | 26.3 | 26   | 26   | 25.8 | 26   | 25.9 | 25.6 | 24.2 | 22.5 | 21.8 | 21.5 | 21   | 20.2 | 23.3  |
| 17  | 19.8 | 19.3 | 18.9 | 18.7 | 18.3 | 17.9 | 18.3 | 19.9 | 23   | 25.3 | 25.9 | 26.7 | 27.2 | 27.2 | 26.7 | 27   | 26.4 | 25.4 | 24.2 | 23.4 | 22.9 | 22.5 | 22.1 | 21.7 | 22.9  |
| 18  | 21.1 | 20.9 | 21.2 | 21.2 | 20.4 | 20.2 | 21   | 23.1 | 24.5 | 25.8 | 26.5 | 27.6 | 28.2 | 28.2 | 28.7 | 28.5 | 28   | 27.3 | 26   | 25.4 | 24.8 | 24.2 | 24   | 23.6 | 24.6  |
| 19  | 23.3 | 23.3 | 23.3 | 23.3 | 23.1 | 23.3 | 23.5 | 24.4 | 25.4 | 26.8 | 28.3 | 29.3 | 30.2 | 30.7 | 31.2 | 31.5 | 31.5 | 31   | 28.6 | 27.3 | 26.5 | 26   | 25.5 | 25.1 | 26.8  |
| 20  | 25   | 24.7 | 24.3 | 24   | 23.8 | 23.7 | 24.1 | 25.4 | 27.2 | 28.6 | 30   | 30.6 | 31.2 | 31.4 | 31.4 | 31.5 | 30.8 | 29.7 | 28.1 | 27.1 | 26.5 | 26   | 25.7 | 25.4 | 27.3  |
| 21  | 25.2 | 25   | 24.9 | 25.2 | 25.2 | 25.2 | 25.2 | 26   | 27   | 28.4 | 29.5 | 30.7 | 31.5 | 31.5 | 31.3 | 29.5 | 26.5 | 26.8 | 25.6 | 25.2 | 24.1 | 22.9 | 22.5 | 22.1 | 26.5  |
| 22  | 21.8 | 21.8 | 21.9 | 21.9 | 21.5 | 21.2 | 21   | 21.2 | 22.4 | 22.6 | 22.9 | 24.4 | 25.4 | 25.7 | 25.7 | 25.3 | 24.9 | 23.7 | 22.3 | 21.5 | 21.3 | 21.2 | 21.1 | 20.6 | 22.6  |
| 23  | 18.9 | 18.2 | 17.8 | 17.8 | 17.7 | 17.6 | 18.8 | 21.9 | 23.4 | 23.8 | 25.2 | 25.4 | 26.3 | 26.3 | 26.2 | 25.8 | 25.5 | 24.7 | 23.2 | 22.2 | 21.5 | 20.8 | 21   | 20.5 | 22.1  |
| 24  | 19.8 | 18.9 | 18.8 | 18.2 | 17.9 | 18.1 | 19   | 22   | 24.7 | 25.3 | 26.9 | 27.2 | 27.5 | 27.2 | 27.1 | 26.9 | 26.1 | 25   | 23.9 | 23.1 | 22.7 | 22.2 | 21.7 | 21.3 | 23    |
| 25  | 21.2 | 20.9 | 20.9 | 20.5 | 19.7 | 19.4 | 20.7 | 22.9 | 24.7 | 25.7 | 26.7 | 27.2 | 27.5 | 27.5 | 27.1 | 27.2 | 26.6 | 25.8 | 24.6 | 23.5 | 22.9 | 22.4 | 22.2 | 22.3 | 23.7  |
| 26  | 22.2 | 22.1 | 21.8 | 21.7 | 21.6 | 21.8 | 22.5 | 24.2 | 26.1 | 27.3 | 27.8 | 27.9 | 28.2 | 28.6 | 28.6 | 28.3 | 27.7 | 26.7 | 25.5 | 24.6 | 24.2 | 23.9 | 23.6 | 23.5 | 25    |
| 27  | 23.4 | 23.4 | 23.1 | 23.1 | 23   | 22.7 | 23.4 | 25.3 | 26.7 | 27.6 | 28.1 | 29.1 | 29.3 | 29.1 | 28.9 | 28.5 | 28.3 | 27.3 | 25.9 | 24.8 | 24.2 | 23.6 | 23.4 | 23.4 | 25.6  |
| 28  | 23.4 | 22.9 | 22.7 | 21.9 | 21.9 | 22.2 | 23   | 24.8 | 26.4 | 27.5 | 28.3 | 28.9 | 28.9 | 28.7 | 28.9 | 28   | 27.7 | 26.8 | 26   | 25   | 24.7 | 24.6 | 24.7 | 24.4 | 25.5  |
| 29  | 24.4 | 24.2 | 24.2 | 24   | 23.8 | 23.7 | 24.9 | 26.5 | 27.6 | 28.1 | 29   | 29.3 | 29.9 | 29.7 | 29.5 | 28.8 | 27.9 | 27.4 | 26.4 | 25.5 | 25.4 | 25.4 | 25.5 | 25.6 | 26.5  |
| 30  | 25.5 | 25   | 25.1 | 25.1 | 25.3 | 25.4 | 26.1 | 26.8 | 28   | 28.6 | 28.9 | 29.7 | 29.7 | 28.9 | 28.2 | 27.5 | 26.8 | 26.3 | 25.6 | 25.2 | 25   | 24.9 | 24.7 | 24.4 | 26.5  |
| 31  | 24.3 | 24.5 | 24.5 | 23.9 | 23.6 | 23.4 | 23.4 | 24.3 | 25.9 | 27.6 | 29.4 | 30.2 | 30.6 | 30.7 | 28   | 24.7 | 24.6 | 24.5 | 24.1 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 25.5  |
| Avg | 22.5 | 22.2 | 21.9 | 21.7 | 21.5 | 21.4 | 21.9 | 23.4 | 24.8 | 25.8 | 26.5 | 27.2 | 27.7 | 27.8 | 27.4 | 26.9 | 26.6 | 26.1 | 25.1 | 24.2 | 23.6 | 23.2 | 23   | 22.7 | 24.4  |
| SD  | 2.3  | 2.5  | 2.6  | 2.7  | 2.7  | 2.8  | 2.7  | 2.5  | 2.3  | 2.1  | 2.4  | 2.6  | 2.6  | 2.7  | 2.6  | 2.6  | 2.4  | 2.3  | 2.1  | 2    | 2    | 2    | 2    | 2.1  | 2     |
| StA | 0.1  | 0.11 | 0.12 | 0.12 | 0.13 | 0.13 | 0.12 | 0.11 | 0.09 | 0.08 | 0.09 | 0.09 | 0.1  | 0.1  | 0.09 | 0.1  | 0.09 | 0.09 | 0.08 | 0.08 | 0.08 | 0.09 | 0.09 | 0.09 | 0.08  |
| Min | 16.1 | 15.5 | 14.7 | 14.1 | 13.7 | 13.4 | 14.5 | 17   | 19.6 | 21.3 | 22.5 | 21.9 | 22.1 | 22   | 22.2 | 22.1 | 21.8 | 21.8 | 21.4 | 19.9 | 18.6 | 17.8 | 17   | 16.4 | 20.1  |
| Max | 26   | 25.7 | 25.4 | 25.2 | 25.3 | 25.4 | 26.1 | 27.9 | 28.5 | 28.8 | 30.2 | 31.2 | 31.8 | 32.6 | 32.9 | 32.3 | 32.2 | 31.6 | 30.4 | 28.9 | 28   | 27.3 | 26.9 | 26.4 | 27.4  |
| n   | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 8928  |

Data Recovery: 0.0% missing; 0.0% failed QC -- 8928 total measurements.

Instrument: CSI HMP-35C    Serial Number: P0520031    Calibration Factor: 1.00 deg C/mV    Calibration Date: 03/1988

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Relative Humidity (Tower)**  
**Hourly and Daily Averages**  
**Instrument: CSI HMP-35C**  
**Percent**

| Day | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8     | 9       | 10      | 11      | 12      | 13    | 14    | 15    | 16      | 17      | 18    | 19    | 20    | 21      | 22    | 23      | 24      | Daily   |        |
|-----|---------|---------|---------|---------|---------|---------|---------|-------|---------|---------|---------|---------|-------|-------|-------|---------|---------|-------|-------|-------|---------|-------|---------|---------|---------|--------|
| 1   | 103.1   | 103.3   | 103     | 103.1   | 103.5   | 103.5   | 102.6   | 97.2  | 92.3    | 96.1    | 99.7    | 90.8    | 87.7  | 90.2  | 93.8  | 92.7    | 94      | 94.8  | 95.6  | 96.3  | 97.9    | 99.3  | 101.5   | 102     | 97.7    |        |
| 2   | 102.8   | 103.1   | 103.4   | 104.3   | 104.4   | 104.4   | 104.9 ? | 101.9 | 95.4    | 94.3    | 103.6 ? | 99.8    | 93.1  | 92.6  | 93.9  | 98.3    | 104.8   | 103.6 | 103.6 | 102.8 | 104.3   | 105 ? | 104.9 ? | 103.9   | 101.4   |        |
| 3   | 104.5   | 104.8   | 102     | 104.3 ? | 103.7   | 104.6   | ?       | ?     | ?       | 104.9 ? | 105 ?   | 104.7 ? | 104.7 | 103.5 | 102.3 | 100.5   | 96.6    | 96.1  | 100   | 99.1  | 100.5   | 101.7 | 103     | 103.6   | 102.4 ? |        |
| 4   | 103.6   | 103.8   | 104.6   | 105 ?   | ?       | ?       | 103.4   | 97.7  | 92.3    | 86.4    | 79.9    | 72.8    | 69.3  | 64.7  | 62    | 66.1    | 67.9    | 71.9  | 81.2  | 89    | 92.4    | 98    | 98.6    | 96.1    | 86.7 ?  |        |
| 5   | 92.4    | 94.2    | 96.6    | 98.1    | 100.5   | 102     | 100.9   | 98.8  | 96.3    | 90      | 83.2    | 75.6    | 71.3  | 67.2  | 89.2  | 104.3 ? | 104.3   | 104.6 | 104.6 | 104.1 | 104.7 ? | 104.6 | ?       | 104.9 ? | 95.3 ?  |        |
| 6   | 104.9 ? | 105 ?   | ?       | 104.1   | 104.2   | 103     | 103     | 100.3 | 95.7    | 83.1    | 75.9    | 68.5    | 66.1  | 70.8  | 67    | 65.4    | 62.9    | 62    | 67.1  | 74.3  | 78.8    | 80.7  | 86.8    | 90.2    | 83.5    |        |
| 7   | 90.1    | 93.3    | 96.7    | 98.4    | 99.7    | 101     | 97.5    | 89.3  | 79.6    | 68.5    | 60.5    | 57.2    | 55.2  | 51.9  | 50.3  | 49.7    | 48.9    | 56    | 70.5  | 74.8  | 77.9    | 81.5  | 81.7    | 87.9    | 75.8    |        |
| 8   | 91.9    | 93.9    | 95.1    | 97.1    | 98.5    | 101.2   | 100.9   | 93.5  | 79.4    | 70.6    | 61.7    | 54.9    | 54.8  | 53.4  | 50.7  | 53.8    | 55.6    | 61.4  | 69.6  | 78.1  | 81.6    | 84.4  | 85.7    | 88.8    | 77.4    |        |
| 9   | 94.3    | 96.7    | 97.1    | 99.5    | 100.1   | 99.3    | 97.2    | 89.3  | 81.7    | 74.9    | 69.8    | 60.4    | 54.4  | 54.1  | 55.8  | 64.2    | 65.5    | 66.7  | 75.2  | 78.6  | 83.9    | 86.2  | 87.8    | 87.9    | 80      |        |
| 10  | 90.1    | 93.8    | 96.4    | 98.6    | 100.6   | 100.9   | 100.6   | 95.8  | 86.9    | 76.3    | 72.2    | 66.2    | 62    | 63.1  | 64.8  | 69.4    | 65.4    | 66.7  | 71.6  | 78.6  | 83.4    | 89.7  | 92.8    | 94.8    | 82.5    |        |
| 11  | 96.1    | 97.9    | 100.7   | 102.3   | 101.7   | 101.4   | 101.3   | 94.5  | 85      | 80      | 76.7    | 73      | 67.7  | 61.4  | 65.6  | 65.9    | 64.5    | 65.8  | 76.6  | 84.9  | 88.1    | 92.2  | 96.1    | 96.3    | 84.8    |        |
| 12  | 98.8    | 100     | 101.4   | 102.6   | 103.3   | 104     | 102.6   | 98.1  | 89.8    | 82      | 77.9    | 74.5    | 77.8  | 80.3  | 90.3  | 94.8    | 97.9    | 97.3  | 100   | 102.2 | 103.8   | 104.1 | 103.3   | 103.1   | 95.4    |        |
| 13  | 104.3   | 104.5   | ?       | ?       | ?       | ?       | ?       | ?     | 103.8 ? | 102.4   | 98.8    | 95.8    | 95.3  | 95.9  | 97.6  | 95.5    | 92.8    | 95.1  | 96.4  | 99.9  | 102.4   | 102   | 101.7   | 101.4   | 99.2 ?  |        |
| 14  | 99.2    | 99.5    | 101     | 102.3   | 103.4   | 103.4   | 103.5   | 101.5 | 98.8    | 98.4    | 104.3 ? | ?       | ?     | ?     | ?     | 104.9 ? | 99.2 ?  | 96.2  | 101.8 | 103.9 | 104.9 ? | 104.8 | 104.7   | 104.7   | 102 ?   |        |
| 15  | 105 ?   | 104.9 ? | 104.9 ? | ?       | ?       | ?       | ?       | ?     | 105 ?   | 103.4   | 99.9    | 98.8    | 99.7  | 101.6 | 104.2 | 104.6   | 104.8 ? | ?     | ?     | ?     | ?       | ?     | ?       | 105 ?   | 103.3 ? |        |
| 16  | ?       | ?       | 105 ?   | ?       | ?       | ?       | ?       | ?     | 105 ?   | 103.4   | 98.5    | 91.1    | 85.2  | 86.1  | 83.7  | 84.9    | 83.6    | 84.4  | 84.4  | 93.7  | 99.6    | 102   | 102.2   | 103.4   | 104.8 ? | 94.5 ? |
| 17  | ?       | ?       | ?       | ?       | ?       | ?       | ?       | ?     | ?       | 94.7 ?  | 76.6    | 73.2    | 67.6  | 68    | 70.7  | 75      | 72.7    | 74.5  | 80.1  | 86.9  | 92.4    | 95.8  | 98.2    | 99.2    | 99.8    | 82.8 ? |
| 18  | 102.2   | 103.8   | 104.4   | 104.6 ? | ?       | ?       | ?       | 102.5 | 97.7    | 89.7    | 81.6    | 74.9    | 75.8  | 75.8  | 73.1  | 75.1    | 73.8    | 73    | 79.1  | 83.9  | 90.1    | 95.3  | 98.5    | 101.1   | 88.4 ?  |        |
| 19  | 103.3   | 103.8   | 104.1   | 104.2   | 104.7 ? | 104.8 ? | 104.1   | 100.6 | 98.3    | 94.2    | 88.3    | 84.3    | 81.3  | 75.5  | 72.5  | 71.5    | 70.6    | 73.2  | 88.2  | 94.2  | 98.9    | 100.4 | 101.8   | 103.3   | 92.8    |        |
| 20  | 103.8   | 104.1   | 104.8   | 105 ?   | ?       | ?       | 104.6 ? | 101.6 | 94.4    | 85.1    | 77.4    | 73.3    | 71.9  | 69.8  | 69.8  | 69.9    | 75      | 79.9  | 89.2  | 93.1  | 95.4    | 96.4  | 97.5    | 98.2    | 89.1 ?  |        |
| 21  | 99.4    | 100.4   | 101.9   | 101.8   | 102.5   | 102.8   | 102.5   | 100.1 | 96.3    | 90.8    | 86.9    | 82.1    | 77.1  | 75.3  | 75    | 81.5    | 93.3    | 90.7  | 97.8  | 96.3  | 99.2    | 103.1 | 104.6   | 105 ?   | 94.4    |        |
| 22  | 104.9 ? | ?       | 105 ?   | 102.7   | 100.5   | 101.2   | 99.6    | 97.6  | 93.5    | 93.3    | 90.6    | 78.9    | 70.7  | 66.4  | 65.3  | 63.7    | 62.5    | 64.5  | 72.5  | 77.9  | 80.5    | 83.6  | 84.1    | 88      | 84.7    |        |
| 23  | 97.3    | 100.5   | 102.9   | 103.2   | 103.6   | 102.5   | 100.3   | 90.9  | 83.4    | 80.1    | 71.3    | 70.2    | 65.5  | 66.2  | 67.8  | 69.1    | 68.4    | 72    | 77.7  | 81.6  | 87.3    | 91.7  | 93.4    | 96.2    | 85.1    |        |
| 24  | 97.7    | 100.7   | 102.6   | 104.4   | 104.9 ? | 104.4   | 103.2   | 94.7  | 79.8    | 76.8    | 72.8    | 69.6    | 67.6  | 69.3  | 70.1  | 71.4    | 74.6    | 78.7  | 84.3  | 87.6  | 90.7    | 93.4  | 95      | 97.3    | 87.2    |        |
| 25  | 98.3    | 99.8    | 99.6    | 98.9    | 101     | 102.1   | 99.4    | 93.3  | 86.6    | 79.4    | 74.4    | 72.1    | 70.6  | 71.9  | 75.2  | 73.8    | 77.1    | 79.3  | 86.1  | 94    | 98      | 100.2 | 100.4   | 102.7   | 88.9    |        |
| 26  | 103.6   | 104     | 104.9 ? | ?       | ?       | ?       | ?       | 103.1 | 93.2    | 79.3    | 73.1    | 71.2    | 70.7  | 70.6  | 71.4  | 76.9    | 79.8    | 86.7  | 93.7  | 98.6  | 101.1   | 102.5 | 103.7   | 104.5   | 89.6 ?  |        |
| 27  | 104.5   | 104.3   | 104.6   | 104.9 ? | ?       | ?       | 103.6 ? | 99    | 93.7    | 86.6    | 81.9    | 74.6    | 74.4  | 74.7  | 75.1  | 77.1    | 77.5    | 86    | 94    | 99    | 101.9   | 103.3 | 103.8   | 104.4   | 92.2 ?  |        |
| 28  | 103.9   | 104.4   | 104.9 ? | ?       | ?       | ?       | 103.5 ? | 99.8  | 92.3    | 86.9    | 81.1    | 80      | 80    | 80.7  | 81.6  | 83.8    | 86.1    | 90.7  | 94.6  | 97.9  | 102     | 103.7 | 103.9   | 104.4   | 93.6 ?  |        |
| 29  | 104.9 ? | ?       | 105 ?   | ?       | ?       | ?       | 104.7 ? | 101.1 | 94      | 89.9    | 85.5    | 80.1    | 75    | 81.9  | 76.2  | 80.7    | 83.9    | 81.1  | 81.8  | 86.7  | 92.9    | 97.2  | 96.3    | 97.6    | 89.8 ?  |        |
| 30  | 98.7    | 99.5    | 97.7    | 98.3    | 99.5    | 101     | 99.8    | 94.8  | 88.1    | 87      | 84.4    | 80.7    | 78.6  | 81.7  | 84.2  | 84.3    | 87.5    | 89.3  | 93.3  | 94.3  | 92.8    | 92    | 93.6    | 94.6    | 91.5    |        |
| 31  | 94.1    | 93.5    | 96      | 98.8    | 101.3   | 101.6   | 102.1   | 99.4  | 93.8    | 85      | 78.2    | 75      | 73.4  | 72.9  | 89.5  | 101.4   | 104     | 104   | 104.3 | 104.8 | 105 ?   | ?     | ?       | ?       | 94.2 ?  |        |
| Avg | 99.9    | 100.6   | 101.6   | 101.9   | 102.1   | 102.5   | 101.9   | 98.1  | 92.1    | 86.7    | 82.6    | 77.1    | 74.9  | 74.7  | 76.5  | 79.6    | 80.6    | 81.7  | 87.7  | 91.6  | 94.6    | 96.5  | 97.4    | 99.1    | 90.5 ?  |        |
| S D | 4.9     | 4       | 3.4     | 2.7     | 2       | 1.5     | 2.2     | 4.3   | 6.9     | 9.3     | 11.9    | 12      | 12.5  | 13.2  | 14.2  | 15.3    | 15.7    | 13.9  | 11.5  | 9.6   | 8.6     | 7.5   | 6.9     | 5.8     | 7.3     |        |
| S/A | 0.05    | 0.04    | 0.03    | 0.03    | 0.02    | 0.02    | 0.02    | 0.04  | 0.07    | 0.11    | 0.14    | 0.16    | 0.17  | 0.18  | 0.19  | 0.19    | 0.19    | 0.17  | 0.13  | 0.1   | 0.09    | 0.08  | 0.07    | 0.06    | 0.08    |        |
| Min | 90.1    | 93.3    | 95.1    | 97.1    | 98.5    | 99.3    | 97.2    | 89.3  | 79.4    | 68.5    | 60.5    | 54.9    | 54.4  | 51.9  | 50.3  | 49.7    | 48.9    | 56    | 67.1  | 74.3  | 77.9    | 80.7  | 81.7    | 87.9    | 75.8    |        |
| Max | 105     | 105     | 105     | 105     | 104.9   | 104.8   | 104.9   | 105   | 103.8   | 104.9   | 105     | 104.7   | 104.7 | 104.2 | 104.6 | 104.9   | 104.8   | 104.6 | 104.6 | 104.8 | 105     | 105   | 104.9   | 105     | 103.3   |        |
| n   | 318     | 309     | 303     | 258     | 226     | 237     | 255     | 317   | 353     | 367     | 352     | 357     | 360   | 360   | 360   | 366     | 357     | 360   | 359   | 355   | 340     | 340   | 329     | 333     | 7876    |        |

Data Recovery: 0.0% missing; 11.8% failed QC -- 8928 total measurements.

Instrument: CSI HMP-35C    Serial Number: P0520031    Calibration Factor: 0.10 %/mV    Calibration Date: 01/1999

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

Prepared by: Afshin M. Andreas, NREL

**August 2004**

**Dry Bulb Temperature (CR10)**  
**Hourly and Daily Averages**  
**Instrument: CSI**  
**Degrees Celsius**

| Day | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Daily |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1   | 24.9 | 24.9 | 24.8 | 24.6 | 24.5 | 24.5 | 24.7 | 27.1 | 29.9 | 31.1 | 29.1 | 30.2 | 32.4 | 33.1 | 31.2 | 31.7 | 30.4 | 29.5 | 29   | 28.5 | 27.6 | 26.9 | 26.3 | 25.9 | 28    |
| 2   | 25.6 | 25.5 | 25.3 | 25   | 24.8 | 24.7 | 24.9 | 25.7 | 28   | 29.7 | 28.8 | 27.1 | 28.9 | 30.9 | 31.3 | 30.9 | 27.5 | 25.9 | 25.6 | 25.6 | 25.3 | 24.7 | 24.5 | 24.2 | 26.7  |
| 3   | 24.2 | 24.5 | 24.4 | 24.3 | 24.3 | 24.1 | 24.1 | 24.1 | 24.5 | 24.8 | 24.6 | 24.2 | 23.7 | 23.7 | 23.8 | 24.2 | 25.5 | 26.6 | 25.9 | 24.5 | 24.1 | 23.5 | 23   | 22.6 | 24.3  |
| 4   | 22.3 | 22.2 | 22   | 21.9 | 21.7 | 21.6 | 22   | 24   | 27.2 | 30.2 | 32.7 | 34.4 | 35.4 | 35.8 | 36.3 | 36.7 | 36.2 | 35.4 | 33.8 | 31.3 | 29.1 | 27.9 | 27.1 | 26.6 | 28.9  |
| 5   | 26.1 | 25.6 | 25   | 24.4 | 23.9 | 23.6 | 24.1 | 25.7 | 27.1 | 29.5 | 32.1 | 33.9 | 34.8 | 35.8 | 34.9 | 27.1 | 24.5 | 24.1 | 23.9 | 23.8 | 23.4 | 23   | 22.7 | 22.5 | 26.7  |
| 6   | 22.2 | 21.6 | 20.4 | 19.4 | 18.7 | 18.3 | 18   | 18.4 | 20.4 | 23.2 | 24.9 | 25.5 | 26   | 26.3 | 25.7 | 25.6 | 25.5 | 24.7 | 23.8 | 21.5 | 18.9 | 17.3 | 16.3 | 15.6 | 21.6  |
| 7   | 15.2 | 14.8 | 14.1 | 13.5 | 12.9 | 12.5 | 13.2 | 15.9 | 19.6 | 22.9 | 25.1 | 26.7 | 27.3 | 27.7 | 28.4 | 29.3 | 30.2 | 30   | 28   | 24.5 | 21.8 | 20.1 | 19.1 | 18.6 | 21.3  |
| 8   | 18   | 17.5 | 17.2 | 16.8 | 16.3 | 15.9 | 16.3 | 17.9 | 21.7 | 25.1 | 27.7 | 29.4 | 30.8 | 30.9 | 30.9 | 31.2 | 30.9 | 30.1 | 28.8 | 25.8 | 23.4 | 22   | 21.6 | 21.4 | 23.6  |
| 9   | 20.8 | 20.1 | 19.5 | 18.9 | 18.6 | 18.3 | 18.8 | 21.1 | 24.2 | 27   | 29   | 30.3 | 31.8 | 32.3 | 31.7 | 30.8 | 30   | 30.2 | 28.8 | 26.3 | 24.3 | 23   | 22.3 | 21.8 | 25    |
| 10  | 21.3 | 21   | 20.4 | 19.9 | 19.4 | 19.1 | 19.2 | 20.6 | 24   | 27.1 | 29.5 | 30.7 | 31.8 | 32.1 | 31.9 | 32   | 32.1 | 31.5 | 29.9 | 27.1 | 24.7 | 23.4 | 22.6 | 22.1 | 25.6  |
| 11  | 21.8 | 21.6 | 21.3 | 20.8 | 20.6 | 20.6 | 20.7 | 21.9 | 25.3 | 28.1 | 30   | 31.5 | 32.1 | 32.3 | 32.7 | 32.6 | 33.1 | 32.9 | 31   | 27.9 | 25.7 | 24.5 | 23.8 | 23.2 | 26.5  |
| 12  | 22.7 | 22.2 | 21.7 | 21.2 | 21.1 | 21.2 | 21.6 | 23.8 | 27   | 29.8 | 31.4 | 32.4 | 32.6 | 31.7 | 31   | 29.1 | 27.7 | 27.2 | 26.5 | 25.2 | 23.4 | 22.9 | 22.9 | 22.5 | 25.8  |
| 13  | 21.9 | 21.8 | 21.8 | 21.7 | 21.8 | 21.9 | 22.1 | 22.5 | 22.7 | 23.2 | 25.3 | 27.3 | 28.6 | 29   | 28.4 | 27.7 | 27.9 | 27.7 | 26.8 | 25.7 | 24.8 | 24.1 | 23.9 | 23.8 | 24.7  |
| 14  | 23.8 | 23.4 | 23.1 | 22.9 | 22.8 | 22.8 | 22.8 | 23.3 | 24.2 | 25.1 | 24.4 | 23.2 | 22.8 | 22.7 | 22.6 | 22.6 | 22.5 | 22.8 | 22.7 | 21.9 | 21.1 | 20.7 | 20.6 | 20.5 | 22.7  |
| 15  | 20.5 | 20.5 | 20.6 | 20.6 | 20.5 | 20.4 | 20.4 | 20.7 | 21.4 | 22.8 | 24.4 | 24.6 | 24.3 | 23.8 | 23.4 | 23   | 22.6 | 22.3 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.7 | 22.1  |
| 16  | 22.5 | 22.2 | 21.8 | 21.6 | 21.6 | 21.6 | 21.8 | 22.6 | 23.4 | 24.5 | 26.5 | 28.9 | 29.9 | 30   | 29.8 | 29.5 | 29.1 | 29.1 | 27.9 | 25   | 22.7 | 21.4 | 20.7 | 20   | 24.8  |
| 17  | 19.4 | 19   | 18.5 | 18.2 | 18   | 17.8 | 17.9 | 18.9 | 21.5 | 25.5 | 28.8 | 30.5 | 31.6 | 31.5 | 31.1 | 31   | 31.1 | 29.9 | 27.6 | 25.3 | 23.9 | 22.9 | 22.2 | 21.4 | 24.3  |
| 18  | 20.7 | 20.2 | 20.3 | 20.5 | 20.3 | 19.7 | 19.9 | 21.7 | 24.3 | 27   | 29.6 | 30.9 | 31.9 | 32   | 32.3 | 32.4 | 32   | 30.9 | 28.5 | 26.7 | 25.7 | 24.8 | 24   | 23.5 | 25.8  |
| 19  | 23   | 22.8 | 22.7 | 22.7 | 22.8 | 22.9 | 23.2 | 24.5 | 26.5 | 28.4 | 30.9 | 33.1 | 34   | 34.5 | 34.8 | 35.2 | 35.6 | 35.1 | 33   | 29.8 | 27.7 | 26.6 | 25.8 | 25.3 | 28.4  |
| 20  | 24.9 | 24.6 | 24.4 | 24.1 | 23.8 | 23.7 | 23.7 | 24.7 | 27.3 | 30.3 | 32.6 | 34.2 | 34.9 | 35.2 | 35   | 35.3 | 35.2 | 33.8 | 31.6 | 29.1 | 27.5 | 26.6 | 25.9 | 25.5 | 28.9  |
| 21  | 25.1 | 24.8 | 24.7 | 24.8 | 25.1 | 25.3 | 25.4 | 26.1 | 27.9 | 29.7 | 31.9 | 33.5 | 34.5 | 34.9 | 35.1 | 34.3 | 31.3 | 29.4 | 28.4 | 26.6 | 25.7 | 24.1 | 23.1 | 22.6 | 28.1  |
| 22  | 22.2 | 21.9 | 21.9 | 21.8 | 21.6 | 21.7 | 21.6 | 21.8 | 23.1 | 24.4 | 25   | 25.9 | 27.9 | 28.8 | 29.4 | 29.7 | 29.6 | 28.4 | 25.7 | 22.9 | 21.3 | 20.7 | 20.3 | 19.9 | 24.1  |
| 23  | 18.9 | 17.6 | 17   | 16.8 | 16.6 | 16.5 | 16.8 | 19.2 | 22.8 | 25.8 | 27.6 | 29.4 | 30.3 | 30.6 | 30.5 | 30.5 | 30   | 29.2 | 26.9 | 23.9 | 21.8 | 20.3 | 19.5 | 19.1 | 23.2  |
| 24  | 18.4 | 17.8 | 17.4 | 17.3 | 17.1 | 17.1 | 17.4 | 19.2 | 23.3 | 27.2 | 29.8 | 31.7 | 32.1 | 31.8 | 31.8 | 31.6 | 31   | 29.5 | 27.2 | 24.5 | 23   | 21.9 | 21.1 | 20.3 | 24.1  |
| 25  | 19.9 | 19.7 | 19.5 | 19.4 | 19.1 | 18.7 | 19   | 21.4 | 24.6 | 27.2 | 29.2 | 31.1 | 31.8 | 32   | 31.9 | 31.3 | 31.4 | 30.4 | 28.3 | 25.4 | 23.4 | 22.3 | 21.7 | 21.4 | 25    |
| 26  | 21.6 | 21.6 | 21.6 | 21.4 | 21.3 | 21.3 | 21.7 | 23   | 25.7 | 28.8 | 30.9 | 31.9 | 32.1 | 32   | 32.2 | 32.5 | 32.3 | 31.4 | 29.1 | 26.4 | 24.8 | 24   | 23.4 | 23.1 | 26.4  |
| 27  | 23   | 22.9 | 22.8 | 22.6 | 22.6 | 22.5 | 22.6 | 24.2 | 27.1 | 29.7 | 31.4 | 32.5 | 33.5 | 33.4 | 33.3 | 33.2 | 32.9 | 32.1 | 29.9 | 27   | 25.1 | 24   | 23.3 | 22.9 | 27.3  |
| 28  | 22.8 | 22.6 | 22.3 | 22   | 21.6 | 21.6 | 21.9 | 23.6 | 26.6 | 29.4 | 31.5 | 33.1 | 33.9 | 33.5 | 33.2 | 33   | 31.9 | 31.4 | 29.7 | 27.2 | 25.5 | 24.8 | 24.4 | 24.2 | 27.2  |
| 29  | 24   | 23.9 | 23.8 | 23.7 | 23.6 | 23.5 | 24   | 25.8 | 28.2 | 30.5 | 31.9 | 32.9 | 32.9 | 33.2 | 33.4 | 33.1 | 32.4 | 31.5 | 29.5 | 26.9 | 25.5 | 25.1 | 25   | 25   | 27.9  |
| 30  | 25.1 | 25   | 24.7 | 24.7 | 24.7 | 24.8 | 25.3 | 26.6 | 28.6 | 30.4 | 31   | 31.7 | 32.3 | 31.8 | 30   | 29.2 | 28.3 | 27.6 | 27   | 25.6 | 25.5 | 25.3 | 25   | 24.8 | 27.3  |
| 31  | 24.5 | 24.5 | 24.6 | 24.2 | 23.8 | 23.6 | 23.4 | 24.4 | 26.4 | 29   | 32.4 | 34.9 | 35.8 | 35.9 | 34.4 | 30   | 26.4 | 25.3 | 24.6 | 24.1 | 23.9 | 23.8 | 23.9 | 24   | 27    |
| Avg | 22.2 | 21.9 | 21.6 | 21.3 | 21.2 | 21   | 21.2 | 22.6 | 25   | 27.3 | 29   | 30.2 | 31.1 | 31.3 | 31   | 30.5 | 29.9 | 29.2 | 27.8 | 25.7 | 24.3 | 23.4 | 22.9 | 22.5 | 25.6  |
| S D | 2.5  | 2.7  | 2.8  | 2.8  | 2.9  | 3    | 3    | 2.8  | 2.6  | 2.6  | 2.8  | 3.2  | 3.4  | 3.5  | 3.4  | 3.4  | 3.5  | 3.3  | 2.7  | 2.2  | 2.2  | 2.3  | 2.4  | 2.1  |       |
| S/A | 0.11 | 0.12 | 0.13 | 0.13 | 0.14 | 0.14 | 0.14 | 0.12 | 0.1  | 0.1  | 0.1  | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.12 | 0.11 | 0.1  | 0.09 | 0.09 | 0.1  | 0.1  | 0.11 | 0.08  |
| Min | 15.2 | 14.8 | 14.1 | 13.5 | 12.9 | 12.5 | 13.2 | 15.9 | 19.6 | 22.8 | 24.4 | 23.2 | 22.8 | 22.7 | 22.6 | 22.6 | 22.5 | 22.3 | 22.2 | 21.5 | 18.9 | 17.3 | 16.3 | 15.6 | 21.3  |
| Max | 26.1 | 25.6 | 25.3 | 25   | 25.1 | 25.3 | 25.4 | 27.1 | 29.9 | 31.1 | 32.7 | 34.9 | 35.8 | 35.9 | 36.3 | 36.7 | 36.2 | 35.4 | 33.8 | 31.3 | 29.1 | 27.9 | 27.1 | 26.6 | 28.9  |
| n   | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 8928  |

Data Recovery: 0.0% missing; 0.0% failed QC -- 8928 total measurements.

Instrument: CSI    Serial Number: Internal Temp    Calibration Factor: N/A    Calibration Date: 06/1995

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Wind Speed**  
**Hourly and Daily Averages**  
**Instrument: NRG MAX-40**  
**Meters per Second**

| Day | 1   | 2    | 3    | 4    | 5    | 6    | 7   | 8    | 9    | 10  | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Daily |
|-----|-----|------|------|------|------|------|-----|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1   | 1.2 | 1.5  | 0.8  | 0.5  | 0    | 0.1  | 0.3 | 1.8  | 3    | 2.2 | 1.1  | 2.8  | 3.1  | 3.1  | 2.6  | 3.3  | 2.3  | 2    | 1.8  | 1.5  | 1.1  | 1.7  | 1.8  | 0.8  | 1.7   |
| 2   | 0.5 | 0.7  | 0.2  | 0.1  | 0.2  | 0.1  | 0.2 | 0.9  | 1.2  | 2.5 | 2.5  | 1.6  | 2.3  | 3.6  | 3.3  | 3.7  | 1.7  | 1.7  | 2    | 1.9  | 0.7  | 0.6  | 1.9  | 1.1  | 1.5   |
| 3   | 1.2 | 0.9  | 1.5  | 1.6  | 1.8  | 1.8  | 1.2 | 1.7  | 2.4  | 3   | 3.7  | 4.1  | 4.2  | 5.2  | 4.9  | 5.6  | 5.6  | 4.6  | 2.7  | 1.5  | 1    | 1    | 1    | 1.5  | 2.7   |
| 4   | 1.1 | 0.7  | 1.1  | 0.9  | 0.8  | 1.2  | 1.3 | 1.6  | 2    | 2.2 | 2.6  | 2.5  | 2.7  | 2.3  | 2.5  | 2.2  | 2.4  | 1.7  | 1    | 1    | 1.4  | 1.6  | 2    | 2.4  | 1.7   |
| 5   | 2.4 | 2.2  | 1.7  | 1.4  | 1.4  | 1.6  | 2   | 2.8  | 3.1  | 2.9 | 2.6  | 2.9  | 3    | 1.9  | 3.9  | 1.6  | 1.7  | 1.7  | 1.3  | 1.6  | 1.6  | 2    | 0.8  | 1.3  | 2.1   |
| 6   | 2.9 | 4.5  | 3.8  | 3.5  | 2.4  | 1.8  | 1.4 | 1.9  | 3.8  | 5.4 | 6.3  | 6    | 5.3  | 5.2  | 4.7  | 4.4  | 4.2  | 3.1  | 1.8  | 0.9  | 1.1  | 1.1  | 1.2  | 1.6  | 3.3   |
| 7   | 1.6 | 1.3  | 1.3  | 1.4  | 0.9  | 1    | 1.4 | 1.2  | 1.5  | 2.1 | 2.1  | 2.8  | 2.4  | 3    | 2.9  | 2.4  | 2    | 2    | 2.1  | 2    | 1.1  | 0.7  | 0.9  | 0.7  | 1.7   |
| 8   | 0.7 | 0.9  | 0.4  | 0.3  | 0.1  | 0.5  | 1.1 | 1.7  | 2.1  | 1.7 | 1.9  | 1.6  | 1.9  | 2.3  | 2.3  | 2.6  | 2.2  | 1.7  | 1.2  | 0.9  | 1.2  | 1.2  | 1.5  | 1.6  | 1.4   |
| 9   | 1.3 | 1.2  | 1.1  | 0.9  | 1.3  | 1.4  | 1.1 | 1.6  | 2.1  | 2.2 | 2.5  | 1.9  | 1.1  | 1.3  | 1.3  | 1.9  | 1.6  | 2.2  | 1.9  | 1.6  | 1.4  | 1.5  | 1    | 1    | 1.5   |
| 10  | 1.4 | 1.3  | 1.1  | 0.6  | 0.3  | 0.3  | 0.7 | 1.4  | 2.3  | 2.4 | 2.8  | 2.7  | 2.8  | 3.3  | 3.2  | 3    | 3.3  | 2.5  | 1.6  | 1.6  | 1.7  | 1.5  | 1.7  | 1.3  | 1.9   |
| 11  | 1.3 | 1.1  | 0.8  | 0.9  | 0.9  | 0.9  | 0.8 | 1.7  | 2.4  | 2.8 | 2.6  | 3.1  | 3.4  | 3.2  | 4.1  | 3.1  | 2.5  | 2.4  | 2.2  | 1.7  | 1.8  | 1.8  | 1.9  | 1.5  | 2     |
| 12  | 1.2 | 0.7  | 0.3  | 0.7  | 1.2  | 0.2  | 0.5 | 1.6  | 1.1  | 1.5 | 2.1  | 2.7  | 2.9  | 3.4  | 3.8  | 2.4  | 2.4  | 2.2  | 2.8  | 1.6  | 0.6  | 2.1  | 3.5  | 3.6  | 1.9   |
| 13  | 1.9 | 1.3  | 0.7  | 0.1  | 0.1  | 0.7  | 1.6 | 3    | 2.4  | 1.1 | 3.5  | 3.7  | 3.3  | 3.4  | 2.7  | 2.8  | 2.9  | 2.1  | 1.2  | 1.4  | 1.3  | 1.5  | 1    | 1.8  | 1.9   |
| 14  | 1.9 | 0.9  | 0.8  | 0.6  | 1.1  | 0.7  | 0.2 | 0.7  | 0.3  | 0.4 | 1.8  | 0.9  | 1    | 2.4  | 3.7  | 6.3  | 5.9  | 11.8 | 8    | 4.5  | 3    | 1    | 0.2  | 0    | 2.4   |
| 15  | 0   | 0    | 0    | 0.1  | 0.2  | 0.2  | 0.9 | 1.2  | 0.7  | 1.1 | 1.2  | 1    | 1.6  | 1.3  | 2.2  | 2.9  | 2    | 2.6  | 3    | 2.5  | 0.8  | 0.6  | 0.7  | 0.1  | 1.1   |
| 16  | 0.4 | 1.1  | 0.2  | 0    | 0    | 0.1  | 0   | 0.5  | 2.2  | 2.8 | 2.2  | 2.3  | 3.2  | 2.8  | 2.1  | 2.3  | 2.3  | 2.4  | 1.8  | 1.4  | 1.2  | 1.1  | 0.3  | 0.2  | 1.4   |
| 17  | 0.1 | 0    | 0.1  | 0.1  | 0.1  | 0.4  | 0   | 0    | 0.6  | 1   | 1.8  | 1.8  | 1.9  | 2.7  | 2.9  | 2.5  | 2.8  | 2.8  | 2.7  | 2.3  | 1.7  | 1.7  | 1.1  | 1    | 1.3   |
| 18  | 0.7 | 0.5  | 0.7  | 0.5  | 0    | 0    | 0.1 | 1.2  | 2.1  | 2.8 | 2.3  | 2.8  | 3    | 3.7  | 3.8  | 3.9  | 3.8  | 2.8  | 2.4  | 2    | 2.1  | 1.9  | 1.7  | 0.9  | 1.9   |
| 19  | 0.8 | 0.9  | 1.3  | 1.6  | 1.6  | 2.3  | 1.9 | 2.2  | 2.7  | 2.2 | 2.2  | 2.3  | 2.5  | 3.2  | 3    | 2.7  | 2.4  | 2    | 2.2  | 2    | 2.1  | 2.1  | 2.2  | 2.2  | 2.1   |
| 20  | 2.1 | 1.9  | 1.8  | 1.5  | 1.3  | 0.9  | 1.2 | 1.9  | 1.9  | 2.5 | 2.8  | 3.2  | 3.2  | 3.4  | 3.3  | 3.5  | 2.9  | 2.7  | 2.9  | 2.8  | 2.8  | 2.7  | 2.9  | 2.6  | 2.4   |
| 21  | 2.6 | 2.7  | 2.7  | 3.2  | 2.6  | 2.8  | 2.5 | 2.9  | 3.7  | 3.7 | 4.1  | 4.2  | 4.5  | 4.2  | 3.2  | 4.4  | 5.9  | 4.8  | 2.4  | 3.1  | 1.6  | 1.6  | 1.7  | 1.7  | 3.2   |
| 22  | 0.7 | 1.2  | 1.4  | 2.7  | 3.3  | 2.5  | 2.6 | 2.8  | 3    | 3   | 3.3  | 3.1  | 3    | 2.7  | 3    | 3.2  | 2.9  | 2.7  | 2.2  | 1.5  | 1.7  | 1.7  | 1.3  | 0.3  | 2.3   |
| 23  | 0   | 0.3  | 0.4  | 0.4  | 0.6  | 0.5  | 0.6 | 1    | 1.4  | 2   | 2.3  | 2.7  | 2.7  | 2.9  | 3.1  | 3.5  | 2.8  | 2.6  | 1.9  | 1.1  | 0.6  | 0.6  | 0.5  | 0.1  | 1.5   |
| 24  | 0   | 0.2  | 0.2  | 0.1  | 0.2  | 0.2  | 0.5 | 0.7  | 1    | 1.9 | 1.5  | 2.6  | 2.6  | 3.2  | 3.3  | 3.4  | 3.5  | 3.3  | 2.5  | 2.3  | 1.9  | 1.4  | 1.5  | 1.3  | 1.6   |
| 25  | 1.4 | 1.8  | 1.6  | 1.2  | 1.3  | 1.2  | 1.3 | 1.8  | 3.1  | 3.5 | 3.2  | 3.4  | 3.2  | 3.3  | 3.3  | 3.4  | 3.4  | 3.4  | 2    | 1.6  | 1.6  | 1.3  | 0.9  | 1.5  | 2.2   |
| 26  | 0.9 | 1    | 1.1  | 1.2  | 1.1  | 1.2  | 1.3 | 2.2  | 2.5  | 3.5 | 3.4  | 3.7  | 3.6  | 3.4  | 3.7  | 3.6  | 3.8  | 3.7  | 2.8  | 2.4  | 2    | 1.6  | 1.6  | 1.5  | 2.4   |
| 27  | 1.6 | 1.3  | 1.1  | 1.5  | 1.1  | 1.2  | 1.5 | 2    | 2.6  | 2.9 | 2.6  | 3.4  | 3.6  | 4.2  | 4.1  | 4.1  | 3.1  | 3.2  | 2.8  | 2.7  | 1.8  | 1.4  | 1.8  | 1.5  | 2.4   |
| 28  | 1.7 | 1.4  | 0.8  | 0.7  | 0.9  | 1.1  | 0.8 | 1.5  | 2.2  | 2.4 | 2.8  | 2.9  | 3.8  | 3.8  | 3.7  | 3.2  | 4    | 2.8  | 2.3  | 2.4  | 1.8  | 1    | 0.7  | 0.5  | 2.1   |
| 29  | 0.8 | 0.5  | 0.9  | 0.1  | 0.4  | 0.3  | 0.6 | 2.5  | 3.5  | 3.1 | 3.1  | 4.4  | 3.9  | 4.5  | 5.3  | 5.6  | 5.3  | 4.4  | 2.8  | 2.4  | 2.8  | 2.8  | 3    | 2.5  | 2.7   |
| 30  | 2.7 | 2    | 2.1  | 2.1  | 2.3  | 2.6  | 2.8 | 3.5  | 5.5  | 7.1 | 6.2  | 6.3  | 6.2  | 5.3  | 5.1  | 6.2  | 6.9  | 7.5  | 7.4  | 6.9  | 7.4  | 6.5  | 6.2  | 4.9  | 5.1   |
| 31  | 4   | 4    | 2.8  | 2.1  | 2.2  | 1.1  | 0.6 | 1.8  | 1.1  | 1.4 | 1.5  | 1.3  | 0.9  | 1.8  | 3.3  | 3.4  | 1.1  | 1.4  | 0.7  | 0.1  | 0.5  | 0.2  | 0.2  | 0.1  | 1.6   |
| Avg | 1.3 | 1.3  | 1.1  | 1.1  | 1    | 1    | 1.1 | 1.7  | 2.2  | 2.6 | 2.7  | 2.9  | 3    | 3.2  | 3.4  | 3.5  | 3.2  | 3.1  | 2.5  | 2    | 1.7  | 1.6  | 1.6  | 1.4  | 2.1   |
| SD  | 0.9 | 1    | 0.9  | 0.9  | 0.9  | 0.8  | 0.7 | 0.8  | 1.1  | 1.3 | 1.2  | 1.2  | 1.2  | 1    | 0.9  | 1.2  | 1.4  | 2    | 1.5  | 1.2  | 1.2  | 1.1  | 1.2  | 1.1  | 0.8   |
| S/A | 0.7 | 0.78 | 0.77 | 0.87 | 0.85 | 0.81 | 0.7 | 0.46 | 0.48 | 0.5 | 0.43 | 0.42 | 0.39 | 0.32 | 0.27 | 0.34 | 0.44 | 0.65 | 0.62 | 0.59 | 0.71 | 0.67 | 0.74 | 0.77 | 0.36  |
| Min | 0   | 0    | 0    | 0    | 0    | 0    | 0   | 0    | 0.3  | 0.4 | 1.1  | 0.9  | 0.9  | 1.3  | 1.3  | 1.6  | 1.1  | 1.4  | 0.7  | 0.1  | 0.5  | 0.2  | 0.2  | 0    | 1.1   |
| Max | 4   | 4.5  | 3.8  | 3.5  | 3.3  | 2.8  | 2.8 | 3.5  | 5.5  | 7.1 | 6.3  | 6.3  | 6.2  | 5.3  | 5.3  | 6.3  | 6.9  | 11.8 | 8    | 6.9  | 7.4  | 6.5  | 6.2  | 4.9  | 5.1   |
| n   | 372 | 372  | 372  | 372  | 372  | 372  | 372 | 372  | 372  | 372 | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 8928  |

Data Recovery: 0.0% missing; 0.0% failed QC -- 8928 total measurements.

Instrument: NRG MAX-40    Serial Number: 0    Calibration Factor: 0.76171 m/s/mV    Calibration Date: 06/1995

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

Prepared by: Afshin M. Andreas, NREL

**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Wind Direction**  
**Hourly and Daily Averages**  
**Instrument: NRG Vane**  
**Degrees from North**

| Day | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | Daily |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 1   | 123 | 120 | 107 | 113 | 84  | 98  | 67  | 110 | 138 | 218 | 149 | 103 | 88  | 94  | 107 | 100 | 112 | 105 | 112 | 126 | 119 | 135 | 122 | 117 | 115   |
| 2   | 132 | 145 | 138 | 102 | 129 | 8   | 10  | 56  | 62  | 93  | 83  | 69  | 92  | 92  | 94  | 90  | 111 | 101 | 93  | 117 | 121 | 71  | 84  | 93  | 92    |
| 3   | 81  | 64  | 71  | 100 | 55  | 67  | 36  | 28  | 22  | 14  | 18  | 17  | 15  | 11  | 357 | 349 | 342 | 338 | 328 | 315 | 290 | 288 | 270 | 271 | 4     |
| 4   | 268 | 282 | 281 | 276 | 277 | 273 | 266 | 277 | 287 | 278 | 281 | 284 | 278 | 282 | 267 | 253 | 242 | 229 | 212 | 204 | 188 | 188 | 202 | 210 | 257   |
| 5   | 210 | 214 | 211 | 208 | 209 | 199 | 213 | 230 | 231 | 242 | 237 | 240 | 247 | 244 | 280 | 292 | 37  | 64  | 75  | 66  | 31  | 32  | 21  | 1   | 240   |
| 6   | 345 | 349 | 3   | 350 | 22  | 345 | 325 | 312 | 344 | 358 | 346 | 356 | 1   | 352 | 348 | 345 | 359 | 360 | 349 | 307 | 299 | 290 | 282 | 290 | 348   |
| 7   | 296 | 286 | 276 | 283 | 269 | 274 | 274 | 276 | 288 | 289 | 306 | 310 | 299 | 282 | 277 | 297 | 311 | 331 | 92  | 103 | 127 | 127 | 120 | 150 | 293   |
| 8   | 155 | 163 | 179 | 209 | 210 | 248 | 256 | 253 | 251 | 235 | 249 | 225 | 219 | 185 | 191 | 206 | 197 | 177 | 147 | 146 | 190 | 181 | 181 | 203 | 205   |
| 9   | 218 | 230 | 239 | 259 | 256 | 259 | 256 | 262 | 270 | 259 | 246 | 238 | 233 | 179 | 109 | 137 | 168 | 140 | 145 | 152 | 166 | 166 | 185 | 204 | 209   |
| 10  | 218 | 224 | 223 | 217 | 216 | 220 | 224 | 213 | 233 | 214 | 216 | 175 | 180 | 170 | 157 | 145 | 150 | 170 | 169 | 166 | 167 | 170 | 169 | 168 | 182   |
| 11  | 165 | 211 | 207 | 211 | 196 | 204 | 202 | 206 | 217 | 216 | 193 | 187 | 173 | 166 | 157 | 164 | 188 | 185 | 167 | 164 | 152 | 159 | 161 | 168 | 180   |
| 12  | 190 | 213 | 144 | 135 | 152 | 191 | 157 | 212 | 199 | 137 | 154 | 164 | 157 | 138 | 138 | 133 | 146 | 138 | 161 | 271 | 192 | 164 | 158 | 153 | 157   |
| 13  | 147 | 179 | 258 | 52  | 352 | 36  | 66  | 90  | 101 | 169 | 232 | 244 | 268 | 264 | 265 | 262 | 256 | 222 | 200 | 188 | 181 | 189 | 187 | 183 | 220   |
| 14  | 204 | 196 | 201 | 238 | 143 | 173 | 155 | 170 | 236 | 199 | 254 | 272 | 350 | 42  | 55  | 64  | 146 | 189 | 222 | 247 | 251 | 271 | 289 | 240 | 194   |
| 15  | 241 | 352 | 294 | 295 | 274 | 300 | 353 | 346 | 15  | 46  | 65  | 43  | 40  | 42  | 60  | 75  | 70  | 71  | 73  | 71  | 67  | 60  | 114 | 152 | 58    |
| 16  | 144 | 144 | 146 | 121 | 3   | 131 | 103 | 247 | 266 | 288 | 297 | 341 | 349 | 348 | 0   | 343 | 15  | 356 | 44  | 56  | 68  | 68  | 59  | 344 | 350   |
| 17  | 272 | 68  | 299 | 312 | 308 | 302 | 355 | 234 | 65  | 66  | 100 | 106 | 86  | 102 | 116 | 134 | 112 | 111 | 127 | 131 | 134 | 149 | 150 | 136 | 116   |
| 18  | 151 | 165 | 164 | 174 | 213 | 0   | 127 | 152 | 176 | 176 | 201 | 180 | 172 | 156 | 159 | 154 | 151 | 163 | 169 | 166 | 161 | 170 | 173 | 180 | 166   |
| 19  | 175 | 185 | 200 | 196 | 214 | 219 | 217 | 213 | 234 | 226 | 207 | 212 | 187 | 183 | 187 | 176 | 182 | 186 | 183 | 172 | 181 | 181 | 187 | 194 | 196   |
| 20  | 196 | 207 | 205 | 209 | 204 | 210 | 192 | 218 | 227 | 224 | 191 | 187 | 195 | 199 | 175 | 184 | 184 | 173 | 162 | 165 | 171 | 180 | 192 | 191 | 190   |
| 21  | 198 | 193 | 198 | 208 | 203 | 207 | 195 | 199 | 210 | 201 | 193 | 203 | 207 | 196 | 210 | 183 | 188 | 201 | 202 | 250 | 314 | 302 | 321 | 337 | 206   |
| 22  | 301 | 295 | 309 | 356 | 12  | 10  | 11  | 13  | 21  | 23  | 19  | 28  | 41  | 36  | 49  | 60  | 61  | 57  | 55  | 70  | 74  | 75  | 75  | 77  | 32    |
| 23  | 252 | 305 | 328 | 341 | 349 | 353 | 348 | 20  | 45  | 69  | 64  | 90  | 74  | 85  | 87  | 102 | 99  | 88  | 101 | 114 | 128 | 85  | 89  | 90  | 80    |
| 24  | 110 | 163 | 332 | 235 | 306 | 316 | 349 | 1   | 52  | 82  | 78  | 76  | 76  | 103 | 108 | 106 | 103 | 100 | 92  | 97  | 88  | 80  | 73  | 70  | 89    |
| 25  | 61  | 62  | 65  | 20  | 20  | 22  | 38  | 59  | 62  | 62  | 63  | 64  | 56  | 65  | 65  | 67  | 64  | 67  | 67  | 69  | 63  | 55  | 38  | 61  | 60    |
| 26  | 29  | 22  | 2   | 13  | 16  | 19  | 33  | 59  | 64  | 78  | 93  | 104 | 97  | 94  | 99  | 84  | 79  | 72  | 70  | 70  | 72  | 65  | 62  | 56  | 73    |
| 27  | 57  | 56  | 46  | 64  | 43  | 23  | 29  | 56  | 62  | 77  | 59  | 68  | 79  | 84  | 89  | 95  | 94  | 90  | 79  | 79  | 64  | 48  | 59  | 72  | 72    |
| 28  | 61  | 51  | 65  | 5   | 45  | 44  | 30  | 43  | 62  | 64  | 65  | 84  | 91  | 89  | 82  | 89  | 86  | 87  | 85  | 91  | 96  | 95  | 121 | 108 | 78    |
| 29  | 125 | 136 | 130 | 41  | 45  | 60  | 75  | 118 | 132 | 160 | 156 | 140 | 125 | 98  | 107 | 111 | 112 | 116 | 119 | 108 | 111 | 114 | 120 | 116 | 119   |
| 30  | 118 | 105 | 112 | 102 | 109 | 101 | 115 | 116 | 124 | 125 | 136 | 149 | 158 | 157 | 174 | 187 | 191 | 196 | 212 | 220 | 222 | 229 | 231 | 231 | 173   |
| 31  | 228 | 229 | 230 | 228 | 236 | 267 | 266 | 245 | 288 | 357 | 44  | 53  | 43  | 83  | 100 | 112 | 115 | 117 | 123 | 118 | 90  | 83  | 322 | 280 | 190   |
| Avg | 179 | 195 | 209 | 247 | 143 | 293 | 323 | 161 | 153 | 136 | 146 | 128 | 115 | 112 | 113 | 114 | 127 | 137 | 139 | 144 | 150 | 154 | 159 | 172 | 150   |
| n   | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 372 | 8928  |

Data Recovery: 0.0% missing; 0.0% failed QC -- 8928 total measurements.

Instrument: NRG Vane    Serial Number: 0    Calibration Factor: 0.1408 deg/mV    Calibration Date: 06/1995

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

Prepared by: Afshin M. Andreas, NREL



**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Peak Wind Speed (1-Minute Gust)**  
**Hourly and Daily Averages**  
**Instrument: NRG MAX-40**  
**Meters per Second**

| Day | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14  | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Daily |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|-------|
| 1   | 2    | 2.4  | 1.6  | 1.3  | 0.4  | 0.2  | 0.8  | 3.2  | 4.9  | 3.5  | 2.3  | 4.6  | 4.9  | 5.1 | 4.4  | 5.5  | 3.9  | 3.3  | 3    | 2.5  | 2.1  | 2.6  | 2.9  | 1.6  | 2.9   |
| 2   | 1    | 1.5  | 0.7  | 0.5  | 0.5  | 0.3  | 0.6  | 1.8  | 2.2  | 4.1  | 4.4  | 2.9  | 3.8  | 5.6 | 5.5  | 6.3  | 3.2  | 3.5  | 3.7  | 3.1  | 1.6  | 1.3  | 3.5  | 2.5  | 2.7   |
| 3   | 2.6  | 2    | 2.9  | 3.3  | 3.4  | 3.4  | 2.5  | 3.3  | 4.3  | 5.3  | 6.8  | 7.4  | 7.8  | 9.4 | 8.7  | 9.6  | 9.8  | 8.4  | 5.4  | 4.1  | 3.1  | 2.8  | 2.3  | 3    | 5.1   |
| 4   | 2.6  | 2.2  | 2.8  | 2.5  | 2.2  | 2.5  | 2.8  | 3.4  | 4.1  | 4.6  | 4.8  | 4.9  | 5.2  | 4.3 | 4.8  | 3.9  | 4    | 2.5  | 1.8  | 1.7  | 2.6  | 2.9  | 3.4  | 4    | 3.4   |
| 5   | 4.1  | 3.6  | 2.9  | 2.5  | 2.3  | 2.8  | 3.3  | 4.7  | 5.2  | 4.8  | 4.7  | 4.7  | 4.8  | 3.7 | 7.2  | 3    | 3.2  | 3.1  | 2.4  | 3.2  | 3.3  | 4    | 2    | 2.6  | 3.7   |
| 6   | 5.5  | 8.4  | 6.8  | 6.4  | 5.3  | 4    | 3.2  | 4.4  | 7    | 8.9  | 10.8 | 10.5 | 9.7  | 8.8 | 8.5  | 8    | 7.8  | 5.6  | 3.3  | 2    | 2.3  | 2.2  | 2.4  | 2.8  | 6     |
| 7   | 3    | 2.4  | 2.2  | 2.6  | 1.8  | 1.8  | 2.7  | 2.6  | 3.2  | 4.4  | 4.4  | 5.1  | 4.9  | 5.8 | 5.5  | 4.5  | 3.9  | 3.8  | 3.5  | 3    | 1.9  | 1.2  | 1.5  | 1.3  | 3.2   |
| 8   | 1.2  | 1.6  | 1    | 0.7  | 0.3  | 0.7  | 1.7  | 2.9  | 3.4  | 3.1  | 3.6  | 3.3  | 3.4  | 4   | 4.2  | 4.4  | 3.7  | 3.2  | 2.1  | 1.5  | 2.4  | 2.4  | 2.9  | 2.9  | 2.5   |
| 9   | 2.1  | 1.8  | 1.6  | 1.3  | 1.9  | 2.1  | 1.7  | 3    | 4.2  | 4.2  | 4.3  | 3.4  | 2.5  | 2.5 | 2.3  | 3.1  | 2.9  | 3.7  | 3    | 2.7  | 2.5  | 2.6  | 1.9  | 1.9  | 2.6   |
| 10  | 2.1  | 1.7  | 1.7  | 1.2  | 0.7  | 0.7  | 1.2  | 2.4  | 3.8  | 4.1  | 4.5  | 4.8  | 4.8  | 5.4 | 5.5  | 5.1  | 5.5  | 4.3  | 3    | 2.9  | 3.1  | 2.6  | 2.9  | 2.4  | 3.2   |
| 11  | 2.2  | 2.1  | 1.4  | 1.5  | 1.7  | 1.5  | 1.5  | 3.2  | 4.2  | 4.6  | 4.2  | 5.4  | 5.9  | 5.3 | 6.8  | 5.4  | 4.6  | 4.5  | 3.8  | 3.1  | 3.1  | 3.1  | 3.2  | 2.6  | 3.5   |
| 12  | 2.3  | 1.3  | 0.7  | 1.2  | 1.9  | 0.7  | 1.1  | 2.8  | 2.2  | 2.9  | 4    | 4.8  | 4.9  | 5.8 | 6.2  | 3.9  | 3.9  | 3.4  | 5.1  | 3    | 1.4  | 3.5  | 6.3  | 6    | 3.3   |
| 13  | 3.7  | 2.3  | 1.4  | 0.5  | 0.5  | 1.7  | 3.1  | 5.9  | 4.8  | 2.8  | 5.9  | 6.4  | 6.1  | 6   | 4.9  | 4.9  | 5.1  | 3.6  | 2.1  | 2.7  | 2.4  | 2.5  | 2    | 3.4  | 3.5   |
| 14  | 3.6  | 2    | 1.8  | 1.3  | 2    | 1.3  | 0.6  | 1.6  | 0.9  | 1    | 3.4  | 2    | 2.3  | 4.3 | 6.6  | 11.3 | 11.9 | 20.4 | 13   | 7.5  | 5.3  | 3.1  | 1.4  | 0.3  | 4.5   |
| 15  | 0.2  | 0.1  | 0.1  | 0.8  | 1    | 1.3  | 2.1  | 2.6  | 2    | 2.7  | 2.2  | 2.2  | 2.8  | 2.8 | 4    | 5.2  | 3.8  | 4.4  | 5.4  | 4.6  | 2.2  | 1.7  | 2.2  | 0.5  | 2.4   |
| 16  | 1    | 2.4  | 0.3  | 0.1  | 0.1  | 0.2  | 0.2  | 1.2  | 4.3  | 5.6  | 4.8  | 4.6  | 5.5  | 4.8 | 4.1  | 4.2  | 4    | 4.1  | 3.1  | 2.3  | 2    | 1.7  | 0.6  | 0.5  | 2.6   |
| 17  | 0.3  | 0    | 0.3  | 0.2  | 0.3  | 1.2  | 0    | 0.1  | 1.5  | 2.1  | 3.2  | 3.4  | 3.5  | 4.7 | 4.7  | 4.5  | 4.5  | 4.5  | 3.9  | 3.5  | 2.9  | 2.8  | 2.2  | 1.7  | 2.3   |
| 18  | 1.2  | 1.2  | 1.4  | 1.1  | 0.1  | 0    | 0.3  | 2.2  | 4    | 4.9  | 4.2  | 4.9  | 5.1  | 6.1 | 6.6  | 6.8  | 6.2  | 4.8  | 4.3  | 3.4  | 3.6  | 3.5  | 3.1  | 1.9  | 3.4   |
| 19  | 1.7  | 2    | 2.4  | 2.8  | 2.7  | 3.8  | 3.3  | 4    | 4.7  | 3.8  | 4    | 4.2  | 4.5  | 5.4 | 5    | 5    | 4.4  | 3.9  | 4    | 3.7  | 3.9  | 3.8  | 3.9  | 3.8  | 3.8   |
| 20  | 3.8  | 3.2  | 3    | 2.6  | 2.2  | 1.8  | 2.3  | 3.1  | 3    | 4.1  | 4.9  | 5.5  | 5.6  | 6.2 | 5.8  | 6.2  | 5.2  | 4.8  | 5    | 4.9  | 5.1  | 5    | 5    | 4.8  | 4.3   |
| 21  | 4.7  | 5    | 5    | 5.6  | 4.3  | 5.3  | 4.2  | 5.1  | 6.3  | 6.8  | 7.1  | 7.2  | 7.8  | 6.9 | 5.9  | 8.6  | 10.8 | 7.9  | 4.6  | 5.5  | 3.3  | 3.9  | 3.4  | 3.3  | 5.8   |
| 22  | 2    | 3    | 3.4  | 5    | 6    | 4.6  | 4.7  | 5.3  | 5.7  | 5.4  | 5.9  | 5.7  | 5.6  | 5.1 | 5.2  | 5.5  | 4.6  | 4.2  | 3.7  | 2.7  | 2.8  | 2.7  | 2    | 0.6  | 4.2   |
| 23  | 0.2  | 0.5  | 0.8  | 0.7  | 1.1  | 0.9  | 1.1  | 2    | 2.6  | 3.5  | 4    | 4.5  | 4.7  | 5   | 5    | 5.8  | 4.4  | 4.2  | 3    | 2.1  | 1.1  | 0.9  | 1.1  | 0.5  | 2.5   |
| 24  | 0.2  | 0.3  | 0.5  | 0.2  | 0.4  | 0.5  | 0.9  | 1.2  | 2    | 3.3  | 3    | 4.3  | 4.8  | 5.4 | 5    | 5.3  | 5.8  | 5    | 4.1  | 3.8  | 3.1  | 2.5  | 2.5  | 2.2  | 2.8   |
| 25  | 2.4  | 2.9  | 2.7  | 1.8  | 1.9  | 1.9  | 2.2  | 2.9  | 5.2  | 5.6  | 5.3  | 5.6  | 5.3  | 5.4 | 5.6  | 5.7  | 5.7  | 5.6  | 3.6  | 2.8  | 2.8  | 2.3  | 1.7  | 2.5  | 3.7   |
| 26  | 1.8  | 1.6  | 1.7  | 2.1  | 2    | 1.9  | 2.5  | 3.7  | 4.2  | 5.8  | 5.5  | 5.7  | 5.5  | 5.3 | 6    | 5.8  | 6.1  | 5.8  | 4.5  | 4.2  | 3.2  | 2.7  | 2.5  | 2.7  | 3.9   |
| 27  | 2.5  | 2.3  | 1.9  | 2.4  | 1.9  | 2    | 2.8  | 3.4  | 4.5  | 4.5  | 4.3  | 5.4  | 6.1  | 6.7 | 6.2  | 6.6  | 4.9  | 5    | 4.6  | 4.3  | 3    | 2.4  | 2.9  | 2.5  | 3.9   |
| 28  | 2.7  | 2.2  | 1.4  | 1.2  | 1.6  | 1.8  | 1.7  | 2.8  | 3.8  | 4.1  | 4.4  | 4.9  | 6    | 6.1 | 5.8  | 5.1  | 6.5  | 4.8  | 3.7  | 3.8  | 3.1  | 1.8  | 1.5  | 1    | 3.4   |
| 29  | 1.5  | 1.1  | 1.6  | 0.4  | 0.9  | 0.7  | 1.3  | 4    | 5.6  | 5.4  | 5.5  | 6.7  | 6.3  | 7.3 | 8.6  | 8.7  | 8.4  | 6.8  | 4.7  | 4.1  | 4.4  | 4.6  | 4.8  | 4.2  | 4.5   |
| 30  | 4.3  | 3.1  | 3.5  | 3.6  | 3.6  | 4.2  | 4.7  | 5.6  | 9.2  | 10.7 | 10.5 | 10.2 | 10.6 | 9.4 | 9.1  | 11.1 | 12   | 13.1 | 12.6 | 11.5 | 12.2 | 10   | 10.3 | 7.7  | 8.4   |
| 31  | 6.2  | 6.2  | 4.2  | 3.5  | 3.4  | 2    | 1.3  | 2.9  | 2.4  | 2.9  | 2.8  | 2.5  | 1.9  | 3.2 | 5.6  | 5.5  | 2.2  | 2.4  | 1.6  | 0.6  | 1.3  | 0.7  | 0.6  | 0.6  | 2.8   |
| Avg | 2.4  | 2.3  | 2.1  | 2    | 1.9  | 1.9  | 2    | 3.1  | 4    | 4.5  | 4.8  | 5.1  | 5.2  | 5.5 | 5.8  | 5.9  | 5.6  | 5.3  | 4.2  | 3.6  | 3.1  | 2.9  | 2.9  | 2.5  | 3.7   |
| S D | 1.5  | 1.7  | 1.5  | 1.6  | 1.5  | 1.4  | 1.3  | 1.3  | 1.7  | 1.9  | 1.9  | 1.9  | 1.6  | 1.5 | 2.1  | 2.6  | 3.5  | 2.5  | 2    | 1.9  | 1.7  | 1.8  | 1.7  | 1.3  | 1.3   |
| S/A | 0.63 | 0.73 | 0.71 | 0.81 | 0.79 | 0.74 | 0.63 | 0.42 | 0.42 | 0.42 | 0.4  | 0.38 | 0.36 | 0.3 | 0.26 | 0.35 | 0.46 | 0.65 | 0.59 | 0.55 | 0.62 | 0.57 | 0.64 | 0.66 | 0.35  |
| Min | 0.2  | 0    | 0.1  | 0.1  | 0.1  | 0    | 0    | 0.1  | 0.9  | 1    | 2.2  | 2    | 1.9  | 2.5 | 2.3  | 3    | 2.2  | 2.4  | 1.6  | 0.6  | 1.1  | 0.7  | 0.6  | 0.3  | 2.3   |
| Max | 6.2  | 8.4  | 6.8  | 6.4  | 6    | 5.3  | 4.7  | 5.9  | 9.2  | 10.7 | 10.8 | 10.5 | 10.6 | 9.4 | 9.1  | 11.3 | 12   | 20.4 | 13   | 11.5 | 12.2 | 10   | 10.3 | 7.7  | 8.4   |
| n   | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372 | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 8928  |

Data Recovery: 0.0% missing; 0.0% failed QC -- 8928 total measurements.

Instrument: NRG MAX-40 Serial Number: 0 Calibration Factor: 0.76171 m/s/mV Calibration Date: 06/1995

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

Prepared by: Afshin M. Andreas, NREL

**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Station Pressure**  
**Hourly and Daily Averages**  
**Instrument: Viasala PTA-427**  
**Millibars**

| Day | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Daily |      |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| 1   | 1016 | 1015 | 1015 | 1015 | 1015 | 1016 | 1016 | 1016 | 1016 | 1016 | 1017 | 1016 | 1016 | 1015 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1015  |      |
| 2   | 1013 | 1013 | 1012 | 1012 | 1012 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1012 | 1012 | 1011 | 1011 | 1011 | 1011 | 1010 | 1011 | 1011 | 1011 | 1011 | 1011 | 1010 | 1010  | 1012 |
| 3   | 1009 | 1009 | 1008 | 1008 | 1008 | 1007 | 1007 | 1007 | 1007 | 1006 | 1006 | 1005 | 1004 | 1003 | 1003 | 1003 | 1003 | 1004 | 1005 | 1005 | 1006 | 1007 | 1007 | 1007 | 1007  | 1006 |
| 4   | 1007 | 1007 | 1007 | 1006 | 1007 | 1007 | 1008 | 1008 | 1009 | 1009 | 1008 | 1009 | 1008 | 1007 | 1007 | 1007 | 1007 | 1007 | 1007 | 1007 | 1008 | 1008 | 1008 | 1008 | 1007  | 1007 |
| 5   | 1007 | 1006 | 1006 | 1006 | 1006 | 1006 | 1006 | 1006 | 1006 | 1006 | 1006 | 1005 | 1005 | 1004 | 1004 | 1005 | 1005 | 1005 | 1006 | 1006 | 1006 | 1006 | 1006 | 1005 | 1005  | 1006 |
| 6   | 1005 | 1005 | 1005 | 1006 | 1005 | 1006 | 1006 | 1007 | 1008 | 1008 | 1008 | 1009 | 1009 | 1009 | 1009 | 1009 | 1010 | 1010 | 1010 | 1011 | 1011 | 1011 | 1012 | 1012 | 1008  |      |
| 7   | 1012 | 1011 | 1011 | 1011 | 1011 | 1012 | 1013 | 1013 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1013 | 1014 | 1014 | 1014 | 1015 | 1015 | 1016 | 1017 | 1017 | 1017 | 1014  |      |
| 8   | 1017 | 1017 | 1017 | 1017 | 1018 | 1018 | 1019 | 1019 | 1020 | 1020 | 1020 | 1020 | 1020 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1020 | 1020 | 1020 | 1019  | 1019 |
| 9   | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1019 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1019  | 1019 |
| 10  | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1016 | 1015 | 1015 | 1015 | 1015 | 1015 | 1014 | 1014 | 1014 | 1015 | 1014 | 1015 | 1014 | 1014  | 1016 |
| 11  | 1014 | 1014 | 1013 | 1013 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1013 | 1013 | 1012 | 1012 | 1012 | 1012 | 1012 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013  | 1013 |
| 12  | 1013 | 1012 | 1012 | 1012 | 1012 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1012 | 1012 | 1012 | 1011 | 1011 | 1011 | 1011 | 1011 | 1012 | 1012 | 1012 | 1012 | 1012  | 1012 |
| 13  | 1012 | 1011 | 1011 | 1010 | 1010 | 1010 | 1010 | 1009 | 1009 | 1009 | 1010 | 1010 | 1011 | 1012 | 1013 | 1013 | 1013 | 1014 | 1014 | 1015 | 1016 | 1016 | 1016 | 1016 | 1016  | 1012 |
| 14  | 1016 | 1016 | 1016 | 1016 | 1016 | 1017 | 1018 | 1018 | 1018 | 1019 | 1020 | 1019 | 1019 | 1018 | 1016 | 1013 | 1012 | 1010 | 1013 | 1016 | 1018 | 1018 | 1019 | 1019 | 1019  | 1017 |
| 15  | 1020 | 1020 | 1020 | 1020 | 1020 | 1021 | 1021 | 1021 | 1022 | 1022 | 1022 | 1022 | 1022 | 1022 | 1021 | 1021 | 1021 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020  | 1021 |
| 16  | 1020 | 1019 | 1018 | 1018 | 1018 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019  | 1019 |
| 17  | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1020 | 1020 | 1020 | 1020 | 1019 | 1019 | 1018 | 1018 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017  | 1018 |
| 18  | 1016 | 1016 | 1016 | 1016 | 1016 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1016 | 1016 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1016 | 1016 | 1016 | 1016 | 1016  | 1016 |
| 19  | 1016 | 1016 | 1016 | 1016 | 1016 | 1016 | 1016 | 1017 | 1017 | 1017 | 1018 | 1017 | 1017 | 1016 | 1016 | 1016 | 1016 | 1016 | 1016 | 1016 | 1016 | 1017 | 1018 | 1018 | 1017  | 1016 |
| 20  | 1017 | 1017 | 1017 | 1017 | 1017 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1018 | 1017 | 1016 | 1016 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015  | 1017 |
| 21  | 1015 | 1014 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1012 | 1012 | 1011 | 1010 | 1009 | 1009 | 1009 | 1009 | 1009 | 1011 | 1012 | 1012 | 1012 | 1012 | 1012  | 1012 |
| 22  | 1012 | 1012 | 1012 | 1013 | 1013 | 1014 | 1015 | 1015 | 1015 | 1016 | 1016 | 1016 | 1016 | 1016 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015  | 1015 |
| 23  | 1015 | 1014 | 1014 | 1014 | 1014 | 1015 | 1015 | 1016 | 1016 | 1016 | 1017 | 1016 | 1016 | 1016 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1016 | 1016 | 1016 | 1016 | 1016  | 1015 |
| 24  | 1016 | 1016 | 1016 | 1016 | 1016 | 1017 | 1017 | 1018 | 1018 | 1019 | 1019 | 1019 | 1019 | 1018 | 1018 | 1017 | 1018 | 1018 | 1018 | 1019 | 1019 | 1019 | 1019 | 1019 | 1020  | 1018 |
| 25  | 1020 | 1019 | 1019 | 1020 | 1020 | 1020 | 1021 | 1021 | 1021 | 1022 | 1022 | 1022 | 1022 | 1022 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021  | 1021 |
| 26  | 1021 | 1021 | 1021 | 1020 | 1020 | 1021 | 1021 | 1021 | 1021 | 1022 | 1022 | 1021 | 1021 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1019 | 1020  | 1020 |
| 27  | 1019 | 1019 | 1019 | 1019 | 1019 | 1019 | 1020 | 1020 | 1020 | 1020 | 1020 | 1020 | 1019 | 1018 | 1018 | 1018 | 1018 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017 | 1017  | 1018 |
| 28  | 1017 | 1016 | 1015 | 1015 | 1015 | 1015 | 1016 | 1016 | 1016 | 1016 | 1016 | 1015 | 1015 | 1015 | 1014 | 1014 | 1014 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1014  | 1015 |
| 29  | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1013 | 1014 | 1014 | 1014 | 1014 | 1013 | 1013 | 1012 | 1012 | 1012 | 1012 | 1012 | 1012 | 1012 | 1012 | 1012 | 1012 | 1012  | 1013 |
| 30  | 1012 | 1011 | 1011 | 1011 | 1011 | 1011 | 1011 | 1011 | 1011 | 1010 | 1009 | 1009 | 1008 | 1007 | 1007 | 1006 | 1006 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1009  | 1009 |
| 31  | 1013 | 1013 | 1013 | 1013 | 1013 | 1014 | 1015 | 1015 | 1016 | 1016 | 1017 | 1017 | 1016 | 1016 | 1016 | 1016 | 1016 | 1016 | 1017 | 1017 | 1018 | 1018 | 1018 | 1018 | 1018  | 1016 |
| Avg | 1015 | 1014 | 1014 | 1014 | 1014 | 1015 | 1015 | 1015 | 1015 | 1016 | 1016 | 1015 | 1015 | 1015 | 1014 | 1014 | 1014 | 1014 | 1014 | 1014 | 1015 | 1015 | 1015 | 1015 | 1015  | 1015 |
| SD  | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 5    | 5    | 5    | 5    | 5    | 5    | 5    | 5    | 5    | 4    | 4    | 4    | 4    | 4    | 4    | 4     |      |
| S/A | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     |      |
| Min | 1005 | 1005 | 1005 | 1006 | 1005 | 1006 | 1006 | 1006 | 1006 | 1006 | 1006 | 1005 | 1004 | 1003 | 1003 | 1003 | 1003 | 1004 | 1005 | 1005 | 1006 | 1006 | 1006 | 1005 | 1006  |      |
| Max | 1021 | 1021 | 1021 | 1020 | 1020 | 1021 | 1021 | 1021 | 1022 | 1022 | 1022 | 1022 | 1022 | 1022 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021 | 1021  | 1021 |
| n   | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 8928  |      |

Data Recovery: 0.0% missing; 0.0% failed QC -- 8928 total measurements.

Instrument: Viasala PTA-427 Serial Number: 493926 Calibration Factor: 0.104 mBar/mV + 800 mBar Calibration Date: 06/1995

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

Prepared by: Afshin M. Andreas, NREL

**Elizabeth City State University**  
**36.28 N Latitude 76.22 W Longitude 26 Meters AMSL Time Zone -5**

**August 2004**

**Battery Voltage (CR10)**  
**Hourly and Daily Averages**  
**Instrument: CSI**  
**Volts DC**

| Day | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | Daily |      |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| 1   | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.9 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 13.2 | 13.2 | 13.1 | 12.9 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 2   | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 12.9 |
| 3   | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.8 | 12.9 | 13.1 | 12.8 | 12.7 | 12.8 | 13   | 13   | 13.3 | 13.3 | 13.1 | 12.9 | 12.9 | 12.8 | 12.8 | 12.7 | 12.7 | 12.8  | 12.8 |
| 4   | 12.7 | 12.6 | 12.7 | 12.6 | 12.6 | 12.6 | 13   | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 12.9 |
| 5   | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13   | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 12.9 | 12.8 | 13.2 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.7 | 12.7  | 12.9 |
| 6   | 12.7 | 12.7 | 12.7 | 12.6 | 12.6 | 12.6 | 12.7 | 13.3 | 13.3 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 7   | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 13.2 | 13.5 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 8   | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.9 | 13.4 | 13.4 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 12.9 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 9   | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 13.1 | 13.4 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 10  | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.8 | 13.4 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 11  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13   | 13.3 | 13.2 | 13.2 | 13.2 | 13.1 | 13.2 | 13.2 | 13.2 | 13.1 | 13.3 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 12  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13   | 13.3 | 13.2 | 13.2 | 13.2 | 13.1 | 13.2 | 13.2 | 13.2 | 13.1 | 13.3 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 13  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.9 | 13.3 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.3 | 13.3 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 12.9 |
| 14  | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.9 | 13.2 | 13   | 12.8 | 12.9 | 12.8 | 12.9 | 13.2 | 13   | 12.9 | 13.1 | 12.8 | 12.7 | 12.7 | 12.7 | 12.6 | 12.7 | 12.8  | 12.8 |
| 15  | 12.7 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.8 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.4 | 13.2 | 13.1 | 12.9 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 12.9 |
| 16  | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.8 | 13.3 | 13.2 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 17  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.9 | 13.4 | 13.4 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 18  | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 13   | 13.4 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 19  | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.9 | 13.3 | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 20  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.9 | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 12.9 |
| 21  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.8 | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.2 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 12.9 |
| 22  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 13.1 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 23  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13.1 | 13.4 | 13.3 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 24  | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 13   | 13.4 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 25  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13.1 | 13.4 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 12.9 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 26  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13   | 13.3 | 13.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 27  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13   | 13.3 | 13.2 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 12.9 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 28  | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 13.1 | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.2 | 13.1 | 12.9 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 29  | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 13.1 | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.2 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| 30  | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.8 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 13.1 | 13   | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7  | 12.9 |
| 31  | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.8 | 13.3 | 13.2 | 13.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.7 | 12.7  | 12.9 |
| Avg | 12.8 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.9 | 13.2 | 13.2 | 13.2 | 13.2 | 13.1 | 13.1 | 13.2 | 13.1 | 13.1 | 13.1 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| SD  | 0    | 0    | 0    | 0    | 0    | 0    | 0.2  | 0.2  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0.1  | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| StA | 0    | 0    | 0    | 0    | 0    | 0    | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Min | 12.7 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.7 | 12.9 | 13   | 12.8 | 12.7 | 12.8 | 12.9 | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 12.6 | 12.7 | 12.8  | 12.8 |
| Max | 12.8 | 12.8 | 12.8 | 12.7 | 12.7 | 12.7 | 13.2 | 13.5 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 | 13.4 | 13.3 | 13.3 | 13.3 | 13.2 | 13   | 12.9 | 12.8 | 12.8 | 12.8 | 12.8 | 12.8  | 13   |
| n   | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372  | 372   | 8928 |

Data Recovery: 0.0% missing; 0.0% failed QC -- 8928 total measurements.

Instrument: CSI    Serial Number: Battery    Calibration Factor: N/A    Calibration Date: 06/1995

| Data & Flag | Hour Column   | Day Column    |
|-------------|---------------|---------------|
| <value> *   | > 20% Missing | > 10% Missing |
| <value> ?   | > 20% Fail QC | > 10% Fail QC |
| <blank> *   | > 90% Missing | > 90% Missing |
| <blank> ?   | > 90% Fail QC | > 90% Fail QC |

Note: Daily values with a missing flag (\*) are not used in monthly statistics.