Appendix to

ENVIRONMENTAL CONTROL SYSTEMS FOR THE CAPSTONE BUILDING, NOBLE CENTER, OKLAHOMA STATE UNIVERSITY, STILLWATER, OKLAHOMA

Cooling and Heating Loads

of Michael P. Boerger
for Professional Project
in partial fulfillment of the requirements
for the degree of Master of Architectural Engineering
Fall, 1985

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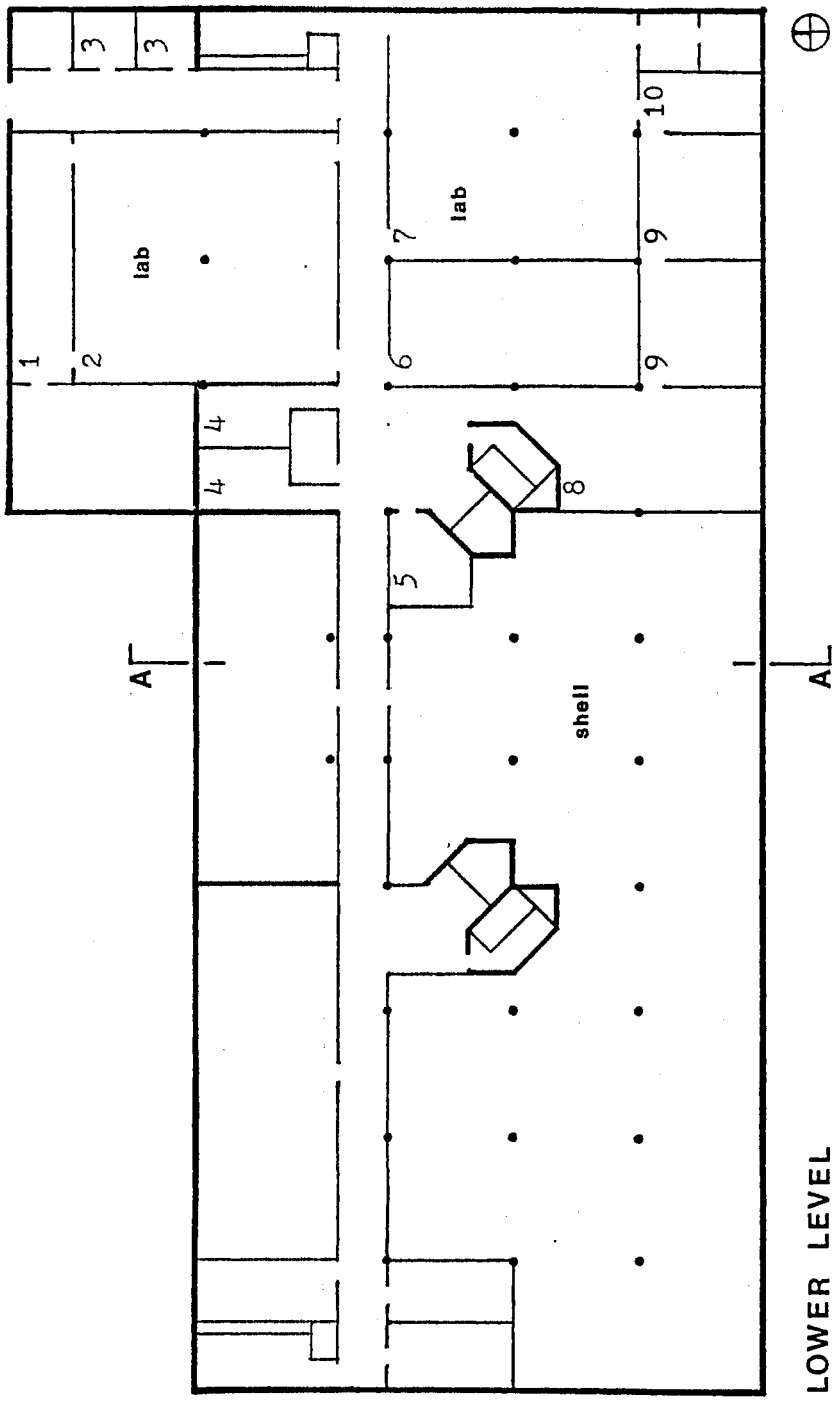
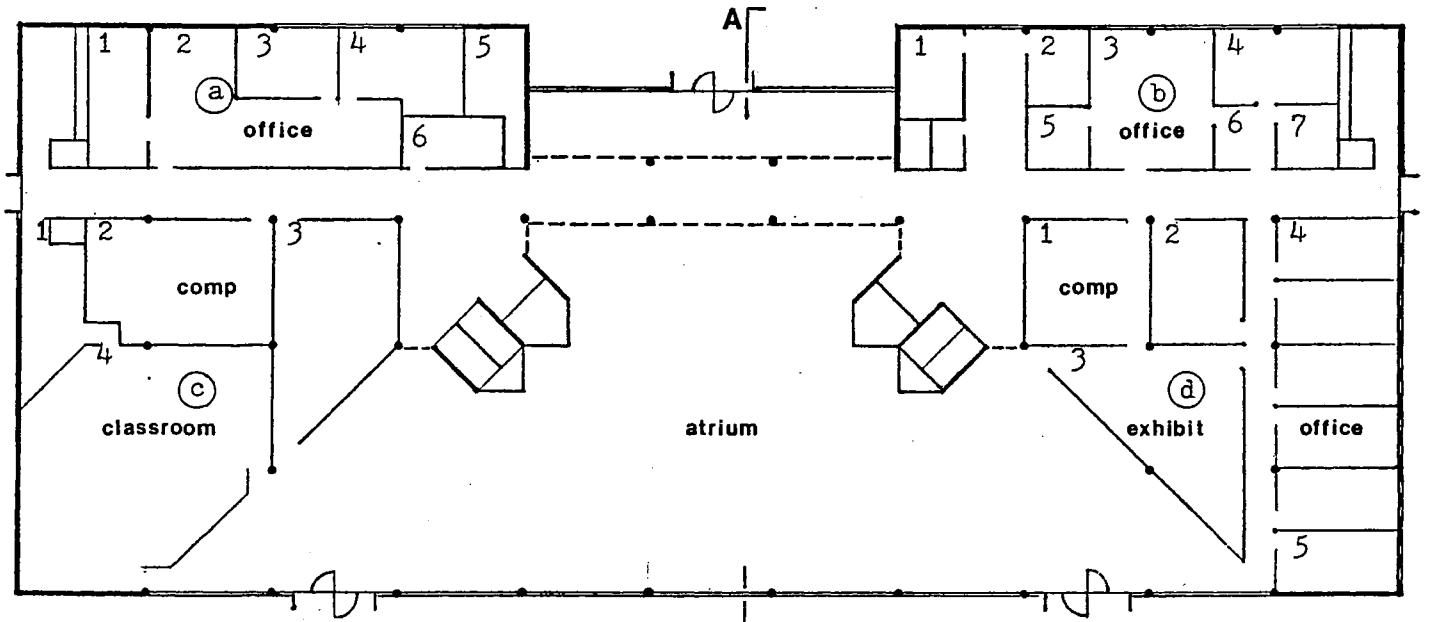
Key to Zones and Rooms

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4
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b
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7
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c
classroom
atrium
1
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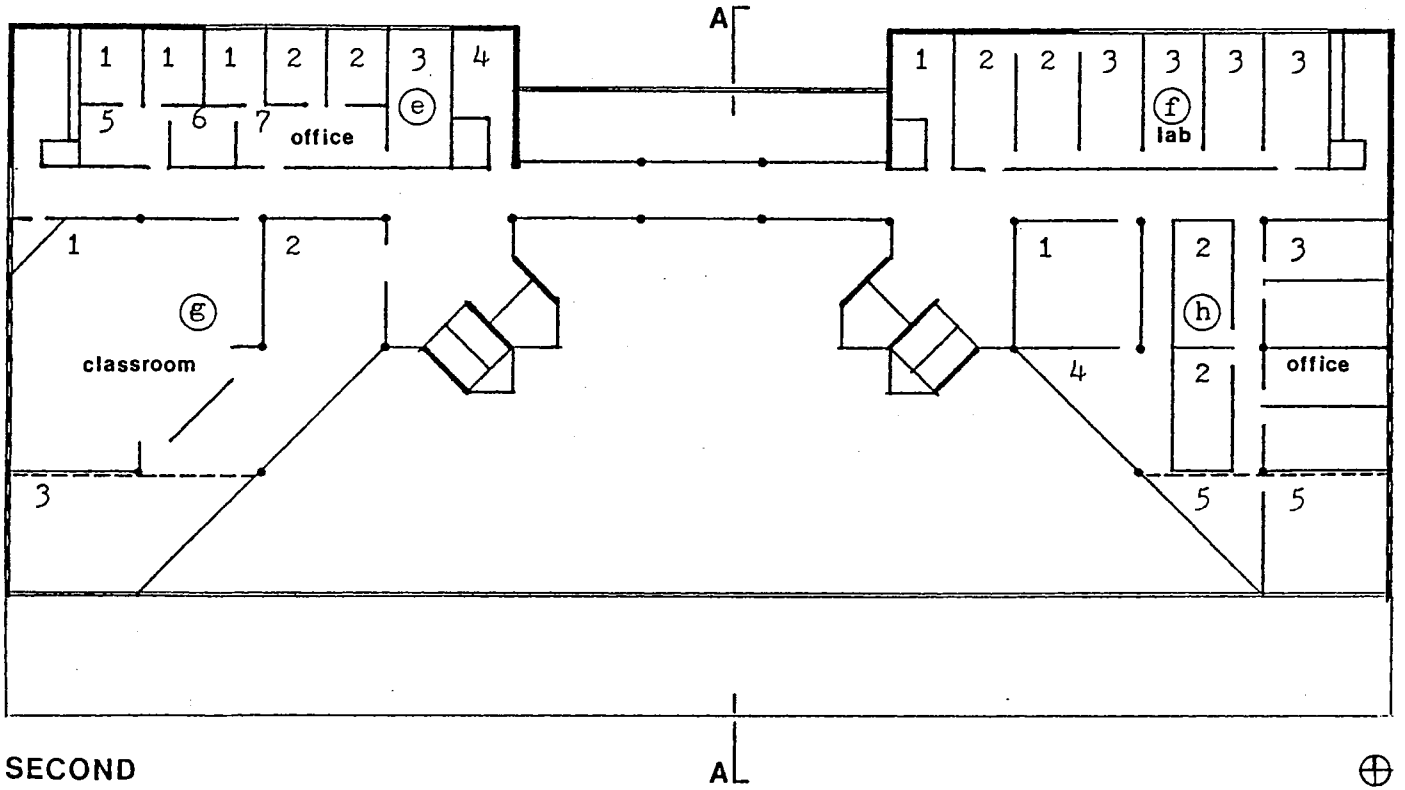
comp
3
d
exhibit
4
office
5
A

FIRST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4 2
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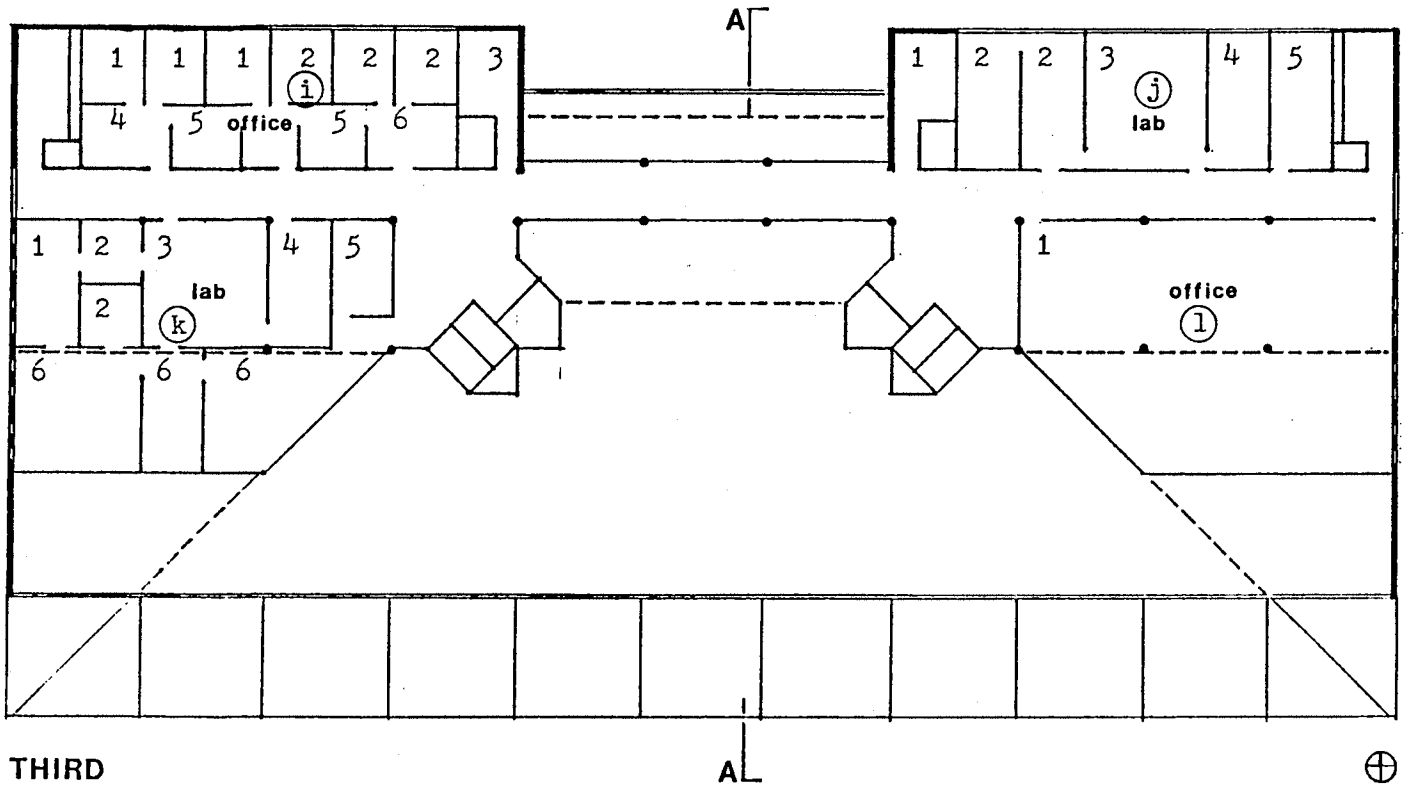
SECOND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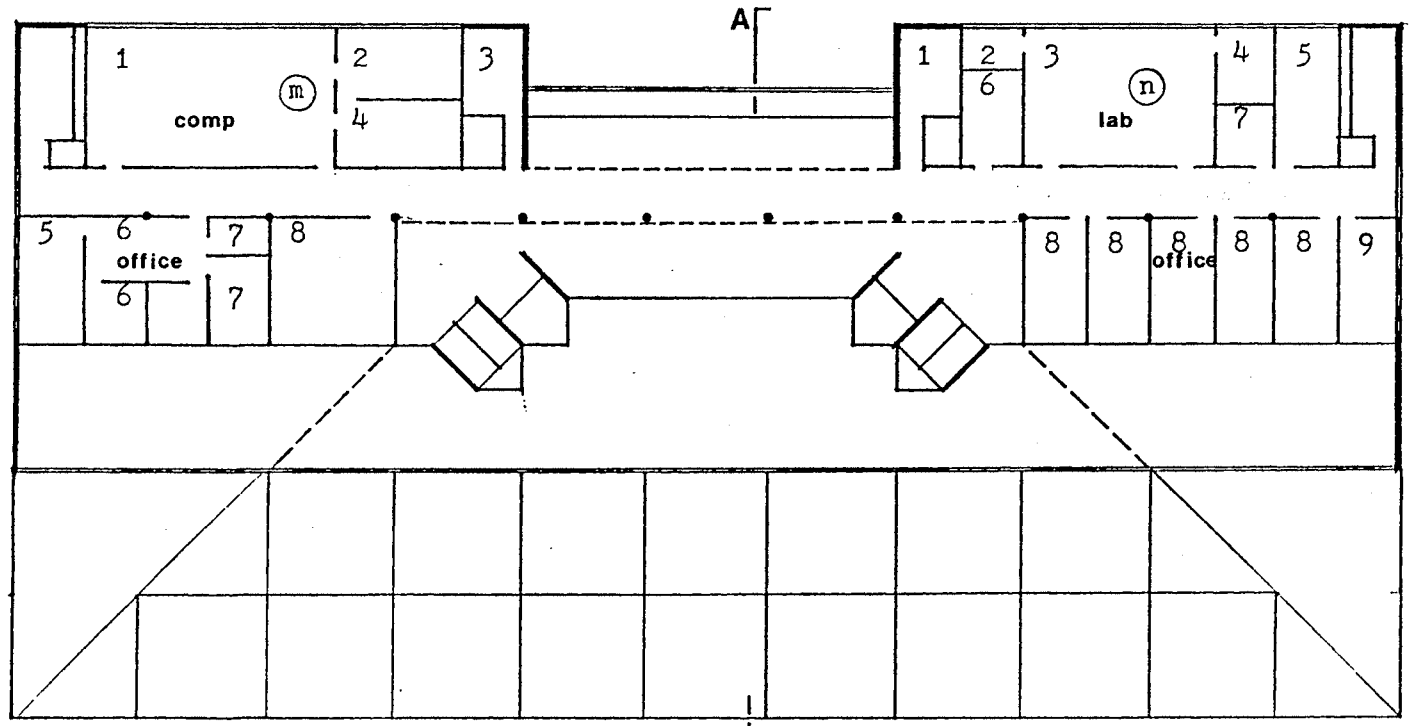
A

THIRD



FOURTH

Variable Names and Definitions

ACLONG	Local longitude, deg
AD	Area of doors, ft^2
AMP	Ground temperature amplitude, deg F
APPL	Residential room sensible heat gain, Btu/hr
AREA	Residential room floor area, ft^2
AW	Area of windows, ft^2
CFMD	Infiltration rate for first shift, ft^3/min
CFMM	Minimum amount of outdoor air, ft^3/mm
CFMN	Infiltration rate for second shift, ft^3/min
CFMT	Maximum outdoor air per ASHRAE Standard 62-81 for smoking, ft^3/min
DPOR	Return air fan total pressure, in. wat.
DPOS	Supply air fan total pressure, in wat.
ENCRE	Increment between standard air handler capacities, Btu/hr
EPSILN	Inclination of a surface measured from horizontal, deg
ERMAX	Maximum capactiy of an air handler, Btu/hr
ERMIN	Minimum capacity of an air handler, Btu/hr
ETAF	Air filter efficiency, dec. fraction
ETAFR	Returns air fan total efficiency, dec. fraction
ETAFS	Supply fan total efficiency, dec. fraction
ETAFT	Return air fan total efficiency, fraction
FLL	Basement floor length, ft
FLW	Basement floor width, ft
FNAME	Output file name
HGT	Basement wall height, ft
IA	Infiltration parameter; light, medium, or loose

IAIR	Air temperature zone classification
IB	Specific building type, 1, 2, 3
ICNDT	Conduction zone classification
IHDT	Specifies heating ducts below floor or slab
IHEAT	Load type, heating or cooling
ILGHT	Lighting zone classification
INS	Basement wall insulation type
INSUL	Specifies insulation for a floor slab
INWRIT	Parameter to write out input data
IOCEQ	Occupant/equipment zone classification
ISOLAR	Solar zone classification
ISOLAR	Solar zone classification
MC	Construction weight, residential; light, medium or heavy
MEX	Exhaust air location parameter
NCOIL	Parameter to select air quanity and coil load option
NDOM	Number of the day of the month
NHTX	Parometer to select heat extraction rate calculation
NM	Number of the month of the year
NPD	Number of occupants during first shift
NPN	Number of occupants during second shift
NPRT	Specifies type of output
NRMS	Number of rooms in the zone
NSF	Supply air fan location, draw-thru or flow-thru
OFCT	Hour that the unoccupied time begins, hours (1-24)
OFST	Hour that the occupied time begins, hour (1-24)
ORIENT	Text description of the surface (wall, roof, north, floor, etc.)
PSI	Angle between the normal to a surface and south measured counterclockwise in deg

QFLD	Flourescent light wattage for the first shift, kW
QFLN	Flourescent light wattage for the second shift, kW
QOTLD	Internal latent heat gain for the first shift, Btu/hr
QOTLN	Internal latent heat gain for the second shift, Btu/hr
QOTSD	Internal sensible heat gain from equipment during 1st shift, Btu/hr
QOTSN	Internal sensible heat gain from equipment during 2nd shift, Btu/hr
QTLD	Incandescent light wattage for the first shift, kW
QTLN	Incondescent light wattage for the second shift, kW
RV	Basement wall thermal resistance, Hr-F-ft^2/Btu
SCG	Shading coefficient for the glass and inside shade assembly
STLONG	Longitude for the local time zone, deg
THRANG	Thermostat throttling range, deg F
THSETD	Thermostat set point for 1st shift, deg F
THSETN	Thermostat set point for 2nd shift, deg F
THTIMD	Thermostat set time for 1st shift, hour
THTIMN	Thermostat set time for 2nd shift, hour
TIH	Indoor design temperature for residential heating, deg F
TITLE2	Text data to identify the output
TITLE3	Text data to identify the output
TM	Average Winter temperature, deg F
TMAXIM	Outdoor Design temperature, deg F
TOH	Outdoor design temperature for residential heating, deg F
TRANGE	Daily range of temperature, deg F
TROOM	Room design temperature, deg F
TWBI	Room design wet bulb temperature, deg F
TWBO	Outdoor design wet bulb temperature, deg F
UD	Overall heat transfer coefficient for the door assembly, Btu/hr-ft^2-F

UWRA	Overall heat transfer coefficient for the surface assembly, Btu/hr-ft^2-F
WDT	Basement wall width, ft
WO	Outdoor design humidity ratio for cooling case, lbw/lba
WRL	Wall height or roof length, feet
WRW	Wall width or roof width, feet
XLAT	Local latitude, deg

```
    * FAYE MCQUISTON, P.E., OKLAHOMA STATE UNIVERSITY *

noble center
cooling load, atrium.
*****************************************************************

************ GENERAL INPUT DATA **************

B= 3,MC= 2,NRMS=  1,WO=  .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT=  36.0
ICLONG=  97.0,STLONG=  90.0,TROOM=  80.0,TMAXIM=  96.0  TRANGE= 24.0
TIH= 72.0  TOH= 13.0

NM=  8,NHTX= 0, TWBO=   74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI=   65.00,WO=  .0136, PB=  14.696


   OUT DOOR TEMPERATURERS 1-24HRS   IN F
      1   75.1      4   72.2      7   73.7     10   82.6     13   93.4     16   95.3     19   87.8     22   79.7
      2   73.9      5   72.0      8   75.8     11   86.6     14   95.3     17   93.6     20   84.7     23   77.8
      3   73.0      6   72.5      9   79.0     12   90.5     15   96.0     18   91.0     21   82.1     24   76.3


****** INPUT DATA FOR SURFACE # 1 OF ROOM # 1  ******

 north entry

 WRL=  50.60   WRW=  57.30     AD=  87.00      AW= ******    PSI= 180.00
EPSILN=  90.00   SCG=    .71   UWRA=  .0840   UW=  .3800  UD=  .3400  ISHAD=  0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 1  ******

 north roof

 WRL=  26.00   WRW=  20.70     AD=    .00      AW= 537.00    PSI= 180.00
EPSILN=  45.00   SCG=    .46   UWRA=  .0840   UW=  .3700  UD=  .3400  ISHAD=  0

****** INPUT DATA FOR SURFACE # 3 OF ROOM # 1  ******

 south roof

 WRL=  73.30   WRW= 127.00     AD=    .00      AW= ******    PSI=    .00
EPSILN=  35.00   SCG=    .15   UWRA=  .0840   UW=  .5300  UD=  .3400  ISHAD=  0

****** INPUT DATA FOR SURFACE # 4 OF ROOM # 1  ******

 south wall

 WRL=  32.00   WRW= 180.00     AD= 174.00      AW= ******    PSI=    .00
EPSILN=  90.00   SCG=    .71   UWRA=  .0840   UW=  .3800  UD=  .3400  ISHAD=  1
SHADE TYPE=     0         GLASS WIDTH= 180.0
GLASS HEIGHT=  32.0         OVERHANG DEPTH= 24.0
OVERHANG RISE=   .0         OVERHANG EXT, LEFT=   20.0
OVERHANG EXT, RGHT=   20.0  OVERHANG END PROJ= 18.0
      1    .0000   4    .0000   7    .0000  10    .0029  13    .0000  16    .0319  19    .0000  22    .0000
      2    .0000   5    .0000   8    .0922  11    .0000  14    .0000  17    .0984  20    .0000  23    .0000
      3    .0000   6    .0000   9    .0292  12    .0000  15    .0038  18    .0000  21    .0000  24    .0000



******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN=   1,NPD=  40,CFMN=   920.00,CFMD=  3400.00
QOTSN=       .0,QOTSD=       .0,QOTLN=       .0
QOTLD=       .0,QFLN=     1.4,QFLD=      .0
```

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 6,ICNDT= 3,ILGHT= 3,IOCEQ= 3,IAIR= 18

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noble center
cooling load, atrium.
****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1719E+06	.1454E+05	.1864E+06	.9220E+00
2	73.9	.1520E+06	.1454E+05	.1665E+06	.9127E+00
3	73.0	.1335E+06	.1454E+05	.1480E+06	.9017E+00
4	72.2	.1165E+06	.1454E+05	.1310E+06	.8890E+00
5	72.0	.1017E+06	.1454E+05	.1162E+06	.8748E+00
6	72.5	.8995E+05	.1454E+05	.1045E+06	.8608E+00
7	73.7	.1038E+06	.1454E+05	.1183E+06	.8771E+00
8	75.8	.1195E+06	.6101E+05	.1805E+06	.6619E+00
9	79.0	.1767E+06	.6101E+05	.2377E+06	.7433E+00
10	82.6	.2424E+06	.6101E+05	.3034E+06	.7989E+00
11	86.6	.3122E+06	.6101E+05	.3732E+06	.8365E+00
12	90.5	.3772E+06	.6101E+05	.4382E+06	.8608E+00
13	93.4	.4297E+06	.6101E+05	.4908E+06	.8757E+00
14	95.3	.4659E+06	.6101E+05	.5269E+06	.8842E+00
15	96.0	.4813E+06	.6101E+05	.5423E+06	.8875E+00
16	95.3	.4735E+06	.6101E+05	.5345E+06	.8858E+00
17	93.6	.4428E+06	.6101E+05	.5039E+06	.8789E+00
18	91.0	.3952E+06	.6101E+05	.4562E+06	.8663E+00
19	87.8	.3405E+06	.6101E+05	.4016E+06	.8481E+00
20	84.7	.2994E+06	.6101E+05	.3604E+06	.8307E+00
21	82.1	.2635E+06	.6101E+05	.3246E+06	.8120E+00
22	79.7	.2387E+06	.1454E+05	.2532E+06	.9426E+00
23	77.8	.2151E+06	.1454E+05	.2296E+06	.9367E+00
24	76.3	.1929E+06	.1454E+05	.2075E+06	.9299E+00

THE INSIDE DESIGN TEMPR.= 80.0 MONTH= 8 DAY= 21

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noble center
cooling load, atrium.
****

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1719E+06	.1454E+05	.1864E+06	.9220E+00
2	73.9	.1520E+06	.1454E+05	.1665E+06	.9127E+00
3	73.0	.1335E+06	.1454E+05	.1480E+06	.9017E+00
4	72.2	.1165E+06	.1454E+05	.1310E+06	.8890E+00
5	72.0	.1017E+06	.1454E+05	.1162E+06	.8748E+00
6	72.5	.8995E+05	.1454E+05	.1045E+06	.8608E+00
7	73.7	.1038E+06	.1454E+05	.1183E+06	.8771E+00
8	75.8	.1195E+06	.6101E+05	.1805E+06	.6619E+00
9	79.0	.1767E+06	.6101E+05	.2377E+06	.7433E+00
10	82.6	.2424E+06	.6101E+05	.3034E+06	.7989E+00
11	86.6	.3122E+06	.6101E+05	.3732E+06	.8365E+00
12	90.5	.3772E+06	.6101E+05	.4382E+06	.8608E+00
13	93.4	.4297E+06	.6101E+05	.4908E+06	.8757E+00
14	95.3	.4659E+06	.6101E+05	.5269E+06	.8842E+00
15	96.0	.4813E+06	.6101E+05	.5423E+06	.8875E+00
16	95.3	.4735E+06	.6101E+05	.5345E+06	.8858E+00
17	93.6	.4428E+06	.6101E+05	.5039E+06	.8789E+00
18	91.0	.3952E+06	.6101E+05	.4562E+06	.8663E+00
19	87.8	.3405E+06	.6101E+05	.4016E+06	.8481E+00
20	84.7	.2994E+06	.6101E+05	.3604E+06	.8307E+00
21	82.1	.2635E+06	.6101E+05	.3246E+06	.8120E+00
22	79.7	.2387E+06	.1454E+05	.2532E+06	.9426E+00
23	77.8	.2151E+06	.1454E+05	.2296E+06	.9367E+00
24	76.3	.1929E+06	.1454E+05	.2075E+06	.9299E+00

```
    * FAYE MCQUISTON, P.E., OKLAHOMA STATE UNIVERSITY *

noble center
cooling loads, zone a
*****************************************************************

************* GENERAL INPUT DATA **************

B= 3,MC= 2,NRMS=  6,WO=  .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT=  36.0
CLONG=  97.0,STLONG=  90.0,TROOM=  78.0,TMAXIM=  96.0  TRANGE= 24.0
IH= 72.0  TOH= 13.0

NM=  8,NHTX= 1, TWBO=   74.00, IHEAT= 0
DOM= 21,NITR= 10,TWBI=   62.00,WO=  .0136, PB=  14.696


   OUT DOOR TEMPERATURERS 1-24HRS   IN F
      1   75.1      4   72.2      7   73.7     10   82.6     13   93.4     16   95.3     19   87.8     22   79.7
      2   73.9      5   72.0      8   75.8     11   86.6     14   95.3     17   93.6     20   84.7     23   77.8
      3   73.0      6   72.5      9   79.0     12   90.5     15   96.0     18   91.0     21   82.1     24   76.3



******** GENERAL INPUT DATA FOR ROOM # 1 ********

PN=   0,NPD=   1,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=   6000.0,QOTLN=       .0
QOTLD=       .0,QFLN=      .0,QFLD=      .4
QTLN=      .0,QTLD=      .0,QFST=  7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IQCEQ=  2,IAIR=  5
```

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noble center
cooling loads, zone a
****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4059E+03	.0000E+00	.4059E+03	.1000E+01
2	73.9	.3629E+03	.0000E+00	.3629E+03	.1000E+01
3	73.0	.3245E+03	.0000E+00	.3245E+03	.1000E+01
4	72.2	.2901E+03	.0000E+00	.2901E+03	.1000E+01
5	72.0	.2594E+03	.0000E+00	.2594E+03	.1000E+01
6	72.5	.2319E+03	.0000E+00	.2319E+03	.1000E+01
7	73.7	.2073E+03	.0000E+00	.2073E+03	.1000E+01
8	75.8	.6286E+04	.2000E+03	.6486E+04	.9692E+00
9	79.0	.6671E+04	.2000E+03	.6871E+04	.9709E+00
10	82.6	.6866E+04	.2000E+03	.7066E+04	.9717E+00
11	86.6	.6997E+04	.2000E+03	.7197E+04	.9722E+00
12	90.5	.7100E+04	.2000E+03	.7300E+04	.9726E+00
13	93.4	.7189E+04	.2000E+03	.7389E+04	.9729E+00
14	95.3	.7267E+04	.2000E+03	.7467E+04	.9732E+00
15	96.0	.7337E+04	.2000E+03	.7537E+04	.9735E+00
16	95.3	.7399E+04	.2000E+03	.7599E+04	.9737E+00
17	93.6	.1353E+04	.0000E+00	.1353E+04	.1000E+01
18	91.0	.9986E+03	.0000E+00	.9986E+03	.1000E+01
19	87.8	.8298E+03	.0000E+00	.8298E+03	.1000E+01
20	84.7	.7231E+03	.0000E+00	.7231E+03	.1000E+01
21	82.1	.6408E+03	.0000E+00	.6408E+03	.1000E+01
22	79.7	.5713E+03	.0000E+00	.5713E+03	.1000E+01
23	77.8	.5102E+03	.0000E+00	.5102E+03	.1000E+01
24	76.3	.4560E+03	.0000E+00	.4560E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

***** GENERAL INPUT DATA FOR ROOM # 2 ********

= 0,NPD= 4,CFMN= .00,CFMD= .00
SN= .0,QQTSD= 1450.0,QQTLN= .0
LD= .0,QFLN= .1,QFLD= 1.4
N= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

DATA FOR TRANSFER FUNCTION COEFFICIENTS***

ILAR= 2,ICNDT= 2,ILGHT= 2,IQCEQ= 2,IAIR= 5

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noble center
cooling loads, zone a
****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1103E+04	.0000E+00	.1103E+04	.1000E+01
2	73.9	.1046E+04	.0000E+00	.1046E+04	.1000E+01
3	73.0	.9955E+03	.0000E+00	.9955E+03	.1000E+01
4	72.2	.9502E+03	.0000E+00	.9502E+03	.1000E+01
5	72.0	.9098E+03	.0000E+00	.9098E+03	.1000E+01
6	72.5	.8737E+03	.0000E+00	.8737E+03	.1000E+01
7	73.7	.8415E+03	.0000E+00	.8415E+03	.1000E+01
8	75.8	.5904E+04	.8000E+03	.6704E+04	.8807E+00
9	79.0	.6378E+04	.8000E+03	.7178E+04	.8886E+00
10	82.6	.6630E+04	.8000E+03	.7430E+04	.8923E+00
11	86.6	.6802E+04	.8000E+03	.7602E+04	.8948E+00
12	90.5	.6940E+04	.8000E+03	.7740E+04	.8966E+00
13	93.4	.7058E+04	.8000E+03	.7858E+04	.8982E+00
14	95.3	.7162E+04	.8000E+03	.7962E+04	.8995E+00
15	96.0	.7254E+04	.8000E+03	.8054E+04	.9007E+00
16	95.3	.7337E+04	.8000E+03	.8137E+04	.9017E+00
17	93.6	.2319E+04	.0000E+00	.2319E+04	.1000E+01
18	91.0	.1884E+04	.0000E+00	.1884E+04	.1000E+01
19	87.8	.1668E+04	.0000E+00	.1668E+04	.1000E+01
20	84.7	.1527E+04	.0000E+00	.1527E+04	.1000E+01
21	82.1	.1418E+04	.0000E+00	.1418E+04	.1000E+01
22	79.7	.1325E+04	.0000E+00	.1325E+04	.1000E+01
23	77.8	.1244E+04	.0000E+00	.1244E+04	.1000E+01
24	76.3	.1172E+04	.0000E+00	.1172E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

: INPUT DATA FOR SURFACE # 1 OF ROOM # 3 ******

)

9.00 WRW= 10.00 AD= .00 AW= 58.50 PSI= 180.00
N= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

* INPUT DATA FOR SURFACE # 2 OF ROOM # 3 ******

h

: 3.00 WRW= 10.00 AD= .00 AW= .00 PSI= 180.00
.N= 90.00 SCG= .51 UWRA= .0690 UW= .5200 UD= .5500 ISHAD= 0

**** GENERAL INPUT DATA FOR ROOM # 3 ********

0,NPD= 1,CFMN= .00,CFMD= .00
N= .0,QOTSD= .0,QOTLN= .0
D= .0,QFLN= .0,QFLD= .2
= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

AR= 2,ICNDT= 2,IL6HT= 2,IOCEQ= 2,IAIR= 1

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ng loads, zone a
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TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2709E+03	.0000E+00	.2709E+03	.1000E+01
2	73.9	.2164E+03	.0000E+00	.2164E+03	.1000E+01
3	73.0	.1670E+03	.0000E+00	.1670E+03	.1000E+01
4	72.2	.1235E+03	.0000E+00	.1235E+03	.1000E+01
5	72.0	.9001E+02	.0000E+00	.9001E+02	.1000E+01
6	72.5	.7180E+02	.0000E+00	.7180E+02	.1000E+01
7	73.7	.3140E+03	.0000E+00	.3140E+03	.1000E+01
8	75.8	.1131E+04	.2000E+03	.1331E+04	.8497E+00
9	79.0	.1374E+04	.2000E+03	.1574E+04	.8729E+00
10	82.6	.1581E+04	.2000E+03	.1781E+04	.8877E+00
11	86.6	.1777E+04	.2000E+03	.1977E+04	.8988E+00
12	90.5	.1942E+04	.2000E+03	.2142E+04	.9066E+00
13	93.4	.2061E+04	.2000E+03	.2261E+04	.9115E+00
14	95.3	.2128E+04	.2000E+03	.2328E+04	.9141E+00
15	96.0	.2136E+04	.2000E+03	.2336E+04	.9144E+00
16	95.3	.2090E+04	.2000E+03	.2290E+04	.9127E+00
17	93.6	.1343E+04	.0000E+00	.1343E+04	.1000E+01
18	91.0	.1143E+04	.0000E+00	.1143E+04	.1000E+01
19	87.8	.7984E+03	.0000E+00	.7984E+03	.1000E+01
20	84.7	.6509E+03	.0000E+00	.6509E+03	.1000E+01
21	82.1	.5511E+03	.0000E+00	.5511E+03	.1000E+01
22	79.7	.4662E+03	.0000E+00	.4662E+03	.1000E+01
23	77.8	.3922E+03	.0000E+00	.3922E+03	.1000E+01
24	76.3	.3285E+03	.0000E+00	.3285E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

***** INPUT DATA FOR SURFACE # 1 OF ROOM # 4 ******

north

WRL= 9.00 WRW= 20.00 AD= .00 AW= 130.00 PSI= 180.00
PSILN= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

***** INPUT DATA FOR SURFACE # 2 OF ROOM # 4 ******

north

WRL= 3.00 WRW= 20.00 AD= .00 AW= .00 PSI= 180.00
PSILN= 90.00 SCG= .51 UWRA= .0690 UW= .5200 UD= .5500 ISHAD= 0

******* GENERAL INPUT DATA FOR ROOM # 4 ********

PN= 0,NPD= 1,CFMN= .00,CFMD= .00
QTSN= .0,QQTSD= 50.0,QQTLN= .0
QTLD= .0,QFLN= .0,QFLD= .2
TLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

SOLAR= 2,ICNDT= 2,ILGHT= 2,IQCEQ= 2,IAIR= 1

TOTAL COOLING LOAD FOR ROOM 4 (BTU/HR)

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4857E+03	.0000E+00	.4857E+03	.1000E+01
2	73.9	.3763E+03	.0000E+00	.3763E+03	.1000E+01
3	73.0	.2775E+03	.0000E+00	.2775E+03	.1000E+01
4	72.2	.1908E+03	.0000E+00	.1908E+03	.1000E+01
5	72.0	.1255E+03	.0000E+00	.1255E+03	.1000E+01
6	72.5	.9345E+02	.0000E+00	.9345E+02	.1000E+01
7	73.7	.6389E+03	.0000E+00	.6389E+03	.1000E+01
8	75.8	.1710E+04	.2000E+03	.1910E+04	.8953E+00
9	79.0	.2176E+04	.2000E+03	.2376E+04	.9158E+00
10	82.6	.2595E+04	.2000E+03	.2795E+04	.9285E+00
11	86.6	.3000E+04	.2000E+03	.3200E+04	.9375E+00
12	90.5	.3343E+04	.2000E+03	.3543E+04	.9436E+00
13	93.4	.3585E+04	.2000E+03	.3785E+04	.9472E+00
14	95.3	.3713E+04	.2000E+03	.3913E+04	.9489E+00
15	96.0	.3712E+04	.2000E+03	.3912E+04	.9489E+00
16	95.3	.3595E+04	.2000E+03	.3795E+04	.9473E+00
17	93.6	.2668E+04	.0000E+00	.2668E+04	.1000E+01
18	91.0	.2291E+04	.0000E+00	.2291E+04	.1000E+01
19	87.8	.1559E+04	.0000E+00	.1559E+04	.1000E+01
20	84.7	.1254E+04	.0000E+00	.1254E+04	.1000E+01
21	82.1	.1050E+04	.0000E+00	.1050E+04	.1000E+01
22	79.7	.8779E+03	.0000E+00	.8779E+03	.1000E+01
23	77.8	.7283E+03	.0000E+00	.7283E+03	.1000E+01
24	76.3	.6005E+03	.0000E+00	.6005E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

```
 *  INPUT DATA FOR SURFACE # 1 OF ROOM # 5  ******

:h

: 12.00   WRW= 10.00     AD=    .00      AW=    .00    PSI= 180.00
_N= 90.00   SCG=   1.00   UWRA=  .0930   UW= 1.0800  UD=  .5500  ISHAD=  0

**  INPUT DATA FOR SURFACE # 2 OF ROOM # 5  ******

t

= 12.00   WRW=   9.00     AD=    .00      AW=    .00    PSI=  90.00
LN=  90.00   SCG=   1.00   UWRA=  .0930   UW= 1.0800  UD=  .5500  ISHAD=  0


***** GENERAL INPUT DATA FOR ROOM # 5 ********

=   0,NPD=   0,CFMN=      .00,CFMD=      .00
GN=       .0,QDTSD=       .0,QDTLN=       .0
LD=       .0,QFLN=      .0,QFLD=      .1
N=      .0,QTLD=      .0,QFST=  7.0,QFCT= 21.0

**DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ILAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
```

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TOTAL COOLING LOAD FOR ROOM 5 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4676E+03	.0000E+00	.4676E+03	.1000E+01
2	73.9	.4544E+03	.0000E+00	.4544E+03	.1000E+01
3	73.0	.4414E+03	.0000E+00	.4414E+03	.1000E+01
4	72.2	.4281E+03	.0000E+00	.4281E+03	.1000E+01
5	72.0	.4143E+03	.0000E+00	.4143E+03	.1000E+01
6	72.5	.4000E+03	.0000E+00	.4000E+03	.1000E+01
7	73.7	.3854E+03	.0000E+00	.3854E+03	.1000E+01
8	75.8	.7609E+03	.0000E+00	.7609E+03	.1000E+01
9	79.0	.7953E+03	.0000E+00	.7953E+03	.1000E+01
10	82.6	.8087E+03	.0000E+00	.8087E+03	.1000E+01
11	86.6	.8162E+03	.0000E+00	.8162E+03	.1000E+01
12	90.5	.8230E+03	.0000E+00	.8230E+03	.1000E+01
13	93.4	.8311E+03	.0000E+00	.8311E+03	.1000E+01
14	95.3	.8408E+03	.0000E+00	.8408E+03	.1000E+01
15	96.0	.8521E+03	.0000E+00	.8521E+03	.1000E+01
16	95.3	.8642E+03	.0000E+00	.8642E+03	.1000E+01
17	93.6	.8770E+03	.0000E+00	.8770E+03	.1000E+01
18	91.0	.8899E+03	.0000E+00	.8899E+03	.1000E+01
19	87.8	.9027E+03	.0000E+00	.9027E+03	.1000E+01
20	84.7	.9152E+03	.0000E+00	.9152E+03	.1000E+01
21	82.1	.9269E+03	.0000E+00	.9269E+03	.1000E+01
22	79.7	.5468E+03	.0000E+00	.5468E+03	.1000E+01
23	77.8	.5062E+03	.0000E+00	.5062E+03	.1000E+01
24	76.3	.4853E+03	.0000E+00	.4853E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 6 ********

NPN= 0,NPD= 0,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .1
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 21.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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****

TOTAL COOLING LOAD FOR ROOM 6 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.8854E+02	.0000E+00	.8854E+02	.1000E+01
2	73.9	.7846E+02	.0000E+00	.7846E+02	.1000E+01
3	73.0	.6984E+02	.0000E+00	.6984E+02	.1000E+01
4	72.2	.6225E+02	.0000E+00	.6225E+02	.1000E+01
5	72.0	.5552E+02	.0000E+00	.5552E+02	.1000E+01
6	72.5	.4953E+02	.0000E+00	.4953E+02	.1000E+01
7	73.7	.4418E+02	.0000E+00	.4418E+02	.1000E+01
8	75.8	.3281E+03	.0000E+00	.3281E+03	.1000E+01
9	79.0	.3603E+03	.0000E+00	.3603E+03	.1000E+01
10	82.6	.3770E+03	.0000E+00	.3770E+03	.1000E+01
11	86.6	.3881E+03	.0000E+00	.3881E+03	.1000E+01
12	90.5	.3968E+03	.0000E+00	.3968E+03	.1000E+01
13	93.4	.4042E+03	.0000E+00	.4042E+03	.1000E+01
14	95.3	.4107E+03	.0000E+00	.4107E+03	.1000E+01
15	96.0	.4165E+03	.0000E+00	.4165E+03	.1000E+01
16	95.3	.4217E+03	.0000E+00	.4217E+03	.1000E+01
17	93.6	.4263E+03	.0000E+00	.4263E+03	.1000E+01
18	91.0	.4303E+03	.0000E+00	.4303E+03	.1000E+01
19	87.8	.4340E+03	.0000E+00	.4340E+03	.1000E+01
20	84.7	.4372E+03	.0000E+00	.4372E+03	.1000E+01
21	82.1	.4402E+03	.0000E+00	.4402E+03	.1000E+01
22	79.7	.1541E+03	.0000E+00	.1541E+03	.1000E+01
23	77.8	.1199E+03	.0000E+00	.1199E+03	.1000E+01
24	76.3	.1015E+03	.0000E+00	.1015E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2822E+04	.0000E+00	.2822E+04	.1000E+01
2	73.9	.2535E+04	.0000E+00	.2535E+04	.1000E+01
3	73.0	.2276E+04	.0000E+00	.2276E+04	.1000E+01
4	72.2	.2045E+04	.0000E+00	.2045E+04	.1000E+01
5	72.0	.1855E+04	.0000E+00	.1855E+04	.1000E+01
6	72.5	.1720E+04	.0000E+00	.1720E+04	.1000E+01
7	73.7	.2431E+04	.0000E+00	.2431E+04	.1000E+01
8	75.8	.1612E+05	.1400E+04	.1752E+05	.9201E+00
9	79.0	.1775E+05	.1400E+04	.1915E+05	.9269E+00
10	82.6	.1886E+05	.1400E+04	.2026E+05	.9309E+00
11	86.6	.1978E+05	.1400E+04	.2118E+05	.9339E+00
12	90.5	.2055E+05	.1400E+04	.2195E+05	.9362E+00
13	93.4	.2113E+05	.1400E+04	.2253E+05	.9379E+00
14	95.3	.2152E+05	.1400E+04	.2292E+05	.9389E+00
15	96.0	.2171E+05	.1400E+04	.2311E+05	.9394E+00
16	95.3	.2171E+05	.1400E+04	.2311E+05	.9394E+00
17	93.6	.8987E+04	.0000E+00	.8987E+04	.1000E+01
18	91.0	.7637E+04	.0000E+00	.7637E+04	.1000E+01
19	87.8	.6191E+04	.0000E+00	.6191E+04	.1000E+01
20	84.7	.5508E+04	.0000E+00	.5508E+04	.1000E+01
21	82.1	.5027E+04	.0000E+00	.5027E+04	.1000E+01
22	79.7	.3941E+04	.0000E+00	.3941E+04	.1000E+01
23	77.8	.3501E+04	.0000E+00	.3501E+04	.1000E+01
24	76.3	.3144E+04	.0000E+00	.3144E+04	.1000E+01

ERMAX =	.0	ERMIN =	.0	ENCRE =	1000.0
THRANG=	2.0	THSETD=	78.0	THSETN=	78.0
THTIMD=	5.0	THTIMN=	25.0	NCOIL =	1

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****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

UNCONVERGED FOR THE GIVEN ERROR&NUMBER OF ITERATIONS, THE LAST ITERATION VALUES OF HEAT EXTRACTION IN HEATX ARE
THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 25.HRS

1	77.2	4	77.2	7	77.2	10	78.7	13	78.9	16	78.9	19	77.5	22	77.3
2	77.2	5	77.1	8	78.5	11	78.8	14	78.9	17	77.7	20	77.4	23	77.3
3	77.2	6	77.1	9	78.6	12	78.9	15	78.9	18	77.6	21	77.4	24	77.2

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 24000. ENCRE= 1000. BTU/HOUR

1	2677.	4	1933.	7	2378.	10	20580.	13	22805.	16	23312.	19	6000.	22	3762.
2	2401.	5	1754.	8	17897.	11	21487.	14	23177.	17	8774.	20	5327.	23	3333.
3	2153.	6	1633.	9	19496.	12	22238.	15	23339.	18	7450.	21	4857.	24	2987.

CFMT =	.0	CFMM =	35.0	ETAF =	.500
PB =	14.6960	MEX =	0	DPOR =	.000
ETAFR=	.5000	NSF =	0	DPOS =	2.000
ETAFS=	.5000				

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****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 23339. AT 15 HOURS WITH A SENSIBLE HEAT FACTOR OF .940

OUTDOOR AIR= 35. CFM AT 14.696 PSIA AND 96.0 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= -32. CFM AT 14.696 PSIA AND 55.0 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 846. CFM AT 55.0 DEG F DRY BULB --- 52.7 DEG F WET BULB AND 14.696 PSIA

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS: ENTERING DRY BULB TEMP= 80.2 DEG F
ENTERING WET BULB TEMP= 63.1 DEG F
LEAVING DRY BULB TEMP= 55.0 DEG F
LEAVING WET BULB TEMP= 52.7 DEG F
ENTERING AIR QUANTITY= 887. CFM
COIL SENSIBLE HEAT FACTOR= .926
TOTAL COIL CAPACITY= 26263. BTUH

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noble center
cooling loads, zone b
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************ GENERAL INPUT DATA *************

B= 3,MC= 2,NRMS=  7,WD=  .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT=  36.0
ICLONG=  97.0,STLONG=  90.0,TROOM=  78.0,TMAXIM=  96.0  TRANGE= 24.0
TIH= 72.0  TOH= 13.0

NM=  8,NHTX= 1, TWBO=   74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI=   62.00,WO=  .0136, PB=  14.696


   OUT DOOR TEMPERATURERS 1-24HRS   IN F
      1   75.1      4   72.2      7   73.7     10   82.6     13   93.4     16   95.3     19   87.8     22   79.7
      2   73.9      5   72.0      8   75.8     11   86.6     14   95.3     17   93.6     20   84.7     23   77.8
      3   73.0      6   72.5      9   79.0     12   90.5     15   96.0     18   91.0     21   82.1     24   76.3


******  INPUT DATA FOR SURFACE # 1 OF ROOM # 1  ******

 west

 WRL=  13.00   WRW=   9.00     AD=    .00      AW=    .00    PSI= 270.00
EPSILN=  90.00   SCG=   1.00   UWRA=  .0930   UW= 1.0800  UD=  .5500  ISHAD=  0

******  INPUT DATA FOR SURFACE # 2 OF ROOM # 1  ******

 north

 WRL=  13.00   WRW=   6.00     AD=    .00      AW=    .00    PSI= 180.00
EPSILN=  90.00   SCG=   1.00   UWRA=  .0930   UW= 1.0800  UD=  .5500  ISHAD=  0


******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN=   0,NPD=   0,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=       .0,QOTLN=       .0
QOTLD=       .0,QFLN=      .0,QFLD=      .1
QTLN=      .0,QTLD=      .0,QFST=  7.0,QFCT= 21.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
```

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ıble center
ooling loads, zone b
****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4147E+03	.0000E+00	.4147E+03	.1000E+01
2	73.9	.4096E+03	.0000E+00	.4096E+03	.1000E+01
3	73.0	.4036E+03	.0000E+00	.4036E+03	.1000E+01
4	72.2	.3963E+03	.0000E+00	.3963E+03	.1000E+01
5	72.0	.3878E+03	.0000E+00	.3878E+03	.1000E+01
6	72.5	.3781E+03	.0000E+00	.3781E+03	.1000E+01
7	73.7	.3674E+03	.0000E+00	.3674E+03	.1000E+01
8	75.8	.6446E+03	.0000E+00	.6446E+03	.1000E+01
9	79.0	.6690E+03	.0000E+00	.6690E+03	.1000E+01
10	82.6	.6771E+03	.0000E+00	.6771E+03	.1000E+01
11	86.6	.6794E+03	.0000E+00	.6794E+03	.1000E+01
12	90.5	.6796E+03	.0000E+00	.6796E+03	.1000E+01
13	93.4	.6791E+03	.0000E+00	.6791E+03	.1000E+01
14	95.3	.6789E+03	.0000E+00	.6789E+03	.1000E+01
15	96.0	.6795E+03	.0000E+00	.6795E+03	.1000E+01
16	95.3	.6814E+03	.0000E+00	.6814E+03	.1000E+01
17	93.6	.6852E+03	.0000E+00	.6852E+03	.1000E+01
18	91.0	.6917E+03	.0000E+00	.6917E+03	.1000E+01
19	87.8	.7011E+03	.0000E+00	.7011E+03	.1000E+01
20	84.7	.7133E+03	.0000E+00	.7133E+03	.1000E+01
21	82.1	.7277E+03	.0000E+00	.7277E+03	.1000E+01
22	79.7	.4539E+03	.0000E+00	.4539E+03	.1000E+01
23	77.8	.4312E+03	.0000E+00	.4312E+03	.1000E+01
24	76.3	.4226E+03	.0000E+00	.4226E+03	.1000E+01

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        THE INSIDE DESIGN TEMPR.= 78.0       MONTH= 8     DAY= 21

******  INPUT DATA FOR SURFACE # 1 OF ROOM # 2  ******

 north wall

 WRL=  13.00   WRW=  10.00     AD=    .00     AW=    .00    PSI= 180.00
EPSILN=  90.00   SCG=   1.00   UWRA=  .1170   UW= 1.0800  UD=  .5500  ISHAD=  0



******** GENERAL INPUT DATA FOR ROOM # 2 ********

NPN=   0,NPD=   0,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=       .0,QOTLN=       .0
QOTLD=       .0,QFLN=      .0,QFLD=      .1
QTLN=      .0,QTLD=      .0,QFST=  7.0,QFCT= 21.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
```

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noble center
cooling loads, zone b
****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2799E+03	.0000E+00	.2799E+03	.1000E+01
2	73.9	.2575E+03	.0000E+00	.2575E+03	.1000E+01
3	73.0	.2355E+03	.0000E+00	.2355E+03	.1000E+01
4	72.2	.2138E+03	.0000E+00	.2138E+03	.1000E+01
5	72.0	.1925E+03	.0000E+00	.1925E+03	.1000E+01
6	72.5	.1717E+03	.0000E+00	.1717E+03	.1000E+01
7	73.7	.1517E+03	.0000E+00	.1517E+03	.1000E+01
8	75.8	.4222E+03	.0000E+00	.4222E+03	.1000E+01
9	79.0	.4447E+03	.0000E+00	.4447E+03	.1000E+01
10	82.6	.4563E+03	.0000E+00	.4563E+03	.1000E+01
11	86.6	.4670E+03	.0000E+00	.4670E+03	.1000E+01
12	90.5	.4802E+03	.0000E+00	.4802E+03	.1000E+01
13	93.4	.4971E+03	.0000E+00	.4971E+03	.1000E+01
14	95.3	.5176E+03	.0000E+00	.5176E+03	.1000E+01
15	96.0	.5410E+03	.0000E+00	.5410E+03	.1000E+01
16	95.3	.5657E+03	.0000E+00	.5657E+03	.1000E+01
17	93.6	.5903E+03	.0000E+00	.5903E+03	.1000E+01
18	91.0	.6131E+03	.0000E+00	.6131E+03	.1000E+01
19	87.8	.6325E+03	.0000E+00	.6325E+03	.1000E+01
20	84.7	.6478E+03	.0000E+00	.6478E+03	.1000E+01
21	82.1	.6568E+03	.0000E+00	.6568E+03	.1000E+01
22	79.7	.3707E+03	.0000E+00	.3707E+03	.1000E+01
23	77.8	.3317E+03	.0000E+00	.3317E+03	.1000E+01
24	76.3	.3051E+03	.0000E+00	.3051E+03	.1000E+01

```
        THE INSIDE DESIGN TEMPR.= 78.0       MONTH=  8     DAY= 21

******  INPUT DATA FOR SURFACE # 1 OF ROOM # 3  ******

 north wall

 WRL=   9.00   WRW=  20.00     AD=    .00      AW= 130.00    PSI= 180.00
EPSILN=  90.00   SCG=    .51   UWRA=  .1170   UW=  .5200  UD=  .5500  ISHAD=  0

******  INPUT DATA FOR SURFACE # 2 OF ROOM # 3  ******

 north wall

 WRL=   3.00   WRW=  20.00     AD=    .00      AW=    .00    PSI= 180.00
EPSILN=  90.00   SCG=    .51   UWRA=  .0690   UW=  .5200  UD=  .5500  ISHAD=  0


******** GENERAL INPUT DATA FOR ROOM # 3 ********

NPN=   1,NPD=   4,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=   1320.0,QOTLN=       .0
QOTLD=       .0,QFLN=      .2,QFLD=      .5
QTLN=      .0,QTLD=      .0,OFST=  7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  1
```

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****

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1512E+04	.2000E+03	.1712E+04	.8832E+00
2	73.9	.1390E+04	.2000E+03	.1590E+04	.8742E+00
3	73.0	.1280E+04	.2000E+03	.1480E+04	.8648E+00
4	72.2	.1183E+04	.2000E+03	.1383E+04	.8553E+00
5	72.0	.1108E+04	.2000E+03	.1308E+04	.8471E+00
6	72.5	.1068E+04	.2000E+03	.1268E+04	.8423E+00
7	73.7	.1606E+04	.2000E+03	.1806E+04	.8893E+00
8	75.8	.4466E+04	.8000E+03	.5266E+04	.8481E+00
9	79.0	.5049E+04	.8000E+03	.5849E+04	.8632E+00
10	82.6	.5528E+04	.8000E+03	.6328E+04	.8736E+00
11	86.6	.5973E+04	.8000E+03	.6773E+04	.8819E+00
12	90.5	.6348E+04	.8000E+03	.7148E+04	.8881E+00
13	93.4	.6617E+04	.8000E+03	.7417E+04	.8921E+00
14	95.3	.6769E+04	.8000E+03	.7569E+04	.8943E+00
15	96.0	.6790E+04	.8000E+03	.7590E+04	.8946E+00
16	95.3	.6692E+04	.8000E+03	.7492E+04	.8932E+00
17	93.6	.3987E+04	.2000E+03	.4187E+04	.9522E+00
18	91.0	.3501E+04	.2000E+03	.3701E+04	.9460E+00
19	87.8	.2718E+04	.2000E+03	.2918E+04	.9315E+00
20	84.7	.2380E+04	.2000E+03	.2580E+04	.9225E+00
21	82.1	.2152E+04	.2000E+03	.2352E+04	.9150E+00
22	79.7	.1958E+04	.2000E+03	.2158E+04	.9073E+00
23	77.8	.1790E+04	.2000E+03	.1990E+04	.8995E+00
24	76.3	.1645E+04	.2000E+03	.1845E+04	.8916E+00

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

***** INPUT DATA FOR SURFACE # 1 OF ROOM # 4 ******

north wall

WRL= 9.00 WRW= 20.00 AD= .00 AW= 130.00 PSI= 180.00
PSILN= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

***** INPUT DATA FOR SURFACE # 2 OF ROOM # 4 ******

north wall

WRL= 3.00 WRW= 20.00 AD= .00 AW= .00 PSI= 180.00
PSILN= 90.00 SCG= .51 UWRA= .0690 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 4 ********

IPN= 0,NPD= 2,CFMN= .00,CFMD= .00
QTSN= .0,QQTSD= 50.0,QQTLN= .0
QTLD= .0,QFLN= .0,QFLD= .2
TLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

SOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 1

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cooling loads, zone b
****

TOTAL COOLING LOAD FOR ROOM 4 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4962E+03	.0000E+00	.4962E+03	.1000E+01
2	73.9	.3857E+03	.0000E+00	.3857E+03	.1000E+01
3	73.0	.2859E+03	.0000E+00	.2859E+03	.1000E+01
4	72.2	.1983E+03	.0000E+00	.1983E+03	.1000E+01
5	72.0	.1323E+03	.0000E+00	.1323E+03	.1000E+01
6	72.5	.9948E+02	.0000E+00	.9948E+02	.1000E+01
7	73.7	.6443E+03	.0000E+00	.6443E+03	.1000E+01
8	75.8	.1917E+04	.4000E+03	.2317E+04	.8274E+00
9	79.0	.2394E+04	.4000E+03	.2794E+04	.8568E+00
10	82.6	.2818E+04	.4000E+03	.3218E+04	.8757E+00
11	86.6	.3226E+04	.4000E+03	.3626E+04	.8897E+00
12	90.5	.3572E+04	.4000E+03	.3972E+04	.8993E+00
13	93.4	.3817E+04	.4000E+03	.4217E+04	.9051E+00
14	95.3	.3946E+04	.4000E+03	.4346E+04	.9080E+00
15	96.0	.3947E+04	.4000E+03	.4347E+04	.9080E+00
16	95.3	.3832E+04	.4000E+03	.4232E+04	.9055E+00
17	93.6	.2704E+04	.0000E+00	.2704E+04	.1000E+01
18	91.0	.2316E+04	.0000E+00	.2316E+04	.1000E+01
19	87.8	.1580E+04	.0000E+00	.1580E+04	.1000E+01
20	84.7	.1272E+04	.0000E+00	.1272E+04	.1000E+01
21	82.1	.1067E+04	.0000E+00	.1067E+04	.1000E+01
22	79.7	.8927E+03	.0000E+00	.8927E+03	.1000E+01
23	77.8	.7415E+03	.0000E+00	.7415E+03	.1000E+01
24	76.3	.6123E+03	.0000E+00	.6123E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******* GENERAL INPUT DATA FOR ROOM # 5 ********

NPN= 0,NPD= 0,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .2
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone b
****

TOTAL COOLING LOAD FOR ROOM 5 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.7176E+02	.0000E+00	.7176E+02	.1000E+01
2	73.9	.6401E+02	.0000E+00	.6401E+02	.1000E+01
3	73.0	.5711E+02	.0000E+00	.5711E+02	.1000E+01
4	72.2	.5094E+02	.0000E+00	.5094E+02	.1000E+01
5	72.0	.4545E+02	.0000E+00	.4545E+02	.1000E+01
6	72.5	.4055E+02	.0000E+00	.4055E+02	.1000E+01
7	73.7	.3617E+02	.0000E+00	.3617E+02	.1000E+01
8	75.8	.5518E+03	.0000E+00	.5518E+03	.1000E+01
9	79.0	.6141E+03	.0000E+00	.6141E+03	.1000E+01
10	82.6	.6478E+03	.0000E+00	.6478E+03	.1000E+01
11	86.6	.6710E+03	.0000E+00	.6710E+03	.1000E+01
12	90.5	.6897E+03	.0000E+00	.6897E+03	.1000E+01
13	93.4	.7057E+03	.0000E+00	.7057E+03	.1000E+01
14	95.3	.7198E+03	.0000E+00	.7198E+03	.1000E+01
15	96.0	.7323E+03	.0000E+00	.7323E+03	.1000E+01
16	95.3	.7435E+03	.0000E+00	.7435E+03	.1000E+01
17	93.6	.2338E+03	.0000E+00	.2338E+03	.1000E+01
18	91.0	.1770E+03	.0000E+00	.1770E+03	.1000E+01
19	87.8	.1481E+03	.0000E+00	.1481E+03	.1000E+01
20	84.7	.1291E+03	.0000E+00	.1291E+03	.1000E+01
21	82.1	.1142E+03	.0000E+00	.1142E+03	.1000E+01
22	79.7	.1016E+03	.0000E+00	.1016E+03	.1000E+01
23	77.8	.9055E+02	.0000E+00	.9055E+02	.1000E+01
24	76.3	.8076E+02	.0000E+00	.8076E+02	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 6 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .1
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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ıle center
ıling loads, zone b
****

TOTAL COOLING LOAD FOR ROOM 6 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.5833E+02	.0000E+00	.5833E+02	.1000E+01
2	73.9	.5207E+02	.0000E+00	.5207E+02	.1000E+01
3	73.0	.4648E+02	.0000E+00	.4648E+02	.1000E+01
4	72.2	.4149E+02	.0000E+00	.4149E+02	.1000E+01
5	72.0	.3704E+02	.0000E+00	.3704E+02	.1000E+01
6	72.5	.3306E+02	.0000E+00	.3306E+02	.1000E+01
7	73.7	.2951E+02	.0000E+00	.2951E+02	.1000E+01
8	75.8	.5752E+03	.2000E+03	.7752E+03	.7420E+00
9	79.0	.6271E+03	.2000E+03	.8271E+03	.7582E+00
10	82.6	.6547E+03	.2000E+03	.8547E+03	.7660E+00
11	86.6	.6735E+03	.2000E+03	.8735E+03	.7710E+00
12	90.5	.6887E+03	.2000E+03	.8887E+03	.7749E+00
13	93.4	.7016E+03	.2000E+03	.9016E+03	.7782E+00
14	95.3	.7130E+03	.2000E+03	.9130E+03	.7809E+00
15	96.0	.7231E+03	.2000E+03	.9231E+03	.7833E+00
16	95.3	.7321E+03	.2000E+03	.9321E+03	.7854E+00
17	93.6	.1913E+03	.0000E+00	.1913E+03	.1000E+01
18	91.0	.1438E+03	.0000E+00	.1438E+03	.1000E+01
19	87.8	.1201E+03	.0000E+00	.1201E+03	.1000E+01
20	84.7	.1046E+03	.0000E+00	.1046E+03	.1000E+01
21	82.1	.9264E+02	.0000E+00	.9264E+02	.1000E+01
22	79.7	.8246E+02	.0000E+00	.8246E+02	.1000E+01
23	77.8	.7353E+02	.0000E+00	.7353E+02	.1000E+01
24	76.3	.6562E+02	.0000E+00	.6562E+02	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 7 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 175.0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .4
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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cooling loads, zone b
****

TOTAL COOLING LOAD FOR ROOM 7 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1614E+03	.0000E+00	.1614E+03	.1000E+01
2	73.9	.1440E+03	.0000E+00	.1440E+03	.1000E+01
3	73.0	.1285E+03	.0000E+00	.1285E+03	.1000E+01
4	72.2	.1147E+03	.0000E+00	.1147E+03	.1000E+01
5	72.0	.1024E+03	.0000E+00	.1024E+03	.1000E+01
6	72.5	.9135E+02	.0000E+00	.9135E+02	.1000E+01
7	73.7	.8152E+02	.0000E+00	.8152E+02	.1000E+01
8	75.8	.1456E+04	.2000E+03	.1656E+04	.8792E+00
9	79.0	.1598E+04	.2000E+03	.1798E+04	.8888E+00
10	82.6	.1674E+04	.2000E+03	.1874E+04	.8933E+00
11	86.6	.1727E+04	.2000E+03	.1927E+04	.8962E+00
12	90.5	.1768E+04	.2000E+03	.1968E+04	.8984E+00
13	93.4	.1804E+04	.2000E+03	.2004E+04	.9002E+00
14	95.3	.1836E+04	.2000E+03	.2036E+04	.9018E+00
15	96.0	.1864E+04	.2000E+03	.2064E+04	.9031E+00
16	95.3	.1889E+04	.2000E+03	.2089E+04	.9043E+00
17	93.6	.5279E+03	.0000E+00	.5279E+03	.1000E+01
18	91.0	.3978E+03	.0000E+00	.3978E+03	.1000E+01
19	87.8	.3325E+03	.0000E+00	.3325E+03	.1000E+01
20	84.7	.2898E+03	.0000E+00	.2898E+03	.1000E+01
21	82.1	.2565E+03	.0000E+00	.2565E+03	.1000E+01
22	79.7	.2282E+03	.0000E+00	.2282E+03	.1000E+01
23	77.8	.2035E+03	.0000E+00	.2035E+03	.1000E+01
24	76.3	.1815E+03	.0000E+00	.1815E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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cooling loads, zone b
****

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2994E+04	.2000E+03	.3194E+04	.9374E+00
2	73.9	.2703E+04	.2000E+03	.2903E+04	.9311E+00
3	73.0	.2437E+04	.2000E+03	.2637E+04	.9241E+00
4	72.2	.2198E+04	.2000E+03	.2398E+04	.9166E+00
5	72.0	.2006E+04	.2000E+03	.2206E+04	.9093E+00
6	72.5	.1882E+04	.2000E+03	.2082E+04	.9039E+00
7	73.7	.2917E+04	.2000E+03	.3117E+04	.9358E+00
8	75.8	.1003E+05	.1600E+04	.1163E+05	.8625E+00
9	79.0	.1140E+05	.1600E+04	.1300E+05	.8769E+00
10	82.6	.1246E+05	.1600E+04	.1406E+05	.8862E+00
11	86.6	.1342E+05	.1600E+04	.1502E+05	.8934E+00
12	90.5	.1423E+05	.1600E+04	.1583E+05	.8989E+00
13	93.4	.1482E+05	.1600E+04	.1642E+05	.9026E+00
14	95.3	.1518E+05	.1600E+04	.1678E+05	.9047E+00
15	96.0	.1528E+05	.1600E+04	.1688E+05	.9052E+00
16	95.3	.1514E+05	.1600E+04	.1674E+05	.9044E+00
17	93.6	.8919E+04	.2000E+03	.9119E+04	.9781E+00
18	91.0	.7941E+04	.2000E+03	.8041E+04	.9751E+00
19	87.8	.6232E+04	.2000E+03	.6432E+04	.9689E+00
20	84.7	.5537E+04	.2000E+03	.5737E+04	.9651E+00
21	82.1	.5066E+04	.2000E+03	.5266E+04	.9620E+00
22	79.7	.4087E+04	.2000E+03	.4287E+04	.9534E+00
23	77.8	.3661E+04	.2000E+03	.3861E+04	.9482E+00
24	76.3	.3313E+04	.2000E+03	.3513E+04	.9431E+00

```
ERMAX =       .0  ERMIN =       .0  ENCRE =    1000.0
THRANG=      2.0  THSETD=     78.0  THSETN=      78.0
THTIMD=      5.0  THTIMN=     20.0  NCOIL =  1
```

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cble center
ooling loads, zone b
****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING
IF THE ROOM TEMPERATURE IS HIGH DURING THE OFFICE TIME CHOOSE A ERMAX BIGGER THAN THE PRESENT ONE

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 20.HRS

1	77.3	4	77.3	7	77.4	10	78.7	13	79.0	16	79.0	19	77.7	22	77.5
2	77.3	5	77.2	8	78.4	11	78.8	14	79.0	17	78.0	20	77.6	23	77.4
3	77.3	6	77.2	9	78.6	12	78.9	15	79.0	18	77.9	21	77.6	24	77.4

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 17000. ENCRE= 1000. BTU/HOUR

1	2967.	4	2210.	7	3041.	10	14433.	13	16778.	16	16984.	19	6188.	22	4027.
2	2688.	5	2032.	8	12032.	11	15392.	14	17111.	17	8919.	20	5495.	23	3612.
3	2434.	6	1927.	9	13376.	12	16198.	15	17170.	18	7846.	21	5031.	24	3276.

CFMT =	140.0	CFMM =	49.0	ETAF =	.500
PB =	14.6960	MEX =	0	DPOR =	2.000
ETAFR=	.5000	NSF =	0	DPOS =	2.000
ETAFS=	.5000				

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noble center
cooling loads, zone b
****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 17170. AT 15 HOURS WITH A SENSIBLE HEAT FACTOR OF .907

OUTDOOR AIR= 49. CFM AT 14.696 PSIA AND 96.0 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= 214. CFM AT 14.696 PSIA AND 54.8 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 594. CFM AT 54.8 DEG F DRY BULB --- 52.2 DEG F WET BULB AND 14.696 PSIA

THE RETURN AIR FAN TOTAL PRESSURE IS 2.00 IN. WAT. WITH TOTAL EFFICIENCY OF .50 AND 621. CFM

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS: ENTERING DRY BULB TEMP= 82.4 DEG F

ENTERING WET BULB TEMP= 64.2 DEG F

LEAVING DRY BULB TEMP= 54.8 DEG F

LEAVING WET BULB TEMP= 52.2 DEG F

ENTERING AIR QUANTITY= 626. CFM

COIL SENSIBLE HEAT FACTOR= .873

TOTAL COIL CAPACITY= 21278. BTUH

noble center
cooling loads, zone 1
****

********** GENERAL INPUT DATA **********

IB= 3,MO= 2,NRMS= 4,WD= .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT= 36.0
ACLONG= 97.0,STLONG= 90.0,TROOM= 78.0,TMAXIM= 96.0 TRANGE= 24.0
TIH= 72.0 TGH= 13.0

NM= 8,NHTX= 1, TWBO= 74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI= 67.00,WO= .0136, PB= 14.696

OUT DOOR TEMPERATURERS 1-24HRS IN F

1	75.1	4	72.2	7	73.7	10	82.6	13	93.4	16	95.3	19	87.8	22	79.7
2	73.9	5	72.0	8	75.8	11	86.6	14	95.3	17	93.6	20	84.7	23	77.8
3	73.0	6	72.5	9	79.0	12	90.5	15	96.0	18	91.0	21	82.1	24	76.3

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 1 ******

west wall

WRL= 13.00 WRW= 25.00 AD= .00 AW= .00 PSI= 270.00
EPSILN= 90.00 SCS= 1.00 UWRA= .0510 UW= 1.0800 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .1

QTLN= .0,QTLD= .0,DFST= 7.0,DFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IDCEQ= 2,IAIR= 5

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noble center
cooling loads, zone c
****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1582E+03	.0000E+00	.1582E+03	.1000E+01
2	73.9	.1584E+03	.0000E+00	.1584E+03	.1000E+01
3	73.0	.1586E+03	.0000E+00	.1586E+03	.1000E+01
4	72.2	.1584E+03	.0000E+00	.1584E+03	.1000E+01
5	72.0	.1575E+03	.0000E+00	.1575E+03	.1000E+01
6	72.5	.1559E+03	.0000E+00	.1559E+03	.1000E+01
7	73.7	.1534E+03	.0000E+00	.1534E+03	.1000E+01
8	75.8	.6990E+03	.2000E+03	.8990E+03	.7775E+00
9	79.0	.7496E+03	.2000E+03	.9496E+03	.7894E+00
10	82.6	.7749E+03	.2000E+03	.9749E+03	.7949E+00
11	86.6	.7905E+03	.2000E+03	.9905E+03	.7981E+00
12	90.5	.8015E+03	.2000E+03	.1001E+04	.8003E+00
13	93.4	.8097E+03	.2000E+03	.1010E+04	.8019E+00
14	95.3	.8159E+03	.2000E+03	.1016E+04	.8031E+00
15	96.0	.8208E+03	.2000E+03	.1021E+04	.8041E+00
16	95.3	.8246E+03	.2000E+03	.1025E+04	.8048E+00
17	93.6	.2790E+03	.0000E+00	.2790E+03	.1000E+01
18	91.0	.2274E+03	.0000E+00	.2274E+03	.1000E+01
19	87.8	.2008E+03	.0000E+00	.2008E+03	.1000E+01
20	84.7	.1841E+03	.0000E+00	.1841E+03	.1000E+01
21	82.1	.1728E+03	.0000E+00	.1728E+03	.1000E+01
22	79.7	.1655E+03	.0000E+00	.1655E+03	.1000E+01
23	77.8	.1614E+03	.0000E+00	.1614E+03	.1000E+01
24	76.3	.1596E+03	.0000E+00	.1596E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

```
******** GENERAL INPUT DATA FOR ROOM # 2 *******

NPN=   0,NPD=   0,QFMN=      .00,QFMD=      .00
QQTSN=       .0,QQTSD=   1710.0,QQTLN=       .0
QQTLD=       .0,QFLN=       .2,QFLD=       .8
QTLN=      .0,QTLD=      .0,QFST=  7.0,QFCT= 21.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
```

noble center
cooling loads, zone c

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1639E+04	.0000E+00	.1639E+04	.1000E+01
2	73.9	.1547E+04	.0000E+00	.1547E+04	.1000E+01
3	73.0	.1468E+04	.0000E+00	.1468E+04	.1000E+01
4	72.2	.1398E+04	.0000E+00	.1398E+04	.1000E+01
5	72.0	.1336E+04	.0000E+00	.1336E+04	.1000E+01
6	72.5	.1281E+04	.0000E+00	.1281E+04	.1000E+01
7	73.7	.1232E+04	.0000E+00	.1232E+04	.1000E+01
8	75.8	.5761E+04	.1600E+04	.7361E+04	.7826E+00
9	79.0	.6082E+04	.1600E+04	.7682E+04	.7917E+00
10	82.6	.6241E+04	.1600E+04	.7841E+04	.7959E+00
11	86.6	.6344E+04	.1600E+04	.7944E+04	.7986E+00
12	90.5	.6425E+04	.1600E+04	.8025E+04	.8006E+00
13	93.4	.6493E+04	.1600E+04	.8093E+04	.8023E+00
14	95.3	.6553E+04	.1600E+04	.8153E+04	.8038E+00
15	96.0	.6607E+04	.1600E+04	.8207E+04	.3050E+00
16	95.3	.6654E+04	.1600E+04	.8254E+04	.8062E+00
17	93.6	.6697E+04	.1600E+04	.8297E+04	.3072E+00
18	91.0	.6735E+04	.1600E+04	.8335E+04	.8080E+00
19	87.8	.6768E+04	.1600E+04	.8368E+04	.8088E+00
20	84.7	.6799E+04	.1600E+04	.8399E+04	.8095E+00
21	82.1	.6826E+04	.1600E+04	.8426E+04	.8101E+00
22	79.7	.2277E+04	.0000E+00	.2277E+04	.1000E+01
23	77.8	.1938E+04	.0000E+00	.1938E+04	.1000E+01
24	76.3	.1763E+04	.0000E+00	.1763E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

```
NPN=   0,NPD=  39,CPMN=      .00,CPMD=      .00
GOTSN=       .0,GOTSD=       .0,GOTLN=       .0
GOTLD=       .0,GFLN=      .0,GFLD=     1.0
GTLN=      .0,GTLD=      .0,GFST=  7.0,GFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISCLAR=  1,ICNDT=  1,ILGHT=  1,IOCEG=  1,IAIR=  1
```

noble center
cooling loads, zone 1

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.3209E+03	.0000E+00	.3209E+03	.1000E+01
2	73.9	.2854E+03	.0000E+00	.2854E+03	.1000E+01
3	73.0	.2544E+03	.0000E+00	.2544E+03	.1000E+01
4	72.2	.2270E+03	.0000E+00	.2270E+03	.1000E+01
5	72.0	.2027E+03	.0000E+00	.2027E+03	.1000E+01
6	72.5	.1811E+03	.0000E+00	.1811E+03	.1000E+01
7	73.7	.1619E+03	.0000E+00	.1619E+03	.1000E+01
8	75.8	.1081E+05	.7800E+04	.1861E+05	.5808E+00
9	79.0	.1197E+05	.7800E+04	.1977E+05	.6054E+00
10	82.6	.1251E+05	.7800E+04	.2031E+05	.6159E+00
11	86.6	.1278E+05	.7800E+04	.2058E+05	.6211E+00
12	90.5	.1294E+05	.7800E+04	.2074E+05	.6240E+00
13	93.4	.1305E+05	.7800E+04	.2085E+05	.6258E+00
14	95.3	.1312E+05	.7800E+04	.2092E+05	.6272E+00
15	96.0	.1318E+05	.7800E+04	.2098E+05	.6283E+00
16	95.3	.1324E+05	.7800E+04	.2104E+05	.6292E+00
17	93.6	.2619E+04	.0000E+00	.2619E+04	.1000E+01
18	91.0	.1485E+04	.0000E+00	.1485E+04	.1000E+01
19	87.8	.9638E+03	.0000E+00	.9638E+03	.1000E+01
20	84.7	.7070E+03	.0000E+00	.7070E+03	.1000E+01
21	82.1	.5657E+03	.0000E+00	.5657E+03	.1000E+01
22	79.7	.4770E+03	.0000E+00	.4770E+03	.1000E+01
23	77.8	.4137E+03	.0000E+00	.4137E+03	.1000E+01
24	76.3	.3640E+03	.0000E+00	.3640E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 4 ******

west wall

WRL= 13.00 WRW= 12.00 AD= .00 AW= .00 PSI= 270.00
EPSILN= 90.00 SCG= 1.00 UWRA= .0510 UW= 1.0800 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 4 ******

south wall

WRL= 13.00 WRW= 20.00 AD= .00 AW= .00 PSI= .00
EPSILN= 90.00 SCG= 1.00 UWRA= .1170 UW= 1.0800 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 4 ********

WPN= 1,NPD= 125,CFMN= .00,CFMD= .00
QCTSN= .0,QCTSD= .0,QCTLN= .0
QCTLD= .0,QFLN= .2,QFLD= 2.2
QTLN= .0,QTLD= .3,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 1,ICNDT= 1,ILGHT= 1,IOCEQ= 1,IAIR= 1

people center
cooling loads, zone c
****

TOTAL COOLING LOAD FOR ROOM 4 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2838E+04	.2000E+03	.3038E+04	.9342E+00
2	73.9	.2687E+04	.2000E+03	.2887E+04	.9307E+00
3	73.0	.2548E+04	.2000E+03	.2748E+04	.9272E+00
4	72.2	.2419E+04	.2000E+03	.2619E+04	.9236E+00
5	72.0	.2298E+04	.2000E+03	.2498E+04	.9199E+00
6	72.5	.2184E+04	.2000E+03	.2384E+04	.9161E+00
7	73.7	.2078E+04	.2000E+03	.2278E+04	.9122E+00
8	75.8	.3352E+05	.2500E+05	.5852E+05	.5728E+00
9	79.0	.3674E+05	.2500E+05	.6174E+05	.5951E+00
10	82.6	.3825E+05	.2500E+05	.6325E+05	.6047E+00
11	86.6	.3902E+05	.2500E+05	.6402E+05	.6095E+00
12	90.5	.3950E+05	.2500E+05	.6450E+05	.6124E+00
13	93.4	.3986E+05	.2500E+05	.6486E+05	.6146E+00
14	95.3	.4017E+05	.2500E+05	.6517E+05	.6164E+00
15	96.0	.4044E+05	.2500E+05	.6544E+05	.6180E+00
16	95.3	.4070E+05	.2500E+05	.6570E+05	.6195E+00
17	93.6	.9384E+04	.2000E+03	.9584E+04	.9791E+00
18	91.0	.6256E+04	.2000E+03	.6456E+04	.9690E+00
19	87.8	.4829E+04	.2000E+03	.5029E+04	.9602E+00
20	84.7	.4114E+04	.2000E+03	.4314E+04	.9536E+00
21	82.1	.3701E+04	.2000E+03	.3901E+04	.9487E+00
22	79.7	.3419E+04	.2000E+03	.3619E+04	.9447E+00
23	77.8	.3200E+04	.2000E+03	.3400E+04	.9412E+00
24	76.3	.3014E+04	.2000E+03	.3214E+04	.9378E+00

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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noble center
cooling loads, zone c

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4956E+04	.2000E+03	.5156E+04	.9612E+00
2	73.9	.4678E+04	.2000E+03	.4878E+04	.9590E+00
3	73.0	.4429E+04	.2000E+03	.4629E+04	.9568E+00
4	72.2	.4202E+04	.2000E+03	.4402E+04	.9546E+00
5	72.0	.3994E+04	.2000E+03	.4194E+04	.9523E+00
6	72.5	.3802E+04	.2000E+03	.4002E+04	.9500E+00
7	73.7	.3625E+04	.2000E+03	.3825E+04	.9477E+00
8	75.8	.5078E+05	.3460E+05	.8538E+05	.5948E+00
9	79.0	.5554E+05	.3460E+05	.9014E+05	.6162E+00
10	82.6	.5777E+05	.3460E+05	.9237E+05	.6254E+00
11	86.6	.5894E+05	.3460E+05	.9354E+05	.6301E+00
12	90.5	.5967E+05	.3460E+05	.9427E+05	.6330E+00
13	93.4	.6021E+05	.3460E+05	.9481E+05	.6351E+00
14	95.3	.6066E+05	.3460E+05	.9526E+05	.6368E+00
15	96.0	.6106E+05	.3460E+05	.9566E+05	.6383E+00
16	95.3	.6141E+05	.3460E+05	.9601E+05	.6396E+00
17	93.6	.1898E+05	.1800E+04	.2078E+05	.9134E+00
18	91.0	.1470E+05	.1800E+04	.1650E+05	.8909E+00
19	87.8	.1276E+05	.1800E+04	.1456E+05	.8764E+00
20	84.7	.1180E+05	.1800E+04	.1360E+05	.8677E+00
21	82.1	.1126E+05	.1800E+04	.1306E+05	.8622E+00
22	79.7	.6338E+04	.2000E+03	.6538E+04	.9694E+00
23	77.8	.5713E+04	.2000E+03	.5913E+04	.9662E+00
24	76.3	.5301E+04	.2000E+03	.5501E+04	.9636E+00

```
ERMAX =      .0  ERMIN =      .0  ENCRE =   1000.0
THRANG=     2.0  THSETD=    78.0  THSETN=     78.0
THTIMD=     5.0  THTIMN=    20.0  NCOIL =  1
```

noble center
cooling loads, zone c
****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 20.HRS

1	77.1	4	77.1	7	77.1	10	78.9	13	79.0	16	79.0	19	77.3	22	77.1
2	77.1	5	77.1	8	78.8	11	78.9	14	79.0	17	77.4	20	77.3	23	77.1
3	77.1	6	77.1	9	78.9	12	79.0	15	79.0	18	77.3	21	77.3	24	77.1

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 97000. ENCRE= 1000. BTU/HOUR

1	4895.	4	4210.	7	3686.	10	92971.	13	95254.	16	96348.	19	14168.	22	6180.
2	4642.	5	4021.	8	96227.	11	94082.	14	95663.	17	20190.	20	13254.	23	5594.
3	4410.	6	3847.	9	90828.	12	94760.	15	96025.	18	16043.	21	12750.	24	5214.

```
CFMT =    3440.0  CFMM =     860.0  ETAF =      .500
P3   =   14.6960  MEX  =         0 DPQR =     2.000
ETAFA=     .5000  NSF  =         0  DPQS =     2.000
ETAFB=     .5000
```

noble center
cooling loads, zone c
****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 96348. AT 15 HOURS WITH A SENSIBLE HEAT FACTOR OF .641

OUTDOOR AIR= 860. CFM AT 14.696 PSIA AND 95.3 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= 5725. CFM AT 14.696 PSIA AND 68.0 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 5725. CFM AT 68.0 DEG F DRY BULB --- 62.0 DEG F WET BULB AND 14.696 PSIA

THE RETURN AIR FAN TOTAL PRESSURE IS 2.00 IN. WAT. WITH TOTAL EFFICIENCY OF .50 AND 5833. CFM

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS: ENTERING DRY BULB TEMP= 83.6 DEG F

ENTERING WET BULB TEMP= 68.6 DEG F

LEAVING DRY BULB TEMP= 68.0 DEG F

LEAVING WET BULB TEMP= 62.0 DEG F

ENTERING AIR QUANTITY= 5893. CFM

COIL SENSIBLE HEAT FACTOR= .725

TOTAL COIL CAPACITY= 139693. BTUH

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noble center
cooling load, zone 6
****

********** GENERAL INPUT DATA **********

IB= 3,MC= 2,NRMS= 5,WO= .0136,IA= 0,NPRT= 0,INWRIT= 1,ALAT= 36.0
ACLONG= 97.0,STLONG= 90.0,TROOM= 78.0,TMAXIM= 96.0 TRANGE= 24.0
TIH= 72.0 TOH= 13.0

NM= 8,NHTX= 1, TWBO= 74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI= 62.00,WO= .0136, PB= 14.696

OUT DOOR TEMPERATURERS 1-24HRS IN F

1	75.1	4	72.2	7	73.7	10	82.6	13	93.4	16	95.3	19	87.8	22	79.7
2	73.9	5	72.0	8	75.8	11	86.6	14	95.3	17	93.6	20	84.7	23	77.8
3	73.0	6	72.5	9	79.0	12	90.5	15	96.0	18	91.0	21	82.1	24	76.3

******** GENERAL INPUT DATA FOR ROOM # 1 ********

NFN= 0,NPD= 6,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 1200.0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .6
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 21.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noole center
cooling load, zone d

****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)

****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.7271E+03	.0000E+00	.7271E+03	.1000E+01
2	73.9	.6450E+03	.0000E+00	.6450E+03	.1000E+01
3	73.0	.5747E+03	.0000E+00	.5747E+03	.1000E+01
4	72.2	.5129E+03	.0000E+00	.5129E+03	.1000E+01
5	72.0	.4580E+03	.0000E+00	.4580E+03	.1000E+01
6	72.5	.4090E+03	.0000E+00	.4090E+03	.1000E+01
7	73.7	.3653E+03	.0000E+00	.3653E+03	.1000E+01
8	75.8	.4071E+04	.1200E+04	.5271E+04	.7724E+00
9	79.0	.4352E+04	.1200E+04	.5552E+04	.7838E+00
10	82.6	.4491E+04	.1200E+04	.5691E+04	.7891E+00
11	86.6	.4582E+04	.1200E+04	.5782E+04	.7925E+00
12	90.5	.4653E+04	.1200E+04	.5853E+04	.7950E+00
13	93.4	.4714E+04	.1200E+04	.5914E+04	.7971E+00
14	95.3	.4767E+04	.1200E+04	.5967E+04	.7989E+00
15	96.0	.4814E+04	.1200E+04	.6014E+04	.8005E+00
16	95.3	.4856E+04	.1200E+04	.6056E+04	.8019E+00
17	93.6	.4894E+04	.1200E+04	.6094E+04	.8031E+00
18	91.0	.4927E+04	.1200E+04	.6127E+04	.8041E+00
19	87.8	.4957E+04	.1200E+04	.6157E+04	.8051E+00
20	84.7	.4984E+04	.1200E+04	.6184E+04	.8059E+00
21	82.1	.5007E+04	.1200E+04	.6207E+04	.8067E+00
22	79.7	.1283E+04	.0000E+00	.1283E+04	.1000E+01
23	77.8	.9874E+03	.0000E+00	.9874E+03	.1000E+01
24	76.3	.8338E+03	.0000E+00	.8338E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 2 ********

NPN= 0,NPD= 4,CFMN= .00,CFMD= .00
QQTSN= .0,QQTSD= .0,QQTLN= .0
QQTLD= .0,QFLN= .0,QFLD= .2
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1137E+03	.0000E+00	.1137E+03	.1000E+01
2	73.9	.1016E+03	.0000E+00	.1016E+03	.1000E+01
3	73.0	.9075E+02	.0000E+00	.9075E+02	.1000E+01
4	72.2	.8106E+02	.0000E+00	.8106E+02	.1000E+01
5	72.0	.7240E+02	.0000E+00	.7240E+02	.1000E+01
6	72.5	.6467E+02	.0000E+00	.6467E+02	.1000E+01
7	73.7	.5777E+02	.0000E+00	.5777E+02	.1000E+01
8	75.8	.1381E+04	.8000E+03	.2181E+04	.6332E+00
9	79.0	.1485E+04	.8000E+03	.2285E+04	.6499E+00
10	82.6	.1539E+04	.8000E+03	.2339E+04	.6580E+00
11	86.6	.1576E+04	.8000E+03	.2376E+04	.6633E+00
12	90.5	.1605E+04	.8000E+03	.2405E+04	.6674E+00
13	93.4	.1630E+04	.8000E+03	.2430E+04	.6708E+00
14	95.3	.1652E+04	.8000E+03	.2452E+04	.6738E+00
15	96.0	.1672E+04	.8000E+03	.2472E+04	.6764E+00
16	95.3	.1689E+04	.8000E+03	.2489E+04	.6786E+00
17	93.6	.3756E+03	.0000E+00	.3756E+03	.1000E+01
18	91.0	.2801E+03	.0000E+00	.2801E+03	.1000E+01
19	87.8	.2335E+03	.0000E+00	.2335E+03	.1000E+01
20	84.7	.2035E+03	.0000E+00	.2035E+03	.1000E+01
21	82.1	.1802E+03	.0000E+00	.1802E+03	.1000E+01
22	79.7	.1605E+03	.0000E+00	.1605E+03	.1000E+01
23	77.8	.1432E+03	.0000E+00	.1432E+03	.1000E+01
24	76.3	.1279E+03	.0000E+00	.1279E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 3 ********

NPN= 0,NPD= 2,CFMN= .00,CFMD= .00
QQTSN= .0,QQTSD= .0,QQTLN= .0
QQTLD= .0,QFLN= .2,QFLD= .6
QTLN= .0,QTLD= 1.1,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IQCEQ= 2,IAIR= 5

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****

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1143E+04	.0000E+00	.1143E+04	.1000E+01
2	73.9	.1090E+04	.0000E+00	.1090E+04	.1000E+01
3	73.0	.1043E+04	.0000E+00	.1043E+04	.1000E+01
4	72.2	.1001E+04	.0000E+00	.1001E+04	.1000E+01
5	72.0	.9642E+03	.0000E+00	.9642E+03	.1000E+01
6	72.3	.9309E+03	.0000E+00	.9309E+03	.1000E+01
7	73.7	.9012E+03	.0000E+00	.9012E+03	.1000E+01
8	75.8	.4676E+04	.4000E+03	.5076E+04	.9212E+00
9	79.0	.5103E+04	.4000E+03	.5503E+04	.9273E+00
10	82.6	.5334E+04	.4000E+03	.5734E+04	.9302E+00
11	86.6	.5493E+04	.4000E+03	.5893E+04	.9321E+00
12	90.5	.5620E+04	.4000E+03	.6020E+04	.9336E+00
13	93.4	.5730E+04	.4000E+03	.6130E+04	.9347E+00
14	95.3	.5826E+04	.4000E+03	.6226E+04	.9357E+00
15	96.0	.5911E+04	.4000E+03	.6311E+04	.9366E+00
16	95.3	.5987E+04	.4000E+03	.6387E+04	.9374E+00
17	93.6	.2254E+04	.0000E+00	.2254E+04	.1000E+01
18	91.0	.1863E+04	.0000E+00	.1863E+04	.1000E+01
19	87.8	.1666E+04	.0000E+00	.1666E+04	.1000E+01
20	84.7	.1536E+04	.0000E+00	.1536E+04	.1000E+01
21	82.1	.1435E+04	.0000E+00	.1435E+04	.1000E+01
22	79.7	.1349E+04	.0000E+00	.1349E+04	.1000E+01
23	77.8	.1273E+04	.0000E+00	.1273E+04	.1000E+01
24	76.3	.1206E+04	.0000E+00	.1206E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR SURFACE # 3 OF ROOM # 4 ******

east wall

WRL= 13.00 WRW= 50.00 HD= .00 HW= 130.00 PSI= 90.00
EPSILN= 90.00 SCG= .51 UWRH= .0510 UW= .5200 UD= .3500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 4 ********

NPN= 0,NPD= 5,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 100.0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .9
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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TOTAL COOLING LOAD FOR ROOM 4 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1352E+04	.0000E+00	.1352E+04	.1000E+01
2	73.9	.1189E+04	.0000E+00	.1189E+04	.1000E+01
3	73.0	.1042E+04	.0000E+00	.1042E+04	.1000E+01
4	72.2	.9102E+03	.0000E+00	.9102E+03	.1000E+01
5	72.0	.8030E+03	.0000E+00	.8030E+03	.1000E+01
6	72.5	.7323E+03	.0000E+00	.7323E+03	.1000E+01
7	73.7	.5818E+04	.0000E+00	.5818E+04	.1000E+01
8	75.8	.1250E+05	.1000E+04	.1350E+05	.9259E+00
9	79.0	.1387E+05	.1000E+04	.1487E+05	.9327E+00
10	82.6	.1342E+05	.1000E+04	.1442E+05	.9307E+00
11	86.6	.1165E+05	.1000E+04	.1265E+05	.9209E+00
12	90.5	.9346E+04	.1000E+04	.1035E+05	.9033E+00
13	93.4	.8570E+04	.1000E+04	.9570E+04	.8955E+00
14	95.3	.8395E+04	.1000E+04	.9395E+04	.8936E+00
15	96.0	.8286E+04	.1000E+04	.9286E+04	.8923E+00
16	95.3	.8084E+04	.1000E+04	.9084E+04	.8899E+00
17	93.6	.4454E+04	.0000E+00	.4454E+04	.1000E+01
18	91.0	.3640E+04	.0000E+00	.3640E+04	.1000E+01
19	87.8	.2885E+04	.0000E+00	.2885E+04	.1000E+01
20	84.7	.2495E+04	.0000E+00	.2495E+04	.1000E+01
21	82.1	.2202E+04	.0000E+00	.2202E+04	.1000E+01
22	79.7	.1947E+04	.0000E+00	.1947E+04	.1000E+01
23	77.8	.1724E+04	.0000E+00	.1724E+04	.1000E+01
24	76.3	.1530E+04	.0000E+00	.1530E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

east wall

WRL= 13.00 WRW= 10.00 AD= .00 AW= 26.00 PSI= 90.00
EPSILN= 90.00 SCG= .51 UWRA= .0510 UW= .5200 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 5 ******

south wall

WRL= 13.00 WRW= 20.00 AD= .00 AW= .00 PSI= .00
EPSILN= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 5 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .2
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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TOTAL COOLING LOAD FOR ROOM 5 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.9661E+03	.0000E+00	.9661E+03	.1000E+01
2	73.9	.8864E+03	.0000E+00	.8864E+03	.1000E+01
3	73.0	.8090E+03	.0000E+00	.8090E+03	.1000E+01
4	72.2	.7347E+03	.0000E+00	.7347E+03	.1000E+01
5	72.0	.6655E+03	.0000E+00	.6655E+03	.1000E+01
6	72.5	.6044E+03	.0000E+00	.6044E+03	.1000E+01
7	73.7	.1576E+04	.0000E+00	.1576E+04	.1000E+01
8	75.8	.2930E+04	.2000E+03	.3130E+04	.9361E+00
9	79.0	.3177E+04	.2000E+03	.3377E+04	.9408E+00
10	82.6	.3072E+04	.2000E+03	.3272E+04	.9389E+00
11	86.6	.2721E+04	.2000E+03	.2921E+04	.9315E+00
12	90.5	.2291E+04	.2000E+03	.2491E+04	.9197E+00
13	93.4	.2193E+04	.2000E+03	.2393E+04	.9164E+00
14	95.3	.2236E+04	.2000E+03	.2436E+04	.9179E+00
15	96.0	.2305E+04	.2000E+03	.2505E+04	.9202E+00
16	95.3	.2357E+04	.2000E+03	.2557E+04	.9218E+00
17	93.6	.1654E+04	.0000E+00	.1654E+04	.1000E+01
18	91.0	.1547E+04	.0000E+00	.1547E+04	.1000E+01
19	87.8	.1430E+04	.0000E+00	.1430E+04	.1000E+01
20	84.7	.1361E+04	.0000E+00	.1361E+04	.1000E+01
21	82.1	.1290E+04	.0000E+00	.1290E+04	.1000E+01
22	79.7	.1213E+04	.0000E+00	.1213E+04	.1000E+01
23	77.8	.1133E+04	.0000E+00	.1133E+04	.1000E+01
24	76.3	.1052E+04	.0000E+00	.1052E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4302E+04	.0000E+00	.4302E+04	.1000E+01
2	73.9	.3913E+04	.0000E+00	.3913E+04	.1000E+01
3	73.0	.3560E+04	.0000E+00	.3560E+04	.1000E+01
4	72.2	.3240E+04	.0000E+00	.3240E+04	.1000E+01
5	72.0	.2963E+04	.0000E+00	.2963E+04	.1000E+01
6	72.5	.2741E+04	.0000E+00	.2741E+04	.1000E+01
7	73.7	.8718E+04	.0000E+00	.8718E+04	.1000E+01
8	75.8	.2556E+05	.3600E+04	.2916E+05	.8765E+00
9	79.0	.2798E+05	.3600E+04	.3158E+05	.8860E+00
10	82.6	.2786E+05	.3600E+04	.3146E+05	.8856E+00
11	86.6	.2602E+05	.3600E+04	.2962E+05	.8785E+00
12	90.5	.2352E+05	.3600E+04	.2712E+05	.8672E+00
13	93.4	.2284E+05	.3600E+04	.2644E+05	.8638E+00
14	95.3	.2288E+05	.3600E+04	.2648E+05	.8640E+00
15	96.0	.2299E+05	.3600E+04	.2659E+05	.8646E+00
16	95.3	.2297E+05	.3600E+04	.2657E+05	.8645E+00
17	93.6	.1363E+05	.1200E+04	.1483E+05	.9191E+00
18	91.0	.1226E+05	.1200E+04	.1346E+05	.9108E+00
19	87.8	.1117E+05	.1200E+04	.1237E+05	.9030E+00
20	84.7	.1058E+05	.1200E+04	.1178E+05	.8981E+00
21	82.1	.1011E+05	.1200E+04	.1131E+05	.8939E+00
22	79.7	.5953E+04	.0000E+00	.5953E+04	.1000E+01
23	77.8	.5260E+04	.0000E+00	.5260E+04	.1000E+01
24	76.3	.4751E+04	.0000E+00	.4751E+04	.1000E+01

ERMAX = .0 ERMIN = .0 ENCRE = 1000.0
THRANG= 2.0 THSETD= 78.0 THSETN= 78.0
THTIMD= 5.0 THTIMN= 20.0 NCOIL = 1

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****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING
IF THE ROOM TEMPERATURE IS HIGH DURING THE OFFICE TIME CHOOSE A ERMAX BIGGER THAN THE PRESENT ONE

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 20.HRS

1	77.2	4	77.2	7	77.5	10	79.0	13	78.7	16	78.7	19	77.8	22	77.3
2	77.2	5	77.2	8	78.9	11	78.9	14	78.7	17	77.9	20	77.7	23	77.3
3	77.2	6	77.2	9	79.0	12	78.7	15	78.7	18	77.8	21	77.7	24	77.3

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 32000. ENCRE= 1000. BTU/HOUR

1	3925.	4	2926.	7	8737.	10	32166.	13	26782.	16	26844.	19	12110.	22	5497.
2	3557.	5	2669.	8	30050.	11	30173.	14	26799.	17	14563.	20	11525.	23	4839.
3	3224.	6	2469.	9	32408.	12	27514.	15	26888.	18	13201.	21	11069.	24	4355.

```
CFMT =     360.0  CFMM =      90.0  ETAF =      .500
PB   =   14.6960  MEX  =         0 DPOR =     2.000
ETAFR=     .5000  NSF  =         0   DPOS =     2.000
ETAFS=     .5000
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****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 32408. AT 9 HOURS WITH A SENSIBLE HEAT FACTOR OF .889

OUTDOOR AIR= 90. CFM AT 14.696 PSIA AND 79.0 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= 601. CFM AT 14.696 PSIA AND 54.3 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 1077. CFM AT 54.3 DEG F DRY BULB --- 51.7 DEG F WET BULB AND 14.696 PSIA

THE RETURN AIR FAN TOTAL PRESSURE IS 2.00 IN. WAT. WITH TOTAL EFFICIENCY OF .50 AND 1127. CFM

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS: ENTERING DRY BULB TEMP= 80.9 DEG F

ENTERING WET BULB TEMP= 63.7 DEG F

LEAVING DRY BULB TEMP= 54.3 DEG F

LEAVING WET BULB TEMP= 51.7 DEG F

ENTERING AIR QUANTITY= 1133. CFM

COIL SENSIBLE HEAT FACTOR= .849

TOTAL COIL CAPACITY= 38232. BTUH

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 noble center
 cooling loads, zone e
*********************************************************************

************** GENERAL INPUT DATA **************

IB= 3,MC= 2,NRMS=  7,WO=  .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT=  36.0
ACLONG=  97.0,STLONG=  90.0,TROOM=  78.0,TMAXIM=  96.0  TRANGE= 24.0
TIH= 72.0  TOH= 13.0

 NM=  8,NHTX= 1, TWBO=   74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI=   62.00,WO=  .0136, PB=  14.696


    OUT DOOR TEMPERATURERS 1-24HRS   IN F
      1   75.1      4   72.2      7   73.7     10   82.6     13   93.4     16   95.3     19   87.8     22   79.7
      2   73.9      5   72.0      8   75.8     11   86.6     14   95.3     17   93.6     20   84.7     23   77.8
      3   73.0      6   72.5      9   79.0     12   90.5     15   96.0     18   91.0     21   82.1     24   76.3



******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN=   0,NPD=   3,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=       .0,QOTLN=       .0
QOTLD=       .0,QFLN=      .0,QFLD=      .9
QTLN=      .0,QTLD=      .0,OFST=  7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
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****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
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TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.3586E+03	.0000E+00	.3586E+03	.1000E+01
2	73.9	.3200E+03	.0000E+00	.3200E+03	.1000E+01
3	73.0	.2856E+03	.0000E+00	.2856E+03	.1000E+01
4	72.2	.2548E+03	.0000E+00	.2548E+03	.1000E+01
5	72.0	.2274E+03	.0000E+00	.2274E+03	.1000E+01
6	72.5	.2029E+03	.0000E+00	.2029E+03	.1000E+01
7	73.7	.1811E+03	.0000E+00	.1811E+03	.1000E+01
8	75.8	.3138E+04	.6000E+03	.3738E+04	.8395E+00
9	79.0	.3453E+04	.6000E+03	.4053E+04	.8519E+00
10	82.6	.3621E+04	.6000E+03	.4221E+04	.8579E+00
11	86.6	.3738E+04	.6000E+03	.4338E+04	.8617E+00
12	90.5	.3831E+04	.6000E+03	.4431E+04	.8646E+00
13	93.4	.3911E+04	.6000E+03	.4511E+04	.8670E+00
14	95.3	.3981E+04	.6000E+03	.4581E+04	.8690E+00
15	96.0	.4043E+04	.6000E+03	.4643E+04	.8708E+00
16	95.3	.4099E+04	.6000E+03	.4699E+04	.8723E+00
17	93.6	.1172E+04	.0000E+00	.1172E+04	.1000E+01
18	91.0	.8842E+03	.0000E+00	.8842E+03	.1000E+01
19	87.8	.7391E+03	.0000E+00	.7391E+03	.1000E+01
20	84.7	.6442E+03	.0000E+00	.6442E+03	.1000E+01
21	82.1	.5702E+03	.0000E+00	.5702E+03	.1000E+01
22	79.7	.5074E+03	.0000E+00	.5074E+03	.1000E+01
23	77.8	.4523E+03	.0000E+00	.4523E+03	.1000E+01
24	76.3	.4035E+03	.0000E+00	.4035E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

north wall

WRL= 10.00 WRW= 20.00 AD= .00 AW= 130.00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 2 ******

north wall

WRL= 3.00 WRW= 20.00 AD= .00 AW= .00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .0690 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 2 ********

NPN= 0,NPD= 2,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .3
QTLN= .0,QTLD= .0,OFST= 7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 1

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noble center
cooling loads, zone e
****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.5847E+03	.0000E+00	.5847E+03	.1000E+01
2	73.9	.4660E+03	.0000E+00	.4660E+03	.1000E+01
3	73.0	.3584E+03	.0000E+00	.3584E+03	.1000E+01
4	72.2	.2636E+03	.0000E+00	.2636E+03	.1000E+01
5	72.0	.1908E+03	.0000E+00	.1908E+03	.1000E+01
6	72.5	.1517E+03	.0000E+00	.1517E+03	.1000E+01
7	73.7	.6906E+03	.0000E+00	.6906E+03	.1000E+01
8	75.8	.2361E+04	.4000E+03	.2761E+04	.8551E+00
9	79.0	.2887E+04	.4000E+03	.3287E+04	.8783E+00
10	82.6	.3338E+04	.4000E+03	.3738E+04	.8930E+00
11	86.6	.3765E+04	.4000E+03	.4165E+04	.9040E+00
12	90.5	.4127E+04	.4000E+03	.4527E+04	.9116E+00
13	93.4	.4387E+04	.4000E+03	.4787E+04	.9164E+00
14	95.3	.4530E+04	.4000E+03	.4930E+04	.9189E+00
15	96.0	.4544E+04	.4000E+03	.4944E+04	.9191E+00
16	95.3	.4441E+04	.4000E+03	.4841E+04	.9174E+00
17	93.6	.2921E+04	.0000E+00	.2921E+04	.1000E+01
18	91.0	.2490E+04	.0000E+00	.2490E+04	.1000E+01
19	87.8	.1732E+04	.0000E+00	.1732E+04	.1000E+01
20	84.7	.1411E+04	.0000E+00	.1411E+04	.1000E+01
21	82.1	.1194E+04	.0000E+00	.1194E+04	.1000E+01
22	79.7	.1010E+04	.0000E+00	.1010E+04	.1000E+01
23	77.8	.8486E+03	.0000E+00	.8486E+03	.1000E+01
24	76.3	.7101E+03	.0000E+00	.7101E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 3 ******

north wall

WRL= 10.00 WRW= 10.00 AD= .00 AW= 65.00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 3 ******

north wall

WRL= 3.00 WRW= 10.00 AD= .00 AW= .00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .0690 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 3 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 50.0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .3
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 1

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noble center
cooling loads, zone e
****

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.3557E+03	.0000E+00	.3557E+03	.1000E+01
2	73.9	.2895E+03	.0000E+00	.2895E+03	.1000E+01
3	73.0	.2296E+03	.0000E+00	.2296E+03	.1000E+01
4	72.2	.1767E+03	.0000E+00	.1767E+03	.1000E+01
5	72.0	.1355E+03	.0000E+00	.1355E+03	.1000E+01
6	72.5	.1116E+03	.0000E+00	.1116E+03	.1000E+01
7	73.7	.3772E+03	.0000E+00	.3772E+03	.1000E+01
8	75.8	.1693E+04	.2000E+03	.1893E+04	.8943E+00
9	79.0	.2011E+04	.2000E+03	.2211E+04	.9095E+00
10	82.6	.2266E+04	.2000E+03	.2466E+04	.9189E+00
11	86.6	.2500E+04	.2000E+03	.2700E+04	.9259E+00
12	90.5	.2698E+04	.2000E+03	.2898E+04	.9310E+00
13	93.4	.2841E+04	.2000E+03	.3041E+04	.9342E+00
14	95.3	.2926E+04	.2000E+03	.3126E+04	.9360E+00
15	96.0	.2944E+04	.2000E+03	.3144E+04	.9364E+00
16	95.3	.2902E+04	.2000E+03	.3102E+04	.9355E+00
17	93.6	.1667E+04	.0000E+00	.1667E+04	.1000E+01
18	91.0	.1401E+04	.0000E+00	.1401E+04	.1000E+01
19	87.8	.9968E+03	.0000E+00	.9968E+03	.1000E+01
20	84.7	.8194E+03	.0000E+00	.8194E+03	.1000E+01
21	82.1	.6979E+03	.0000E+00	.6979E+03	.1000E+01
22	79.7	.5945E+03	.0000E+00	.5945E+03	.1000E+01
23	77.8	.5042E+03	.0000E+00	.5042E+03	.1000E+01
24	76.3	.4263E+03	.0000E+00	.4263E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 4 ******

north wall

WRL= 13.00 WRW= 10.00 AD= .00 AW= .00 PSI= 180.00
EPSILN= 90.00 SCG= 1.00 UWRA= .0930 UW= 1.0800 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 4 ******

east

WRL= 13.00 WRW= 9.00 AD= .00 AW= .00 PSI= 90.00
EPSILN= 90.00 SCG= 1.00 UWRA= .0930 UW= 1.0800 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 4 ********

NPN= 0,NPD= 0,CFM= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .1
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILIGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone e
****

TOTAL COOLING LOAD FOR ROOM 4 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4308E+03	.0000E+00	.4308E+03	.1000E+01
2	73.9	.4254E+03	.0000E+00	.4254E+03	.1000E+01
3	73.0	.4187E+03	.0000E+00	.4187E+03	.1000E+01
4	72.2	.4108E+03	.0000E+00	.4108E+03	.1000E+01
5	72.0	.4016E+03	.0000E+00	.4016E+03	.1000E+01
6	72.5	.3913E+03	.0000E+00	.3913E+03	.1000E+01
7	73.7	.3799E+03	.0000E+00	.3799E+03	.1000E+01
8	75.8	.7583E+03	.0000E+00	.7583E+03	.1000E+01
9	79.0	.7950E+03	.0000E+00	.7950E+03	.1000E+01
10	82.6	.8105E+03	.0000E+00	.8105E+03	.1000E+01
11	86.6	.8198E+03	.0000E+00	.8198E+03	.1000E+01
12	90.5	.8284E+03	.0000E+00	.8284E+03	.1000E+01
13	93.4	.8383E+03	.0000E+00	.8383E+03	.1000E+01
14	95.3	.8500E+03	.0000E+00	.8500E+03	.1000E+01
15	96.0	.8630E+03	.0000E+00	.8630E+03	.1000E+01
16	95.3	.8771E+03	.0000E+00	.8771E+03	.1000E+01
17	93.6	.5010E+03	.0000E+00	.5010E+03	.1000E+01
18	91.0	.4663E+03	.0000E+00	.4663E+03	.1000E+01
19	87.8	.4532E+03	.0000E+00	.4532E+03	.1000E+01
20	84.7	.4476E+03	.0000E+00	.4476E+03	.1000E+01
21	82.1	.4448E+03	.0000E+00	.4448E+03	.1000E+01
22	79.7	.4429E+03	.0000E+00	.4429E+03	.1000E+01
23	77.8	.4407E+03	.0000E+00	.4407E+03	.1000E+01
24	76.3	.4377E+03	.0000E+00	.4377E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 5 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 175.0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .4
QTLN= .0,QTLD= .0,OFST= 7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone e
****

TOTAL COOLING LOAD FOR ROOM 5 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1596E+03	.0000E+00	.1596E+03	.1000E+01
2	73.9	.1424E+03	.0000E+00	.1424E+03	.1000E+01
3	73.0	.1271E+03	.0000E+00	.1271E+03	.1000E+01
4	72.2	.1134E+03	.0000E+00	.1134E+03	.1000E+01
5	72.0	.1012E+03	.0000E+00	.1012E+03	.1000E+01
6	72.5	.9035E+02	.0000E+00	.9035E+02	.1000E+01
7	73.7	.8064E+02	.0000E+00	.8064E+02	.1000E+01
8	75.8	.1443E+04	.2000E+03	.1643E+04	.8782E+00
9	79.0	.1583E+04	.2000E+03	.1783E+04	.8878E+00
10	82.6	.1658E+04	.2000E+03	.1858E+04	.8924E+00
11	86.6	.1710E+04	.2000E+03	.1910E+04	.8953E+00
12	90.5	.1752E+04	.2000E+03	.1952E+04	.8975E+00
13	93.4	.1787E+04	.2000E+03	.1987E+04	.8993E+00
14	95.3	.1818E+04	.2000E+03	.2018E+04	.9009E+00
15	96.0	.1846E+04	.2000E+03	.2046E+04	.9022E+00
16	95.3	.1871E+04	.2000E+03	.2071E+04	.9034E+00
17	93.6	.5222E+03	.0000E+00	.5222E+03	.1000E+01
18	91.0	.3934E+03	.0000E+00	.3934E+03	.1000E+01
19	87.8	.3288E+03	.0000E+00	.3288E+03	.1000E+01
20	84.7	.2866E+03	.0000E+00	.2866E+03	.1000E+01
21	82.1	.2537E+03	.0000E+00	.2537E+03	.1000E+01
22	79.7	.2257E+03	.0000E+00	.2257E+03	.1000E+01
23	77.8	.2013E+03	.0000E+00	.2013E+03	.1000E+01
24	76.3	.1796E+03	.0000E+00	.1796E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 6 ********

NPN= 0,NPD= 0,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .1
QTLN= .0,QTLD= .0,DFST= 7.0,DFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone e
****

TOTAL COOLING LOAD FOR ROOM 6 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4784E+02	.0000E+00	.4784E+02	.1000E+01
2	73.9	.4267E+02	.0000E+00	.4267E+02	.1000E+01
3	73.0	.3807E+02	.0000E+00	.3807E+02	.1000E+01
4	72.2	.3396E+02	.0000E+00	.3396E+02	.1000E+01
5	72.0	.3030E+02	.0000E+00	.3030E+02	.1000E+01
6	72.5	.2703E+02	.0000E+00	.2703E+02	.1000E+01
7	73.7	.2411E+02	.0000E+00	.2411E+02	.1000E+01
8	75.8	.3679E+03	.0000E+00	.3679E+03	.1000E+01
9	79.0	.4094E+03	.0000E+00	.4094E+03	.1000E+01
10	82.6	.4318E+03	.0000E+00	.4318E+03	.1000E+01
11	86.6	.4474E+03	.0000E+00	.4474E+03	.1000E+01
12	90.5	.4598E+03	.0000E+00	.4598E+03	.1000E+01
13	93.4	.4705E+03	.0000E+00	.4705E+03	.1000E+01
14	95.3	.4799E+03	.0000E+00	.4799E+03	.1000E+01
15	96.0	.4882E+03	.0000E+00	.4882E+03	.1000E+01
16	95.3	.4956E+03	.0000E+00	.4956E+03	.1000E+01
17	93.6	.1559E+03	.0000E+00	.1559E+03	.1000E+01
18	91.0	.1180E+03	.0000E+00	.1180E+03	.1000E+01
19	87.8	.9873E+02	.0000E+00	.9873E+02	.1000E+01
20	84.7	.8605E+02	.0000E+00	.8605E+02	.1000E+01
21	82.1	.7614E+02	.0000E+00	.7614E+02	.1000E+01
22	79.7	.6774E+02	.0000E+00	.6774E+02	.1000E+01
23	77.8	.6037E+02	.0000E+00	.6037E+02	.1000E+01
24	76.3	.5384E+02	.0000E+00	.5384E+02	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 7 ********

NPN= 0,NPD= 3,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 750.0,QOTLN= .0
QOTLD= .0,QFLN= .2,QFLD= .7
QTLN= .0,QTLD= .0,OFST= 7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone e
****

TOTAL COOLING LOAD FOR ROOM 7 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.8986E+03	.0000E+00	.8986E+03	.1000E+01
2	73.9	.8725E+03	.0000E+00	.8725E+03	.1000E+01
3	73.0	.8493E+03	.0000E+00	.8493E+03	.1000E+01
4	72.2	.8285E+03	.0000E+00	.8285E+03	.1000E+01
5	72.0	.8099E+03	.0000E+00	.8099E+03	.1000E+01
6	72.5	.7934E+03	.0000E+00	.7934E+03	.1000E+01
7	73.7	.7786E+03	.0000E+00	.7786E+03	.1000E+01
8	75.8	.3305E+04	.6000E+03	.3905E+04	.8463E+00
9	79.0	.3526E+04	.6000E+03	.4126E+04	.8546E+00
10	82.6	.3642E+04	.6000E+03	.4242E+04	.8586E+00
11	86.6	.3722E+04	.6000E+03	.4322E+04	.8612E+00
12	90.5	.3786E+04	.6000E+03	.4386E+04	.8632E+00
13	93.4	.3840E+04	.6000E+03	.4440E+04	.8649E+00
14	95.3	.3888E+04	.6000E+03	.4488E+04	.8663E+00
15	96.0	.3931E+04	.6000E+03	.4531E+04	.8676E+00
16	95.3	.3969E+04	.6000E+03	.4569E+04	.8687E+00
17	93.6	.1464E+04	.0000E+00	.1464E+04	.1000E+01
18	91.0	.1261E+04	.0000E+00	.1261E+04	.1000E+01
19	87.8	.1161E+04	.0000E+00	.1161E+04	.1000E+01
20	84.7	.1096E+04	.0000E+00	.1096E+04	.1000E+01
21	82.1	.1045E+04	.0000E+00	.1045E+04	.1000E+01
22	79.7	.1002E+04	.0000E+00	.1002E+04	.1000E+01
23	77.8	.9649E+03	.0000E+00	.9649E+03	.1000E+01
24	76.3	.9316E+03	.0000E+00	.9316E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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noble center
cooling loads, zone e
****

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2836E+04	.0000E+00	.2836E+04	.1000E+01
2	73.9	.2559E+04	.0000E+00	.2559E+04	.1000E+01
3	73.0	.2307E+04	.0000E+00	.2307E+04	.1000E+01
4	72.2	.2082E+04	.0000E+00	.2082E+04	.1000E+01
5	72.0	.1897E+04	.0000E+00	.1897E+04	.1000E+01
6	72.5	.1768E+04	.0000E+00	.1768E+04	.1000E+01
7	73.7	.2512E+04	.0000E+00	.2512E+04	.1000E+01
8	75.8	.1306E+05	.2000E+04	.1506E+05	.8672E+00
9	79.0	.1466E+05	.2000E+04	.1666E+05	.8800E+00
10	82.6	.1577E+05	.2000E+04	.1777E+05	.8874E+00
11	86.6	.1670E+05	.2000E+04	.1870E+05	.8931E+00
12	90.5	.1748E+05	.2000E+04	.1948E+05	.8973E+00
13	93.4	.1807E+05	.2000E+04	.2007E+05	.9004E+00
14	95.3	.1847E+05	.2000E+04	.2047E+05	.9023E+00
15	96.0	.1866E+05	.2000E+04	.2066E+05	.9032E+00
16	95.3	.1865E+05	.2000E+04	.2065E+05	.9032E+00
17	93.6	.8403E+04	.0000E+00	.8403E+04	.1000E+01
18	91.0	.7014E+04	.0000E+00	.7014E+04	.1000E+01
19	87.8	.5510E+04	.0000E+00	.5510E+04	.1000E+01
20	84.7	.4791E+04	.0000E+00	.4791E+04	.1000E+01
21	82.1	.4282E+04	.0000E+00	.4282E+04	.1000E+01
22	79.7	.3850E+04	.0000E+00	.3850E+04	.1000E+01
23	77.8	.3472E+04	.0000E+00	.3472E+04	.1000E+01
24	76.3	.3143E+04	.0000E+00	.3143E+04	.1000E+01

ERMAX =	.0	ERMIN =	.0	ENCRE =	1000.0
THRANG=	2.0	THSETD=	78.0	THSETN=	78.0
THTIMD=	5.0	THTIMN=	20.0	NCOIL =	1

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noble center
cooling loads, zone e
****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 20.HRS

1	77.3	4	77.2	7	77.2	10	78.7	13	78.9	16	79.0	19	77.5	22	77.3
2	77.2	5	77.2	8	78.5	11	78.8	14	79.0	17	77.8	20	77.4	23	77.3
3	77.2	6	77.2	9	78.6	12	78.9	15	79.0	18	77.6	21	77.4	24	77.3

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 21000. ENCRE= 1000. BTU/HOUR

1	2672.	4	1952.	7	2451.	10	18113.	13	20379.	16	20880.	19	5287.	22	3657.
2	2406.	5	1779.	8	15453.	11	19035.	14	20756.	17	8174.	20	4577.	23	3289.
3	2165.	6	1664.	9	17024.	12	19802.	15	20915.	18	6804.	21	4079.	24	2970.

```
CFMT =    200.0  CFMM =     70.0  ETAF =     .500
PB   =  14.6960  MEX  =        0 DPOR =    2.000
ETAFR=    .5000  NSF  =        0   DPOS =    2.000
ETAFS=    .5000
```

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noble center
cooling loads, zone e
****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 20915. AT 15 HOURS WITH A SENSIBLE HEAT FACTOR OF .904

OUTDOOR AIR= 70. CFM AT 14.696 PSIA AND 96.0 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= 305. CFM AT 14.696 PSIA AND 54.7 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 720. CFM AT 54.7 DEG F DRY BULB --- 52.1 DEG F WET BULB AND 14.696 PSIA

THE RETURN AIR FAN TOTAL PRESSURE IS 2.00 IN. WAT. WITH TOTAL EFFICIENCY OF .50 AND 752. CFM

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS: ENTERING DRY BULB TEMP= 82.6 DEG F
ENTERING WET BULB TEMP= 64.4 DEG F
LEAVING DRY BULB TEMP= 54.7 DEG F
LEAVING WET BULB TEMP= 52.1 DEG F
ENTERING AIR QUANTITY= 759. CFM
COIL SENSIBLE HEAT FACTOR= .862
TOTAL COIL CAPACITY= 26396. BTUH

```
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 noble center
 cooling loads, zone 1
*****************************************************************

************** GENERAL INPUT DATA **************

IB= 3,MC= 2,NRMS=  3,WO=  .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT=  36.0
ACLONG=  97.0,STLONG=  90.0,TROOM=  78.0,TMAXIM=  96.0  TRANGE= 24.0
TIH= 72.0  TOH= 13.0

 NM=  8,NHTX= 1, TWBO=   74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI=   62.00,WO=  .0136, PB=  14.696


    OUT DOOR TEMPERATURERS 1-24HRS   IN F
      1   75.1      4   72.2      7   73.7     10   82.6     13   93.4     16   95.3     19   87.8     22   79.7
      2   73.9      5   72.0      8   75.8     11   86.6     14   95.3     17   93.6     20   84.7     23   77.8
      3   73.0      6   72.5      9   79.0     12   90.5     15   96.0     18   91.0     21   82.1     24   76.3


******  INPUT DATA FOR SURFACE # 1 OF ROOM # 1  ******

 west

 WRL=  13.00   WRW=   9.00     AD=    .00      AW=    .00    PSI= 270.00
EPSILN=  90.00   SCG=   1.00   UWRA=  .0930   UW= 1.0800  UD=  .5500  ISHAD=  0

******  INPUT DATA FOR SURFACE # 2 OF ROOM # 1  ******

 north

 WRL=  13.00   WRW=  10.00     AD=    .00      AW=    .00    PSI= 180.00
EPSILN=  90.00   SCG=   1.00   UWRA=  .0930   UW= 1.0800  UD=  .5500  ISHAD=  0


******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN=   0,NPD=   0,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=       .0,QOTLN=       .0
QOTLD=       .0,QFLN=       .0,QFLD=      .1
QTLN=      .0,QTLD=      .0,QFST=  7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
```

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4323E+03	.0000E+00	.4323E+03	.1000E+01
2	73.9	.4321E+03	.0000E+00	.4321E+03	.1000E+01
3	73.0	.4297E+03	.0000E+00	.4297E+03	.1000E+01
4	72.2	.4253E+03	.0000E+00	.4253E+03	.1000E+01
5	72.0	.4190E+03	.0000E+00	.4190E+03	.1000E+01
6	72.5	.4109E+03	.0000E+00	.4109E+03	.1000E+01
7	73.7	.4013E+03	.0000E+00	.4013E+03	.1000E+01
8	75.8	.7810E+03	.0000E+00	.7810E+03	.1000E+01
9	79.0	.8185E+03	.0000E+00	.8185E+03	.1000E+01
10	82.6	.8337E+03	.0000E+00	.8337E+03	.1000E+01
11	86.6	.8409E+03	.0000E+00	.8409E+03	.1000E+01
12	90.5	.8450E+03	.0000E+00	.8450E+03	.1000E+01
13	93.4	.8480E+03	.0000E+00	.8480E+03	.1000E+01
14	95.3	.8510E+03	.0000E+00	.8510E+03	.1000E+01
15	96.0	.8547E+03	.0000E+00	.8547E+03	.1000E+01
16	95.3	.8598E+03	.0000E+00	.8598E+03	.1000E+01
17	93.6	.4764E+03	.0000E+00	.4764E+03	.1000E+01
18	91.0	.4369E+03	.0000E+00	.4369E+03	.1000E+01
19	87.8	.4222E+03	.0000E+00	.4222E+03	.1000E+01
20	84.7	.4185E+03	.0000E+00	.4185E+03	.1000E+01
21	82.1	.4204E+03	.0000E+00	.4204E+03	.1000E+01
22	79.7	.4248E+03	.0000E+00	.4248E+03	.1000E+01
23	77.8	.4296E+03	.0000E+00	.4296E+03	.1000E+01

```
        THE INSIDE DESIGN TEMPR.= 78.0       MONTH=  8     DAY= 21
******  INPUT DATA FOR SURFACE # 1 OF ROOM # 2  ******

 north wall

 WRL=  10.00   WRW=  20.00     AD=    .00      AW=    .00    PSI= 180.00
EPSILN=  90.00   SCG=   1.00   UWRA=  .1170   UW= 1.0800  UD=  .5500  ISHAD=  0

******  INPUT DATA FOR SURFACE # 2 OF ROOM # 2  ******

 north wall

 WRL=   3.00   WRW=  20.00     AD=    .00      AW=    .00    PSI= 180.00
EPSILN=  90.00   SCG=   1.00   UWRA=  .0690   UW= 1.0800  UD=  .5500  ISHAD=  0


******** GENERAL INPUT DATA FOR ROOM # 2 ********

NPN=   0.NPD=   2.CFMN=      .00.CFMD=      .00
QOTSN=       .0.QOTSD=       .0.QOTLN=       .0
QOTLD=       .0.QFLN=      .0.QFLD=      .8
QTLN=     .0.QTLD=      .0.OFST=  7.0.OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2.ICNDT=  2.ILGHT=  2.IOCEQ=  2.IAIR=  5
```

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.6140E+03	.0000E+00	.6140E+03	.1000E+01
2	73.9	.5563E+03	.0000E+00	.5563E+03	.1000E+01
3	73.0	.5010E+03	.0000E+00	.5010E+03	.1000E+01
4	72.2	.4482E+03	.0000E+00	.4482E+03	.1000E+01
5	72.0	.3983E+03	.0000E+00	.3983E+03	.1000E+01
6	72.5	.3520E+03	.0000E+00	.3520E+03	.1000E+01
7	73.7	.3136E+03	.0000E+00	.3136E+03	.1000E+01
8	75.8	.2774E+04	.4000E+03	.3174E+04	.8740E+00
9	79.0	.3040E+04	.4000E+03	.3440E+04	.8837E+00
10	82.6	.3190E+04	.4000E+03	.3590E+04	.8886E+00
11	86.6	.3304E+04	.4000E+03	.3704E+04	.8920E+00
12	90.5	.3407E+04	.4000E+03	.3807E+04	.8949E+00
13	93.4	.3505E+04	.4000E+03	.3905E+04	.8976E+00
14	95.3	.3599E+04	.4000E+03	.3999E+04	.9000E+00
15	96.0	.3687E+04	.4000E+03	.4087E+04	.9021E+00
16	95.3	.3767E+04	.4000E+03	.4167E+04	.9040E+00
17	93.6	.1355E+04	.0000E+00	.1355E+04	.1000E+01
18	91.0	.1130E+04	.0000E+00	.1130E+04	.1000E+01
19	87.8	.1021E+04	.0000E+00	.1021E+04	.1000E+01
20	84.7	.9372E+03	.0000E+00	.9372E+03	.1000E+01
21	82.1	.8683E+03	.0000E+00	.8683E+03	.1000E+01
22	79.7	.8037E+03	.0000E+00	.8037E+03	.1000E+01
23	77.8	.7401E+03	.0000E+00	.7401E+03	.1000E+01
24	76.3	.6778E+03	.0000E+00	.6778E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 3 ******

north wall

WRL= 10.00 WRW= 40.00 AD= .00 AW= 260.00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 3 ******

north wall

WRL= 3.00 WRW= 40.00 AD= .00 AW= .00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .0690 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 3 ********

NPN= 0,NPD= 6,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= 3.3
QTLN= .0,QTLD= .0,OFST= 7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 1

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2094E+04	.0000E+00	.2094E+04	.1000E+01
2	73.9	.1757E+04	.0000E+00	.1757E+04	.1000E+01
3	73.0	.1452E+04	.0000E+00	.1452E+04	.1000E+01
4	72.2	.1183E+04	.0000E+00	.1183E+04	.1000E+01
5	72.0	.9671E+03	.0000E+00	.9671E+03	.1000E+01
6	72.5	.8258E+03	.0000E+00	.8258E+03	.1000E+01
7	73.7	.1847E+04	.0000E+00	.1847E+04	.1000E+01
8	75.8	.1208E+05	.1200E+04	.1328E+05	.9097E+00
9	79.0	.1394E+05	.1200E+04	.1514E+05	.9207E+00
10	82.6	.1528E+05	.1200E+04	.1648E+05	.9272E+00
11	86.6	.1643E+05	.1200E+04	.1763E+05	.9319E+00
12	90.5	.1739E+05	.1200E+04	.1859E+05	.9355E+00
13	93.4	.1812E+05	.1200E+04	.1932E+05	.9379E+00
14	95.3	.1859E+05	.1200E+04	.1979E+05	.9394E+00
15	96.0	.1878E+05	.1200E+04	.1998E+05	.9399E+00
16	95.3	.1871E+05	.1200E+04	.1991E+05	.9397E+00
17	93.6	.8857E+04	.0000E+00	.8857E+04	.1000E+01
18	91.0	.7260E+04	.0000E+00	.7260E+04	.1000E+01
19	87.8	.5372E+04	.0000E+00	.5372E+04	.1000E+01
20	84.7	.4485E+04	.0000E+00	.4485E+04	.1000E+01
21	82.1	.3859E+04	.0000E+00	.3859E+04	.1000E+01
22	79.7	.3328E+04	.0000E+00	.3328E+04	.1000E+01
23	77.8	.2864E+04	.0000E+00	.2864E+04	.1000E+01
24	76.3	.2460E+04	.0000E+00	.2460E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.3140E+04	.0000E+00	.3140E+04	.1000E+01
2	73.9	.2745E+04	.0000E+00	.2745E+04	.1000E+01
3	73.0	.2383E+04	.0000E+00	.2383E+04	.1000E+01
4	72.2	.2057E+04	.0000E+00	.2057E+04	.1000E+01
5	72.0	.1784E+04	.0000E+00	.1784E+04	.1000E+01
6	72.5	.1589E+04	.0000E+00	.1589E+04	.1000E+01
7	73.7	.2562E+04	.0000E+00	.2562E+04	.1000E+01
8	75.8	.1564E+05	.1600E+04	.1724E+05	.9072E+00
9	79.0	.1780E+05	.1600E+04	.1940E+05	.9175E+00
10	82.6	.1930E+05	.1600E+04	.2090E+05	.9234E+00
11	86.6	.2058E+05	.1600E+04	.2218E+05	.9278E+00
12	90.5	.2165E+05	.1600E+04	.2325E+05	.9312E+00
13	93.4	.2247E+05	.1600E+04	.2407E+05	.9335E+00
14	95.3	.2304E+05	.1600E+04	.2464E+05	.9351E+00
15	96.0	.2332E+05	.1600E+04	.2492E+05	.9358E+00
16	95.3	.2334E+05	.1600E+04	.2494E+05	.9358E+00
17	93.6	.1069E+05	.0000E+00	.1069E+05	.1000E+01
18	91.0	.8827E+04	.0000E+00	.8827E+04	.1000E+01
19	87.8	.6815E+04	.0000E+00	.6815E+04	.1000E+01
20	84.7	.5840E+04	.0000E+00	.5840E+04	.1000E+01
21	82.1	.5148E+04	.0000E+00	.5148E+04	.1000E+01
22	79.7	.4556E+04	.0000E+00	.4556E+04	.1000E+01
23	77.8	.4033E+04	.0000E+00	.4033E+04	.1000E+01
24	76.3	.3571E+04	.0000E+00	.3571E+04	.1000E+01

ERMAX =	.0	ERMIN =	.0	ENCRE =	1000.0
THRANG=	2.0	THSETD=	78.0	THSETN=	78.0
THTIMD=	5.0	THTIMN=	20.0	NCOIL =	1

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noble center
cooling loads, zone f
****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 20.HRS

1	77.2	4	77.2	7	77.2	10	78.6	13	78.9	16	78.9	19	77.5	22	77.3
2	77.2	5	77.1	8	78.4	11	78.7	14	78.9	17	77.8	20	77.4	23	77.3
3	77.2	6	77.1	9	78.5	12	78.8	15	78.9	18	77.7	21	77.4	24	77.3

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 26000. ENCRE= 1000. BTU/HOUR

1	2992.	4	1959.	7	2557.	10	21303.	13	24399.	16	25154.	19	6553.	22	4358.
2	2614.	5	1704.	8	17758.	11	22553.	14	24930.	17	10365.	20	5603.	23	3852.
3	2269.	6	1526.	9	19841.	12	23601.	15	25173.	18	8566.	21	4932.	24	3408.

CFMT =	160.0	CFMM =	40.0	ETAF =	.500
PB =	14.6960	MEX =	0	DPOR =	2.000
ETAFR=	.5000	NSF =	0	DPOS =	2.000
ETAFS=	.5000				

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noble center
cooling loads, zone 1
****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 25173. AT 15 HOURS WITH A SENSIBLE HEAT FACTOR OF .936

OUTDOOR AIR= 40. CFM AT 14.696 PSIA AND 96.0 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= 259. CFM AT 14.696 PSIA AND 55.0 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 909. CFM AT 55.0 DEG F DRY BULB --- 52.6 DEG F WET BULB AND 14.696 PSIA

THE RETURN AIR FAN TOTAL PRESSURE IS 2.00 IN. WAT. WITH TOTAL EFFICIENCY OF .50 AND 950. CFM

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS: ENTERING DRY BULB TEMP= 81.7 DEG F

ENTERING WET BULB TEMP= 63.7 DEG F

LEAVING DRY BULB TEMP= 55.0 DEG F

LEAVING WET BULB TEMP= 52.6 DEG F

ENTERING AIR QUANTITY= 956. CFM

COIL SENSIBLE HEAT FACTOR= .919

TOTAL COIL CAPACITY= 29883. BTUH

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    * FAYE MCQUISTON, P.E., OKLAHOMA STATE UNIVERSITY *

 noble center
 cooling load, zone 0
*****************************************************************

************** GENERAL INPUT DATA **************

IB= 3,MC= 2,NRMS=  3,WO=  .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT=  36.0
ACLONG=  97.0,STLONG=  90.0,TROOM=  78.0,TMAXIM=  96.0  TRANGE= 24.0
TIH= 72.0  TOH= 13.0

 NM=  8,NHTX= 1, TWBO=   74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI=   65.00,WO=  .0136, PB=  14.696


    OUT DOOR TEMPERATURERS 1-24HRS   IN F
      1   75.1      4   72.2      7   73.7     10   82.6     13   93.4     16   95.3     19   87.8     22   79.7
      2   73.9      5   72.0      8   75.8     11   86.6     14   95.3     17   93.6     20   84.7     23   77.8
      3   73.0      6   72.5      9   79.0     12   90.5     15   96.0     18   91.0     21   82.1     24   76.3


******  INPUT DATA FOR SURFACE # 1 OF ROOM # 1  ******

 west wall

 WRL=  13.00   WRW=  40.00     AD=    .00      AW= 104.00    PSI= 270.00
EPSILN=  90.00   SCG=    .51   UWRA=  .0610   UW=  .5200  UD=  .5500  ISHAD=  0


******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN=  1,NPD= 125,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=       .0,QOTLN=       .0
QOTLD=       .0,QFLN=      .0,QFLD=     2.2
QTLN=      .0,QTLD=      .4,QFST=  7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  1,ICNDT=  1,ILGHT=  1,IDCEQ=  1,IAIR=  1
```

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noble center
cooling load, zone a
****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	73.1	.2238E+04	.2000E+03	.2438E+04	.9180E+00
2	73.9	.2002E+04	.2000E+03	.2202E+04	.9092E+00
3	73.0	.1795E+04	.2000E+03	.1995E+04	.8997E+00
4	72.2	.1614E+04	.2000E+03	.1814E+04	.8897E+00
5	72.0	.1465E+04	.2000E+03	.1665E+04	.8799E+00
6	72.5	.1356E+04	.2000E+03	.1556E+04	.8714E+00
7	73.7	.1623E+04	.2000E+03	.1823E+04	.8903E+00
8	75.8	.3443E+05	.2500E+05	.5943E+05	.5794E+00
9	79.0	.3824E+05	.2500E+05	.6324E+05	.6047E+00
10	82.6	.4019E+05	.2500E+05	.6519E+05	.6165E+00
11	86.6	.4133E+05	.2500E+05	.6633E+05	.6231E+00
12	90.5	.4210E+05	.2500E+05	.6710E+05	.6274E+00
13	93.4	.4311E+05	.2500E+05	.6811E+05	.6329E+00
14	95.3	.4566E+05	.2500E+05	.7066E+05	.6462E+00
15	96.0	.4829E+05	.2500E+05	.7329E+05	.6589E+00
16	95.3	.5012E+05	.2500E+05	.7512E+05	.6672E+00
17	93.6	.1817E+05	.2000E+03	.1837E+05	.9891E+00
18	91.0	.1285E+05	.2000E+03	.1305E+05	.9847E+00
19	87.8	.6513E+04	.2000E+03	.6713E+04	.9702E+00
20	84.7	.4641E+04	.2000E+03	.4841E+04	.9587E+00
21	82.1	.3765E+04	.2000E+03	.3965E+04	.9496E+00
22	79.7	.3225E+04	.2000E+03	.3425E+04	.9416E+00
23	77.8	.2830E+04	.2000E+03	.3030E+04	.9340E+00
24	76.3	.2514E+04	.2000E+03	.2714E+04	.9263E+00

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 2 ********

NPN= 0,NPD= 8,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 300.0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .0
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

noble center
cooling load, zone q
****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.9657E+02	.0000E+00	.9657E+02	.1000E+01
2	73.9	.8644E+02	.0000E+00	.8644E+02	.1000E+01
3	73.0	.7737E+02	.0000E+00	.7737E+02	.1000E+01
4	72.2	.6926E+02	.0000E+00	.6926E+02	.1000E+01
5	72.0	.6200E+02	.0000E+00	.6200E+02	.1000E+01
6	72.5	.5550E+02	.0000E+00	.5550E+02	.1000E+01
7	73.7	.4968E+02	.0000E+00	.4968E+02	.1000E+01
8	75.8	.1907E+04	.1600E+04	.3507E+04	.5438E+00
9	79.0	.2003E+04	.1600E+04	.3603E+04	.5559E+00
10	82.6	.2050E+04	.1600E+04	.3650E+04	.5616E+00
11	86.6	.2081E+04	.1600E+04	.3681E+04	.5653E+00
12	90.5	.2105E+04	.1600E+04	.3705E+04	.5682E+00
13	93.4	.2126E+04	.1600E+04	.3726E+04	.5706E+00
14	95.3	.2144E+04	.1600E+04	.3744E+04	.5727E+00
15	96.0	.2161E+04	.1600E+04	.3761E+04	.5746E+00
16	95.3	.2175E+04	.1600E+04	.3775E+04	.5762E+00
17	93.6	.3260E+03	.0000E+00	.3260E+03	.1000E+01
18	91.0	.2372E+03	.0000E+00	.2372E+03	.1000E+01
19	87.8	.1964E+03	.0000E+00	.1964E+03	.1000E+01
20	84.7	.1711E+03	.0000E+00	.1711E+03	.1000E+01
21	82.1	.1518E+03	.0000E+00	.1518E+03	.1000E+01
22	79.7	.1354E+03	.0000E+00	.1354E+03	.1000E+01
23	77.8	.1211E+03	.0000E+00	.1211E+03	.1000E+01
24	76.3	.1084E+03	.0000E+00	.1084E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 2 ******

west wall

WRL= 25.00 WRW= 20.00 AD= .00 AW= 52.00 PSI= 270.00
EPSILN= 90.00 SCG= .51 UWRA= .0610 UW= .5200 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 3 ******

south wall

WRL= 18.00 WRW= 20.00 AD= .00 AW= 360.00 PSI= .00
EPSILN= 90.00 SCG= .51 UWRA= .0610 UW= .5200 UD= .5500 ISHAD= 1
SHADE TYPE= 1 GLASS WIDTH= 10.0
GLASS HEIGHT= 18.0 OVERHANG DEPTH= 24.0
OVERHANG RISE= .0 OVERHANG EXT, LEFT= .0
OVERHANG EXT, RGHT= 1000.0 OVERHANG END PROJ= 18.0
LEFT FIN DEPTH= .0 LEFT FIN EXT, TOP= .0
LEFT FIN OFFSET= .0 LEFT FIN EXT, BOTM= .0
GHT FIN DEPTH= 24.0 RGHT FIN EXT, TOP= .0
RGHT FIN OFFSET= .0 RGHT FIN EXT, BOTM= .0

1	.0000	4	.0000	7	.0000	10	.6456	13	.0000	16	.0000	19	.0000	22	.0000
2	.0000	5	.0000	8	.8678	11	.8659	14	.0000	17	.0000	20	.0000	23	.0000
3	.0000	6	.0000	9	.7815	12	.8510	15	.0000	18	.0000	21	.0000	24	.0000

****** INPUT DATA FOR SURFACE # 3 OF ROOM # 3 ******

south roof

WRL= 24.40 WRW= 30.00 AD= .00 AW= .00 PSI= .00
EPSILN= 35.00 SCG= .51 UWRA= .0840 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 3 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= 300.0,QOTSD= 300.0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .0
QTLN= .0,QTLD= .0,OFST= 7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 7,ICNDT= 2,ILGHT= 3,IOCEQ= 3,IAIR= 5

noble center
cooling load, zone a
****

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.3348E+04	.0000E+00	.3348E+04	.1000E+01
2	73.9	.2817E+04	.0000E+00	.2817E+04	.1000E+01
3	73.0	.2335E+04	.0000E+00	.2335E+04	.1000E+01
4	72.2	.1908E+04	.0000E+00	.1908E+04	.1000E+01
5	72.0	.1565E+04	.0000E+00	.1565E+04	.1000E+01
6	72.5	.1346E+04	.0000E+00	.1346E+04	.1000E+01
7	73.7	.2535E+04	.0000E+00	.2535E+04	.1000E+01
8	75.8	.4906E+04	.2000E+03	.5106E+04	.9608E+00
9	79.0	.8570E+04	.2000E+03	.8770E+04	.9772E+00
10	82.6	.1255E+05	.2000E+03	.1275E+05	.9843E+00
11	86.6	.1776E+05	.2000E+03	.1796E+05	.9889E+00
12	90.5	.2134E+05	.2000E+03	.2154E+05	.9907E+00
13	93.4	.1778E+05	.2000E+03	.1798E+05	.9889E+00
14	95.3	.1789E+05	.2000E+03	.1809E+05	.9889E+00
15	96.0	.1817E+05	.2000E+03	.1837E+05	.9891E+00
16	95.3	.1768E+05	.2000E+03	.1788E+05	.9888E+00
17	93.6	.1597E+05	.0000E+00	.1597E+05	.1000E+01
18	91.0	.1301E+05	.0000E+00	.1301E+05	.1000E+01
19	87.8	.8942E+04	.0000E+00	.8942E+04	.1000E+01
20	84.7	.7205E+04	.0000E+00	.7205E+04	.1000E+01
21	82.1	.6153E+04	.0000E+00	.6153E+04	.1000E+01
22	79.7	.5297E+04	.0000E+00	.5297E+04	.1000E+01
23	77.8	.4557E+04	.0000E+00	.4557E+04	.1000E+01
24	76.3	.3919E+04	.0000E+00	.3919E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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noble center
cooling load, zone q
****

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.5683E+04	.2000E+03	.5883E+04	.9660E+00
2	73.9	.4905E+04	.2000E+03	.5105E+04	.9608E+00
3	73.0	.4207E+04	.2000E+03	.4407E+04	.9546E+00
4	72.2	.3591E+04	.2000E+03	.3791E+04	.9472E+00
5	72.0	.3092E+04	.2000E+03	.3292E+04	.9393E+00
6	72.5	.2757E+04	.2000E+03	.2957E+04	.9324E+00
7	73.7	.4208E+04	.2000E+03	.4408E+04	.9546E+00
8	75.8	.4125E+05	.2680E+05	.6805E+05	.6062E+00
9	79.0	.4881E+05	.2680E+05	.7561E+05	.6456E+00
10	82.6	.5479E+05	.2680E+05	.8159E+05	.6715E+00
11	86.6	.6116E+05	.2680E+05	.8796E+05	.6953E+00
12	90.5	.6555E+05	.2680E+05	.9235E+05	.7098E+00
13	93.4	.6301E+05	.2680E+05	.8981E+05	.7016E+00
14	95.3	.6569E+05	.2680E+05	.9249E+05	.7102E+00
15	96.0	.6862E+05	.2680E+05	.9542E+05	.7191E+00
16	95.3	.6997E+05	.2680E+05	.9677E+05	.7231E+00
17	93.6	.3447E+05	.2000E+03	.3467E+05	.9942E+00
18	91.0	.2610E+05	.2000E+03	.2630E+05	.9924E+00
19	87.8	.1565E+05	.2000E+03	.1585E+05	.9874E+00
20	84.7	.1202E+05	.2000E+03	.1222E+05	.9836E+00
21	82.1	.1007E+05	.2000E+03	.1027E+05	.9805E+00
22	79.7	.8657E+04	.2000E+03	.8857E+04	.9774E+00
23	77.8	.7507E+04	.2000E+03	.7707E+04	.9741E+00
24	76.3	.6541E+04	.2000E+03	.6741E+04	.9703E+00

ERMAX =	.0	ERMIN =	.0	ENCRE =	1000.0
THRANG=	2.0	THSETD=	78.0	THSETN=	78.0
THTIMD=	5.0	THTIMN=	20.0	NCOIL =	1

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noble center
cooling load, zone a
****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING
IF THE ROOM TEMPERATURE IS HIGH DURING THE OFFICE TIME CHOOSE A ERMAX BIGGER THAN THE PRESENT ONE

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 20.HRS

1	77.1	4	77.1	7	77.1	10	78.7	13	78.9	16	79.0	19	77.3	22	77.2
2	77.1	5	77.1	8	78.4	11	78.8	14	78.9	17	77.7	20	77.2	23	77.1
3	77.1	6	77.0	9	78.6	12	78.9	15	79.0	18	77.5	21	77.2	24	77.1

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 98000. ENCRE= 1000. BTU/HOUR

1	4904.	4	2999.	7	3869.	10	83568.	13	91499.	16	98307.	19	14485.	22	7678.
2	4190.	5	2561.	8	70153.	11	89980.	14	94151.	17	33533.	20	10894.	23	6597.
3	3554.	6	2288.	9	77613.	12	94337.	15	97045.	18	25153.	21	9021.	24	5699.

CFMT =	2680.0	CFMM =	670.0	ETAF =	.500
PB =	14.6960	MEX =	0	DPOR =	2.000
ETAFR=	.5000	NSF =	0	DPOS =	2.000
ETAFS=	.5000				

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noble center
cooling load, zone g
****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 98307. AT 16 HOURS WITH A SENSIBLE HEAT FACTOR OF .727

OUTDOOR AIR= 670. CFM AT 14.696 PSIA AND 95.3 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= 4419. CFM AT 14.696 PSIA AND 63.2 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 4419. CFM AT 63.2 DEG F DRY BULB --- 57.9 DEG F WET BULB AND 14.696 PSIA

THE RETURN AIR FAN TOTAL PRESSURE IS 2.00 IN. WAT. WITH TOTAL EFFICIENCY OF .50 AND 4544. CFM

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS:
ENTERING DRY BULB TEMP= 83.6 DEG F
ENTERING WET BULB TEMP= 67.5 DEG F
LEAVING DRY BULB TEMP= 63.2 DEG F
LEAVING WET BULB TEMP= 57.9 DEG F
ENTERING AIR QUANTITY= 4592. CFM
COIL SENSIBLE HEAT FACTOR= .737
TOTAL COIL CAPACITY= 137310. BTUH

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 noble center
 cooling load, zone h
*****************************************************************

************* GENERAL INPUT DATA *************

IB= 3,MC= 2,NRMS=  5,WD=  .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT=  36.0
ACLONG=  97.0,STLONG=  90.0,TRDOM=  78.0,TMAXIM=  96.0  TRANGE= 24.0
TIH= 72.0  TDH= 13.0

 NM=  8,NHTX= 1, TWBD=   74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI=   65.00,WD=  .0136, PB=  14.696


    OUT DOOR TEMPERATURERS 1-24HRS   IN F
      1   75.1      4   72.2      7   73.7     10   82.6     13   93.4     16   95.3     19   87.8     22   79.7
      2   73.9      5   72.0      8   75.8     11   86.6     14   95.3     17   93.6     20   84.7     23   77.8
      3   73.0      6   72.5      9   79.0     12   90.5     15   96.0     18   91.0     21   82.1     24   76.3



******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN=   0,NPD=   1,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=       .0,QOTLN=       .0
QOTLD=       .0,QFLN=      .0,QFLD=      .6
QTLN=      .0,QTLD=      .0,QFST=  7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
```

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noble center
cooling load, zone h

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2258E+03	.0000E+00	.2258E+03	.1000E+01
2	73.9	.2014E+03	.0000E+00	.2014E+03	.1000E+01
3	73.0	.1797E+03	.0000E+00	.1797E+03	.1000E+01
4	72.2	.1604E+03	.0000E+00	.1604E+03	.1000E+01
5	72.0	.1431E+03	.0000E+00	.1431E+03	.1000E+01
6	72.5	.1277E+03	.0000E+00	.1277E+03	.1000E+01
7	73.7	.1139E+03	.0000E+00	.1139E+03	.1000E+01
8	75.8	.1863E+04	.2000E+03	.2063E+04	.9030E+00
9	79.0	.2060E+04	.2000E+03	.2260E+04	.9115E+00
10	82.6	.2166E+04	.2000E+03	.2366E+04	.9155E+00
11	86.6	.2239E+04	.2000E+03	.2439E+04	.9180E+00
12	90.5	.2298E+04	.2000E+03	.2498E+04	.9199E+00
13	93.4	.2348E+04	.2000E+03	.2548E+04	.9215E+00
14	95.3	.2393E+04	.2000E+03	.2593E+04	.9229E+00
15	96.0	.2432E+04	.2000E+03	.2632E+04	.9240E+00
16	95.3	.2467E+04	.2000E+03	.2667E+04	.9250E+00
17	93.6	.7369E+03	.0000E+00	.7369E+03	.1000E+01
18	91.0	.5567E+03	.0000E+00	.5567E+03	.1000E+01
19	87.8	.4656E+03	.0000E+00	.4656E+03	.1000E+01
20	84.7	.4058E+03	.0000E+00	.4058E+03	.1000E+01
21	82.1	.3591E+03	.0000E+00	.3591E+03	.1000E+01
22	79.7	.3195E+03	.0000E+00	.3195E+03	.1000E+01
23	77.8	.2848E+03	.0000E+00	.2848E+03	.1000E+01
24	76.3	.2541E+03	.0000E+00	.2541E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR CASE # 1 ********

NFN= 0,NPD= 2,CFMN= .00,CFMD= .00
CDTSN= .0,CDTSD= .0,CDTLN= .0
CDTLD= .0,CFLN= .0,CFLD= .8
CTLN= .0,CTLD= .0,CFST= 7.0,CFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

noble center
cooling load, zone h
****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2869E+03	.0000E+00	.2869E+03	.1000E+01
2	73.9	.2560E+03	.0000E+00	.2560E+03	.1000E+01
3	73.0	.2284E+03	.0000E+00	.2284E+03	.1000E+01
4	72.2	.2039E+03	.0000E+00	.2039E+03	.1000E+01
5	72.0	.1819E+03	.0000E+00	.1819E+03	.1000E+01
6	72.5	.1623E+03	.0000E+00	.1623E+03	.1000E+01
7	73.7	.1448E+03	.0000E+00	.1448E+03	.1000E+01
8	75.8	.2460E+04	.4000E+03	.2860E+04	.8601E+00
9	79.0	.2711E+04	.4000E+03	.3111E+04	.8714E+00
10	82.6	.2846E+04	.4000E+03	.3246E+04	.8768E+00
11	86.6	.2939E+04	.4000E+03	.3339E+04	.8802E+00
12	90.5	.3014E+04	.4000E+03	.3414E+04	.8828E+00
13	93.4	.3078E+04	.4000E+03	.3478E+04	.8850E+00
14	95.3	.3134E+04	.4000E+03	.3534E+04	.8866E+00
15	96.0	.3184E+04	.4000E+03	.3584E+04	.8884E+00
16	95.3	.3228E+04	.4000E+03	.3628E+04	.8898E+00
17	93.6	.9374E+03	.0000E+00	.9374E+03	.1000E+01
18	91.0	.7074E+03	.0000E+00	.7074E+03	.1000E+01
19	87.8	.5915E+03	.0000E+00	.5915E+03	.1000E+01
20	84.7	.5155E+03	.0000E+00	.5155E+03	.1000E+01
21	82.1	.4563E+03	.0000E+00	.4563E+03	.1000E+01
22	79.7	.4060E+03	.0000E+00	.4060E+03	.1000E+01
23	77.8	.3619E+03	.0000E+00	.3619E+03	.1000E+01
24	76.3	.3228E+03	.0000E+00	.3228E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

**********INPUT DATA FOR PURPOSE # 1 OF ROOM # 7 **********

east wall

WRL= 15.00 WRW= 20.00 AD= .00 AW= 104.00 PSI= 90.00
EPSILN= 90.00 SCG= .51 UWRA= .0610 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 3 ********

NPN= 0,NPD= 4,CFMN= .00,CFMD= .00
QQTSN= .0,QQTSD= 50.0,QQTLN= .0
QQTLD= .0,QFLN= .0,QFLD= .7
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

I3DLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling load, zone h
****

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1280E+04	.0000E+00	.1280E-04	.1000E+01
2	73.9	.1149E+04	.0000E+00	.1149E+04	.1000E+01
3	73.0	.1032E+04	.0000E+00	.1032E+04	.1000E+01
4	72.2	.9272E+03	.0000E+00	.9272E+03	.1000E+01
5	72.0	.8421E+03	.0000E+00	.8421E+03	.1000E+01
6	72.5	.7865E+03	.0000E+00	.7865E+03	.1000E+01
7	73.7	.4856E+04	.0000E+00	.4856E+04	.1000E+01
8	75.8	.1018E+05	.8000E+03	.1098E+05	.9271E+00
9	79.0	.1127E+05	.8000E+03	.1207E+05	.9337E+00
10	82.6	.1092E+05	.8000E+03	.1172E+05	.9317E+00
11	86.6	.9498E+04	.8000E+03	.1030E+05	.9223E+00
12	90.5	.7657E+04	.8000E+03	.8457E+04	.9054E+00
13	93.4	.7036E+04	.8000E+03	.7836E+04	.8979E+00
14	95.3	.6896E+04	.8000E+03	.7696E+04	.8961E+00
15	96.0	.6809E+04	.8000E+03	.7609E+04	.8949E+00
16	95.3	.6646E+04	.8000E+03	.7446E+04	.8926E+00
17	93.6	.3766E+04	.0000E+00	.3766E+04	.1000E+01
18	91.0	.3114E+04	.0000E+00	.3114E+04	.1000E+01
19	87.8	.2509E+04	.0000E+00	.2509E+04	.1000E+01
20	84.7	.2196E+04	.0000E+00	.2196E+04	.1000E+01
21	82.1	.1961E+04	.0000E+00	.1961E+04	.1000E+01
22	79.7	.1757E+04	.0000E+00	.1757E+04	.1000E+01
23	77.8	.1578E+04	.0000E+00	.1578E+04	.1000E+01
24	76.3	.1423E+04	.0000E+00	.1423E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 4 ********

NFH= 0,NFD= 2,CFMH= .00,CFMD= .00
QQTSN= .0,QQTSD= .0,QQTLN= .0
QQTLD= .0,QFLN= .0,QFLD= .0
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IQCEQ= 2,IAIR= 5

noble center
cooling load, zone h
****

TOTAL COOLING LOAD FOR ROOM 4 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2099E+02	.0000E+00	.2099E+02	.1000E+01
2	73.9	.1879E+02	.0000E+00	.1879E+02	.1000E+01
3	73.0	.1682E+02	.0000E+00	.1682E+02	.1000E+01
4	72.2	.1506E+02	.0000E+00	.1506E+02	.1000E+01
5	72.0	.1348E+02	.0000E+00	.1348E+02	.1000E+01
6	72.5	.1206E+02	.0000E+00	.1206E+02	.1000E+01
7	73.7	.1080E+02	.0000E+00	.1080E+02	.1000E+01
8	75.8	.4146E+03	.4000E+03	.8146E+03	.5089E+00
9	79.0	.4354E+03	.4000E+03	.8354E+03	.5212E+00
10	82.6	.4457E+03	.4000E+03	.8457E+03	.5270E+00
11	86.6	.4524E+03	.4000E+03	.8524E+03	.5307E+00
12	90.5	.4577E+03	.4000E+03	.8577E+03	.5336E+00
13	93.4	.4622E+03	.4000E+03	.8622E+03	.5361E+00
14	95.3	.4662E+03	.4000E+03	.8662E+03	.5382E+00
15	96.0	.4698E+03	.4000E+03	.8698E+03	.5401E+00
16	95.3	.4729E+03	.4000E+03	.8729E+03	.5418E+00
17	93.6	.7087E+02	.0000E+00	.7087E+02	.1000E+01
18	91.0	.5158E+02	.0000E+00	.5158E+02	.1000E+01
19	87.9	.4269E+02	.0000E+00	.4269E+02	.1000E+01
20	84.7	.3719E+02	.0000E+00	.3719E+02	.1000E+01
21	82.1	.3299E+02	.0000E+00	.3299E+02	.1000E+01
22	79.7	.2944E+02	.0000E+00	.2944E+02	.1000E+01
23	77.8	.2633E+02	.0000E+00	.2633E+02	.1000E+01
24	76.3	.2356E+02	.0000E+00	.2356E+02	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR PURPOSE # 1 OF ROOM # 5 ******

east wall

WRL= 25.00 WRW= 20.00 AD= .00 AW= 26.00 PSI= 90.00
EPSILN= 90.00 SCG= .51 UWRA= .0610 UW= .5200 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 5 ******

south wall

WRL= 18.00 WRW= 20.00 AD= .00 AW= 360.00 PSI= .00
EPSILN= 90.00 SCG= .51 UWRA= .0610 UW= .5200 UD= .5500 ISHAD= 1
SHADE TYPE= 1 GLASS WIDTH= 10.0
GLASS HEIGHT= 18.0 OVERHANG DEPTH= 24.0
OVERHANG RISE= .0 OVERHANG EXT, LEFT= .0
OVERHANG EXT, RGHT= .0 OVERHANG END PROJ= 18.0
LEFT FIN DEPTH= 24.0 LEFT FIN EXT, TOP= .0
LEFT FIN OFFSET= .0 LEFT FIN EXT, BOTM= .0
SHT FIN DEPTH= .0 RGHT FIN EXT, TOP= .0
RGHT FIN OFFSET= .0 RGHT FIN EXT, BOTM= .0

1	.0000	4	.0000	7	.0000	10	.0000	13	.8520	16	.7680	19	.0000	22	.0000
2	.0000	5	.0000	8	.0000	11	.4790	14	.8670	17	.8725	20	.0000	23	.0000
3	.0000	6	.0000	9	.0000	12	.7322	15	.6570	18	.0000	21	.0000	24	.0000

****** INPUT DATA FOR SURFACE # 3 OF ROOM # 5 ******

south roof

WRL= 24.40 WRW= 30.00 AD= .00 AW= .00 PSI= .00
EPSILN= 35.00 SCG= .51 UWRA= .0840 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 5 ********

NPN= 0,NPD= 2,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .1
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 7,ICNDT= 2,ILGHT= 3,IOCED= 3,IAIR= 5

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noble center
cooling load, zone h
****

TOTAL COOLING LOAD FOR ROOM 5 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.3148E+04	.0000E+00	.3148E+04	.1000E+01
2	73.9	.2621E+04	.0000E+00	.2621E+04	.1000E+01
3	73.0	.2141E+04	.0000E+00	.2141E+04	.1000E+01
4	72.2	.1715E+04	.0000E+00	.1715E+04	.1000E+01
5	72.0	.1370E+04	.0000E+00	.1370E+04	.1000E+01
6	72.5	.1144E+04	.0000E+00	.1144E+04	.1000E+01
7	73.7	.3038E+04	.0000E+00	.3038E+04	.1000E+01
8	75.8	.6175E+04	.4000E+03	.6575E+04	.9392E+00
9	79.0	.8704E+04	.4000E+03	.9104E+04	.9561E+00
10	82.6	.1093E+05	.4000E+03	.1133E+05	.9647E+00
11	86.6	.1551E+05	.4000E+03	.1591E+05	.9749E+00
12	90.5	.1982E+05	.4000E+03	.2022E+05	.9802E+00
13	93.4	.2260E+05	.4000E+03	.2300E+05	.9826E+00
14	95.3	.2299E+05	.4000E+03	.2339E+05	.9829E+00
15	96.0	.2055E+05	.4000E+03	.2095E+05	.9809E+00
16	95.3	.1783E+05	.4000E+03	.1923E+05	.9781E+00
17	93.6	.1387E+05	.0000E+00	.1387E+05	.1000E+01
18	91.0	.1091E+05	.0000E+00	.1091E+05	.1000E+01
19	87.8	.8246E+04	.0000E+00	.8246E+04	.1000E+01
20	84.7	.6840E+04	.0000E+00	.6840E+04	.1000E+01
21	82.1	.5887E+04	.0000E+00	.5887E+04	.1000E+01
22	79.7	.5067E+04	.0000E+00	.5067E+04	.1000E+01
23	77.8	.4343E+04	.0000E+00	.4343E+04	.1000E+01
24	76.3	.3714E+04	.0000E+00	.3714E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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noble center
cooling load, zone h
****

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4961E+04	.0000E+00	.4961E+04	.1000E+01
2	73.9	.4246E+04	.0000E+00	.4246E+04	.1000E+01
3	73.0	.3597E+04	.0000E+00	.3597E+04	.1000E+01
4	72.2	.3021E+04	.0000E+00	.3021E+04	.1000E+01
5	72.0	.2550E+04	.0000E+00	.2550E+04	.1000E+01
6	72.5	.2232E+04	.0000E+00	.2232E+04	.1000E+01
7	73.7	.8163E+04	.0000E+00	.8163E+04	.1000E+01
8	75.8	.2109E+05	.2200E+04	.2329E+05	.9055E+00
9	79.0	.2518E+05	.2200E+04	.2738E+05	.9197E+00
10	82.6	.2731E+05	.2200E+04	.2951E+05	.9254E+00
11	86.6	.3064E+05	.2200E+04	.3284E+05	.9330E+00
12	90.5	.3325E+05	.2200E+04	.3545E+05	.9379E+00
13	93.4	.3552E+05	.2200E+04	.3772E+05	.9417E+00
14	95.3	.3588E+05	.2200E+04	.3808E+05	.9422E+00
15	96.0	.3344E+05	.2200E+04	.3564E+05	.9383E+00
16	95.3	.3065E+05	.2200E+04	.3285E+05	.9330E+00
17	93.6	.1939E+05	.0000E+00	.1939E+05	.1000E+01
18	91.0	.1534E+05	.0000E+00	.1534E+05	.1000E+01
19	87.8	.1186E+05	.0000E+00	.1186E+05	.1000E+01
20	84.7	.9995E+04	.0000E+00	.9995E+04	.1000E+01
21	82.1	.8697E+04	.0000E+00	.8697E+04	.1000E+01
22	79.7	.7579E+04	.0000E+00	.7579E+04	.1000E+01
23	77.8	.6595E+04	.0000E+00	.6595E+04	.1000E+01
24	76.3	.5737E+04	.0000E+00	.5737E+04	.1000E+01

```
ERMAX =      .0  ERMIN =      .0  ENDRE =   1000.0
THRANG=     2.0  THSETD=    78.0  THSETN=     78.0
THTIMD=     5.0  THTIMN=    20.0  NCOIL =  1
```

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noble center
cooling load, zone h
****

ZONE AIR TEMPERATURES AND HEAT EXTRACTION RATES
****

THE MAXIMUM CAPICITY IS CHOSEN ON THE BASIS OF MAXIMUM LOAD OCCURING DUE TO THE THRMOSTAT SETTING
IF THE ROOM TEMPERATURE IS HIGH DURING THE OFFICE TIME CHOOSE A ERMAX BIGGER THAN THE PRESENT ONE

ROOM AIR TEMPS 1-24HRS THERMOSTAT SETTING 78.0 F AT 5.HRS 78.0 F AT 20.HRS

1	77.2	4	77.1	7	77.4	10	78.6	13	79.0	16	78.7	19	77.6	22	77.3
2	77.2	5	77.1	8	78.3	11	78.8	14	79.0	17	78.0	20	77.5	23	77.3
3	77.1	6	77.1	9	78.5	12	78.9	15	78.9	18	77.7	21	77.4	24	77.2

HEAT EXTRACTION RATES 1-24 HRS ERMIN= .000000 ERMAX= 39000. ENDRE= 1000. BTU/HOUR

1	3938.	4	2103.	7	8086.	10	31153.	13	39645.	16	33761.	19	10817.	22	6497.
2	3253.	5	1680.	8	24814.	11	34650.	14	39837.	17	18790.	20	8914.	23	5524.
3	2639.	6	1421.	9	29037.	12	37329.	15	36956.	18	14518.	21	7613.	24	4688.

```
CFMT =     220.0  CFMM =      55.0  ETAF =      .500
PB   =   14.6760  MEX  =         0 DPOR =     2.000
ETAFR=     .5000  NSF  =       0   DPOS =     2.000
ETAFS=     .5000
```

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noble center
cooling load, zone h
****

SUMMARY OF AIR QUANTITY AND COIL CALCULATIONS

TOTAL ZONE LOAD= 39837. AT 14 HOURS WITH A SENSIBLE HEAT FACTOR OF .945

OUTDOOR AIR= 55. CFM AT 14.696 PSIA AND 95.3 DEG F-- ASHRAE STD 62-81 SUPPLY AIR= 362. CFM AT 14.696 PSIA AND 61.5 DEG F WITH FILTER EFF= .50

SUPPLY AIR= 2051. CFM AT 61.5 DEG F DRY BULB --- 59.0 DEG F WET BULB AND 14.696 PSIA

THE RETURN AIR FAN TOTAL PRESSURE IS 2.00 IN. WAT. WITH TOTAL EFFICIENCY OF .50 AND 2116. CFM

THE SUPPLY AIR FAN IS BLOW-THRU WITH TOTAL PRESSURE OF 2.00 IN. WAT. AND TOTAL EFFICIENCY OF .50

THE COIL HAS THE FOLLOWING CHARACTERISTICS: ENTERING DRY BULB TEMP= 81.4 DEG F

ENTERING WET BULB TEMP= 66.3 DEG F

LEAVING DRY BULB TEMP= 61.5 DEG F

LEAVING WET BULB TEMP= 59.0 DEG F

ENTERING AIR QUANTITY= 2130. CFM

COIL SENSIBLE HEAT FACTOR= .959

TOTAL COIL CAPACITY= 48306. BTUH

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noble center
cooling loads, zone 1
****

********** GENERAL INPUT DATA **********

IB= 3,MC= 2,NRMS= 6,WO= .0136,IA= 0,NPRT= 0,INWRIT= 1,XLAT= 36.0
ACLONG= 97.0,STLONG= 90.0,TROOM= 78.0,TMAXIM= 96.0 TRANGE= 24.0
TIH= 72.0 TOH= 13.0

NM= 8,NHTX= 1, TWBO= 74.00, IHEAT= 0
NDOM= 21,NITR= 10,TWBI= 62.00,WO= .0136, PB= 14.696

OUT DOOR TEMPERATURERS 1-24HRS IN F

1	75.1	4	72.2	7	73.7	10	82.6	13	93.4	16	95.3	19	87.8	22	79.7
2	73.9	5	72.0	8	75.8	11	86.6	14	95.3	17	93.6	20	84.7	23	77.8
3	73.0	6	72.5	9	79.0	12	90.5	15	96.0	18	91.0	21	82.1	24	76.3

******** GENERAL INPUT DATA FOR ROOM # 1 ********

NPN= 0,NPD= 3,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .9
QTLN= .0,QTLD= .0,OFST= 7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 1 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.3586E+03	.0000E+00	.3586E+03	.1000E+01
2	73.9	.3200E+03	.0000E+00	.3200E+03	.1000E+01
3	73.0	.2856E+03	.0000E+00	.2856E+03	.1000E+01
4	72.2	.2548E+03	.0000E+00	.2548E+03	.1000E+01
5	72.0	.2274E+03	.0000E+00	.2274E+03	.1000E+01
6	72.5	.2029E+03	.0000E+00	.2029E+03	.1000E+01
7	73.7	.1811E+03	.0000E+00	.1811E+03	.1000E+01
8	75.8	.3138E+04	.6000E+03	.3738E+04	.8395E+00
9	79.0	.3453E+04	.6000E+03	.4053E+04	.8519E+00
10	82.6	.3621E+04	.6000E+03	.4221E+04	.8579E+00
11	86.6	.3738E+04	.6000E+03	.4338E+04	.8617E+00
12	90.5	.3831E+04	.6000E+03	.4431E+04	.8646E+00
13	93.4	.3911E+04	.6000E+03	.4511E+04	.8670E+00
14	95.3	.3981E+04	.6000E+03	.4581E+04	.8690E+00
15	96.0	.4043E+04	.6000E+03	.4643E+04	.8708E+00
16	95.3	.4099E+04	.6000E+03	.4699E+04	.8723E+00
17	93.6	.1172E+04	.0000E+00	.1172E+04	.1000E+01
18	91.0	.8842E+03	.0000E+00	.8842E+03	.1000E+01
19	87.8	.7391E+03	.0000E+00	.7391E+03	.1000E+01
20	84.7	.6442E+03	.0000E+00	.6442E+03	.1000E+01
21	82.1	.5702E+03	.0000E+00	.5702E+03	.1000E+01
22	79.7	.5074E+03	.0000E+00	.5074E+03	.1000E+01
23	77.8	.4523E+03	.0000E+00	.4523E+03	.1000E+01
24	76.3	.4035E+03	.0000E+00	.4035E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 7[illegible] DAY= 21

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 2 ******

north wall

WRL= 10.00 WRW= 30.00 AD= .00 AW= 195.00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .1170 UW= .5200 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 2 ******

north wall

WRL= 3.00 WRW= 30.00 AD= .00 AW= .00 PSI= 180.00
EPSILN= 90.00 SCG= .51 UWRA= .0690 UW= .5200 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 2 ********

NPN= 0,NPD= 3,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .5
QTLN= .0,QTLD= .0,DFST= 7.0,DFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IDCEQ= 2,IAIR= 1

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 2 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.8771E+03	.0000E+00	.8771E+03	.1000E+01
2	73.9	.6990E+03	.0000E+00	.6990E+03	.1000E+01
3	73.0	.5376E+03	.0000E+00	.5376E+03	.1000E+01
4	72.2	.3953E+03	.0000E+00	.3953E+03	.1000E+01
5	72.0	.2861E+03	.0000E+00	.2861E+03	.1000E+01
6	72.5	.2275E+03	.0000E+00	.2275E+03	.1000E+01
7	73.7	.1036E+04	.0000E+00	.1036E+04	.1000E+01
8	75.8	.3542E+04	.6000E+03	.4142E+04	.8551E+00
9	79.0	.4330E+04	.6000E+03	.4930E+04	.8783E+00
10	82.6	.5008E+04	.6000E+03	.5608E+04	.8930E+00
11	86.6	.5648E+04	.6000E+03	.6248E+04	.9040E+00
12	90.5	.6191E+04	.6000E+03	.6791E+04	.9116E+00
13	93.4	.6580E+04	.6000E+03	.7180E+04	.9164E+00
14	95.3	.6795E+04	.6000E+03	.7395E+04	.9189E+00
15	96.0	.6816E+04	.6000E+03	.7416E+04	.9191E+00
16	95.3	.6661E+04	.6000E+03	.7261E+04	.9174E+00
17	93.6	.4382E+04	.0000E+00	.4382E+04	.1000E+01
18	91.0	.3736E+04	.0000E+00	.3736E+04	.1000E+01
19	87.8	.2599E+04	.0000E+00	.2599E+04	.1000E+01
20	84.7	.2117E+04	.0000E+00	.2117E+04	.1000E+01
21	82.1	.1792E+04	.0000E+00	.1792E+04	.1000E+01
22	79.7	.1515E+04	.0000E+00	.1515E+04	.1000E+01
23	77.8	.1273E+04	.0000E+00	.1273E+04	.1000E+01
24	76.3	.1065E+04	.0000E+00	.1065E+04	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

****** INPUT DATA FOR SURFACE # 1 OF ROOM # 3 ******

north

WRL= 13.00 WRW= 10.00 AD= .00 AW= .00 PSI= 180.00
EPSILN= 90.00 SCG= 1.00 UWRA= .0930 UW= 1.0800 UD= .5500 ISHAD= 0

****** INPUT DATA FOR SURFACE # 2 OF ROOM # 3 ******

north

WRL= 13.00 WRW= 9.00 AD= .00 AW= .00 PSI= 90.00
EPSILN= 90.00 SCG= 1.00 UWRA= .0930 UW= 1.0800 UD= .5500 ISHAD= 0

******** GENERAL INPUT DATA FOR ROOM # 3 ********

NPN= 0,NPD= 0,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .1
QTLN= .0,QTLD= .0,OFST= 7.0,OFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone i
****

TOTAL COOLING LOAD FOR ROOM 3 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.4308E+03	.0000E+00	.4308E+03	.1000E+01
2	73.9	.4254E+03	.0000E+00	.4254E+03	.1000E+01
3	73.0	.4187E+03	.0000E+00	.4187E+03	.1000E+01
4	72.2	.4108E+03	.0000E+00	.4108E+03	.1000E+01
5	72.0	.4016E+03	.0000E+00	.4016E+03	.1000E+01
6	72.5	.3913E+03	.0000E+00	.3913E+03	.1000E+01
7	73.7	.3799E+03	.0000E+00	.3799E+03	.1000E+01
8	75.8	.7583E+03	.0000E+00	.7583E+03	.1000E+01
9	79.0	.7950E+03	.0000E+00	.7950E+03	.1000E+01
10	82.6	.8105E+03	.0000E+00	.8105E+03	.1000E+01
11	86.6	.8198E+03	.0000E+00	.8198E+03	.1000E+01
12	90.5	.8284E+03	.0000E+00	.8284E+03	.1000E+01
13	93.4	.8383E+03	.0000E+00	.8383E+03	.1000E+01
14	95.3	.8500E+03	.0000E+00	.8500E+03	.1000E+01
15	96.0	.8630E+03	.0000E+00	.8630E+03	.1000E+01
16	95.3	.8771E+03	.0000E+00	.8771E+03	.1000E+01
17	93.6	.5010E+03	.0000E+00	.5010E+03	.1000E+01
18	91.0	.4663E+03	.0000E+00	.4663E+03	.1000E+01
19	87.8	.4532E+03	.0000E+00	.4532E+03	.1000E+01
20	84.7	.4476E+03	.0000E+00	.4476E+03	.1000E+01
21	82.1	.4448E+03	.0000E+00	.4448E+03	.1000E+01
22	79.7	.4429E+03	.0000E+00	.4429E+03	.1000E+01
23	77.8	.4407E+03	.0000E+00	.4407E+03	.1000E+01
24	76.3	.4377E+03	.0000E+00	.4377E+03	.1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

******** GENERAL INPUT DATA FOR ROOM # 4 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= 175.0,QOTLN= .0
QOTLD= .0,QFLN= .2,QFLD= .4
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 4 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.7578E+03	.0000E+00	.7578E+03	.1000E+01
2	73.9	.7468E+03	.0000E+00	.7468E+03	.1000E+01
3	73.0	.7370E+03	.0000E+00	.7370E+03	.1000E+01
4	72.2	.7282E+03	.0000E+00	.7282E+03	.1000E+01
5	72.0	.7204E+03	.0000E+00	.7204E+03	.1000E+01
6	72.5	.7134E+03	.0000E+00	.7134E+03	.1000E+01
7	73.7	.7071E+03	.0000E+00	.7071E+03	.1000E+01
8	75.8	.1677E+04	.2000E+03	.1877E+04	.8935E+00
9	79.0	.1771E+04	.2000E+03	.1971E+04	.8985E+00
10	82.6	.1821E+04	.2000E+03	.2021E+04	.9010E+00
11	86.6	.1855E+04	.2000E+03	.2055E+04	.9027E+00
12	90.5	.1882E+04	.2000E+03	.2082E+04	.9039E+00
13	93.4	.1905E+04	.2000E+03	.2105E+04	.9050E+00
14	95.3	.1926E+04	.2000E+03	.2126E+04	.9059E+00
15	96.0	.1944E+04	.2000E+03	.2144E+04	.9067E+00
16	95.3	.1961E+04	.2000E+03	.2161E+04	.9074E+00
17	93.6	.9994E+03	.0000E+00	.9994E+03	.1000E+01
18	91.0	.9139E+03	.0000E+00	.9139E+03	.1000E+01
19	87.8	.8713E+03	.0000E+00	.8713E+03	.1000E+01
20	84.7	.8435E+03	.0000E+00	.8435E+03	.1000E+01
21	82.1	.8219E+03	.0000E+00	.8219E+03	.1000E+01
22	79.7	.8036E+03	.0000E+00	.8036E+03	.1000E+01
23	77.8	.7876E+03	.0000E+00	.7876E+03	.1000E+01
24	76.3	.7733E+03	.0000E+00	.7733E+03	.1000E+01

******** GENERAL INPUT DATA FOR ROOM # 5 ********

NPN= 0,NPD= 1,CFMN= .00,CFMD= .00
QOTSN= .0,QOTSD= .0,QOTLN= .0
QOTLD= .0,QFLN= .0,QFLD= .3
QTLN= .0,QTLD= .0,QFST= 7.0,QFCT= 16.0

*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR= 2,ICNDT= 2,ILGHT= 2,IOCEQ= 2,IAIR= 5

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 5 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1301E+03	.0000E+00	.1301E+03	.1000E+01
2	73.9	.1161E+03	.0000E+00	.1161E+03	.1000E+01
3	73.0	.1036E+03	.0000E+00	.1036E+03	.1000E+01
4	72.2	.9244E+02	.0000E+00	.9244E+02	.1000E+01
5	72.0	.8249E+02	.0000E+00	.8249E+02	.1000E+01
6	72.5	.7361E+02	.0000E+00	.7361E+02	.1000E+01
7	73.7	.6569E+02	.0000E+00	.6569E+02	.1000E+01
8	75.8	.1127E+04	.2000E+03	.1327E+04	.8493E+00
9	79.0	.1241E+04	.2000E+03	.1441E+04	.8612E+00
10	82.6	.1302E+04	.2000E+03	.1502E+04	.8669E+00
11	86.6	.1345E+04	.2000E+03	.1545E+04	.8705E+00
12	90.5	.1378E+04	.2000E+03	.1578E+04	.8733E+00
13	93.4	.1407E+04	.2000E+03	.1607E+04	.8756E+00
14	95.3	.1433E+04	.2000E+03	.1633E+04	.8775E+00
15	96.0	.1455E+04	.2000E+03	.1655E+04	.8792E+00
16	95.3	.1476E+04	.2000E+03	.1676E+04	.8806E+00
17	93.6	.4252E+03	.0000E+00	.4252E+03	.1000E+01
18	91.0	.3207E+03	.0000E+00	.3207E+03	.1000E+01
19	87.8	.2682E+03	.0000E+00	.2682E+03	.1000E+01
20	84.7	.2337E+03	.0000E+00	.2337E+03	.1000E+01
21	82.1	.2069E+03	.0000E+00	.2069E+03	.1000E+01
22	79.7	.1841E+03	.0000E+00	.1841E+03	.1000E+01
23	77.8	.1641E+03	.0000E+00	.1641E+03	.1000E+01

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        24      76.3          .1464E+03          .0000E+00          .1464E+03          .1000E+01


       THE INSIDE DESIGN TEMPR.= 78.0       MONTH=  8     DAY= 21


******** GENERAL INPUT DATA FOR ROOM # 6 ********

NFN=   0,NPD=   1,CFMN=      .00,CFMD=      .00
QOTSN=       .0,QOTSD=    175.0,QOTLN=       .0
QOTLD=       .0,QFLN=      .0,QFLD=      .4
QTLN=        .0,QTLD=        .0,QEST=   7.0,QECT= 16.0
*****DATA FOR TRANSFER FUNCTION COEFFICIENTS*****

ISOLAR=  2,ICNDT=  2,ILGHT=  2,IOCEQ=  2,IAIR=  5
```

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR ROOM 6 (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.1614E+03	.0000E+00	.1614E+03	.1000E+01
2	73.9	.1440E+03	.0000E+00	.1440E+03	.1000E+01
3	73.0	.1285E+03	.0000E+00	.1285E+03	.1000E+01
4	72.2	.1147E+03	.0000E+00	.1147E+03	.1000E+01
5	72.0	.1024E+03	.0000E+00	.1024E+03	.1000E+01
6	72.5	.9135E+02	.0000E+00	.9135E+02	.1000E+01
7	73.7	.8152E+02	.0000E+00	.8152E+02	.1000E+01
8	75.8	.1456E+04	.2000E+03	.1656E+04	.8792E+00
9	79.0	.1598E+04	.2000E+03	.1798E+04	.8888E+00
10	82.6	.1674E+04	.2000E+03	.1874E+04	.8933E+00
11	86.6	.1727E+04	.2000E+03	.1927E+04	.8962E+00
12	90.5	.1768E+04	.2000E+03	.1968E+04	.8984E+00
13	93.4	.1804E+04	.2000E+03	.2004E+04	.9002E+00
14	95.3	.1836E+04	.2000E+03	.2036E+04	.9018E+00
15	96.0	.1864E+04	.2000E+03	.2064E+04	.9031E+00
16	95.3	.1889E+04	.2000E+03	.2089E+04	.9043E+00
17	93.6	.5279E+03	.0000E+00	.5279E+03	.1000E+01
18	91.0	.3978E+03	.0000E+00	.3978E+03	.1000E+01
19	87.8	.3325E+03	.0000E+00	.3325E+03	.1000E+01
20	84.7	.2898E+03	.0000E+00	.2898E+03	.1000E+01
21	82.1	.2565E+03	.0000E+00	.2565E+03	.1000E+01
22	79.7	.2282E+03	.0000E+00	.2282E+03	.1000E+01
23	77.8	.2035E+03	.0000E+00	.2035E+03	.1000E+01

24 78.0 .1815E+05 .0000E+00 .1815E+05 .1000E+01

THE INSIDE DESIGN TEMPR.= 78.0 MONTH= 8 DAY= 21

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noble center
cooling loads, zone 1
****

TOTAL COOLING LOAD FOR THE ZONE (BTU/HR)
****

TIME	TOUTDOOR	SENSIBLE	LATENT	TOTAL	SHF
1	75.1	.2716E+04	.0000E+00	.2716E+04	.1000E+01
2	73.9	.2451E+04	.0000E+00	.2451E+04	.1000E+01
3	73.0	.2211E+04	.0000E+00	.2211E+04	.1000E+01
4	72.2	.1996E+04	.0000E+00	.1996E+04	.1000E+01
5	72.0	.1820E+04	.0000E+00	.1820E+04	.1000E+01
6	72.5	.1700E+04	.0000E+00	.1700E+04	.1000E+01
7	73.7	.2451E+04	.0000E+00	.2451E+04	.1000E+01
8	75.8	.1170E+05	.1800E+04	.1350E+05	.8666E+00
9	79.0	.1319E+05	.1800E+04	.1499E+05	.8799E+00
10	82.6	.1424E+05	.1800E+04	.1604E+05	.8878E+00
11	86.6	.1513E+05	.1800E+04	.1693E+05	.8937E+00
12	90.5	.1588E+05	.1800E+04	.1768E+05	.8982E+00
13	93.4	.1645E+05	.1800E+04	.1825E+05	.9013E+00
14	95.3	.1682E+05	.1800E+04	.1862E+05	.9033E+00
15	96.0	.1699E+05	.1800E+04	.1879E+05	.9042E+00
16	95.3	.1696E+05	.1800E+04	.1876E+05	.9041E+00
17	93.6	.8008E+04	.0000E+00	.8008E+04	.1000E+01
18	91.0	.6718E+04	.0000E+00	.6718E+04	.1000E+01
19	87.8	.5263E+04	.0000E+00	.5263E+04	.1000E+01
20	84.7	.4576E+04	.0000E+00	.4576E+04	.1000E+01
21	82.1	.4092E+04	.0000E+00	.4092E+04	.1000E+01
22	79.7	.3681E+04	.0000E+00	.3681E+04	.1000E+01
23	77.8	.3321E+04	.0000E+00	.3321E+04	.1000E+01

ERMAX =	.0	ERMIN =	.0	ENCRE =	1000.0
THRANG=	2.0	THSETD=	78.0	THSETN=	78.0
THTIMD=	5.0	THTIMN=	20.0	NCOIL =	1