System/Prescription Data

File : \\Netdisk01\User0685\060140 - SCUBA-2 IFTS\Fichier Zemax IFTS\IFTS draft 6_9.zmx
Title: Scuba2   7.8X7.8 arcmin field, 850 microns
Date : THU NOV 2 2006
Configuration 3 of 8

LENS NOTES:

Resize beam at 60K filter and re-optimise. Attempt to control pupil mapping
at cold stop. This is the final design from which the specifications in
SC2/OPT/S300/06, version 2 were taken.
GENERAL LENS DATA:

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Surfaces               :             116
Stop                   :               1
System Aperture        : Entrance Pupil Diameter = 14800
Glass Catalogs         : LONGWAVE SAPPHIRE_SUBMM_DRAFT SCHOTT
Ray Aiming             : Off
Apodization            : Uniform, factor =   1.20000E+000
Temperature (C)        :    2.00000E+001
Pressure (ATM)         :    1.00000E+000
 Adjust Index Data To Environment  : Off
Effective Focal Length  :          1e+010 (in air at system temperature and pressure)
Effective Focal Length  :          1e+010 (in image space)
Total Track            :        10363.66
Image Space F/#        :        675675.7
Paraxial Working F/#   :           10000
Working F/#            :        3.462497
Image Space NA         :               0
Object Space NA        :        7.4e-007
Stop Radius            :            7400
Paraxial Image Height  :        136.6005
Paraxial Magnification :               0
Entrance Pupil Diameter :           14800
Entrance Pupil Position :               0
Exit Pupil Diameter    :         1000000
Exit Pupil Position    :          1e+010
Field Type             : Angle in degrees
Maximum Radial Field   :      0.06424772
Primary Wavelength     :             850 µm
Lens Units             :   Millimeters
Angular Magnification  :       -277.0901

Fields          : 9
Field Type: Angle in degrees
#        X-Value        Y-Value         Weight
 1      -0.028760       0.028760       1.000000
 2      -0.012090       0.012090       1.000000
 3      -0.028760       0.028760       1.000000
 4      -0.012090       0.045430       1.000000
 5      -0.045430       0.012090       1.000000
 6      -0.045430       0.045430       1.000000
 7      -0.028760       0.028760       1.000000
 8      -0.028760       0.028760       1.000000
 9      -0.028760       0.028760       1.000000

Vignetting Factors
#       VDX       VDY       VCX       VCY       VAN
1  0.000000  0.000000  0.000000  0.000000  0.000000
2  0.000000  0.000000  0.000000  0.000000  0.000000
3  0.000000  0.000000  0.000000  0.000000  0.000000
4  0.000000  0.000000  0.000000  0.000000  0.000000
5  0.000000  0.000000  0.000000  0.000000  0.000000
6  0.000000  0.000000  0.000000  0.000000  0.000000
7  0.000000  0.000000  0.000000  0.000000  0.000000
8  0.000000  0.000000  0.000000  0.000000  0.000000
9  0.000000  0.000000  0.000000  0.000000  0.000000

Wavelengths     : 1
Units: µm
#          Value         Weight
 1     850.000000       1.000000

SURFACE DATA SUMMARY:

Surf      Type                Comment           Radius       Thickness                   Glass       Diameter
Conic
 OBJ STANDARD                                  Infinity        Infinity                                    0
0
 STO STANDARD                                  Infinity               0                MIRROR          14800
0
   2 COORDBRK        FIELD DEROTATE                 -               0                                    -
-
   3 JONESMAT               pellicle                -               0                                15482.6
-
   4 STANDARD                                    Infinity           -5400                             15482.6
0
   5 STANDARD                PRIMARY            10800        5133.903                MIRROR       15474.14
-1
   6 STANDARD                                    Infinity           128.6                             1492.637
0
   7 STANDARD                                    Infinity               0                             731.571
0
   8 COORDBRK               CHOPPING                -       -128.5953                                    -
-
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   9 STANDARD             SECONDARY       548.6538       128.5953              MIRROR       748.3635      -
1.127537
  10 COORDBRK       REMOVE CHOPPING               -          -128.6                                     -
-
  11 COORDBRK                                     -       -5133.903                                     -
-
  12 STANDARD           PRIME VERTEX        Infinity       -2281.748                                634.9583
0
  13 STANDARD              REFERENCE        Infinity               0                                594.0536
0
  14 COORDBRK                                     -               0                                     -
-
  15 XPOLYNOM               TERTIARY        Infinity               0              MIRROR        735.3632
0
  16 COORDBRK                                     -        1314.708                                     -
-
  17 COORDBRK                                     -               0                                     -
-
  18 COORDBRK                                     -               0                                     -
-
  19 XPOLYNOM                     C1        Infinity               0              MIRROR        561.8569
0
  20 COORDBRK                                     -       -1694.054                                     -
-
  21 COORDBRK                                     -               0                                     -
-
  22 XPOLYNOM                     C2        Infinity               0              MIRROR        473.8084
0
  23 COORDBRK                                     -        1301.153                                     -
-
  24 COORDBRK                                     -               0                                     -
-
  25 XPOLYNOM                     C3        Infinity               0              MIRROR         438.903
0
  26 COORDBRK                                     -       -448.9797                                     -
-
  27 COORDBRK        SKY DEROTATION               -               0                                     -
-
  28 STANDARD                BEARING        Infinity           -1515                                302.3856
0
  29 STANDARD                BEARING        Infinity               0                                243.3968
0
  30 COORDBRK             IFTS Input               -       -133.0203                                     -
-
  31 STANDARD                  image        Infinity               0                                256.7642
0
  32 COORDBRK               Decenter               -               0                                     -
-
  33 COORDBRK          Element Tilt               -               0                                     -
-
  34 COORDBRK          Element Tilt               -               0                                     -
-
  35 STANDARD                   PO1        Infinity               0              MIRROR        138.4871
0
  36 COORDBRK          Element Tilt               -               0                                     -
-
  37 COORDBRK          Element Tilt               -               0                                     -
-
  38 COORDBRK          Element Tilt               -               0                                     -
-
  39 STANDARD        vertical dummy        Infinity               0                                104.5727
0
  40 COORDBRK                                     -        1047.162                                     -
-
  41 COORDBRK                                     -               0                                     -
-
  42 XPOLYNOM                FM2_1      -1239.388               0              MIRROR       358.7158      -
0.6688264
  43 COORDBRK                                     -       -1160.062                                     -
-
  44 COORDBRK return BS to vertical               -               0                                     -
-
  45 COORDBRK return BS to vertical               -               0                                     -
-
  46 STANDARD                     BS        Infinity               0                                118.5965
0
  47 COORDBRK                                     -               0                                     -
-
  48 COORDBRK                                     -       -379.7693                                     -
-
  49 STANDARD                  focus        Infinity       -552.1559                                148.1916
0
  50 COORDBRK                                     -               0                                     -
-
  51 XPOLYNOM                  FM1_3        1135.457               0              MIRROR        304.5947
2.379386
  52 COORDBRK                                     -               0                                     -
-
  53 COORDBRK                                     -        469.9907                                     -
-
  54 COORDBRK                travel               -               0                                     -
-
  55 COORDBRK                                     -               0                                     -
-
  56 STANDARD                                 Infinity               0                                497.0764
0
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  57 NONSEQCO                            Infinity              0                          497.0764
0
  58 STANDARD                            Infinity          1e-006                            1000
0
  59 COORDBRK                                     -       -469.9907                               -
-
  60 COORDBRK                travel               -               0                               -
-
  61 COORDBRK                                     -               0                               -
-
  62 XPOLYNOM                FM1_4        1188.09               0              MIRROR        272.01       -
2.367087
  63 COORDBRK                                     -               0                               -
-
  64 COORDBRK                                     -         931.948                               -
-
  65 COORDBRK                                     -               0                               -
-
  66 COORDBRK                                     -               0                               -
-
  67 STANDARD                    BS        Infinity               0                          149.1475
0
  68 COORDBRK                                     -               0                               -
-
  69 COORDBRK                                     -               0                               -
-
  70 COORDBRK                                     -        1160.038                               -
-
  71 COORDBRK                                     -               0                               -
-
  72 XPOLYNOM                  FM2_2       -1173.798               0              MIRROR        214.1618
2.131911
  73 COORDBRK                                     -               0                               -
-
  74 COORDBRK                                     -       -1070.501                               -
-
  75 COORDBRK          Element Tilt               -               0                               -
-
  76 COORDBRK                                     -               0                               -
-
  77 COORDBRK          Element Tilt               -               0                               -
-
  78 STANDARD                    PO2        Infinity               0              MIRROR        147.4623
0
  79 COORDBRK          Element Tilt               -               0                               -
-
  80 COORDBRK                                     -               0                               -
-
  81 COORDBRK          Element Tilt               -               0                               -
-
  82 COORDBRK               Decenter              -               0                               -
-
  83 COORDBRK                                     -       -109.0664                               -
-
  84 STANDARD          Desired image        Infinity          -2.293                          249.9883
0
  85 STANDARD            IFTS Output        Infinity       -133.0203                          249.4153
0
  86 STANDARD                BEARING        Infinity            2561                          236.2802
0
  87 COORDBRK                                     -               0                               -
-
  88 XPOLYNOM                    N1        Infinity               0              MIRROR        870.9959
0
  89 COORDBRK                                     -           -1900                               -
-
  90 STANDARD                                     Infinity           -1900                          930.4162
0
  91 COORDBRK                                     -               0                               -
-
  92 XPOLYNOM                    N2        Infinity               0              MIRROR         848.212
0
  93 COORDBRK                                     -        985.7868                               -
-
  94 COORDBRK                                     -               0                               -
-
  95 XPOLYNOM                 WINDOW       -23481.81               8             HDPE_300         151.404
-1
  96 XPOLYNOM                                     -23491.81               0                          150.2317
-1
  97 COORDBRK                                     -              75                               -
-
  98 STANDARD              60K FILTER        Infinity             0.5             HDPE_300        134.5401
0
  99 STANDARD                                     Infinity             8.1                          134.4789
0
 100 STANDARD              60K FILTER        Infinity             0.5             HDPE_300        132.9765
0
 101 STANDARD                                     Infinity              14                           132.917
0
 102 STANDARD              60K FILTER        Infinity             0.5             HDPE_300         130.422
0
 103 STANDARD                                      Infinity          14.695                          130.3655
0
 104 STANDARD               4K FILTER        Infinity             0.5             HDPE_300        127.9571
0
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 105 STANDARD                                Infinity         203.805                              127.9064
0
 106 COORDBRK                                       -               0                                    -
-
 107 XPOLYNOM                      N3        Infinity               0                  MIRROR       174.1297
0
 108 COORDBRK                                       -           -1021                                    -
-
 109 COORDBRK                                       -               0                                    -
-
 110 XPOLYNOM                      N4        Infinity               0                  MIRROR       713.4418
0
 111 COORDBRK                                       -            1520                                    -
-
 112 COORDBRK                                       -               0                                    -
-
 113 XPOLYNOM                      N5        Infinity               0                  MIRROR       363.7959
0
 114 COORDBRK                                       -            -380                                    -
-
 115 STANDARD              COLD STOP         Infinity            -260                              131.2711
0
 IMA STANDARD                   IMAGE        Infinity                                              130.7321
0

SURFACE DATA DETAIL:

Surface OBJ     : STANDARD
Surface STO     : STANDARD
 Mirror Substrate : Curved, Thickness = 2.96000E+002
Surface   2     : COORDBRK FIELD DEROTATE
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface   3     : JONESMAT pellicle
 A real         :                1
 A imag         :                0
 B real         :                0
 B imag         :                0
 C real         :                0
 C imag         :                0
 D real         :                1
 D imag         :                0
Surface   4     : STANDARD
Surface   5     : STANDARD PRIMARY
 Mirror Substrate : Curved, Thickness = 3.09483E+002
 Coating        : JCMT
 Aperture       : Circular Aperture
 Minimum Radius :           300
 Maximum Radius :          7500
Surface   6     : STANDARD
Surface   7     : STANDARD
Surface   8     : COORDBRK CHOPPING
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface   9     : STANDARD SECONDARY
 Mirror Substrate : Curved, Thickness = 1.49673E+001
 Coating        : JCMT
 Aperture       : Circular Aperture
 Minimum Radius :             0
 Maximum Radius :           375
Surface  10     : COORDBRK REMOVE CHOPPING
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Tilt then decenter
Surface  11     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  12     : STANDARD PRIME VERTEX
Surface  13     : STANDARD REFERENCE
Surface  14     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :        41.849559
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  15     : XPOLYNOM TERTIARY
 Mirror Substrate : Curved, Thickness = 1.47073E+001
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
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 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:    0.00018130568
 Coeff on   X1Y1:   2.7654611e-007
 Coeff on   X0Y2:   7.1597499e-005
 Coeff on   X3Y0:   2.9624814e-010
 Coeff on   X2Y1:   -1.333875e-008
 Coeff on   X1Y2:  -5.8121489e-011
 Coeff on   X0Y3:  -1.3922064e-008
 Coeff on   X4Y0:  -1.4707899e-011
 Coeff on   X3Y1:  -1.2780017e-012
 Coeff on   X2Y2:   1.4558869e-011
 Coeff on   X1Y3:  -7.0932213e-013
 Coeff on   X0Y4:    4.875771e-012
 Aperture       : Elliptical Aperture
 X Half Width   :           330
 Y Half Width   :           440
Surface  16     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :        41.849559
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  17     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  18     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :       -57.590414
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  19     : XPOLYNOM C1
 Mirror Substrate : Curved, Thickness = 1.12371E+001
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:    0.00033191735
 Coeff on   X1Y1:  -5.1646278e-007
 Coeff on   X0Y2:   1.8486231e-005
 Coeff on   X3Y0:   2.6620652e-009
 Coeff on   X2Y1:  -1.0129359e-007
 Coeff on   X1Y2:    5.095138e-010
 Coeff on   X0Y3:  -2.4051628e-008
 Coeff on   X4Y0:  -2.4940149e-010
 Coeff on   X3Y1:  -1.5167794e-011
 Coeff on   X2Y2:  -1.2400441e-010
 Coeff on   X1Y3:  -5.2525221e-012
 Coeff on   X0Y4:  -6.4171693e-012
 Aperture       : Elliptical Aperture
 X Half Width   :           190
 Y Half Width   :           390
Surface  20     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :       -57.590414
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  21     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :        16.705847
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  22     : XPOLYNOM C2
 Mirror Substrate : Curved, Thickness = 9.47617E+000
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:    0.00018053878
 Coeff on   X1Y1:  -1.5142904e-007
 Coeff on   X0Y2:    0.00010388072
 Coeff on   X3Y0:   5.7636116e-012
 Coeff on   X2Y1:  -5.1784772e-008
 Coeff on   X1Y2:   1.1848013e-010
 Coeff on   X0Y3:  -5.0730042e-008
 Coeff on   X4Y0:   3.8087033e-011
 Coeff on   X3Y1:  -4.5812025e-013
 Coeff on   X2Y2:   9.8239828e-011
 Coeff on   X1Y3:  -5.0572235e-013
 Coeff on   X0Y4:   6.3600998e-011
 Aperture       : Elliptical Aperture
 X Half Width   :           310
 Y Half Width   :           290
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Surface  23     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :        16.705847
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  24     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :       -45.964939
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  25     : XPOLYNOM C3
 Mirror Substrate : Curved, Thickness = 8.77806E+000
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:  -6.3834037e-005
 Coeff on   X1Y1:  -1.7066954e-007
 Coeff on   X0Y2:  -8.8512701e-005
 Coeff on   X3Y0:   3.7236916e-010
 Coeff on   X2Y1:   -7.576508e-008
 Coeff on   X1Y2:   3.6791489e-010
 Coeff on   X0Y3:  -1.4911589e-008
 Coeff on   X4Y0:   4.6136511e-011
 Coeff on   X3Y1:  -1.9908874e-013
 Coeff on   X2Y2:   5.1076612e-011
 Coeff on   X1Y3:  -1.5237833e-013
 Coeff on   X0Y4:  -4.6142011e-012
 Aperture       : Elliptical Aperture
 X Half Width   :           215
 Y Half Width   :           275
Surface  26     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :       -45.964939
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  27     : COORDBRK SKY DEROTATION
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  28     : STANDARD BEARING
 Aperture       : Circular Aperture
 Minimum Radius :            0
 Maximum Radius :           180
Surface  29     : STANDARD BEARING
Surface  30     : COORDBRK IFTS Input
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  31     : STANDARD image
Surface  32     : COORDBRK Decenter
 Decenter X     :        54.361075
 Decenter Y     :       -53.285717
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  33     : COORDBRK Element Tilt
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :               45
 Tilt About Z   :                0
 Order          : Tilt then decenter
Surface  34     : COORDBRK Element Tilt
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  35     : STANDARD PO1
 Mirror Substrate : Curved, Thickness = 2.76974E+000
 Aperture       : Rectangular Aperture
 X Half Width   :            58
 Y Half Width   :            44
 X- Decenter    :                5
 Y- Decenter    :               -4
Surface  36     : COORDBRK Element Tilt
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
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 Tilt About Z   :               0
 Order          : Tilt then decenter
Surface  37     : COORDBRK Element Tilt
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :              45
 Tilt About Z   :               0
 Order          : Tilt then decenter
Surface  38     : COORDBRK Element Tilt
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  39     : STANDARD vertical dummy
Surface  40     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Tilt then decenter
Surface  41     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :       9.1375345
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  42     : XPOLYNOM FM2_1
 Mirror Substrate : Curved, Thickness = 7.17432E+000
 Maximum term   :               9
 Normalized ape :               1
 Coeff on   X1Y0:               0
 Coeff on   X0Y1:               0
 Coeff on   X2Y0:  -7.8641682e-006
 Coeff on   X1Y1:   3.2240853e-006
 Coeff on   X0Y2:   3.6050276e-006
 Coeff on   X3Y0:   3.0800701e-008
 Coeff on   X2Y1:  -4.7510136e-008
 Coeff on   X1Y2:   3.6080088e-008
 Coeff on   X0Y3:  -4.4803329e-008
 Aperture       : Rectangular Aperture
 X Half Width   :           125
 Y Half Width   :           130
 X- Decenter    :              25
 Y- Decenter    :             -28
Surface  43     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :       9.1375345
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  44     : COORDBRK return BS to vertical
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :      -18.275069
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  45     : COORDBRK return BS to vertical
 Coordinate Return Solve: To Surface -1
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  46     : STANDARD BS
 Aperture       : Circular Aperture
 Minimum Radius :            0
 Maximum Radius :           60
 X- Decenter    :               6
 Y- Decenter    :              -5
Surface  47     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Tilt then decenter
Surface  48     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :       18.275069
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Tilt then decenter
Surface  49     : STANDARD focus
Surface  50     : COORDBRK
 Coordinate Return Solve: To Surface -1
 Decenter X     :               0
 Decenter Y     :               0
```

```
 Tilt About X   :       -9.1375345
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  51     : XPOLYNOM FM1_3
 Mirror Substrate : Curved, Thickness = 6.09189E+000
 Maximum term   :               9
 Normalized ape :               1
 Coeff on   X1Y0:               0
 Coeff on   X0Y1:               0
 Coeff on   X2Y0:   5.1608973e-006
 Coeff on   X1Y1:   1.4065724e-006
 Coeff on   X0Y2:  -1.7785236e-006
 Coeff on   X3Y0:   6.1442211e-008
 Coeff on   X2Y1:    3.706071e-008
 Coeff on   X1Y2:  -2.4715746e-008
 Coeff on   X0Y3:   9.5529326e-009
 Aperture       : Rectangular Aperture
 X Half Width   :           120
 Y Half Width   :           120
 X- Decenter    :              -4
 Y- Decenter    :              10
Surface  52     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :       -9.1375345
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  53     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  54     : COORDBRK travel
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  55     : COORDBRK
 Decenter X     :             167
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  56     : STANDARD
Surface  57     : NONSEQCO
 Mirror Substrate : Curved, Thickness = 9.94153E+000
 Draw Ports?    :               0
 Decenter X     :               0
 Decenter Y     :               0
 Decenter Z     :          -1e-006
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt

 There are 9 objects:

 Object    1             :
 Object type             : Null Object (NSC_NULL)
 Reference object        : 0
 Inside of               : 0
 XYZ position            :                0               0               0
 Tilt about XYZ          :                0               0             -90
 Pos. Mtrx. R11 R12 R13 X : -3.82858892E-016  1.00000000E+000  0.00000000E+000  0.00000000E+000
 Pos. Mtrx. R21 R22 R23 Y : -1.00000000E+000 -3.82858892E-016  0.00000000E+000  0.00000000E+000
 Pos. Mtrx. R31 R32 R33 Z :  0.00000000E+000  0.00000000E+000  1.00000000E+000  0.00000000E+000
 Material                :
  Index at  850.000000 µm = 1.00000000

 Object    2             :
 Object type             : Rectangular Corner (NSC_RCOR)
 Face 0                  : All Faces
  Coating                : (none)
  Scattering             : None
 Reference object        : 1
 Inside of               : 0
 XYZ position            :               0               0             450
 Tilt about XYZ          :            -135             -45               0
 Pos. Mtrx. R11 R12 R13 X :  5.00000000E-001 -7.07106781E-001  5.00000000E-001  0.00000000E+000
 Pos. Mtrx. R21 R22 R23 Y : -7.07106781E-001  2.70722119E-016  7.07106781E-001  0.00000000E+000
 Pos. Mtrx. R31 R32 R33 Z : -5.00000000E-001 -7.07106781E-001 -5.00000000E-001  4.50000000E+002
 Material                : MIRROR
 Length                  :             330

 Object    3             :
 Object type             : Null Object (NSC_NULL)
 Reference object        : 0
 Inside of               : 0
 XYZ position            :                0               0               0
```

```
Tilt about XYZ          :                0                0              180
Pos. Mtrx. R11 R12 R13 X : -1.00000000E+000  7.65717784E-016  0.00000000E+000  0.00000000E+000
Pos. Mtrx. R21 R22 R23 Y : -7.65717784E-016 -1.00000000E+000  0.00000000E+000  0.00000000E+000
Pos. Mtrx. R31 R32 R33 Z :  0.00000000E+000  0.00000000E+000  1.00000000E+000  0.00000000E+000
Material                :
 Index at  850.000000 µm = 1.00000000

Object    4             :
Object type             : Null Object (NSC_NULL)
Reference object        : 3
Inside of               : 0
XYZ position            :                0                0              450
Tilt about XYZ          :                0              -45               90
Pos. Mtrx. R11 R12 R13 X :  1.03643990E-015  7.07106781E-001  7.07106781E-001  0.00000000E+000
Pos. Mtrx. R21 R22 R23 Y : -1.00000000E+000  9.24303130E-016  5.41444238E-016  0.00000000E+000
Pos. Mtrx. R31 R32 R33 Z : -2.70722119E-016 -7.07106781E-001  7.07106781E-001  4.50000000E+002
Material                :
 Index at  850.000000 µm = 1.00000000

Object    5             :
Object type             : Null Object (NSC_NULL)
Reference object        : 3
Inside of               : 0
XYZ position            :                0                0              450
Tilt about XYZ          :                0               45                0
Pos. Mtrx. R11 R12 R13 X : -7.07106781E-001  7.65717784E-016 -7.07106781E-001  0.00000000E+000
Pos. Mtrx. R21 R22 R23 Y : -5.41444238E-016 -1.00000000E+000 -5.41444238E-016  0.00000000E+000
Pos. Mtrx. R31 R32 R33 Z : -7.07106781E-001  0.00000000E+000  7.07106781E-001  4.50000000E+002
Material                :
 Index at  850.000000 µm = 1.00000000

Object    6             :
Object type             : Rectangular Roof (NSC_RROF)
Face 0                  : All Faces
 Coating                : (none)
 Scattering             : None
Reference object        : 4
Inside of               : 0
XYZ position            :                0              230                0
Tilt about XYZ          :                0                0                0
Pos. Mtrx. R11 R12 R13 X :  1.03643990E-015  7.07106781E-001  7.07106781E-001  1.62634560E+002
Pos. Mtrx. R21 R22 R23 Y : -1.00000000E+000  9.24303130E-016  5.41444238E-016  2.12589720E-013
Pos. Mtrx. R31 R32 R33 Z : -2.70722119E-016 -7.07106781E-001  7.07106781E-001  2.87365440E+002
Material                : MIRROR
X Half Width            :              106
Y Half Width            :              170
Angle                   :               90

Object    7             :
Object type             : Rectangle (NSC_RECT)
Face 0                  : All Faces
 Coating                : (none)
 Scattering             : None
Reference object        : 6
Inside of               : 0
XYZ position            :             37.5               50            -37.5
Tilt about XYZ          :                0               45                0
Pos. Mtrx. R11 R12 R13 X : -5.00000000E-001  7.07106781E-001  5.00000000E-001  1.71473394E+002
Pos. Mtrx. R21 R22 R23 Y : -7.07106781E-001  9.24303130E-016 -7.07106781E-001 -3.75000000E+001
Pos. Mtrx. R31 R32 R33 Z : -5.00000000E-001 -7.07106781E-001  5.00000000E-001  2.25493597E+002
Material                : MIRROR
X Half Width            :        53.033009
Y Half Width            :              135

Object    8             :
Object type             : Rectangle (NSC_RECT)
Face 0                  : All Faces
 Coating                : (none)
 Scattering             : None
Reference object        : 6
Inside of               : 0
XYZ position            :            -29.9               50            -29.9
Tilt about XYZ          :                0              -45                0
Pos. Mtrx. R11 R12 R13 X :  5.00000000E-001  7.07106781E-001  5.00000000E-001  1.76847406E+002
Pos. Mtrx. R21 R22 R23 Y : -7.07106781E-001  9.24303130E-016  7.07106781E-001  2.99000000E+001
Pos. Mtrx. R31 R32 R33 Z :  5.00000000E-001 -7.07106781E-001  5.00000000E-001  2.30867609E+002
Material                : MIRROR
X Half Width            :        42.284986
Y Half Width            :              135

Object    9             :
Object type             : Rectangle (NSC_RECT)
Face 0                  : All Faces
 Coating                : (none)
 Scattering             : None
Reference object        : 5
Inside of               : 0
XYZ position            :              260               -5                0
Tilt about XYZ          :                0                0               90
Pos. Mtrx. R11 R12 R13 X :  1.03643990E-015  7.07106781E-001 -7.07106781E-001 -1.83847763E+002
Pos. Mtrx. R21 R22 R23 Y : -1.00000000E+000  9.24303130E-016 -5.41444238E-016  5.00000000E+000
Pos. Mtrx. R31 R32 R33 Z :  2.70722119E-016  7.07106781E-001  7.07106781E-001  2.66152237E+002
Material                : MIRROR
X Half Width            :               75
Y Half Width            :              105
```

```
Surface  58     : STANDARD
Surface  59     : COORDBRK
 Decenter X     :               167
 Decenter Y     :                 0
 Tilt About X   :                 0
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  60     : COORDBRK travel
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :                 0
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  61     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :        9.1375345
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  62     : XPOLYNOM FM1_4
 Mirror Substrate : Curved, Thickness = 5.44020E+000
 Maximum term   :                 9
 Normalized ape :                 1
 Coeff on   X1Y0:                 0
 Coeff on   X0Y1:                 0
 Coeff on   X2Y0:   6.6259414e-006
 Coeff on   X1Y1:  -2.3150821e-007
 Coeff on   X0Y2:   8.6133417e-007
 Coeff on   X3Y0:  -4.0772649e-009
 Coeff on   X2Y1:   4.1783349e-008
 Coeff on   X1Y2:  -4.9887241e-009
 Coeff on   X0Y3:   1.4344653e-008
 Aperture       : Rectangular Aperture
 X Half Width   :            140
 Y Half Width   :            140
 X- Decenter    :                10
 Y- Decenter    :                -5
Surface  63     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :        9.1375345
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  64     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :                 0
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  65     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :       -18.275069
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Tilt then decenter
Surface  66     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :                 0
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Tilt then decenter
Surface  67     : STANDARD BS
 Aperture       : Circular Aperture
 Minimum Radius :             0
 Maximum Radius :           100
 X- Decenter    :                 0
 Y- Decenter    :                 4
Surface  68     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :                 0
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  69     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :        18.275069
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  70     : COORDBRK
 Decenter X     :                 0
 Decenter Y     :                 0
 Tilt About X   :                 0
 Tilt About Y   :                 0
 Tilt About Z   :                 0
 Order          : Decenter then tilt
Surface  71     : COORDBRK
```

```
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :        -9.087835
 Tilt About Y   :               6
 Tilt About Z   :       -0.4816678
 Order          : Decenter then tilt
Surface  72     : XPOLYNOM FM2_2
 Mirror Substrate : Curved, Thickness = 4.28324E+000
 Maximum term   :               9
 Normalized ape :               1
 Coeff on   X1Y0:               0
 Coeff on   X0Y1:               0
 Coeff on   X2Y0:   1.9448184e-006
 Coeff on   X1Y1:  -9.7895996e-006
 Coeff on   X0Y2:   4.3622074e-006
 Coeff on   X3Y0:  -6.5264985e-008
 Coeff on   X2Y1:   -1.962942e-007
 Coeff on   X1Y2:  -2.2215795e-008
 Coeff on   X0Y3:  -2.4912196e-008
 Aperture       : Rectangular Aperture
 X Half Width   :           155
 Y Half Width   :           170
 X- Decenter    :              -21
 Y- Decenter    :               6
Surface  73     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :        -9.087835
 Tilt About Y   :               6
 Tilt About Z   :       -0.4816678
 Order          : Decenter then tilt
Surface  74     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  75     : COORDBRK Element Tilt
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :              45
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  76     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :              -6
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  77     : COORDBRK Element Tilt
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :            -1.3
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  78     : STANDARD PO2
 Mirror Substrate : Curved, Thickness = 2.94925E+000
 Aperture       : Rectangular Aperture
 X Half Width   :            70
 Y Half Width   :            80
 X- Decenter    :               1
 Y- Decenter    :             -15
Surface  79     : COORDBRK Element Tilt
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :             1.3
 Tilt About Z   :               0
 Order          : Tilt then decenter
Surface  80     : COORDBRK
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :              -6
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  81     : COORDBRK Element Tilt
 Decenter X     :               0
 Decenter Y     :               0
 Tilt About X   :               0
 Tilt About Y   :              45
 Tilt About Z   :               0
 Order          : Decenter then tilt
Surface  82     : COORDBRK Decenter
 Decenter X     :        54.361075
 Decenter Y     :        53.285717
 Tilt About X   :               0
 Tilt About Y   :               0
 Tilt About Z   :               0
 Order          : Tilt then decenter
Surface  83     : COORDBRK
 Coordinate Return Solve: To Surface -1
```

```
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  84     : STANDARD Desired image
 Coordinate Return Solve: Orientation XYZ, To Surface 30
Surface  85     : STANDARD IFTS Output
Surface  86     : STANDARD BEARING
 Coordinate Return Solve: To Surface -1
Surface  87     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :               22
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  88     : XPOLYNOM N1
 Mirror Substrate : Curved, Thickness = 1.74199E+001
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:   -0.00010242634
 Coeff on   X1Y1:   7.6607983e-007
 Coeff on   X0Y2:  -7.6649858e-005
 Coeff on   X3Y0:   5.7349248e-011
 Coeff on   X2Y1:  -4.6838531e-009
 Coeff on   X1Y2:   5.6851889e-010
 Coeff on   X0Y3:   4.8398635e-009
 Coeff on   X4Y0:   2.3696042e-012
 Coeff on   X3Y1:  -7.3254336e-013
 Coeff on   X2Y2:   5.9420956e-013
 Coeff on   X1Y3:   -1.408657e-012
 Coeff on   X0Y4:  -1.9296732e-012
 Aperture       : Rectangular Aperture
 X Half Width   :           538
 Y Half Width   :         554.5
 X- Decenter    :                0
 Y- Decenter    :               15
Surface  89     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :               22
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  90     : STANDARD
Surface  91     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :              -25
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  92     : XPOLYNOM N2
 Mirror Substrate : Curved, Thickness = 1.69642E+001
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:    0.00025306219
 Coeff on   X1Y1:  -1.4903524e-006
 Coeff on   X0Y2:    0.00017432937
 Coeff on   X3Y0:   1.7653865e-009
 Coeff on   X2Y1:   8.6725909e-008
 Coeff on   X1Y2:    5.506373e-011
 Coeff on   X0Y3:   2.3904008e-008
 Coeff on   X4Y0:  -3.1604648e-011
 Coeff on   X3Y1:  -2.1431385e-013
 Coeff on   X2Y2:  -1.6434543e-011
 Coeff on   X1Y3:  -1.0153718e-012
 Coeff on   X0Y4:   -8.013021e-012
 Aperture       : Rectangular Aperture
 X Half Width   :           400
 Y Half Width   :           450
Surface  93     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :              -25
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  94     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  95     : XPOLYNOM WINDOW
 Maximum term   :                3
 Normalized ape :              100
```

```
 Coeff on   X1Y0:          0.00405
 Coeff on   X0Y1:          0.00405
 Coeff on   X2Y0:                0
 Aperture       : Elliptical Aperture
 X Half Width   :           105
 Y Half Width   :           105
Surface  96     : XPOLYNOM
 Maximum term   :                3
 Normalized ape :              100
 Coeff on   X1Y0:          0.00405
 Coeff on   X0Y1:          0.00405
 Coeff on   X2Y0:                0
Surface  97     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :                0
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface  98     : STANDARD 60K FILTER
 Aperture       : Circular Aperture
 Minimum Radius :             0
 Maximum Radius :           87.5
Surface  99     : STANDARD
Surface 100     : STANDARD 60K FILTER
Surface 101     : STANDARD
Surface 102     : STANDARD 60K FILTER
Surface 103     : STANDARD
Surface 104     : STANDARD 4K FILTER
Surface 105     : STANDARD
Surface 106     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :             45.5
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface 107     : XPOLYNOM N3
 Mirror Substrate : Curved, Thickness = 3.48259E+000
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:   9.6001164e-005
 Coeff on   X1Y1:  -3.2336797e-006
 Coeff on   X0Y2:   1.0862954e-006
 Coeff on   X3Y0:  -2.1810643e-008
 Coeff on   X2Y1:  -3.1979049e-007
 Coeff on   X1Y2:    2.310459e-008
 Coeff on   X0Y3:  -1.0935899e-008
 Coeff on   X4Y0:  -9.8237105e-010
 Coeff on   X3Y1:  -1.2249925e-010
 Coeff on   X2Y2:  -2.3862456e-009
 Coeff on   X1Y3:    3.865981e-010
 Coeff on   X0Y4:   2.1853559e-009
 Aperture       : Rectangular Aperture
 X Half Width   :           135
 Y Half Width   :           135
Surface 108     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :             45.5
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface 109     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :            -12.8
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface 110     : XPOLYNOM N4
 Mirror Substrate : Curved, Thickness = 1.42688E+001
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:    0.00028945708
 Coeff on   X1Y1:   8.4814497e-007
 Coeff on   X0Y2:    0.00029515278
 Coeff on   X3Y0:  -3.9166956e-010
 Coeff on   X2Y1:  -7.3852889e-009
 Coeff on   X1Y2:  -5.7295019e-010
 Coeff on   X0Y3:    -2.06668e-008
 Coeff on   X4Y0:   1.1394101e-011
 Coeff on   X3Y1:   2.5973121e-013
 Coeff on   X2Y2:   2.5701574e-011
 Coeff on   X1Y3:  -3.1821701e-012
 Coeff on   X0Y4:    4.878962e-014
 Aperture       : Rectangular Aperture
 X Half Width   :           540
 Y Half Width   :           370
 X- Decenter    :                0
```

```
 Y- Decenter    :              -10
Surface 111     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :            -12.8
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface 112     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :               28
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface 113     : XPOLYNOM N5
 Mirror Substrate : Curved, Thickness = 7.27592E+000
 Coating        : JCMT
 Maximum term   :               14
 Normalized ape :                1
 Coeff on   X1Y0:                0
 Coeff on   X0Y1:                0
 Coeff on   X2Y0:   -0.00029888845
 Coeff on   X1Y1:  -4.5440149e-006
 Coeff on   X0Y2:   -0.00031840667
 Coeff on   X3Y0:  -9.6294606e-009
 Coeff on   X2Y1:  -3.5932167e-007
 Coeff on   X1Y2:  -3.6137711e-009
 Coeff on   X0Y3:  -1.1951057e-007
 Coeff on   X4Y0:  -7.7628635e-011
 Coeff on   X3Y1:  -6.0301374e-012
 Coeff on   X2Y2:  -2.6072827e-010
 Coeff on   X1Y3:  -5.4955802e-012
 Coeff on   X0Y4:  -4.8929374e-011
 Aperture       : Rectangular Aperture
 X Half Width   :           270
 Y Half Width   :           270
 X- Decenter    :                0
 Y- Decenter    :              -35
Surface 114     : COORDBRK
 Decenter X     :                0
 Decenter Y     :                0
 Tilt About X   :               28
 Tilt About Y   :                0
 Tilt About Z   :                0
 Order          : Decenter then tilt
Surface 115     : STANDARD COLD STOP
 Aperture       : Circular Aperture
 Minimum Radius :            0
 Maximum Radius :           51
Surface IMA     : STANDARD IMAGE
 Aperture       : User Aperture
 Aperture File  : SCUBA2_ARRAY.UDA
 Aperture Scale :                1
 User Aper Data :             2.31            2.31
 User Aper Data :            38.55            2.31
 User Aper Data :            38.55           47.63
 User Aper Data :             2.31           47.63
 User Aper Data :                0               0
 User Aper Data :            -2.31            2.31
 User Aper Data :            -2.31           38.55
 User Aper Data :           -47.63           38.55
 User Aper Data :           -47.63            2.31
 User Aper Data :            -2.31            2.31
 User Aper Data :                0               0
 User Aper Data :            -2.31           -2.31
 User Aper Data :           -38.55           -2.31
 User Aper Data :           -38.55          -47.63
 User Aper Data :            -2.31          -47.63
 User Aper Data :            -2.31           -2.31
 User Aper Data :                0               0
 User Aper Data :             2.31           -2.31
 User Aper Data :             2.31          -38.55
 User Aper Data :            47.63          -38.55
 User Aper Data :            47.63           -2.31
 User Aper Data :             2.31           -2.31
 User Aper Data :                0               0

COATING DEFINITIONS:

Coating JCMT, 1 layer(s)
                Material      Thickness    Absolute        Loop                Taper
            JCMTCOATING       0.040000           0           0


EDGE THICKNESS DATA:

Surf         X-Edge         Y-Edge
 STO       0.000000       0.000000
   2       0.000000       0.000000
   3       0.000000       0.000000
   4   -2628.600838   -2628.600838
   5    2362.503729    2362.503729
   6     128.600000     128.600000
   7       0.000000       0.000000
   8      -2.837486      -2.837486
```

9	2.837486	2.837486
10	-128.600000	-128.600000
11	-5133.902891	-5133.902891
12	-2281.748192	-2281.748192
13	0.000000	0.000000
14	24.256590	9.076338
15	-24.256590	-9.076338
16	1314.707932	1314.707932
17	0.000000	0.000000
18	24.700808	0.885728
19	-24.700808	-0.885728
20	-1694.054482	-1694.054482
21	10.252533	5.355992
22	-10.252533	-5.355992
23	1301.153439	1301.153439
24	-2.963242	-4.430975
25	2.963242	4.430975
26	-448.979659	-448.979659
27	0.000000	0.000000
28	-1515.000000	-1515.000000
29	0.000000	0.000000
30	-133.020341	-133.020341
31	0.000000	0.000000
32	0.000000	0.000000
33	0.000000	0.000000
34	0.000000	0.000000
35	0.000000	0.000000
36	0.000000	0.000000
37	0.000000	0.000000
38	0.000000	0.000000
39	0.000000	0.000000
40	1047.161952	1047.161952
41	-13.075734	-13.143000
42	13.075734	13.143000
43	-1160.061977	-1160.061977
44	0.000000	0.000000
45	0.000000	0.000000
46	0.000000	0.000000
47	0.000000	0.000000
48	-379.769275	-379.769275
49	-552.155869	-552.155869
50	10.710617	10.366364
51	-10.710617	-10.366364
52	0.000000	0.000000
53	469.990744	469.990744
54	0.000000	0.000000
55	0.000000	0.000000
56	0.000000	0.000000
57	0.000000	0.000000
58	0.000001	0.000001
59	-469.990744	-469.990744
60	0.000000	0.000000
61	7.862240	7.801955
62	-7.862240	-7.801955
63	0.000000	0.000000
64	931.948022	931.948022
65	0.000000	0.000000
66	0.000000	0.000000
67	0.000000	0.000000
68	0.000000	0.000000
69	0.000000	0.000000
70	1160.037546	1160.037546
71	-4.974362	-4.897098
72	4.974362	4.897098
73	0.000000	0.000000
74	-1070.501170	-1070.501170
75	0.000000	0.000000
76	0.000000	0.000000
77	0.000000	0.000000
78	0.000000	0.000000
79	0.000000	0.000000
80	0.000000	0.000000
81	0.000000	0.000000
82	0.000000	0.000000
83	-109.066416	-109.066416
84	-2.293000	-2.293000
85	-133.020341	-133.020341
86	2561.000000	2561.000000
87	-19.336050	-14.206953
88	19.336050	14.206953
89	-1900.000000	-1900.000000
90	-1900.000000	-1900.000000
91	44.629464	32.920127
92	-44.629464	-32.920127
93	985.786826	985.786826
94	-0.118960	-0.118960
95	8.001910	8.001910
96	0.117050	0.117050
97	75.000000	75.000000
98	0.500000	0.500000
99	8.100000	8.100000
100	0.500000	0.500000
101	14.000000	14.000000
102	0.500000	0.500000
103	14.695000	14.695000
104	0.500000	0.500000

```
105     203.805000     203.805000
106       0.656874       0.126589
107      -0.656874      -0.126589
108   -1021.000000   -1021.000000
109      37.000070      36.620796
110     -37.000070     -36.620796
111    1520.000000    1520.000000
112     -10.032218     -11.307908
113      10.032218      11.307908
114    -380.000000    -380.000000
115    -260.000000    -260.000000
IMA       0.000000       0.000000

MULTI-CONFIGURATION DATA:

Configuration   1:

  1 X-field     1 :        0.0652
  2 Y-field     1 :       -0.0652
  3 X-field     2 :        0.0652
  4 Y-field     2 :        0.0652
  5 X-field     3 :             0
  6 Y-field     3 :             0
  7 X-field     4 :       -0.0652
  8 Y-field     4 :        0.0652
  9 X-field     5 :       -0.0652
 10 Y-field     5 :       -0.0652
 11 X-field     6 :             0
 12 Y-field     6 :        0.0652
 13 X-field     7 :             0
 14 Y-field     7 :       -0.0652
 15 X-field     8 :        0.0652
 16 Y-field     8 :             0
 17 X-field     9 :       -0.0652
 18 Y-field     9 :             0
 19 Wavelength  1 :           850
 20 Thickness  30 :     -133.0203
 21 Thickness  31 :             0
 22 Param 1    32 :             0
 23 Param 2    32 :             0
 24 Param 5    33 :             0
 25 Param 4    33 :             0
 26 Param 6    33 :             0
 27 Param 3    34 :             0
 28 Param 4    34 :             0
 29 Glass      35 :
 30 Ap Type    35 :             0
 31 Ap Min     35 :             0
 32 Ap Max     35 :             0
 33 Ap Dec X   35 :             0
 34 Ap Dec Y   35 :             0
 35 Param 4    37 :             0 Pickup from configuration 1, operand 25, scale -1, offset 0
 36 Param 3    38 :             0
 37 Param 6    38 :             1
 38 Thickness  40 :             0
 39 Param 3    40 :             0
 40 Param 6    40 :             0
 41 Param 3    41 :             0
 42 Glass      42 :
 43 Curvature  42 :             0
 44 Conic      42 :             0
 45 Ex Da  42   5 :             0
 46 Ex Da  42   6 :             0
 47 Ex Da  42   7 :             0
 48 Ex Da  42   8 :             0
 49 Ex Da  42   9 :             0
 50 Ex Da  42  10 :             0
 51 Ex Da  42  11 :             0
 52 Param 2    42 :             0
 53 Ap Type    42 :             0
 54 Ap Min     42 :             0
 55 Ap Max     42 :             0
 56 Ap Dec X   42 :             0
 57 Ap Dec Y   42 :             0
 58 Param 3    43 :             0
 59 Thickness  43 :             0
 60 Param 3    44 :             0
 61 Param 3    45 :             0
 62 Ap Type    46 :             0
 63 Ap Min     46 :             0
 64 Ap Max     46 :             0
 65 Ap Dec X   46 :             0
 66 Ap Dec Y   46 :             0
 67 Thickness  48 :             0
 68 Thickness  49 :             0
 69 Glass      51 :
 70 Curvature  51 :             0
 71 Conic      51 :             0
 72 Ex Da  51   5 :             0
 73 Ex Da  51   6 :             0
 74 Ex Da  51   7 :             0
 75 Ex Da  51   8 :             0
 76 Ex Da  51   9 :             0
 77 Ex Da  51  10 :             0
 78 Ex Da  51  11 :             0
 79 Ap Type    51 :             0
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```
 80 Ap Min     51 :             0
 81 Ap Max     51 :             0
 82 Ap Dec X   51 :             0
 83 Ap Dec Y   51 :             0
 84 Thickness  53 :             0
 85 Thickness  54 :             0
 86 Param 1    55 :             0
 87 Param 4    55 :             0
 88 Param 8    57 :             0
 89 NSC Position Surf 57 Object 1 Code 6:             0
 90 NSC Property Surf 57 Object 2 Item 3:             1
 91 NSC Property Surf 57 Object 2 Item 4:             1
 92 NSC Property Surf 57 Object 6 Item 3:             1
 93 NSC Property Surf 57 Object 6 Item 4:             1
 94 NSC Property Surf 57 Object 7 Item 3:             1
 95 NSC Property Surf 57 Object 7 Item 4:             1
 96 NSC Property Surf 57 Object 8 Item 3:             1
 97 NSC Property Surf 57 Object 8 Item 4:             1
 98 NSC Position Surf 57 Object 7 Code 1:             0
 99 NSC Position Surf 57 Object 7 Code 3:             0
100 NSC Position Surf 57 Object 7 Code 5:             0
101 NSC Position Surf 57 Object 8 Code 1:             0
102 NSC Position Surf 57 Object 8 Code 3:         -37.5
103 NSC Position Surf 57 Object 8 Code 5:             0
104 NSC Position Surf 57 Object 4 Code 5:             0
105 NSC Position Surf 57 Object 4 Code 6:             0
106 NSC Property Surf 57 Object 9 Item 3:             1
107 NSC Property Surf 57 Object 9 Item 4:             1
108 NSC Position Surf 57 Object 5 Code 5:             0
109 NSC Position Surf 57 Object 9 Code 1:             0
110 Thickness  58 :        1e-006
111 Param 4    59 :             0
112 Thickness  59 :             0
113 Glass      62 :
114 Curvature  62 :             0
115 Conic      62 :             0
116 Ex Da  62   5 :             0
117 Ex Da  62   6 :             0
118 Ex Da  62   7 :             0
119 Ex Da  62   8 :             0
120 Ex Da  62   9 :             0
121 Ex Da  62  10 :             0
122 Ex Da  62  11 :             0
123 Ap Type    62 :             0
124 Ap Min     62 :             0
125 Ap Max     62 :             0
126 Ap Dec X   62 :             0
127 Ap Dec Y   62 :             0
128 Thickness  64 :             0
129 Ap Type    67 :             0
130 Ap Min     67 :             0
131 Ap Max     67 :             0
132 Ap Dec X   67 :             0
133 Ap Dec Y   67 :             0
134 Thickness  70 :             0
135 Param 3    71 :             0
136 Param 4    71 :             0
137 Param 5    71 :             0
138 Glass      72 :
139 Curvature  72 :             0
140 Conic      72 :             0
141 Ex Da  72   5 :             0
142 Ex Da  72   6 :             0
143 Ex Da  72   7 :             0
144 Ex Da  72   8 :             0
145 Ex Da  72   9 :             0
146 Ex Da  72  10 :             0
147 Ex Da  72  11 :             0
148 Ap Type    72 :             0
149 Ap Min     72 :             0
150 Ap Max     72 :             0
151 Ap Dec X   72 :             0
152 Ap Dec Y   72 :             0
153 Thickness  74 :             0
154 Param 3    77 :             0
155 Param 4    77 :             0
156 Param 5    77 :             0
157 Glass      78 :
158 Ap Type    78 :             0
159 Ap Min     78 :             0
160 Ap Max     78 :             0
161 Ap Dec X   78 :             0
162 Ap Dec Y   78 :             0
163 Param 1    82 :             0
164 Param 2    82 :             0
165 Thickness  83 :             0
166 Thickness  84 :             0
167 Thickness  85 :      133.0203 Pickup from configuration 1, operand 20, scale -1, offset 0
168 Thickness  86 :         -2561
169 Param 3    87 :           -22
170 Ex Da  88   5 :  0.0001024263
171 Ex Da  88   6 : -7.660798e-007
172 Ex Da  88   7 : 7.664986e-005
173 Ex Da  88   8 : -5.734925e-011
174 Ex Da  88   9 : 4.683853e-009
175 Ex Da  88  10 : -5.685189e-010
```

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176 Ex Da  88  11 : -4.839863e-009
177 Ex Da  88  12 : -2.369604e-012
178 Ex Da  88  13 : 7.325434e-013
179 Ex Da  88  14 : -5.942096e-013
180 Ex Da  88  15 : 1.408657e-012
181 Ex Da  88  16 : 1.929673e-012
182 Thickness  89 :          1900
183 Thickness  90 :          1900
184 Param 3    91 :            25
185 Ex Da  92   5 : -0.0002530622
186 Ex Da  92   6 : 1.490352e-006
187 Ex Da  92   7 : -0.0001743294
188 Ex Da  92   8 : -1.765386e-009
189 Ex Da  92   9 : -8.672591e-008
190 Ex Da  92  10 : -5.506373e-011
191 Ex Da  92  11 : -2.390401e-008
192 Ex Da  92  12 : 3.160465e-011
193 Ex Da  92  13 : 2.143139e-013
194 Ex Da  92  14 : 1.643454e-011
195 Ex Da  92  15 : 1.015372e-012
196 Ex Da  92  16 : 8.013021e-012
197 Thickness  93 :     -985.7868
198 Thickness  95 :            -8
199 Curvature  95 : 4.258615e-005
200 Curvature  96 : 4.256802e-005
201 Ex Da  95   3 :      -0.00405
202 Ex Da  95   4 :      -0.00405
203 Ex Da  96   3 :      -0.00405
204 Ex Da  96   4 :      -0.00405
205 Thickness  97 :           -75
206 Thickness  98 :          -0.5
207 Thickness  99 :          -8.1
208 Thickness 100 :          -0.5
209 Thickness 101 :           -14
210 Thickness 102 :          -0.5
211 Thickness 103 :       -14.695
212 Thickness 104 :          -0.5
213 Thickness 105 :      -203.805
214 Param 3   106 :         -45.5
215 Ex Da 107   5 : -9.600116e-005
216 Ex Da 107   6 :  3.23368e-006
217 Ex Da 107   7 : -1.086295e-006
218 Ex Da 107   8 : 2.181064e-008
219 Ex Da 107   9 : 3.197905e-007
220 Ex Da 107  10 : -2.310459e-008
221 Ex Da 107  11 :  1.09359e-008
222 Ex Da 107  12 :  9.82371e-010
223 Ex Da 107  13 : 1.224992e-010
224 Ex Da 107  14 : 2.386246e-009
225 Ex Da 107  15 : -3.865981e-010
226 Ex Da 107  16 : -2.185356e-009
227 Thickness 108 :          1021
228 Param 3   109 :          12.8
229 Ex Da 110   5 : -0.0002894571
230 Ex Da 110   6 : -8.48145e-007
231 Ex Da 110   7 : -0.0002951528
232 Ex Da 110   8 : 3.916696e-010
233 Ex Da 110   9 : 7.385289e-009
234 Ex Da 110  10 : 5.729502e-010
235 Ex Da 110  11 :  2.06668e-008
236 Ex Da 110  12 : -1.13941e-011
237 Ex Da 110  13 : -2.597312e-013
238 Ex Da 110  14 : -2.570157e-011
239 Ex Da 110  15 :  3.18217e-012
240 Ex Da 110  16 : -4.878962e-014
241 Thickness 111 :         -1520
242 Param 3   112 :           -28
243 Ex Da 113   5 :  0.0002988885
244 Ex Da 113   6 : 4.544015e-006
245 Ex Da 113   7 :  0.0003184067
246 Ex Da 113   8 : 9.629461e-009
247 Ex Da 113   9 : 3.593217e-007
248 Ex Da 113  10 : 3.613771e-009
249 Ex Da 113  11 : 1.195106e-007
250 Ex Da 113  12 : 7.762863e-011
251 Ex Da 113  13 : 6.030137e-012
252 Ex Da 113  14 : 2.607283e-010
253 Ex Da 113  15 :  5.49558e-012
254 Ex Da 113  16 : 4.892937e-011
255 Thickness 114 :           380
256 Thickness 115 :           260

Configuration   2:

  1 X-field     1 :      -0.02876
  2 Y-field     1 :       0.02876
  3 X-field     2 :      -0.01209
  4 Y-field     2 :       0.01209
  5 X-field     3 :      -0.02876
  6 Y-field     3 :       0.02876
  7 X-field     4 :      -0.01209
  8 Y-field     4 :       0.04543
  9 X-field     5 :      -0.04543
 10 Y-field     5 :       0.01209
 11 X-field     6 :      -0.04543
 12 Y-field     6 :       0.04543
```

```
 13 X-field     7 :      -0.02876
 14 Y-field     7 :       0.02876
 15 X-field     8 :      -0.02876
 16 Y-field     8 :       0.02876
 17 X-field     9 :      -0.02876
 18 Y-field     9 :       0.02876
 19 Wavelength  1 :           850
 20 Thickness  30 :     -133.0203 Pickup from configuration 1, operand 20, scale 1, offset 0
 21 Thickness  31 :             0
 22 Param 1    32 :             0
 23 Param 2    32 :             0
 24 Param 5    33 :             0
 25 Param 4    33 :             0
 26 Param 6    33 :             0
 27 Param 3    34 :             0
 28 Param 4    34 :             0
 29 Glass      35 :
 30 Ap Type    35 :             0
 31 Ap Min     35 :             0
 32 Ap Max     35 :             0
 33 Ap Dec X   35 :             0
 34 Ap Dec Y   35 :             0
 35 Param 4    37 :             0 Pickup from configuration 2, operand 25, scale -1, offset 0
 36 Param 3    38 :             0
 37 Param 6    38 :             1
 38 Thickness  40 :             0
 39 Param 3    40 :             0
 40 Param 6    40 :             0
 41 Param 3    41 :             0
 42 Glass      42 :
 43 Curvature  42 :             0
 44 Conic      42 :             0
 45 Ex Da  42   5 :             0
 46 Ex Da  42   6 :             0
 47 Ex Da  42   7 :             0
 48 Ex Da  42   8 :             0
 49 Ex Da  42   9 :             0
 50 Ex Da  42  10 :             0
 51 Ex Da  42  11 :             0
 52 Param 2    42 :             0
 53 Ap Type    42 :             0
 54 Ap Min     42 :             0
 55 Ap Max     42 :             0
 56 Ap Dec X   42 :             0
 57 Ap Dec Y   42 :             0
 58 Param 3    43 :             0
 59 Thickness  43 :             0
 60 Param 3    44 :             0
 61 Param 3    45 :             0
 62 Ap Type    46 :             0
 63 Ap Min     46 :             0
 64 Ap Max     46 :             0
 65 Ap Dec X   46 :             0
 66 Ap Dec Y   46 :             0
 67 Thickness  48 :             0
 68 Thickness  49 :             0
 69 Glass      51 :
 70 Curvature  51 :             0
 71 Conic      51 :             0
 72 Ex Da  51   5 :             0
 73 Ex Da  51   6 :             0
 74 Ex Da  51   7 :             0
 75 Ex Da  51   8 :             0
 76 Ex Da  51   9 :             0
 77 Ex Da  51  10 :             0
 78 Ex Da  51  11 :             0
 79 Ap Type    51 :             0
 80 Ap Min     51 :             0
 81 Ap Max     51 :             0
 82 Ap Dec X   51 :             0
 83 Ap Dec Y   51 :             0
 84 Thickness  53 :             0
 85 Thickness  54 :             0
 86 Param 1    55 :             0
 87 Param 4    55 :             0
 88 Param 8    57 :             0
 89 NSC Position Surf 57 Object 1 Code 6:             0
 90 NSC Property Surf 57 Object 2 Item 3:             1
 91 NSC Property Surf 57 Object 2 Item 4:             1
 92 NSC Property Surf 57 Object 6 Item 3:             1
 93 NSC Property Surf 57 Object 6 Item 4:             1
 94 NSC Property Surf 57 Object 7 Item 3:             1
 95 NSC Property Surf 57 Object 7 Item 4:             1
 96 NSC Property Surf 57 Object 8 Item 3:             1
 97 NSC Property Surf 57 Object 8 Item 4:             1
 98 NSC Position Surf 57 Object 7 Code 1:             0
 99 NSC Position Surf 57 Object 7 Code 3:             0
100 NSC Position Surf 57 Object 7 Code 5:             0
101 NSC Position Surf 57 Object 8 Code 1:             0
102 NSC Position Surf 57 Object 8 Code 3:         -37.5
103 NSC Position Surf 57 Object 8 Code 5:             0
104 NSC Position Surf 57 Object 4 Code 5:             0
105 NSC Position Surf 57 Object 4 Code 6:             0
106 NSC Property Surf 57 Object 9 Item 3:             1
107 NSC Property Surf 57 Object 9 Item 4:             1
108 NSC Position Surf 57 Object 5 Code 5:             0
```

```
109 NSC Position Surf 57 Object 9 Code 1:            0
110 Thickness  58 :        1e-006
111 Param 4    59 :             0
112 Thickness  59 :             0
113 Glass      62 :
114 Curvature  62 :             0
115 Conic      62 :             0
116 Ex Da  62   5 :             0
117 Ex Da  62   6 :             0
118 Ex Da  62   7 :             0
119 Ex Da  62   8 :             0
120 Ex Da  62   9 :             0
121 Ex Da  62  10 :             0
122 Ex Da  62  11 :             0
123 Ap Type    62 :             0
124 Ap Min     62 :             0
125 Ap Max     62 :             0
126 Ap Dec X   62 :             0
127 Ap Dec Y   62 :             0
128 Thickness  64 :             0
129 Ap Type    67 :             0
130 Ap Min     67 :             0
131 Ap Max     67 :             0
132 Ap Dec X   67 :             0
133 Ap Dec Y   67 :             0
134 Thickness  70 :             0
135 Param 3    71 :             0
136 Param 4    71 :             0
137 Param 5    71 :             0
138 Glass      72 :
139 Curvature  72 :             0
140 Conic      72 :             0
141 Ex Da  72   5 :             0
142 Ex Da  72   6 :             0
143 Ex Da  72   7 :             0
144 Ex Da  72   8 :             0
145 Ex Da  72   9 :             0
146 Ex Da  72  10 :             0
147 Ex Da  72  11 :             0
148 Ap Type    72 :             0
149 Ap Min     72 :             0
150 Ap Max     72 :             0
151 Ap Dec X   72 :             0
152 Ap Dec Y   72 :             0
153 Thickness  74 :             0
154 Param 3    77 :             0
155 Param 4    77 :             0
156 Param 5    77 :             0
157 Glass      78 :
158 Ap Type    78 :             0
159 Ap Min     78 :             0
160 Ap Max     78 :             0
161 Ap Dec X   78 :             0
162 Ap Dec Y   78 :             0
163 Param 1    82 :             0
164 Param 2    82 :             0
165 Thickness  83 :             0
166 Thickness  84 :             0
167 Thickness  85 :      133.0203 Pickup from configuration 1, operand 167, scale 1, offset 0
168 Thickness  86 :         -2561 Pickup from configuration 1, operand 168, scale 1, offset 0
169 Param 3    87 :           -22
170 Ex Da  88   5 :  0.0001024263
171 Ex Da  88   6 : -7.660798e-007
172 Ex Da  88   7 : 7.664986e-005
173 Ex Da  88   8 : -5.734925e-011
174 Ex Da  88   9 : 4.683853e-009
175 Ex Da  88  10 : -5.685189e-010
176 Ex Da  88  11 : -4.839863e-009
177 Ex Da  88  12 : -2.369604e-012
178 Ex Da  88  13 : 7.325434e-013
179 Ex Da  88  14 : -5.942096e-013
180 Ex Da  88  15 : 1.408657e-012
181 Ex Da  88  16 : 1.929673e-012
182 Thickness  89 :           1900
183 Thickness  90 :           1900
184 Param 3    91 :             25
185 Ex Da  92   5 : -0.0002530622
186 Ex Da  92   6 : 1.490352e-006
187 Ex Da  92   7 : -0.0001743294
188 Ex Da  92   8 : -1.765386e-009
189 Ex Da  92   9 : -8.672591e-008
190 Ex Da  92  10 : -5.506373e-011
191 Ex Da  92  11 : -2.390401e-008
192 Ex Da  92  12 : 3.160465e-011
193 Ex Da  92  13 : 2.143139e-013
194 Ex Da  92  14 : 1.643454e-011
195 Ex Da  92  15 : 1.015372e-012
196 Ex Da  92  16 : 8.013021e-012
197 Thickness  93 :     -985.7868
198 Thickness  95 :            -8
199 Curvature  95 : 4.258615e-005
200 Curvature  96 : 4.256802e-005
201 Ex Da  95   3 :      -0.00405
202 Ex Da  95   4 :      -0.00405
203 Ex Da  96   3 :      -0.00405
204 Ex Da  96   4 :      -0.00405
```

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205 Thickness  97 :           -75
206 Thickness  98 :          -0.5
207 Thickness  99 :          -8.1
208 Thickness 100 :          -0.5
209 Thickness 101 :           -14
210 Thickness 102 :          -0.5
211 Thickness 103 :       -14.695
212 Thickness 104 :          -0.5
213 Thickness 105 :      -203.805
214 Param 3   106 :         -45.5
215 Ex Da 107   5 : -9.600116e-005
216 Ex Da 107   6 :  3.23368e-006
217 Ex Da 107   7 : -1.086295e-006
218 Ex Da 107   8 : 2.181064e-008
219 Ex Da 107   9 : 3.197905e-007
220 Ex Da 107  10 : -2.310459e-008
221 Ex Da 107  11 :  1.09359e-008
222 Ex Da 107  12 :  9.82371e-010
223 Ex Da 107  13 : 1.224992e-010
224 Ex Da 107  14 : 2.386246e-009
225 Ex Da 107  15 : -3.865981e-010
226 Ex Da 107  16 : -2.185356e-009
227 Thickness 108 :          1021
228 Param 3   109 :          12.8
229 Ex Da 110   5 : -0.0002894571
230 Ex Da 110   6 : -8.48145e-007
231 Ex Da 110   7 : -0.0002951528
232 Ex Da 110   8 : 3.916696e-010
233 Ex Da 110   9 : 7.385289e-009
234 Ex Da 110  10 : 5.729502e-010
235 Ex Da 110  11 :  2.06668e-008
236 Ex Da 110  12 : -1.13941e-011
237 Ex Da 110  13 : -2.597312e-013
238 Ex Da 110  14 : -2.570157e-011
239 Ex Da 110  15 :  3.18217e-012
240 Ex Da 110  16 : -4.878962e-014
241 Thickness 111 :         -1520
242 Param 3   112 :           -28
243 Ex Da 113   5 :  0.0002988885
244 Ex Da 113   6 : 4.544015e-006
245 Ex Da 113   7 :  0.0003184067
246 Ex Da 113   8 : 9.629461e-009
247 Ex Da 113   9 : 3.593217e-007
248 Ex Da 113  10 : 3.613771e-009
249 Ex Da 113  11 : 1.195106e-007
250 Ex Da 113  12 : 7.762863e-011
251 Ex Da 113  13 : 6.030137e-012
252 Ex Da 113  14 : 2.607283e-010
253 Ex Da 113  15 :  5.49558e-012
254 Ex Da 113  16 : 4.892937e-011
255 Thickness 114 :          380
256 Thickness 115 :          260

Configuration   3:

  1 X-field     1 :      -0.02876
  2 Y-field     1 :       0.02876
  3 X-field     2 :      -0.01209
  4 Y-field     2 :       0.01209
  5 X-field     3 :      -0.02876
  6 Y-field     3 :       0.02876
  7 X-field     4 :      -0.01209
  8 Y-field     4 :       0.04543
  9 X-field     5 :      -0.04543
 10 Y-field     5 :       0.01209
 11 X-field     6 :      -0.04543
 12 Y-field     6 :       0.04543
 13 X-field     7 :      -0.02876
 14 Y-field     7 :       0.02876
 15 X-field     8 :      -0.02876
 16 Y-field     8 :       0.02876
 17 X-field     9 :      -0.02876
 18 Y-field     9 :       0.02876
 19 Wavelength  1 :           850
 20 Thickness  30 :     -133.0203 Pickup from configuration 1, operand 20, scale 1, offset 0
 21 Thickness  31 :             0
 22 Param 1    32 :      54.36108
 23 Param 2    32 :     -53.28572
 24 Param 5    33 :             0
 25 Param 4    33 :            45
 26 Param 6    33 :             1
 27 Param 3    34 :             0
 28 Param 4    34 :             0
 29 Glass      35 :                 MIRROR
 30 Ap Type    35 :             4
 31 Ap Min     35 :            58
 32 Ap Max     35 :            44
 33 Ap Dec X   35 :             5
 34 Ap Dec Y   35 :            -4
 35 Param 4    37 :            45 Pickup from configuration 3, operand 25, scale 1, offset 0
 36 Param 3    38 :             0 Pickup from configuration 3, operand 24, scale 1, offset 0
 37 Param 6    38 :             0
 38 Thickness  40 :      1047.162
 39 Param 3    40 :             0 Pickup from configuration 3, operand 36, scale -1, offset 0
 40 Param 6    40 :             1
 41 Param 3    41 :      9.137534
```

```
 42 Glass      42 :                MIRROR
 43 Curvature  42 : -0.0008068501
 44 Conic      42 :    -0.6688264 Variable
 45 Ex Da  42   5 : -7.864168e-006 Variable
 46 Ex Da  42   6 : 3.224085e-006 Variable
 47 Ex Da  42   7 : 3.605028e-006 Variable
 48 Ex Da  42   8 :  3.08007e-008 Variable
 49 Ex Da  42   9 : -4.751014e-008 Variable
 50 Ex Da  42  10 : 3.608009e-008 Variable
 51 Ex Da  42  11 : -4.480333e-008 Variable
 52 Param 2    42 :             0
 53 Ap Type    42 :             4
 54 Ap Min     42 :           125
 55 Ap Max     42 :           130
 56 Ap Dec X   42 :            25
 57 Ap Dec Y   42 :           -28
 58 Param 3    43 :      9.137534 Pickup from configuration 3, operand 41, scale 1, offset 0
 59 Thickness  43 :     -1160.062
 60 Param 3    44 :     -18.27507 Pickup from configuration 3, operand 58, scale -2, offset 0
 61 Param 3    45 :             0
 62 Ap Type    46 :             1
 63 Ap Min     46 :             0
 64 Ap Max     46 :            60
 65 Ap Dec X   46 :             6
 66 Ap Dec Y   46 :            -5
 67 Thickness  48 :     -379.7693
 68 Thickness  49 :     -552.1559
 69 Glass      51 :                MIRROR
 70 Curvature  51 :  0.0008807026
 71 Conic      51 :      2.379386 Variable
 72 Ex Da  51   5 : 5.160897e-006 Variable
 73 Ex Da  51   6 : 1.406572e-006 Variable
 74 Ex Da  51   7 : -1.778524e-006 Variable
 75 Ex Da  51   8 : 6.144221e-008 Variable
 76 Ex Da  51   9 : 3.706071e-008 Variable
 77 Ex Da  51  10 : -2.471575e-008 Variable
 78 Ex Da  51  11 : 9.552933e-009 Variable
 79 Ap Type    51 :             4
 80 Ap Min     51 :           120
 81 Ap Max     51 :           120
 82 Ap Dec X   51 :            -4
 83 Ap Dec Y   51 :            10
 84 Thickness  53 :      469.9907
 85 Thickness  54 :             0
 86 Param 1    55 :           167
 87 Param 4    55 :             0
 88 Param 8    57 :            -1
 89 NSC Position Surf 57 Object 1 Code 6:           -90
 90 NSC Property Surf 57 Object 2 Item 3:             1
 91 NSC Property Surf 57 Object 2 Item 4:             1
 92 NSC Property Surf 57 Object 6 Item 3:             1
 93 NSC Property Surf 57 Object 6 Item 4:             1
 94 NSC Property Surf 57 Object 7 Item 3:             0
 95 NSC Property Surf 57 Object 7 Item 4:             0
 96 NSC Property Surf 57 Object 8 Item 3:             0
 97 NSC Property Surf 57 Object 8 Item 4:             0
 98 NSC Position Surf 57 Object 7 Code 1:          37.5
 99 NSC Position Surf 57 Object 7 Code 3:          -37.5 Pickup from configuration 3, operand 98, scale -1,
offset 0
100 NSC Position Surf 57 Object 7 Code 5:            45
101 NSC Position Surf 57 Object 8 Code 1:         -29.9
102 NSC Position Surf 57 Object 8 Code 3:          -29.9 Pickup from configuration 3, operand 101, scale 1,
offset 0
103 NSC Position Surf 57 Object 8 Code 5:           -45
104 NSC Position Surf 57 Object 4 Code 5:           -45
105 NSC Position Surf 57 Object 4 Code 6:            90
106 NSC Property Surf 57 Object 9 Item 3:             0
107 NSC Property Surf 57 Object 9 Item 4:             0
108 NSC Position Surf 57 Object 5 Code 5:            45
109 NSC Position Surf 57 Object 9 Code 1:           260
110 Thickness  58 :        1e-006
111 Param 4    59 :             0
112 Thickness  59 :     -469.9907 Pickup from configuration 3, operand 84, scale -1, offset 0
113 Glass      62 :                MIRROR
114 Curvature  62 :  0.0008416868
115 Conic      62 :     -2.367087 Variable
116 Ex Da  62   5 : 6.625941e-006 Variable
117 Ex Da  62   6 : -2.315082e-007 Variable
118 Ex Da  62   7 : 8.613342e-007 Variable
119 Ex Da  62   8 : -4.077265e-009 Variable
120 Ex Da  62   9 : 4.178335e-008 Variable
121 Ex Da  62  10 : -4.988724e-009 Variable
122 Ex Da  62  11 : 1.434465e-008 Variable
123 Ap Type    62 :             4
124 Ap Min     62 :           140
125 Ap Max     62 :           140
126 Ap Dec X   62 :            10
127 Ap Dec Y   62 :            -5
128 Thickness  64 :       931.948
129 Ap Type    67 :             1
130 Ap Min     67 :             0
131 Ap Max     67 :           100
132 Ap Dec X   67 :             0
133 Ap Dec Y   67 :             4
134 Thickness  70 :      1160.038
135 Param 3    71 :     -9.087835
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136 Param 4    71 :             6
137 Param 5    71 :    -0.4816678
138 Glass      72 :                MIRROR
139 Curvature  72 : -0.0008519355
140 Conic      72 :      2.131911 Variable
141 Ex Da  72   5 : 1.944818e-006 Variable
142 Ex Da  72   6 :  -9.7896e-006 Variable
143 Ex Da  72   7 : 4.362207e-006 Variable
144 Ex Da  72   8 : -6.526498e-008 Variable
145 Ex Da  72   9 : -1.962942e-007 Variable
146 Ex Da  72  10 : -2.22158e-008 Variable
147 Ex Da  72  11 : -2.49122e-008 Variable
148 Ap Type    72 :             4
149 Ap Min     72 :           155
150 Ap Max     72 :           170
151 Ap Dec X   72 :           -21
152 Ap Dec Y   72 :             6
153 Thickness  74 :     -1070.501
154 Param 3    77 :             0
155 Param 4    77 :          -1.3
156 Param 5    77 :             0
157 Glass      78 :                MIRROR
158 Ap Type    78 :             4
159 Ap Min     78 :            70
160 Ap Max     78 :            80
161 Ap Dec X   78 :             1
162 Ap Dec Y   78 :           -15
163 Param 1    82 :      54.36108 Pickup from configuration 3, operand 22, scale 1, offset 0
164 Param 2    82 :      53.28572 Pickup from configuration 3, operand 23, scale -1, offset 0
165 Thickness  83 :     -109.0664
166 Thickness  84 :        -2.293
167 Thickness  85 :     -133.0203 Pickup from configuration 1, operand 167, scale -1, offset 0
168 Thickness  86 :          2561 Pickup from configuration 1, operand 168, scale -1, offset 0
169 Param 3    87 :            22 Pickup from configuration 1, operand 169, scale -1, offset 0
170 Ex Da  88   5 : -0.0001024263 Pickup from configuration 1, operand 170, scale -1, offset 0
171 Ex Da  88   6 : 7.660798e-007 Pickup from configuration 1, operand 171, scale -1, offset 0
172 Ex Da  88   7 : -7.664986e-005 Pickup from configuration 1, operand 172, scale -1, offset 0
173 Ex Da  88   8 : 5.734925e-011 Pickup from configuration 1, operand 173, scale -1, offset 0
174 Ex Da  88   9 : -4.683853e-009 Pickup from configuration 1, operand 174, scale -1, offset 0
175 Ex Da  88  10 : 5.685189e-010 Pickup from configuration 1, operand 175, scale -1, offset 0
176 Ex Da  88  11 : 4.839863e-009 Pickup from configuration 1, operand 176, scale -1, offset 0
177 Ex Da  88  12 : 2.369604e-012 Pickup from configuration 1, operand 177, scale -1, offset 0
178 Ex Da  88  13 : -7.325434e-013 Pickup from configuration 1, operand 178, scale -1, offset 0
179 Ex Da  88  14 : 5.942096e-013 Pickup from configuration 1, operand 179, scale -1, offset 0
180 Ex Da  88  15 : -1.408657e-012 Pickup from configuration 1, operand 180, scale -1, offset 0
181 Ex Da  88  16 : -1.929673e-012 Pickup from configuration 1, operand 181, scale -1, offset 0
182 Thickness  89 :         -1900 Pickup from configuration 1, operand 182, scale -1, offset 0
183 Thickness  90 :         -1900 Pickup from configuration 1, operand 183, scale -1, offset 0
184 Param 3    91 :           -25 Pickup from configuration 1, operand 184, scale -1, offset 0
185 Ex Da  92   5 :  0.0002530622 Pickup from configuration 1, operand 185, scale -1, offset 0
186 Ex Da  92   6 : -1.490352e-006 Pickup from configuration 1, operand 186, scale -1, offset 0
187 Ex Da  92   7 :  0.0001743294 Pickup from configuration 1, operand 187, scale -1, offset 0
188 Ex Da  92   8 : 1.765386e-009 Pickup from configuration 1, operand 188, scale -1, offset 0
189 Ex Da  92   9 : 8.672591e-008 Pickup from configuration 1, operand 189, scale -1, offset 0
190 Ex Da  92  10 : 5.506373e-011 Pickup from configuration 1, operand 190, scale -1, offset 0
191 Ex Da  92  11 : 2.390401e-008 Pickup from configuration 1, operand 191, scale -1, offset 0
192 Ex Da  92  12 : -3.160465e-011 Pickup from configuration 1, operand 192, scale -1, offset 0
193 Ex Da  92  13 : -2.143139e-013 Pickup from configuration 1, operand 193, scale -1, offset 0
194 Ex Da  92  14 : -1.643454e-011 Pickup from configuration 1, operand 194, scale -1, offset 0
195 Ex Da  92  15 : -1.015372e-012 Pickup from configuration 1, operand 195, scale -1, offset 0
196 Ex Da  92  16 : -8.013021e-012 Pickup from configuration 1, operand 196, scale -1, offset 0
197 Thickness  93 :      985.7868 Pickup from configuration 1, operand 197, scale -1, offset 0
198 Thickness  95 :             8 Pickup from configuration 1, operand 198, scale -1, offset 0
199 Curvature  95 : -4.258615e-005 Pickup from configuration 1, operand 199, scale -1, offset 0
200 Curvature  96 : -4.256802e-005 Pickup from configuration 1, operand 200, scale -1, offset 0
201 Ex Da  95   3 :       0.00405 Pickup from configuration 1, operand 201, scale -1, offset 0
202 Ex Da  95   4 :       0.00405 Pickup from configuration 1, operand 202, scale -1, offset 0
203 Ex Da  96   3 :       0.00405 Pickup from configuration 1, operand 203, scale -1, offset 0
204 Ex Da  96   4 :       0.00405 Pickup from configuration 1, operand 204, scale -1, offset 0
205 Thickness  97 :            75 Pickup from configuration 1, operand 205, scale -1, offset 0
206 Thickness  98 :           0.5 Pickup from configuration 1, operand 206, scale -1, offset 0
207 Thickness  99 :           8.1 Pickup from configuration 1, operand 207, scale -1, offset 0
208 Thickness 100 :           0.5 Pickup from configuration 1, operand 208, scale -1, offset 0
209 Thickness 101 :            14 Pickup from configuration 1, operand 209, scale -1, offset 0
210 Thickness 102 :           0.5 Pickup from configuration 1, operand 210, scale -1, offset 0
211 Thickness 103 :        14.695 Pickup from configuration 1, operand 211, scale -1, offset 0
212 Thickness 104 :           0.5 Pickup from configuration 1, operand 212, scale -1, offset 0
213 Thickness 105 :       203.805 Pickup from configuration 1, operand 213, scale -1, offset 0
214 Param 3   106 :          45.5 Pickup from configuration 1, operand 214, scale -1, offset 0
215 Ex Da 107   5 : 9.600116e-005 Pickup from configuration 1, operand 215, scale -1, offset 0
216 Ex Da 107   6 : -3.23368e-006 Pickup from configuration 1, operand 216, scale -1, offset 0
217 Ex Da 107   7 : 1.086295e-006 Pickup from configuration 1, operand 217, scale -1, offset 0
218 Ex Da 107   8 : -2.181064e-008 Pickup from configuration 1, operand 218, scale -1, offset 0
219 Ex Da 107   9 : -3.197905e-007 Pickup from configuration 1, operand 219, scale -1, offset 0
220 Ex Da 107  10 : 2.310459e-008 Pickup from configuration 1, operand 220, scale -1, offset 0
221 Ex Da 107  11 : -1.09359e-008 Pickup from configuration 1, operand 221, scale -1, offset 0
222 Ex Da 107  12 : -9.82371e-010 Pickup from configuration 1, operand 222, scale -1, offset 0
223 Ex Da 107  13 : -1.224992e-010 Pickup from configuration 1, operand 223, scale -1, offset 0
224 Ex Da 107  14 : -2.386246e-009 Pickup from configuration 1, operand 224, scale -1, offset 0
225 Ex Da 107  15 : 3.865981e-010 Pickup from configuration 1, operand 225, scale -1, offset 0
226 Ex Da 107  16 : 2.185356e-009 Pickup from configuration 1, operand 226, scale -1, offset 0
227 Thickness 108 :         -1021 Pickup from configuration 1, operand 227, scale -1, offset 0
228 Param 3   109 :         -12.8 Pickup from configuration 1, operand 228, scale -1, offset 0
229 Ex Da 110   5 :  0.0002894571 Pickup from configuration 1, operand 229, scale -1, offset 0
230 Ex Da 110   6 :  8.48145e-007 Pickup from configuration 1, operand 230, scale -1, offset 0
231 Ex Da 110   7 :  0.0002951528 Pickup from configuration 1, operand 231, scale -1, offset 0
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232 Ex Da 110   8 : -3.916696e-010 Pickup from configuration 1, operand 232, scale -1, offset 0
233 Ex Da 110   9 : -7.385289e-009 Pickup from configuration 1, operand 233, scale -1, offset 0
234 Ex Da 110  10 : -5.729502e-010 Pickup from configuration 1, operand 234, scale -1, offset 0
235 Ex Da 110  11 : -2.06668e-008 Pickup from configuration 1, operand 235, scale -1, offset 0
236 Ex Da 110  12 :  1.13941e-011 Pickup from configuration 1, operand 236, scale -1, offset 0
237 Ex Da 110  13 : 2.597312e-013 Pickup from configuration 1, operand 237, scale -1, offset 0
238 Ex Da 110  14 : 2.570157e-011 Pickup from configuration 1, operand 238, scale -1, offset 0
239 Ex Da 110  15 : -3.18217e-012 Pickup from configuration 1, operand 239, scale -1, offset 0
240 Ex Da 110  16 : 4.878962e-014 Pickup from configuration 1, operand 240, scale -1, offset 0
241 Thickness 111 :          1520 Pickup from configuration 1, operand 241, scale -1, offset 0
242 Param 3   112 :            28 Pickup from configuration 1, operand 242, scale -1, offset 0
243 Ex Da 113   5 : -0.0002988885 Pickup from configuration 1, operand 243, scale -1, offset 0
244 Ex Da 113   6 : -4.544015e-006 Pickup from configuration 1, operand 244, scale -1, offset 0
245 Ex Da 113   7 : -0.0003184067 Pickup from configuration 1, operand 245, scale -1, offset 0
246 Ex Da 113   8 : -9.629461e-009 Pickup from configuration 1, operand 246, scale -1, offset 0
247 Ex Da 113   9 : -3.593217e-007 Pickup from configuration 1, operand 247, scale -1, offset 0
248 Ex Da 113  10 : -3.613771e-009 Pickup from configuration 1, operand 248, scale -1, offset 0
249 Ex Da 113  11 : -1.195106e-007 Pickup from configuration 1, operand 249, scale -1, offset 0
250 Ex Da 113  12 : -7.762863e-011 Pickup from configuration 1, operand 250, scale -1, offset 0
251 Ex Da 113  13 : -6.030137e-012 Pickup from configuration 1, operand 251, scale -1, offset 0
252 Ex Da 113  14 : -2.607283e-010 Pickup from configuration 1, operand 252, scale -1, offset 0
253 Ex Da 113  15 : -5.49558e-012 Pickup from configuration 1, operand 253, scale -1, offset 0
254 Ex Da 113  16 : -4.892937e-011 Pickup from configuration 1, operand 254, scale -1, offset 0
255 Thickness 114 :          -380 Pickup from configuration 1, operand 255, scale -1, offset 0
256 Thickness 115 :          -260 Pickup from configuration 1, operand 256, scale -1, offset 0

Configuration   4:

  1 X-field     1 :      -0.02876
  2 Y-field     1 :       0.02876
  3 X-field     2 :      -0.01209
  4 Y-field     2 :       0.01209
  5 X-field     3 :      -0.02876
  6 Y-field     3 :       0.02876
  7 X-field     4 :      -0.01209
  8 Y-field     4 :       0.04543
  9 X-field     5 :      -0.04543
 10 Y-field     5 :       0.01209
 11 X-field     6 :      -0.04543
 12 Y-field     6 :       0.04543
 13 X-field     7 :      -0.02876
 14 Y-field     7 :       0.02876
 15 X-field     8 :      -0.02876
 16 Y-field     8 :       0.02876
 17 X-field     9 :      -0.02876
 18 Y-field     9 :       0.02876
 19 Wavelength  1 :           850
 20 Thickness  30 :     -133.0203 Pickup from configuration 1, operand 20, scale 1, offset 0
 21 Thickness  31 :             0 Pickup from configuration 3, operand 21, scale 1, offset 0
 22 Param 1    32 :      54.36108 Pickup from configuration 3, operand 22, scale 1, offset 0
 23 Param 2    32 :     -53.28572 Pickup from configuration 3, operand 23, scale 1, offset 0
 24 Param 5    33 :             0 Pickup from configuration 3, operand 24, scale 1, offset 0
 25 Param 4    33 :            45 Pickup from configuration 3, operand 25, scale 1, offset 0
 26 Param 6    33 :             1 Pickup from configuration 3, operand 26, scale 1, offset 0
 27 Param 3    34 :             0 Pickup from configuration 3, operand 27, scale 1, offset 0
 28 Param 4    34 :             0 Pickup from configuration 3, operand 28, scale 1, offset 0
 29 Glass      35 :                MIRROR
 30 Ap Type    35 :             4 Pickup from configuration 3, operand 30, scale 1, offset 0
 31 Ap Min     35 :            58 Pickup from configuration 3, operand 31, scale 1, offset 0
 32 Ap Max     35 :            44 Pickup from configuration 3, operand 32, scale 1, offset 0
 33 Ap Dec X   35 :             5 Pickup from configuration 3, operand 33, scale 1, offset 0
 34 Ap Dec Y   35 :            -4 Pickup from configuration 3, operand 34, scale 1, offset 0
 35 Param 4    37 :            45 Pickup from configuration 4, operand 25, scale 1, offset 0
 36 Param 3    38 :             0 Pickup from configuration 4, operand 24, scale 1, offset 0
 37 Param 6    38 :             0 Pickup from configuration 3, operand 37, scale 1, offset 0
 38 Thickness  40 :      1047.162 Pickup from configuration 3, operand 38, scale 1, offset 0
 39 Param 3    40 :             0 Pickup from configuration 4, operand 36, scale -1, offset 0
 40 Param 6    40 :             1 Pickup from configuration 3, operand 40, scale 1, offset 0
 41 Param 3    41 :      9.137534 Pickup from configuration 3, operand 41, scale 1, offset 0
 42 Glass      42 :                MIRROR
 43 Curvature  42 : -0.0008068501 Pickup from configuration 3, operand 43, scale 1, offset 0
 44 Conic      42 :    -0.6688264 Pickup from configuration 3, operand 44, scale 1, offset 0
 45 Ex Da  42   5 : -7.864168e-006 Pickup from configuration 3, operand 45, scale 1, offset 0
 46 Ex Da  42   6 : 3.224085e-006 Pickup from configuration 3, operand 46, scale 1, offset 0
 47 Ex Da  42   7 : 3.605028e-006 Pickup from configuration 3, operand 47, scale 1, offset 0
 48 Ex Da  42   8 :  3.08007e-008 Pickup from configuration 3, operand 48, scale 1, offset 0
 49 Ex Da  42   9 : -4.751014e-008 Pickup from configuration 3, operand 49, scale 1, offset 0
 50 Ex Da  42  10 : 3.608009e-008 Pickup from configuration 3, operand 50, scale 1, offset 0
 51 Ex Da  42  11 : -4.480333e-008 Pickup from configuration 3, operand 51, scale 1, offset 0
 52 Param 2    42 :             0
 53 Ap Type    42 :             4 Pickup from configuration 3, operand 53, scale 1, offset 0
 54 Ap Min     42 :           125 Pickup from configuration 3, operand 54, scale 1, offset 0
 55 Ap Max     42 :           130 Pickup from configuration 3, operand 55, scale 1, offset 0
 56 Ap Dec X   42 :            25 Pickup from configuration 3, operand 56, scale 1, offset 0
 57 Ap Dec Y   42 :           -28 Pickup from configuration 3, operand 57, scale 1, offset 0
 58 Param 3    43 :      9.137534 Pickup from configuration 4, operand 41, scale 1, offset 0
 59 Thickness  43 :     -1160.062 Pickup from configuration 3, operand 59, scale 1, offset 0
 60 Param 3    44 :     -18.27507 Pickup from configuration 4, operand 58, scale -2, offset 0
 61 Param 3    45 :             0 Pickup from configuration 3, operand 61, scale 1, offset 0
 62 Ap Type    46 :             1 Pickup from configuration 3, operand 62, scale 1, offset 0
 63 Ap Min     46 :             0 Pickup from configuration 3, operand 63, scale 1, offset 0
 64 Ap Max     46 :            60 Pickup from configuration 3, operand 64, scale 1, offset 0
 65 Ap Dec X   46 :             6 Pickup from configuration 3, operand 65, scale 1, offset 0
 66 Ap Dec Y   46 :            -5 Pickup from configuration 3, operand 66, scale 1, offset 0
 67 Thickness  48 :     -379.7693 Pickup from configuration 3, operand 67, scale 1, offset 0
 68 Thickness  49 :     -552.1559 Pickup from configuration 3, operand 68, scale 1, offset 0
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 69 Glass      51 :                MIRROR
 70 Curvature  51 :  0.0008807026 Pickup from configuration 3, operand 70, scale 1, offset 0
 71 Conic      51 :      2.379386 Pickup from configuration 3, operand 71, scale 1, offset 0
 72 Ex Da  51   5 : 5.160897e-006 Pickup from configuration 3, operand 72, scale 1, offset 0
 73 Ex Da  51   6 : 1.406572e-006 Pickup from configuration 3, operand 73, scale 1, offset 0
 74 Ex Da  51   7 : -1.778524e-006 Pickup from configuration 3, operand 74, scale 1, offset 0
 75 Ex Da  51   8 : 6.144221e-008 Pickup from configuration 3, operand 75, scale 1, offset 0
 76 Ex Da  51   9 : 3.706071e-008 Pickup from configuration 3, operand 76, scale 1, offset 0
 77 Ex Da  51  10 : -2.471575e-008 Pickup from configuration 3, operand 77, scale 1, offset 0
 78 Ex Da  51  11 : 9.552933e-009 Pickup from configuration 3, operand 78, scale 1, offset 0
 79 Ap Type    51 :             4 Pickup from configuration 3, operand 79, scale 1, offset 0
 80 Ap Min     51 :           120 Pickup from configuration 3, operand 80, scale 1, offset 0
 81 Ap Max     51 :           120 Pickup from configuration 3, operand 81, scale 1, offset 0
 82 Ap Dec X   51 :            -4 Pickup from configuration 3, operand 82, scale 1, offset 0
 83 Ap Dec Y   51 :            10 Pickup from configuration 3, operand 83, scale 1, offset 0
 84 Thickness  53 :      469.9907 Pickup from configuration 3, operand 84, scale 1, offset 0
 85 Thickness  54 :            15
 86 Param 1    55 :           167 Pickup from configuration 3, operand 86, scale 1, offset 0
 87 Param 4    55 :             0 Pickup from configuration 3, operand 87, scale 1, offset 0
 88 Param 8    57 :            -1 Pickup from configuration 3, operand 88, scale 1, offset 0
 89 NSC Position Surf 57 Object 1 Code 6:             -90 Pickup from configuration 3, operand 89, scale 1,
offset 0
 90 NSC Property Surf 57 Object 2 Item 3:               1 Pickup from configuration 3, operand 90, scale 1,
offset 0
 91 NSC Property Surf 57 Object 2 Item 4:               1 Pickup from configuration 3, operand 91, scale 1,
offset 0
 92 NSC Property Surf 57 Object 6 Item 3:               1 Pickup from configuration 3, operand 92, scale 1,
offset 0
 93 NSC Property Surf 57 Object 6 Item 4:               1 Pickup from configuration 3, operand 93, scale 1,
offset 0
 94 NSC Property Surf 57 Object 7 Item 3:               0 Pickup from configuration 3, operand 94, scale 1,
offset 0
 95 NSC Property Surf 57 Object 7 Item 4:               0 Pickup from configuration 3, operand 95, scale 1,
offset 0
 96 NSC Property Surf 57 Object 8 Item 3:               0 Pickup from configuration 3, operand 96, scale 1,
offset 0
 97 NSC Property Surf 57 Object 8 Item 4:               0 Pickup from configuration 3, operand 97, scale 1,
offset 0
 98 NSC Position Surf 57 Object 7 Code 1:            37.5 Pickup from configuration 3, operand 98, scale 1,
offset 0
 99 NSC Position Surf 57 Object 7 Code 3:           -37.5 Pickup from configuration 3, operand 99, scale 1,
offset 0
100 NSC Position Surf 57 Object 7 Code 5:              45 Pickup from configuration 3, operand 100, scale 1,
offset 0
101 NSC Position Surf 57 Object 8 Code 1:           -29.9 Pickup from configuration 3, operand 101, scale 1,
offset 0
102 NSC Position Surf 57 Object 8 Code 3:           -29.9 Pickup from configuration 3, operand 102, scale 1,
offset 0
103 NSC Position Surf 57 Object 8 Code 5:             -45 Pickup from configuration 3, operand 103, scale 1,
offset 0
104 NSC Position Surf 57 Object 4 Code 5:             -45 Pickup from configuration 3, operand 104, scale 1,
offset 0
105 NSC Position Surf 57 Object 4 Code 6:              90 Pickup from configuration 3, operand 105, scale 1,
offset 0
106 NSC Property Surf 57 Object 9 Item 3:               0 Pickup from configuration 3, operand 106, scale 1,
offset 0
107 NSC Property Surf 57 Object 9 Item 4:               0 Pickup from configuration 3, operand 107, scale 1,
offset 0
108 NSC Position Surf 57 Object 5 Code 5:              45 Pickup from configuration 3, operand 108, scale 1,
offset 0
109 NSC Position Surf 57 Object 9 Code 1:             260 Pickup from configuration 3, operand 109, scale 1,
offset 0
110 Thickness  58 :        1e-006 Pickup from configuration 3, operand 110, scale 1, offset 0
111 Param 4    59 :             0
112 Thickness  59 :     -469.9907 Pickup from configuration 4, operand 84, scale -1, offset 0
113 Glass      62 :                MIRROR
114 Curvature  62 :  0.0008416868 Pickup from configuration 3, operand 114, scale 1, offset 0
115 Conic      62 :     -2.367087 Pickup from configuration 3, operand 115, scale 1, offset 0
116 Ex Da  62   5 : 6.625941e-006 Pickup from configuration 3, operand 116, scale 1, offset 0
117 Ex Da  62   6 : -2.315082e-007 Pickup from configuration 3, operand 117, scale 1, offset 0
118 Ex Da  62   7 : 8.613342e-007 Pickup from configuration 3, operand 118, scale 1, offset 0
119 Ex Da  62   8 : -4.077265e-009 Pickup from configuration 3, operand 119, scale 1, offset 0
120 Ex Da  62   9 : 4.178335e-008 Pickup from configuration 3, operand 120, scale 1, offset 0
121 Ex Da  62  10 : -4.988724e-009 Pickup from configuration 3, operand 121, scale 1, offset 0
122 Ex Da  62  11 : 1.434465e-008 Pickup from configuration 3, operand 122, scale 1, offset 0
123 Ap Type    62 :             4 Pickup from configuration 3, operand 123, scale 1, offset 0
124 Ap Min     62 :           140 Pickup from configuration 3, operand 124, scale 1, offset 0
125 Ap Max     62 :           140 Pickup from configuration 3, operand 125, scale 1, offset 0
126 Ap Dec X   62 :            10 Pickup from configuration 3, operand 126, scale 1, offset 0
127 Ap Dec Y   62 :            -5 Pickup from configuration 3, operand 127, scale 1, offset 0
128 Thickness  64 :       931.948 Pickup from configuration 3, operand 128, scale 1, offset 0
129 Ap Type    67 :             1 Pickup from configuration 3, operand 129, scale 1, offset 0
130 Ap Min     67 :             0 Pickup from configuration 3, operand 130, scale 1, offset 0
131 Ap Max     67 :           100 Pickup from configuration 3, operand 131, scale 1, offset 0
132 Ap Dec X   67 :             0 Pickup from configuration 3, operand 132, scale 1, offset 0
133 Ap Dec Y   67 :             4 Pickup from configuration 3, operand 133, scale 1, offset 0
134 Thickness  70 :      1160.038 Pickup from configuration 3, operand 134, scale 1, offset 0
135 Param 3    71 :     -9.087835 Pickup from configuration 3, operand 135, scale 1, offset 0
136 Param 4    71 :             6 Pickup from configuration 3, operand 136, scale 1, offset 0
137 Param 5    71 :    -0.4816678 Pickup from configuration 3, operand 137, scale 1, offset 0
138 Glass      72 :                MIRROR
139 Curvature  72 : -0.0008519355 Pickup from configuration 3, operand 139, scale 1, offset 0
140 Conic      72 :      2.131911 Pickup from configuration 3, operand 140, scale 1, offset 0
141 Ex Da  72   5 : 1.944818e-006 Pickup from configuration 3, operand 141, scale 1, offset 0
142 Ex Da  72   6 :  -9.7896e-006 Pickup from configuration 3, operand 142, scale 1, offset 0
143 Ex Da  72   7 : 4.362207e-006 Pickup from configuration 3, operand 143, scale 1, offset 0
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144 Ex Da  72   8 : -6.526498e-008 Pickup from configuration 3, operand 144, scale 1, offset 0
145 Ex Da  72   9 : -1.962942e-007 Pickup from configuration 3, operand 145, scale 1, offset 0
146 Ex Da  72  10 : -2.22158e-008 Pickup from configuration 3, operand 146, scale 1, offset 0
147 Ex Da  72  11 : -2.49122e-008 Pickup from configuration 3, operand 147, scale 1, offset 0
148 Ap Type    72 :             4 Pickup from configuration 3, operand 148, scale 1, offset 0
149 Ap Min     72 :           155 Pickup from configuration 3, operand 149, scale 1, offset 0
150 Ap Max     72 :           170 Pickup from configuration 3, operand 150, scale 1, offset 0
151 Ap Dec X   72 :           -21 Pickup from configuration 3, operand 151, scale 1, offset 0
152 Ap Dec Y   72 :             6 Pickup from configuration 3, operand 152, scale 1, offset 0
153 Thickness  74 :     -1070.501 Pickup from configuration 3, operand 153, scale 1, offset 0
154 Param 3    77 :             0 Pickup from configuration 3, operand 154, scale 1, offset 0
155 Param 4    77 :          -1.3 Pickup from configuration 3, operand 155, scale 1, offset 0
156 Param 5    77 :             0 Pickup from configuration 3, operand 156, scale 1, offset 0
157 Glass      78 :                MIRROR
158 Ap Type    78 :             4 Pickup from configuration 3, operand 158, scale 1, offset 0
159 Ap Min     78 :            70 Pickup from configuration 3, operand 159, scale 1, offset 0
160 Ap Max     78 :            80 Pickup from configuration 3, operand 160, scale 1, offset 0
161 Ap Dec X   78 :             1 Pickup from configuration 3, operand 161, scale 1, offset 0
162 Ap Dec Y   78 :           -15 Pickup from configuration 3, operand 162, scale 1, offset 0
163 Param 1    82 :      54.36108 Pickup from configuration 4, operand 22, scale 1, offset 0
164 Param 2    82 :      53.28572 Pickup from configuration 4, operand 23, scale -1, offset 0
165 Thickness  83 :     -109.0664 Pickup from configuration 3, operand 165, scale 1, offset 0
166 Thickness  84 :        -2.293 Pickup from configuration 3, operand 166, scale 1, offset 0
167 Thickness  85 :     -133.0203 Pickup from configuration 1, operand 167, scale -1, offset 0
168 Thickness  86 :          2561 Pickup from configuration 1, operand 168, scale -1, offset 0
169 Param 3    87 :            22 Pickup from configuration 1, operand 169, scale -1, offset 0
170 Ex Da  88   5 : -0.0001024263 Pickup from configuration 3, operand 170, scale 1, offset 0
171 Ex Da  88   6 : 7.660798e-007 Pickup from configuration 3, operand 171, scale 1, offset 0
172 Ex Da  88   7 : -7.664986e-005 Pickup from configuration 3, operand 172, scale 1, offset 0
173 Ex Da  88   8 : 5.734925e-011 Pickup from configuration 3, operand 173, scale 1, offset 0
174 Ex Da  88   9 : -4.683853e-009 Pickup from configuration 3, operand 174, scale 1, offset 0
175 Ex Da  88  10 : 5.685189e-010 Pickup from configuration 3, operand 175, scale 1, offset 0
176 Ex Da  88  11 : 4.839863e-009 Pickup from configuration 3, operand 176, scale 1, offset 0
177 Ex Da  88  12 : 2.369604e-012 Pickup from configuration 3, operand 177, scale 1, offset 0
178 Ex Da  88  13 : -7.325434e-013 Pickup from configuration 3, operand 178, scale 1, offset 0
179 Ex Da  88  14 : 5.942096e-013 Pickup from configuration 3, operand 179, scale 1, offset 0
180 Ex Da  88  15 : -1.408657e-012 Pickup from configuration 3, operand 180, scale 1, offset 0
181 Ex Da  88  16 : -1.929673e-012 Pickup from configuration 3, operand 181, scale 1, offset 0
182 Thickness  89 :         -1900 Pickup from configuration 3, operand 182, scale 1, offset 0
183 Thickness  90 :         -1900 Pickup from configuration 3, operand 183, scale 1, offset 0
184 Param 3    91 :           -25 Pickup from configuration 1, operand 184, scale -1, offset 0
185 Ex Da  92   5 :  0.0002530622 Pickup from configuration 3, operand 185, scale 1, offset 0
186 Ex Da  92   6 : -1.490352e-006 Pickup from configuration 3, operand 186, scale 1, offset 0
187 Ex Da  92   7 :  0.0001743294 Pickup from configuration 3, operand 187, scale 1, offset 0
188 Ex Da  92   8 : 1.765386e-009 Pickup from configuration 3, operand 188, scale 1, offset 0
189 Ex Da  92   9 : 8.672591e-008 Pickup from configuration 3, operand 189, scale 1, offset 0
190 Ex Da  92  10 : 5.506373e-011 Pickup from configuration 3, operand 190, scale 1, offset 0
191 Ex Da  92  11 : 2.390401e-008 Pickup from configuration 3, operand 191, scale 1, offset 0
192 Ex Da  92  12 : -3.160465e-011 Pickup from configuration 3, operand 192, scale 1, offset 0
193 Ex Da  92  13 : -2.143139e-013 Pickup from configuration 3, operand 193, scale 1, offset 0
194 Ex Da  92  14 : -1.643454e-011 Pickup from configuration 3, operand 194, scale 1, offset 0
195 Ex Da  92  15 : -1.015372e-012 Pickup from configuration 3, operand 195, scale 1, offset 0
196 Ex Da  92  16 : -8.013021e-012 Pickup from configuration 3, operand 196, scale 1, offset 0
197 Thickness  93 :      985.7868 Pickup from configuration 3, operand 197, scale 1, offset 0
198 Thickness  95 :             8 Pickup from configuration 3, operand 198, scale 1, offset 0
199 Curvature  95 : -4.258615e-005 Pickup from configuration 3, operand 199, scale 1, offset 0
200 Curvature  96 : -4.256802e-005 Pickup from configuration 3, operand 200, scale 1, offset 0
201 Ex Da  95   3 :       0.00405 Pickup from configuration 3, operand 201, scale 1, offset 0
202 Ex Da  95   4 :       0.00405 Pickup from configuration 3, operand 202, scale 1, offset 0
203 Ex Da  96   3 :       0.00405 Pickup from configuration 3, operand 203, scale 1, offset 0
204 Ex Da  96   4 :       0.00405 Pickup from configuration 3, operand 204, scale 1, offset 0
205 Thickness  97 :            75 Pickup from configuration 3, operand 205, scale 1, offset 0
206 Thickness  98 :           0.5 Pickup from configuration 3, operand 206, scale 1, offset 0
207 Thickness  99 :           8.1 Pickup from configuration 3, operand 207, scale 1, offset 0
208 Thickness 100 :           0.5 Pickup from configuration 3, operand 208, scale 1, offset 0
209 Thickness 101 :            14 Pickup from configuration 3, operand 209, scale 1, offset 0
210 Thickness 102 :           0.5 Pickup from configuration 3, operand 210, scale 1, offset 0
211 Thickness 103 :        14.695 Pickup from configuration 3, operand 211, scale 1, offset 0
212 Thickness 104 :           0.5 Pickup from configuration 3, operand 212, scale 1, offset 0
213 Thickness 105 :       203.805 Pickup from configuration 3, operand 213, scale 1, offset 0
214 Param 3   106 :          45.5 Pickup from configuration 3, operand 214, scale 1, offset 0
215 Ex Da 107   5 : 9.600116e-005 Pickup from configuration 3, operand 215, scale 1, offset 0
216 Ex Da 107   6 : -3.23368e-006 Pickup from configuration 3, operand 216, scale 1, offset 0
217 Ex Da 107   7 : 1.086295e-006 Pickup from configuration 3, operand 217, scale 1, offset 0
218 Ex Da 107   8 : -2.181064e-008 Pickup from configuration 3, operand 218, scale 1, offset 0
219 Ex Da 107   9 : -3.197905e-007 Pickup from configuration 3, operand 219, scale 1, offset 0
220 Ex Da 107  10 : 2.310459e-008 Pickup from configuration 3, operand 220, scale 1, offset 0
221 Ex Da 107  11 : -1.09359e-008 Pickup from configuration 3, operand 221, scale 1, offset 0
222 Ex Da 107  12 : -9.82371e-010 Pickup from configuration 3, operand 222, scale 1, offset 0
223 Ex Da 107  13 : -1.224992e-010 Pickup from configuration 3, operand 223, scale 1, offset 0
224 Ex Da 107  14 : -2.386246e-009 Pickup from configuration 3, operand 224, scale 1, offset 0
225 Ex Da 107  15 : 3.865981e-010 Pickup from configuration 3, operand 225, scale 1, offset 0
226 Ex Da 107  16 : 2.185356e-009 Pickup from configuration 3, operand 226, scale 1, offset 0
227 Thickness 108 :         -1021 Pickup from configuration 3, operand 227, scale 1, offset 0
228 Param 3   109 :         -12.8 Pickup from configuration 3, operand 228, scale 1, offset 0
229 Ex Da 110   5 :  0.0002894571 Pickup from configuration 3, operand 229, scale 1, offset 0
230 Ex Da 110   6 :  8.48145e-007 Pickup from configuration 3, operand 230, scale 1, offset 0
231 Ex Da 110   7 :  0.0002951528 Pickup from configuration 3, operand 231, scale 1, offset 0
232 Ex Da 110   8 : -3.916696e-010 Pickup from configuration 3, operand 232, scale 1, offset 0
233 Ex Da 110   9 : -7.385289e-009 Pickup from configuration 3, operand 233, scale 1, offset 0
234 Ex Da 110  10 : -5.729502e-010 Pickup from configuration 3, operand 234, scale 1, offset 0
235 Ex Da 110  11 : -2.06668e-008 Pickup from configuration 3, operand 235, scale 1, offset 0
236 Ex Da 110  12 :  1.13941e-011 Pickup from configuration 3, operand 236, scale 1, offset 0
237 Ex Da 110  13 : 2.597312e-013 Pickup from configuration 3, operand 237, scale 1, offset 0
238 Ex Da 110  14 : 2.570157e-011 Pickup from configuration 3, operand 238, scale 1, offset 0
239 Ex Da 110  15 : -3.18217e-012 Pickup from configuration 3, operand 239, scale 1, offset 0
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240 Ex Da 110  16 : 4.878962e-014 Pickup from configuration 3, operand 240, scale 1, offset 0
241 Thickness 111 :          1520 Pickup from configuration 3, operand 241, scale 1, offset 0
242 Param 3   112 :            28 Pickup from configuration 3, operand 242, scale 1, offset 0
243 Ex Da 113   5 : -0.0002988885 Pickup from configuration 3, operand 243, scale 1, offset 0
244 Ex Da 113   6 : -4.544015e-006 Pickup from configuration 3, operand 244, scale 1, offset 0
245 Ex Da 113   7 : -0.0003184067 Pickup from configuration 3, operand 245, scale 1, offset 0
246 Ex Da 113   8 : -9.629461e-009 Pickup from configuration 3, operand 246, scale 1, offset 0
247 Ex Da 113   9 : -3.593217e-007 Pickup from configuration 3, operand 247, scale 1, offset 0
248 Ex Da 113  10 : -3.613771e-009 Pickup from configuration 3, operand 248, scale 1, offset 0
249 Ex Da 113  11 : -1.195106e-007 Pickup from configuration 3, operand 249, scale 1, offset 0
250 Ex Da 113  12 : -7.762863e-011 Pickup from configuration 3, operand 250, scale 1, offset 0
251 Ex Da 113  13 : -6.030137e-012 Pickup from configuration 3, operand 251, scale 1, offset 0
252 Ex Da 113  14 : -2.607283e-010 Pickup from configuration 3, operand 252, scale 1, offset 0
253 Ex Da 113  15 : -5.49558e-012 Pickup from configuration 3, operand 253, scale 1, offset 0
254 Ex Da 113  16 : -4.892937e-011 Pickup from configuration 3, operand 254, scale 1, offset 0
255 Thickness 114 :          -380 Pickup from configuration 3, operand 255, scale 1, offset 0
256 Thickness 115 :          -260 Pickup from configuration 3, operand 256, scale 1, offset 0

Configuration   5:

  1 X-field     1 :       -0.02876
  2 Y-field     1 :        0.02876
  3 X-field     2 :       -0.01209
  4 Y-field     2 :        0.01209
  5 X-field     3 :       -0.02876
  6 Y-field     3 :        0.02876
  7 X-field     4 :       -0.01209
  8 Y-field     4 :        0.04543
  9 X-field     5 :       -0.04543
 10 Y-field     5 :        0.01209
 11 X-field     6 :       -0.04543
 12 Y-field     6 :        0.04543
 13 X-field     7 :       -0.02876
 14 Y-field     7 :        0.02876
 15 X-field     8 :       -0.02876
 16 Y-field     8 :        0.02876
 17 X-field     9 :       -0.02876
 18 Y-field     9 :        0.02876
 19 Wavelength  1 :            850
 20 Thickness  30 :     -133.0203 Pickup from configuration 1, operand 20, scale 1, offset 0
 21 Thickness  31 :             0 Pickup from configuration 3, operand 21, scale 1, offset 0
 22 Param 1    32 :      54.36108 Pickup from configuration 3, operand 22, scale 1, offset 0
 23 Param 2    32 :     -53.28572 Pickup from configuration 3, operand 23, scale 1, offset 0
 24 Param 5    33 :             0 Pickup from configuration 3, operand 24, scale 1, offset 0
 25 Param 4    33 :            45 Pickup from configuration 3, operand 25, scale 1, offset 0
 26 Param 6    33 :             1 Pickup from configuration 3, operand 26, scale 1, offset 0
 27 Param 3    34 :             0 Pickup from configuration 3, operand 27, scale 1, offset 0
 28 Param 4    34 :             0 Pickup from configuration 3, operand 28, scale 1, offset 0
 29 Glass      35 :                MIRROR
 30 Ap Type    35 :             4 Pickup from configuration 3, operand 30, scale 1, offset 0
 31 Ap Min     35 :            58 Pickup from configuration 3, operand 31, scale 1, offset 0
 32 Ap Max     35 :            44 Pickup from configuration 3, operand 32, scale 1, offset 0
 33 Ap Dec X   35 :             5 Pickup from configuration 3, operand 33, scale 1, offset 0
 34 Ap Dec Y   35 :            -4 Pickup from configuration 3, operand 34, scale 1, offset 0
 35 Param 4    37 :            45 Pickup from configuration 5, operand 25, scale 1, offset 0
 36 Param 3    38 :             0 Pickup from configuration 5, operand 24, scale 1, offset 0
 37 Param 6    38 :             0 Pickup from configuration 3, operand 37, scale 1, offset 0
 38 Thickness  40 :      1047.162 Pickup from configuration 3, operand 38, scale 1, offset 0
 39 Param 3    40 :             0 Pickup from configuration 5, operand 36, scale -1, offset 0
 40 Param 6    40 :             1 Pickup from configuration 3, operand 40, scale 1, offset 0
 41 Param 3    41 :      9.137534 Pickup from configuration 3, operand 41, scale 1, offset 0
 42 Glass      42 :                MIRROR
 43 Curvature  42 : -0.0008068501 Pickup from configuration 3, operand 43, scale 1, offset 0
 44 Conic      42 :    -0.6688264 Pickup from configuration 3, operand 44, scale 1, offset 0
 45 Ex Da  42   5 : -7.864168e-006 Pickup from configuration 3, operand 45, scale 1, offset 0
 46 Ex Da  42   6 : 3.224085e-006 Pickup from configuration 3, operand 46, scale 1, offset 0
 47 Ex Da  42   7 : 3.605028e-006 Pickup from configuration 3, operand 47, scale 1, offset 0
 48 Ex Da  42   8 :  3.08007e-008 Pickup from configuration 3, operand 48, scale 1, offset 0
 49 Ex Da  42   9 : -4.751014e-008 Pickup from configuration 3, operand 49, scale 1, offset 0
 50 Ex Da  42  10 : 3.608009e-008 Pickup from configuration 3, operand 50, scale 1, offset 0
 51 Ex Da  42  11 : -4.480333e-008 Pickup from configuration 3, operand 51, scale 1, offset 0
 52 Param 2    42 :             0
 53 Ap Type    42 :             4 Pickup from configuration 3, operand 53, scale 1, offset 0
 54 Ap Min     42 :           125 Pickup from configuration 3, operand 54, scale 1, offset 0
 55 Ap Max     42 :           130 Pickup from configuration 3, operand 55, scale 1, offset 0
 56 Ap Dec X   42 :            25 Pickup from configuration 3, operand 56, scale 1, offset 0
 57 Ap Dec Y   42 :           -28 Pickup from configuration 3, operand 57, scale 1, offset 0
 58 Param 3    43 :      9.137534 Pickup from configuration 5, operand 41, scale 1, offset 0
 59 Thickness  43 :     -1160.062 Pickup from configuration 3, operand 59, scale 1, offset 0
 60 Param 3    44 :     -18.27507 Pickup from configuration 5, operand 58, scale -2, offset 0
 61 Param 3    45 :             0 Pickup from configuration 3, operand 61, scale 1, offset 0
 62 Ap Type    46 :             1 Pickup from configuration 3, operand 62, scale 1, offset 0
 63 Ap Min     46 :             0 Pickup from configuration 3, operand 63, scale 1, offset 0
 64 Ap Max     46 :            60 Pickup from configuration 3, operand 64, scale 1, offset 0
 65 Ap Dec X   46 :             6 Pickup from configuration 3, operand 65, scale 1, offset 0
 66 Ap Dec Y   46 :            -5 Pickup from configuration 3, operand 66, scale 1, offset 0
 67 Thickness  48 :     -379.7693 Pickup from configuration 3, operand 67, scale 1, offset 0
 68 Thickness  49 :     -552.1559 Pickup from configuration 3, operand 68, scale 1, offset 0
 69 Glass      51 :                MIRROR
 70 Curvature  51 :  0.0008807026 Pickup from configuration 3, operand 70, scale 1, offset 0
 71 Conic      51 :      2.379386 Pickup from configuration 3, operand 71, scale 1, offset 0
 72 Ex Da  51   5 : 5.160897e-006 Pickup from configuration 3, operand 72, scale 1, offset 0
 73 Ex Da  51   6 : 1.406572e-006 Pickup from configuration 3, operand 73, scale 1, offset 0
 74 Ex Da  51   7 : -1.778524e-006 Pickup from configuration 3, operand 74, scale 1, offset 0
 75 Ex Da  51   8 : 6.144221e-008 Pickup from configuration 3, operand 75, scale 1, offset 0
 76 Ex Da  51   9 : 3.706071e-008 Pickup from configuration 3, operand 76, scale 1, offset 0
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 77 Ex Da  51  10 : -2.471575e-008 Pickup from configuration 3, operand 77, scale 1, offset 0
 78 Ex Da  51  11 : 9.552933e-009 Pickup from configuration 3, operand 78, scale 1, offset 0
 79 Ap Type    51 :              4 Pickup from configuration 3, operand 79, scale 1, offset 0
 80 Ap Min     51 :            120 Pickup from configuration 3, operand 80, scale 1, offset 0
 81 Ap Max     51 :            120 Pickup from configuration 3, operand 81, scale 1, offset 0
 82 Ap Dec X   51 :             -4 Pickup from configuration 3, operand 82, scale 1, offset 0
 83 Ap Dec Y   51 :             10 Pickup from configuration 3, operand 83, scale 1, offset 0
 84 Thickness  53 :      469.9907 Pickup from configuration 3, operand 84, scale 1, offset 0
 85 Thickness  54 :            200
 86 Param 1    55 :            167 Pickup from configuration 3, operand 86, scale 1, offset 0
 87 Param 4    55 :              0 Pickup from configuration 3, operand 87, scale 1, offset 0
 88 Param 8    57 :             -1 Pickup from configuration 3, operand 88, scale 1, offset 0
 89 NSC Position Surf 57 Object 1 Code 6:             -90 Pickup from configuration 3, operand 89, scale 1,
offset 0
 90 NSC Property Surf 57 Object 2 Item 3:               1 Pickup from configuration 3, operand 90, scale 1,
offset 0
 91 NSC Property Surf 57 Object 2 Item 4:               1 Pickup from configuration 3, operand 91, scale 1,
offset 0
 92 NSC Property Surf 57 Object 6 Item 3:               1 Pickup from configuration 3, operand 92, scale 1,
offset 0
 93 NSC Property Surf 57 Object 6 Item 4:               1 Pickup from configuration 3, operand 93, scale 1,
offset 0
 94 NSC Property Surf 57 Object 7 Item 3:               0 Pickup from configuration 3, operand 94, scale 1,
offset 0
 95 NSC Property Surf 57 Object 7 Item 4:               0 Pickup from configuration 3, operand 95, scale 1,
offset 0
 96 NSC Property Surf 57 Object 8 Item 3:               0 Pickup from configuration 3, operand 96, scale 1,
offset 0
 97 NSC Property Surf 57 Object 8 Item 4:               0 Pickup from configuration 3, operand 97, scale 1,
offset 0
 98 NSC Position Surf 57 Object 7 Code 1:            37.5 Pickup from configuration 3, operand 98, scale 1,
offset 0
 99 NSC Position Surf 57 Object 7 Code 3:           -37.5 Pickup from configuration 3, operand 99, scale 1,
offset 0
100 NSC Position Surf 57 Object 7 Code 5:              45 Pickup from configuration 3, operand 100, scale 1,
offset 0
101 NSC Position Surf 57 Object 8 Code 1:           -29.9 Pickup from configuration 3, operand 101, scale 1,
offset 0
102 NSC Position Surf 57 Object 8 Code 3:           -29.9 Pickup from configuration 3, operand 102, scale 1,
offset 0
103 NSC Position Surf 57 Object 8 Code 5:             -45 Pickup from configuration 3, operand 103, scale 1,
offset 0
104 NSC Position Surf 57 Object 4 Code 5:             -45 Pickup from configuration 3, operand 104, scale 1,
offset 0
105 NSC Position Surf 57 Object 4 Code 6:              90 Pickup from configuration 3, operand 105, scale 1,
offset 0
106 NSC Property Surf 57 Object 9 Item 3:               0 Pickup from configuration 3, operand 106, scale 1,
offset 0
107 NSC Property Surf 57 Object 9 Item 4:               0 Pickup from configuration 3, operand 107, scale 1,
offset 0
108 NSC Position Surf 57 Object 5 Code 5:              45 Pickup from configuration 3, operand 108, scale 1,
offset 0
109 NSC Position Surf 57 Object 9 Code 1:             260 Pickup from configuration 3, operand 109, scale 1,
offset 0
110 Thickness  58 :        1e-006 Pickup from configuration 3, operand 110, scale 1, offset 0
111 Param 4    59 :             0
112 Thickness  59 :     -469.9907 Pickup from configuration 5, operand 84, scale -1, offset 0
113 Glass      62 :                MIRROR
114 Curvature  62 :  0.0008416868 Pickup from configuration 3, operand 114, scale 1, offset 0
115 Conic      62 :     -2.367087 Pickup from configuration 3, operand 115, scale 1, offset 0
116 Ex Da  62   5 : 6.625941e-006 Pickup from configuration 3, operand 116, scale 1, offset 0
117 Ex Da  62   6 : -2.315082e-007 Pickup from configuration 3, operand 117, scale 1, offset 0
118 Ex Da  62   7 : 8.613342e-007 Pickup from configuration 3, operand 118, scale 1, offset 0
119 Ex Da  62   8 : -4.077265e-009 Pickup from configuration 3, operand 119, scale 1, offset 0
120 Ex Da  62   9 : 4.178335e-008 Pickup from configuration 3, operand 120, scale 1, offset 0
121 Ex Da  62  10 : -4.988724e-009 Pickup from configuration 3, operand 121, scale 1, offset 0
122 Ex Da  62  11 : 1.434465e-008 Pickup from configuration 3, operand 122, scale 1, offset 0
123 Ap Type    62 :              4 Pickup from configuration 3, operand 123, scale 1, offset 0
124 Ap Min     62 :            140 Pickup from configuration 3, operand 124, scale 1, offset 0
125 Ap Max     62 :            140 Pickup from configuration 3, operand 125, scale 1, offset 0
126 Ap Dec X   62 :             10 Pickup from configuration 3, operand 126, scale 1, offset 0
127 Ap Dec Y   62 :             -5 Pickup from configuration 3, operand 127, scale 1, offset 0
128 Thickness  64 :        931.948 Pickup from configuration 3, operand 128, scale 1, offset 0
129 Ap Type    67 :              1 Pickup from configuration 3, operand 129, scale 1, offset 0
130 Ap Min     67 :              0 Pickup from configuration 3, operand 130, scale 1, offset 0
131 Ap Max     67 :            100 Pickup from configuration 3, operand 131, scale 1, offset 0
132 Ap Dec X   67 :              0 Pickup from configuration 3, operand 132, scale 1, offset 0
133 Ap Dec Y   67 :              4 Pickup from configuration 3, operand 133, scale 1, offset 0
134 Thickness  70 :       1160.038 Pickup from configuration 3, operand 134, scale 1, offset 0
135 Param 3    71 :     -9.087835 Pickup from configuration 3, operand 135, scale 1, offset 0
136 Param 4    71 :              6 Pickup from configuration 3, operand 136, scale 1, offset 0
137 Param 5    71 :    -0.4816678 Pickup from configuration 3, operand 137, scale 1, offset 0
138 Glass      72 :                MIRROR
139 Curvature  72 : -0.0008519355 Pickup from configuration 3, operand 139, scale 1, offset 0
140 Conic      72 :      2.131911 Pickup from configuration 3, operand 140, scale 1, offset 0
141 Ex Da  72   5 : 1.944818e-006 Pickup from configuration 3, operand 141, scale 1, offset 0
142 Ex Da  72   6 :  -9.7896e-006 Pickup from configuration 3, operand 142, scale 1, offset 0
143 Ex Da  72   7 : 4.362207e-006 Pickup from configuration 3, operand 143, scale 1, offset 0
144 Ex Da  72   8 : -6.526498e-008 Pickup from configuration 3, operand 144, scale 1, offset 0
145 Ex Da  72   9 : -1.962942e-007 Pickup from configuration 3, operand 145, scale 1, offset 0
146 Ex Da  72  10 : -2.22158e-008 Pickup from configuration 3, operand 146, scale 1, offset 0
147 Ex Da  72  11 : -2.49122e-008 Pickup from configuration 3, operand 147, scale 1, offset 0
148 Ap Type    72 :              4 Pickup from configuration 3, operand 148, scale 1, offset 0
149 Ap Min     72 :            155 Pickup from configuration 3, operand 149, scale 1, offset 0
150 Ap Max     72 :            170 Pickup from configuration 3, operand 150, scale 1, offset 0
151 Ap Dec X   72 :            -21 Pickup from configuration 3, operand 151, scale 1, offset 0
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152 Ap Dec Y   72 :             6 Pickup from configuration 3, operand 152, scale 1, offset 0
153 Thickness  74 :     -1070.501 Pickup from configuration 3, operand 153, scale 1, offset 0
154 Param 3    77 :             0 Pickup from configuration 3, operand 154, scale 1, offset 0
155 Param 4    77 :          -1.3 Pickup from configuration 3, operand 155, scale 1, offset 0
156 Param 5    77 :             0 Pickup from configuration 3, operand 156, scale 1, offset 0
157 Glass      78 :                MIRROR
158 Ap Type    78 :             4 Pickup from configuration 3, operand 158, scale 1, offset 0
159 Ap Min     78 :            70 Pickup from configuration 3, operand 159, scale 1, offset 0
160 Ap Max     78 :            80 Pickup from configuration 3, operand 160, scale 1, offset 0
161 Ap Dec X   78 :             1 Pickup from configuration 3, operand 161, scale 1, offset 0
162 Ap Dec Y   78 :           -15 Pickup from configuration 3, operand 162, scale 1, offset 0
163 Param 1    82 :      54.36108 Pickup from configuration 5, operand 22, scale 1, offset 0
164 Param 2    82 :      53.28572 Pickup from configuration 5, operand 23, scale -1, offset 0
165 Thickness  83 :     -109.0664 Pickup from configuration 3, operand 165, scale 1, offset 0
166 Thickness  84 :        -2.293 Pickup from configuration 3, operand 166, scale 1, offset 0
167 Thickness  85 :     -133.0203 Pickup from configuration 1, operand 167, scale -1, offset 0
168 Thickness  86 :          2561 Pickup from configuration 1, operand 168, scale -1, offset 0
169 Param 3    87 :            22 Pickup from configuration 1, operand 169, scale -1, offset 0
170 Ex Da  88   5 : -0.0001024263 Pickup from configuration 3, operand 170, scale 1, offset 0
171 Ex Da  88   6 : 7.660798e-007 Pickup from configuration 3, operand 171, scale 1, offset 0
172 Ex Da  88   7 : -7.664986e-005 Pickup from configuration 3, operand 172, scale 1, offset 0
173 Ex Da  88   8 : 5.734925e-011 Pickup from configuration 3, operand 173, scale 1, offset 0
174 Ex Da  88   9 : -4.683853e-009 Pickup from configuration 3, operand 174, scale 1, offset 0
175 Ex Da  88  10 : 5.685189e-010 Pickup from configuration 3, operand 175, scale 1, offset 0
176 Ex Da  88  11 : 4.839863e-009 Pickup from configuration 3, operand 176, scale 1, offset 0
177 Ex Da  88  12 : 2.369604e-012 Pickup from configuration 3, operand 177, scale 1, offset 0
178 Ex Da  88  13 : -7.325434e-013 Pickup from configuration 3, operand 178, scale 1, offset 0
179 Ex Da  88  14 : 5.942096e-013 Pickup from configuration 3, operand 179, scale 1, offset 0
180 Ex Da  88  15 : -1.408657e-012 Pickup from configuration 3, operand 180, scale 1, offset 0
181 Ex Da  88  16 : -1.929673e-012 Pickup from configuration 3, operand 181, scale 1, offset 0
182 Thickness  89 :         -1900 Pickup from configuration 3, operand 182, scale 1, offset 0
183 Thickness  90 :         -1900 Pickup from configuration 1, operand 183, scale 1, offset 0
184 Param 3    91 :           -25 Pickup from configuration 1, operand 184, scale -1, offset 0
185 Ex Da  92   5 :  0.0002530622 Pickup from configuration 3, operand 185, scale 1, offset 0
186 Ex Da  92   6 : -1.490352e-006 Pickup from configuration 3, operand 186, scale 1, offset 0
187 Ex Da  92   7 :  0.0001743294 Pickup from configuration 3, operand 187, scale 1, offset 0
188 Ex Da  92   8 : 1.765386e-009 Pickup from configuration 3, operand 188, scale 1, offset 0
189 Ex Da  92   9 : 8.672591e-008 Pickup from configuration 3, operand 189, scale 1, offset 0
190 Ex Da  92  10 : 5.506373e-011 Pickup from configuration 3, operand 190, scale 1, offset 0
191 Ex Da  92  11 : 2.390401e-008 Pickup from configuration 3, operand 191, scale 1, offset 0
192 Ex Da  92  12 : -3.160465e-011 Pickup from configuration 3, operand 192, scale 1, offset 0
193 Ex Da  92  13 : -2.143139e-013 Pickup from configuration 3, operand 193, scale 1, offset 0
194 Ex Da  92  14 : -1.643454e-011 Pickup from configuration 3, operand 194, scale 1, offset 0
195 Ex Da  92  15 : -1.015372e-012 Pickup from configuration 3, operand 195, scale 1, offset 0
196 Ex Da  92  16 : -8.013021e-012 Pickup from configuration 3, operand 196, scale 1, offset 0
197 Thickness  93 :      985.7868 Pickup from configuration 3, operand 197, scale 1, offset 0
198 Thickness  95 :             8 Pickup from configuration 3, operand 198, scale 1, offset 0
199 Curvature  95 : -4.258615e-005 Pickup from configuration 3, operand 199, scale 1, offset 0
200 Curvature  96 : -4.256802e-005 Pickup from configuration 3, operand 200, scale 1, offset 0
201 Ex Da  95   3 :       0.00405 Pickup from configuration 3, operand 201, scale 1, offset 0
202 Ex Da  95   4 :       0.00405 Pickup from configuration 3, operand 202, scale 1, offset 0
203 Ex Da  96   3 :       0.00405 Pickup from configuration 3, operand 203, scale 1, offset 0
204 Ex Da  96   4 :       0.00405 Pickup from configuration 3, operand 204, scale 1, offset 0
205 Thickness  97 :            75 Pickup from configuration 3, operand 205, scale 1, offset 0
206 Thickness  98 :           0.5 Pickup from configuration 3, operand 206, scale 1, offset 0
207 Thickness  99 :           8.1 Pickup from configuration 3, operand 207, scale 1, offset 0
208 Thickness 100 :           0.5 Pickup from configuration 3, operand 208, scale 1, offset 0
209 Thickness 101 :            14 Pickup from configuration 3, operand 209, scale 1, offset 0
210 Thickness 102 :           0.5 Pickup from configuration 3, operand 210, scale 1, offset 0
211 Thickness 103 :        14.695 Pickup from configuration 3, operand 211, scale 1, offset 0
212 Thickness 104 :           0.5 Pickup from configuration 3, operand 212, scale 1, offset 0
213 Thickness 105 :       203.805 Pickup from configuration 3, operand 213, scale 1, offset 0
214 Param 3   106 :          45.5 Pickup from configuration 3, operand 214, scale 1, offset 0
215 Ex Da 107   5 : 9.600116e-005 Pickup from configuration 3, operand 215, scale 1, offset 0
216 Ex Da 107   6 : -3.23368e-006 Pickup from configuration 3, operand 216, scale 1, offset 0
217 Ex Da 107   7 : 1.086295e-006 Pickup from configuration 3, operand 217, scale 1, offset 0
218 Ex Da 107   8 : -2.181064e-008 Pickup from configuration 3, operand 218, scale 1, offset 0
219 Ex Da 107   9 : -3.197905e-007 Pickup from configuration 3, operand 219, scale 1, offset 0
220 Ex Da 107  10 : 2.310459e-008 Pickup from configuration 3, operand 220, scale 1, offset 0
221 Ex Da 107  11 : -1.09359e-008 Pickup from configuration 3, operand 221, scale 1, offset 0
222 Ex Da 107  12 : -9.82371e-010 Pickup from configuration 3, operand 222, scale 1, offset 0
223 Ex Da 107  13 : -1.224992e-010 Pickup from configuration 3, operand 223, scale 1, offset 0
224 Ex Da 107  14 : -2.386246e-009 Pickup from configuration 3, operand 224, scale 1, offset 0
225 Ex Da 107  15 : 3.865981e-010 Pickup from configuration 3, operand 225, scale 1, offset 0
226 Ex Da 107  16 : 2.185356e-009 Pickup from configuration 3, operand 226, scale 1, offset 0
227 Thickness 108 :         -1021 Pickup from configuration 3, operand 227, scale 1, offset 0
228 Param 3   109 :         -12.8 Pickup from configuration 3, operand 228, scale 1, offset 0
229 Ex Da 110   5 :  0.0002894571 Pickup from configuration 3, operand 229, scale 1, offset 0
230 Ex Da 110   6 :  8.48145e-007 Pickup from configuration 3, operand 230, scale 1, offset 0
231 Ex Da 110   7 :  0.0002951528 Pickup from configuration 3, operand 231, scale 1, offset 0
232 Ex Da 110   8 : -3.916696e-010 Pickup from configuration 3, operand 232, scale 1, offset 0
233 Ex Da 110   9 : -7.385289e-009 Pickup from configuration 3, operand 233, scale 1, offset 0
234 Ex Da 110  10 : -5.729502e-010 Pickup from configuration 3, operand 234, scale 1, offset 0
235 Ex Da 110  11 : -2.06668e-008 Pickup from configuration 3, operand 235, scale 1, offset 0
236 Ex Da 110  12 :  1.13941e-011 Pickup from configuration 3, operand 236, scale 1, offset 0
237 Ex Da 110  13 : 2.597312e-013 Pickup from configuration 3, operand 237, scale 1, offset 0
238 Ex Da 110  14 : 2.570157e-011 Pickup from configuration 3, operand 238, scale 1, offset 0
239 Ex Da 110  15 : -3.18217e-012 Pickup from configuration 3, operand 239, scale 1, offset 0
240 Ex Da 110  16 : 4.878962e-014 Pickup from configuration 3, operand 240, scale 1, offset 0
241 Thickness 111 :          1520 Pickup from configuration 3, operand 241, scale 1, offset 0
242 Param 3   112 :            28 Pickup from configuration 3, operand 242, scale 1, offset 0
243 Ex Da 113   5 : -0.0002988885 Pickup from configuration 3, operand 243, scale 1, offset 0
244 Ex Da 113   6 : -4.544015e-006 Pickup from configuration 3, operand 244, scale 1, offset 0
245 Ex Da 113   7 : -0.0003184067 Pickup from configuration 3, operand 245, scale 1, offset 0
246 Ex Da 113   8 : -9.629461e-009 Pickup from configuration 3, operand 246, scale 1, offset 0
247 Ex Da 113   9 : -3.593217e-007 Pickup from configuration 3, operand 247, scale 1, offset 0
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248 Ex Da 113  10 : -3.613771e-009 Pickup from configuration 3, operand 248, scale 1, offset 0
249 Ex Da 113  11 : -1.195106e-007 Pickup from configuration 3, operand 249, scale 1, offset 0
250 Ex Da 113  12 : -7.762863e-011 Pickup from configuration 3, operand 250, scale 1, offset 0
251 Ex Da 113  13 : -6.030137e-012 Pickup from configuration 3, operand 251, scale 1, offset 0
252 Ex Da 113  14 : -2.607283e-010 Pickup from configuration 3, operand 252, scale 1, offset 0
253 Ex Da 113  15 : -5.49558e-012 Pickup from configuration 3, operand 253, scale 1, offset 0
254 Ex Da 113  16 : -4.892937e-011 Pickup from configuration 3, operand 254, scale 1, offset 0
255 Thickness 114 :          -380 Pickup from configuration 3, operand 255, scale 1, offset 0
256 Thickness 115 :          -260 Pickup from configuration 3, operand 256, scale 1, offset 0

Configuration   6:

  1 X-field     1 :       0.02876
  2 Y-field     1 :       0.02876
  3 X-field     2 :       0.01209
  4 Y-field     2 :       0.01209
  5 X-field     3 :       0.02876
  6 Y-field     3 :       0.02876
  7 X-field     4 :       0.01209
  8 Y-field     4 :       0.04543
  9 X-field     5 :       0.04543
 10 Y-field     5 :       0.01209
 11 X-field     6 :       0.04543
 12 Y-field     6 :       0.04543
 13 X-field     7 :       0.02876
 14 Y-field     7 :       0.02876
 15 X-field     8 :       0.02876
 16 Y-field     8 :       0.02876
 17 X-field     9 :       0.02876
 18 Y-field     9 :       0.02876
 19 Wavelength  1 :           850
 20 Thickness  30 :     -133.0203 Pickup from configuration 1, operand 20, scale 1, offset 0
 21 Thickness  31 :             0 Pickup from configuration 3, operand 21, scale 1, offset 0
 22 Param 1    32 :     -54.36108 Pickup from configuration 3, operand 22, scale -1, offset 0
 23 Param 2    32 :     -53.28572 Pickup from configuration 3, operand 23, scale 1, offset 0
 24 Param 5    33 :             0 Pickup from configuration 3, operand 24, scale -1, offset 0
 25 Param 4    33 :           -45 Pickup from configuration 3, operand 25, scale -1, offset 0
 26 Param 6    33 :             1 Pickup from configuration 3, operand 26, scale 1, offset 0
 27 Param 3    34 :             0 Pickup from configuration 3, operand 27, scale 1, offset 0
 28 Param 4    34 :             0 Pickup from configuration 3, operand 28, scale -1, offset 0
 29 Glass      35 :                MIRROR
 30 Ap Type    35 :             4 Pickup from configuration 3, operand 30, scale 1, offset 0
 31 Ap Min     35 :            58 Pickup from configuration 3, operand 31, scale 1, offset 0
 32 Ap Max     35 :            44 Pickup from configuration 3, operand 32, scale 1, offset 0
 33 Ap Dec X   35 :            -5 Pickup from configuration 3, operand 33, scale -1, offset 0
 34 Ap Dec Y   35 :            -4 Pickup from configuration 3, operand 34, scale 1, offset 0
 35 Param 4    37 :           -45 Pickup from configuration 6, operand 25, scale 1, offset 0
 36 Param 3    38 :             0 Pickup from configuration 6, operand 24, scale -1, offset 0
 37 Param 6    38 :             0 Pickup from configuration 3, operand 37, scale 1, offset 0
 38 Thickness  40 :      1047.162 Pickup from configuration 3, operand 38, scale 1, offset 0
 39 Param 3    40 :             0 Pickup from configuration 6, operand 36, scale -1, offset 0
 40 Param 6    40 :             1 Pickup from configuration 3, operand 40, scale 1, offset 0
 41 Param 3    41 :      9.137534 Pickup from configuration 3, operand 41, scale 1, offset 0
 42 Glass      42 :                MIRROR
 43 Curvature  42 : -0.0008068501 Pickup from configuration 3, operand 43, scale 1, offset 0
 44 Conic      42 :    -0.6688264 Pickup from configuration 3, operand 44, scale 1, offset 0
 45 Ex Da  42   5 : -7.864168e-006 Pickup from configuration 3, operand 45, scale 1, offset 0
 46 Ex Da  42   6 : -3.224085e-006 Pickup from configuration 3, operand 46, scale -1, offset 0
 47 Ex Da  42   7 : 3.605028e-006 Pickup from configuration 3, operand 47, scale 1, offset 0
 48 Ex Da  42   8 : -3.08007e-008 Pickup from configuration 3, operand 48, scale -1, offset 0
 49 Ex Da  42   9 : -4.751014e-008 Pickup from configuration 3, operand 49, scale 1, offset 0
 50 Ex Da  42  10 : -3.608009e-008 Pickup from configuration 3, operand 50, scale -1, offset 0
 51 Ex Da  42  11 : -4.480333e-008 Pickup from configuration 3, operand 51, scale 1, offset 0
 52 Param 2    42 :             0
 53 Ap Type    42 :             4 Pickup from configuration 3, operand 53, scale 1, offset 0
 54 Ap Min     42 :           125 Pickup from configuration 3, operand 54, scale 1, offset 0
 55 Ap Max     42 :           130 Pickup from configuration 3, operand 55, scale 1, offset 0
 56 Ap Dec X   42 :           -25 Pickup from configuration 3, operand 56, scale -1, offset 0
 57 Ap Dec Y   42 :           -28 Pickup from configuration 3, operand 57, scale 1, offset 0
 58 Param 3    43 :      9.137534 Pickup from configuration 6, operand 41, scale 1, offset 0
 59 Thickness  43 :     -1160.062 Pickup from configuration 3, operand 59, scale 1, offset 0
 60 Param 3    44 :     -18.27507 Pickup from configuration 3, operand 60, scale 1, offset 0
 61 Param 3    45 :             0 Pickup from configuration 3, operand 61, scale 1, offset 0
 62 Ap Type    46 :             1 Pickup from configuration 3, operand 62, scale 1, offset 0
 63 Ap Min     46 :             0 Pickup from configuration 3, operand 63, scale 1, offset 0
 64 Ap Max     46 :            60 Pickup from configuration 3, operand 64, scale 1, offset 0
 65 Ap Dec X   46 :            -6 Pickup from configuration 3, operand 65, scale -1, offset 0
 66 Ap Dec Y   46 :            -5 Pickup from configuration 3, operand 66, scale 1, offset 0
 67 Thickness  48 :     -379.7693 Pickup from configuration 3, operand 67, scale 1, offset 0
 68 Thickness  49 :     -552.1559 Pickup from configuration 3, operand 68, scale 1, offset 0
 69 Glass      51 :                MIRROR
 70 Curvature  51 :  0.0008807026 Pickup from configuration 3, operand 70, scale 1, offset 0
 71 Conic      51 :      2.379386 Pickup from configuration 3, operand 71, scale 1, offset 0
 72 Ex Da  51   5 : 5.160897e-006 Pickup from configuration 3, operand 72, scale 1, offset 0
 73 Ex Da  51   6 : -1.406572e-006 Pickup from configuration 3, operand 73, scale -1, offset 0
 74 Ex Da  51   7 : -1.778524e-006 Pickup from configuration 3, operand 74, scale 1, offset 0
 75 Ex Da  51   8 : -6.144221e-008 Pickup from configuration 3, operand 75, scale -1, offset 0
 76 Ex Da  51   9 : 3.706071e-008 Pickup from configuration 3, operand 76, scale 1, offset 0
 77 Ex Da  51  10 : 2.471575e-008 Pickup from configuration 3, operand 77, scale -1, offset 0
 78 Ex Da  51  11 : 9.552933e-009 Pickup from configuration 3, operand 78, scale 1, offset 0
 79 Ap Type    51 :             4 Pickup from configuration 3, operand 79, scale 1, offset 0
 80 Ap Min     51 :           120 Pickup from configuration 3, operand 80, scale 1, offset 0
 81 Ap Max     51 :           120 Pickup from configuration 3, operand 81, scale 1, offset 0
 82 Ap Dec X   51 :             4 Pickup from configuration 3, operand 82, scale -1, offset 0
 83 Ap Dec Y   51 :            10 Pickup from configuration 3, operand 83, scale 1, offset 0
 84 Thickness  53 :      469.9907 Pickup from configuration 3, operand 84, scale 1, offset 0
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 85 Thickness  54 :            0 Pickup from configuration 3, operand 85, scale -1, offset 0
 86 Param 1    55 :         -167 Pickup from configuration 3, operand 86, scale -1, offset 0
 87 Param 4    55 :            0 Pickup from configuration 3, operand 87, scale -1, offset 0
 88 Param 8    57 :           -1 Pickup from configuration 3, operand 88, scale 1, offset 0
 89 NSC Position Surf 57 Object 1 Code 6:             90 Pickup from configuration 3, operand 89, scale -1,
offset 0
 90 NSC Property Surf 57 Object 2 Item 3:              1 Pickup from configuration 3, operand 90, scale 1,
offset 0
 91 NSC Property Surf 57 Object 2 Item 4:              1 Pickup from configuration 3, operand 91, scale 1,
offset 0
 92 NSC Property Surf 57 Object 6 Item 3:              1 Pickup from configuration 3, operand 92, scale 1,
offset 0
 93 NSC Property Surf 57 Object 6 Item 4:              1 Pickup from configuration 3, operand 93, scale 1,
offset 0
 94 NSC Property Surf 57 Object 7 Item 3:              0 Pickup from configuration 3, operand 94, scale 1,
offset 0
 95 NSC Property Surf 57 Object 7 Item 4:              0 Pickup from configuration 3, operand 95, scale 1,
offset 0
 96 NSC Property Surf 57 Object 8 Item 3:              0 Pickup from configuration 3, operand 96, scale 1,
offset 0
 97 NSC Property Surf 57 Object 8 Item 4:              0 Pickup from configuration 3, operand 97, scale 1,
offset 0
 98 NSC Position Surf 57 Object 7 Code 1:          -37.5 Pickup from configuration 3, operand 98, scale -1,
offset 0
 99 NSC Position Surf 57 Object 7 Code 3:          -37.5 Pickup from configuration 3, operand 99, scale 1,
offset 0
100 NSC Position Surf 57 Object 7 Code 5:            -45 Pickup from configuration 3, operand 100, scale -1,
offset 0
101 NSC Position Surf 57 Object 8 Code 1:           29.9 Pickup from configuration 3, operand 101, scale -1,
offset 0
102 NSC Position Surf 57 Object 8 Code 3:          -29.9 Pickup from configuration 3, operand 102, scale 1,
offset 0
103 NSC Position Surf 57 Object 8 Code 5:             45 Pickup from configuration 3, operand 103, scale -1,
offset 0
104 NSC Position Surf 57 Object 4 Code 5:             45 Pickup from configuration 3, operand 104, scale -1,
offset 0
105 NSC Position Surf 57 Object 4 Code 6:            -90 Pickup from configuration 3, operand 105, scale -1,
offset 0
106 NSC Property Surf 57 Object 9 Item 3:              0 Pickup from configuration 3, operand 106, scale 1,
offset 0
107 NSC Property Surf 57 Object 9 Item 4:              0 Pickup from configuration 3, operand 107, scale 1,
offset 0
108 NSC Position Surf 57 Object 5 Code 5:            -45 Pickup from configuration 3, operand 108, scale -1,
offset 0
109 NSC Position Surf 57 Object 9 Code 1:          -260 Pickup from configuration 3, operand 109, scale -1,
offset 0
110 Thickness  58 :        1e-006 Pickup from configuration 3, operand 110, scale 1, offset 0
111 Param 4    59 :             0
112 Thickness  59 :     -469.9907 Pickup from configuration 3, operand 112, scale 1, offset 0
113 Glass      62 :                MIRROR
114 Curvature  62 :  0.0008416868 Pickup from configuration 3, operand 114, scale 1, offset 0
115 Conic      62 :     -2.367087 Pickup from configuration 3, operand 115, scale 1, offset 0
116 Ex Da  62   5 : 6.625941e-006 Pickup from configuration 3, operand 116, scale 1, offset 0
117 Ex Da  62   6 : 2.315082e-007 Pickup from configuration 3, operand 117, scale -1, offset 0
118 Ex Da  62   7 : 8.613342e-007 Pickup from configuration 3, operand 118, scale 1, offset 0
119 Ex Da  62   8 : 4.077265e-009 Pickup from configuration 3, operand 119, scale -1, offset 0
120 Ex Da  62   9 : 4.178335e-008 Pickup from configuration 3, operand 120, scale 1, offset 0
121 Ex Da  62  10 : 4.988724e-009 Pickup from configuration 3, operand 121, scale -1, offset 0
122 Ex Da  62  11 : 1.434465e-008 Pickup from configuration 3, operand 122, scale 1, offset 0
123 Ap Type    62 :             4 Pickup from configuration 3, operand 123, scale 1, offset 0
124 Ap Min     62 :           140 Pickup from configuration 3, operand 124, scale 1, offset 0
125 Ap Max     62 :           140 Pickup from configuration 3, operand 125, scale 1, offset 0
126 Ap Dec X   62 :           -10 Pickup from configuration 3, operand 126, scale -1, offset 0
127 Ap Dec Y   62 :            -5 Pickup from configuration 3, operand 127, scale 1, offset 0
128 Thickness  64 :       931.948 Pickup from configuration 3, operand 128, scale 1, offset 0
129 Ap Type    67 :             1 Pickup from configuration 3, operand 129, scale 1, offset 0
130 Ap Min     67 :             0 Pickup from configuration 3, operand 130, scale 1, offset 0
131 Ap Max     67 :           100 Pickup from configuration 3, operand 131, scale 1, offset 0
132 Ap Dec X   67 :             0 Pickup from configuration 3, operand 132, scale -1, offset 0
133 Ap Dec Y   67 :             4 Pickup from configuration 3, operand 133, scale 1, offset 0
134 Thickness  70 :      1160.038 Pickup from configuration 3, operand 134, scale 1, offset 0
135 Param 3    71 :     -9.087835 Pickup from configuration 3, operand 135, scale 1, offset 0
136 Param 4    71 :            -6 Pickup from configuration 3, operand 136, scale -1, offset 0
137 Param 5    71 :     0.4816678 Pickup from configuration 3, operand 137, scale -1, offset 0
138 Glass      72 :                MIRROR
139 Curvature  72 : -0.0008519355 Pickup from configuration 3, operand 139, scale 1, offset 0
140 Conic      72 :      2.131911 Pickup from configuration 3, operand 140, scale 1, offset 0
141 Ex Da  72   5 : 1.944818e-006 Pickup from configuration 3, operand 141, scale 1, offset 0
142 Ex Da  72   6 :   9.7896e-006 Pickup from configuration 3, operand 142, scale -1, offset 0
143 Ex Da  72   7 : 4.362207e-006 Pickup from configuration 3, operand 143, scale 1, offset 0
144 Ex Da  72   8 : 6.526498e-008 Pickup from configuration 3, operand 144, scale -1, offset 0
145 Ex Da  72   9 : -1.962942e-007 Pickup from configuration 3, operand 145, scale 1, offset 0
146 Ex Da  72  10 :  2.22158e-008 Pickup from configuration 3, operand 146, scale -1, offset 0
147 Ex Da  72  11 : -2.49122e-008 Pickup from configuration 3, operand 147, scale 1, offset 0
148 Ap Type    72 :             4 Pickup from configuration 3, operand 148, scale 1, offset 0
149 Ap Min     72 :           155 Pickup from configuration 3, operand 149, scale 1, offset 0
150 Ap Max     72 :           170 Pickup from configuration 3, operand 150, scale 1, offset 0
151 Ap Dec X   72 :            21 Pickup from configuration 3, operand 151, scale -1, offset 0
152 Ap Dec Y   72 :             6 Pickup from configuration 3, operand 152, scale 1, offset 0
153 Thickness  74 :     -1070.501 Pickup from configuration 3, operand 153, scale 1, offset 0
154 Param 3    77 :             0 Pickup from configuration 3, operand 154, scale 1, offset 0
155 Param 4    77 :           1.3 Pickup from configuration 3, operand 155, scale -1, offset 0
156 Param 5    77 :             0 Pickup from configuration 3, operand 156, scale -1, offset 0
157 Glass      78 :                MIRROR
158 Ap Type    78 :             4 Pickup from configuration 3, operand 158, scale 1, offset 0
159 Ap Min     78 :            70 Pickup from configuration 3, operand 159, scale 1, offset 0
```

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160 Ap Max     78 :            80 Pickup from configuration 3, operand 160, scale 1, offset 0
161 Ap Dec X   78 :            -1 Pickup from configuration 3, operand 161, scale -1, offset 0
162 Ap Dec Y   78 :           -15 Pickup from configuration 3, operand 162, scale 1, offset 0
163 Param 1    82 :     -54.36108 Pickup from configuration 3, operand 163, scale -1, offset 0
164 Param 2    82 :      53.28572 Pickup from configuration 3, operand 164, scale 1, offset 0
165 Thickness  83 :     -109.0664 Pickup from configuration 3, operand 165, scale 1, offset 0
166 Thickness  84 :        -2.293 Pickup from configuration 3, operand 166, scale 1, offset 0
167 Thickness  85 :     -133.0203 Pickup from configuration 1, operand 167, scale -1, offset 0
168 Thickness  86 :          2561 Pickup from configuration 1, operand 168, scale -1, offset 0
169 Param 3    87 :            22 Pickup from configuration 1, operand 169, scale -1, offset 0
170 Ex Da  88   5 : -0.0001024263 Pickup from configuration 3, operand 170, scale 1, offset 0
171 Ex Da  88   6 : 7.660798e-007 Pickup from configuration 3, operand 171, scale 1, offset 0
172 Ex Da  88   7 : -7.664986e-005 Pickup from configuration 3, operand 172, scale 1, offset 0
173 Ex Da  88   8 : 5.734925e-011 Pickup from configuration 3, operand 173, scale 1, offset 0
174 Ex Da  88   9 : -4.683853e-009 Pickup from configuration 3, operand 174, scale 1, offset 0
175 Ex Da  88  10 : 5.685189e-010 Pickup from configuration 3, operand 175, scale 1, offset 0
176 Ex Da  88  11 : 4.839863e-009 Pickup from configuration 3, operand 176, scale 1, offset 0
177 Ex Da  88  12 : 2.369604e-012 Pickup from configuration 3, operand 177, scale 1, offset 0
178 Ex Da  88  13 : -7.325434e-013 Pickup from configuration 3, operand 178, scale 1, offset 0
179 Ex Da  88  14 : 5.942096e-013 Pickup from configuration 3, operand 179, scale 1, offset 0
180 Ex Da  88  15 : -1.408657e-012 Pickup from configuration 3, operand 180, scale 1, offset 0
181 Ex Da  88  16 : -1.929673e-012 Pickup from configuration 3, operand 181, scale 1, offset 0
182 Thickness  89 :         -1900 Pickup from configuration 3, operand 182, scale 1, offset 0
183 Thickness  90 :         -1900 Pickup from configuration 3, operand 183, scale 1, offset 0
184 Param 3    91 :           -25 Pickup from configuration 1, operand 184, scale -1, offset 0
185 Ex Da  92   5 :  0.0002530622 Pickup from configuration 3, operand 185, scale 1, offset 0
186 Ex Da  92   6 : -1.490352e-006 Pickup from configuration 3, operand 186, scale 1, offset 0
187 Ex Da  92   7 :  0.0001743294 Pickup from configuration 3, operand 187, scale 1, offset 0
188 Ex Da  92   8 : 1.765386e-009 Pickup from configuration 3, operand 188, scale 1, offset 0
189 Ex Da  92   9 : 8.672591e-008 Pickup from configuration 3, operand 189, scale 1, offset 0
190 Ex Da  92  10 : 5.506373e-011 Pickup from configuration 3, operand 190, scale 1, offset 0
191 Ex Da  92  11 : 2.390401e-008 Pickup from configuration 3, operand 191, scale 1, offset 0
192 Ex Da  92  12 : -3.160465e-011 Pickup from configuration 3, operand 192, scale 1, offset 0
193 Ex Da  92  13 : -2.143139e-013 Pickup from configuration 3, operand 193, scale 1, offset 0
194 Ex Da  92  14 : -1.643454e-011 Pickup from configuration 3, operand 194, scale 1, offset 0
195 Ex Da  92  15 : -1.015372e-012 Pickup from configuration 3, operand 195, scale 1, offset 0
196 Ex Da  92  16 : -8.013021e-012 Pickup from configuration 3, operand 196, scale 1, offset 0
197 Thickness  93 :      985.7868 Pickup from configuration 3, operand 197, scale 1, offset 0
198 Thickness  95 :             8 Pickup from configuration 3, operand 198, scale 1, offset 0
199 Curvature  95 : -4.258615e-005 Pickup from configuration 3, operand 199, scale 1, offset 0
200 Curvature  96 : -4.256802e-005 Pickup from configuration 3, operand 200, scale 1, offset 0
201 Ex Da  95   3 :       0.00405 Pickup from configuration 3, operand 201, scale 1, offset 0
202 Ex Da  95   4 :       0.00405 Pickup from configuration 3, operand 202, scale 1, offset 0
203 Ex Da  96   3 :       0.00405 Pickup from configuration 3, operand 203, scale 1, offset 0
204 Ex Da  96   4 :       0.00405 Pickup from configuration 3, operand 204, scale 1, offset 0
205 Thickness  97 :            75 Pickup from configuration 3, operand 205, scale 1, offset 0
206 Thickness  98 :           0.5 Pickup from configuration 3, operand 206, scale 1, offset 0
207 Thickness  99 :           8.1 Pickup from configuration 3, operand 207, scale 1, offset 0
208 Thickness 100 :           0.5 Pickup from configuration 3, operand 208, scale 1, offset 0
209 Thickness 101 :            14 Pickup from configuration 3, operand 209, scale 1, offset 0
210 Thickness 102 :           0.5 Pickup from configuration 3, operand 210, scale 1, offset 0
211 Thickness 103 :        14.695 Pickup from configuration 3, operand 211, scale 1, offset 0
212 Thickness 104 :           0.5 Pickup from configuration 3, operand 212, scale 1, offset 0
213 Thickness 105 :       203.805 Pickup from configuration 3, operand 213, scale 1, offset 0
214 Param 3   106 :          45.5 Pickup from configuration 3, operand 214, scale 1, offset 0
215 Ex Da 107   5 : 9.600116e-005 Pickup from configuration 3, operand 215, scale 1, offset 0
216 Ex Da 107   6 : -3.23368e-006 Pickup from configuration 3, operand 216, scale 1, offset 0
217 Ex Da 107   7 : 1.086295e-006 Pickup from configuration 3, operand 217, scale 1, offset 0
218 Ex Da 107   8 : -2.181064e-008 Pickup from configuration 3, operand 218, scale 1, offset 0
219 Ex Da 107   9 : -3.197905e-007 Pickup from configuration 3, operand 219, scale 1, offset 0
220 Ex Da 107  10 : 2.310459e-008 Pickup from configuration 3, operand 220, scale 1, offset 0
221 Ex Da 107  11 : -1.09359e-008 Pickup from configuration 3, operand 221, scale 1, offset 0
222 Ex Da 107  12 : -9.82371e-010 Pickup from configuration 3, operand 222, scale 1, offset 0
223 Ex Da 107  13 : -1.224992e-010 Pickup from configuration 3, operand 223, scale 1, offset 0
224 Ex Da 107  14 : -2.386246e-009 Pickup from configuration 3, operand 224, scale 1, offset 0
225 Ex Da 107  15 : 3.865981e-010 Pickup from configuration 3, operand 225, scale 1, offset 0
226 Ex Da 107  16 : 2.185356e-009 Pickup from configuration 3, operand 226, scale 1, offset 0
227 Thickness 108 :         -1021 Pickup from configuration 3, operand 227, scale 1, offset 0
228 Param 3   109 :         -12.8 Pickup from configuration 3, operand 228, scale 1, offset 0
229 Ex Da 110   5 :  0.0002894571 Pickup from configuration 3, operand 229, scale 1, offset 0
230 Ex Da 110   6 :  8.48145e-007 Pickup from configuration 3, operand 230, scale 1, offset 0
231 Ex Da 110   7 :  0.0002951528 Pickup from configuration 3, operand 231, scale 1, offset 0
232 Ex Da 110   8 : -3.916696e-010 Pickup from configuration 3, operand 232, scale 1, offset 0
233 Ex Da 110   9 : -7.385289e-009 Pickup from configuration 3, operand 233, scale 1, offset 0
234 Ex Da 110  10 : -5.729502e-010 Pickup from configuration 3, operand 234, scale 1, offset 0
235 Ex Da 110  11 : -2.06668e-008 Pickup from configuration 3, operand 235, scale 1, offset 0
236 Ex Da 110  12 :  1.13941e-011 Pickup from configuration 3, operand 236, scale 1, offset 0
237 Ex Da 110  13 : 2.597312e-013 Pickup from configuration 3, operand 237, scale 1, offset 0
238 Ex Da 110  14 : 2.570157e-011 Pickup from configuration 3, operand 238, scale 1, offset 0
239 Ex Da 110  15 : -3.18217e-012 Pickup from configuration 3, operand 239, scale 1, offset 0
240 Ex Da 110  16 : 4.878962e-014 Pickup from configuration 3, operand 240, scale 1, offset 0
241 Thickness 111 :          1520 Pickup from configuration 3, operand 241, scale 1, offset 0
242 Param 3   112 :            28 Pickup from configuration 3, operand 242, scale 1, offset 0
243 Ex Da 113   5 : -0.0002988885 Pickup from configuration 3, operand 243, scale 1, offset 0
244 Ex Da 113   6 : -4.544015e-006 Pickup from configuration 3, operand 244, scale 1, offset 0
245 Ex Da 113   7 : -0.0003184067 Pickup from configuration 3, operand 245, scale 1, offset 0
246 Ex Da 113   8 : -9.629461e-009 Pickup from configuration 3, operand 246, scale 1, offset 0
247 Ex Da 113   9 : -3.593217e-007 Pickup from configuration 3, operand 247, scale 1, offset 0
248 Ex Da 113  10 : -3.613771e-009 Pickup from configuration 3, operand 248, scale 1, offset 0
249 Ex Da 113  11 : -1.195106e-007 Pickup from configuration 3, operand 249, scale 1, offset 0
250 Ex Da 113  12 : -7.762863e-011 Pickup from configuration 3, operand 250, scale 1, offset 0
251 Ex Da 113  13 : -6.030137e-012 Pickup from configuration 3, operand 251, scale 1, offset 0
252 Ex Da 113  14 : -2.607283e-010 Pickup from configuration 3, operand 252, scale 1, offset 0
253 Ex Da 113  15 : -5.49558e-012 Pickup from configuration 3, operand 253, scale 1, offset 0
254 Ex Da 113  16 : -4.892937e-011 Pickup from configuration 3, operand 254, scale 1, offset 0
255 Thickness 114 :          -380 Pickup from configuration 3, operand 255, scale 1, offset 0
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256 Thickness 115 :          -260 Pickup from configuration 3, operand 256, scale 1, offset 0

Configuration   7:

  1 X-field     1 :       0.02876
  2 Y-field     1 :       0.02876
  3 X-field     2 :       0.01209
  4 Y-field     2 :       0.01209
  5 X-field     3 :       0.02876
  6 Y-field     3 :       0.02876
  7 X-field     4 :       0.01209
  8 Y-field     4 :       0.04543
  9 X-field     5 :       0.04543
 10 Y-field     5 :       0.01209
 11 X-field     6 :       0.04543
 12 Y-field     6 :       0.04543
 13 X-field     7 :       0.02876
 14 Y-field     7 :       0.02876
 15 X-field     8 :       0.02876
 16 Y-field     8 :       0.02876
 17 X-field     9 :       0.02876
 18 Y-field     9 :       0.02876
 19 Wavelength  1 :           850
 20 Thickness  30 :     -133.0203 Pickup from configuration 1, operand 20, scale 1, offset 0
 21 Thickness  31 :             0 Pickup from configuration 3, operand 21, scale 1, offset 0
 22 Param 1    32 :     -54.36108 Pickup from configuration 3, operand 22, scale -1, offset 0
 23 Param 2    32 :     -53.28572 Pickup from configuration 3, operand 23, scale 1, offset 0
 24 Param 5    33 :             0 Pickup from configuration 3, operand 24, scale -1, offset 0
 25 Param 4    33 :           -45 Pickup from configuration 3, operand 25, scale -1, offset 0
 26 Param 6    33 :             1 Pickup from configuration 3, operand 26, scale 1, offset 0
 27 Param 3    34 :             0 Pickup from configuration 3, operand 27, scale 1, offset 0
 28 Param 4    34 :             0 Pickup from configuration 3, operand 28, scale -1, offset 0
 29 Glass      35 :                MIRROR
 30 Ap Type    35 :             4 Pickup from configuration 3, operand 30, scale 1, offset 0
 31 Ap Min     35 :            58 Pickup from configuration 3, operand 31, scale 1, offset 0
 32 Ap Max     35 :            44 Pickup from configuration 3, operand 32, scale 1, offset 0
 33 Ap Dec X   35 :            -5 Pickup from configuration 3, operand 33, scale -1, offset 0
 34 Ap Dec Y   35 :            -4 Pickup from configuration 3, operand 34, scale 1, offset 0
 35 Param 4    37 :           -45 Pickup from configuration 7, operand 25, scale 1, offset 0
 36 Param 3    38 :             0 Pickup from configuration 7, operand 24, scale -1, offset 0
 37 Param 6    38 :             0 Pickup from configuration 3, operand 37, scale 1, offset 0
 38 Thickness  40 :      1047.162 Pickup from configuration 3, operand 38, scale 1, offset 0
 39 Param 3    40 :             0 Pickup from configuration 7, operand 36, scale -1, offset 0
 40 Param 6    40 :             1 Pickup from configuration 3, operand 40, scale 1, offset 0
 41 Param 3    41 :      9.137534 Pickup from configuration 3, operand 41, scale 1, offset 0
 42 Glass      42 :                MIRROR
 43 Curvature  42 : -0.0008068501 Pickup from configuration 3, operand 43, scale 1, offset 0
 44 Conic      42 :    -0.6688264 Pickup from configuration 3, operand 44, scale 1, offset 0
 45 Ex Da  42   5 : -7.864168e-006 Pickup from configuration 6, operand 45, scale 1, offset 0
 46 Ex Da  42   6 : -3.224085e-006 Pickup from configuration 6, operand 46, scale 1, offset 0
 47 Ex Da  42   7 : 3.605028e-006 Pickup from configuration 6, operand 47, scale 1, offset 0
 48 Ex Da  42   8 : -3.08007e-008 Pickup from configuration 6, operand 48, scale 1, offset 0
 49 Ex Da  42   9 : -4.751014e-008 Pickup from configuration 6, operand 49, scale 1, offset 0
 50 Ex Da  42  10 : -3.608009e-008 Pickup from configuration 6, operand 50, scale 1, offset 0
 51 Ex Da  42  11 : -4.480333e-008 Pickup from configuration 6, operand 51, scale 1, offset 0
 52 Param 2    42 :             0
 53 Ap Type    42 :             4 Pickup from configuration 3, operand 53, scale 1, offset 0
 54 Ap Min     42 :           125 Pickup from configuration 3, operand 54, scale 1, offset 0
 55 Ap Max     42 :           130 Pickup from configuration 3, operand 55, scale 1, offset 0
 56 Ap Dec X   42 :           -25 Pickup from configuration 3, operand 56, scale -1, offset 0
 57 Ap Dec Y   42 :           -28 Pickup from configuration 3, operand 57, scale 1, offset 0
 58 Param 3    43 :      9.137534 Pickup from configuration 7, operand 41, scale 1, offset 0
 59 Thickness  43 :     -1160.062 Pickup from configuration 3, operand 59, scale 1, offset 0
 60 Param 3    44 :     -18.27507 Pickup from configuration 3, operand 60, scale 1, offset 0
 61 Param 3    45 :             0 Pickup from configuration 3, operand 61, scale 1, offset 0
 62 Ap Type    46 :             1 Pickup from configuration 3, operand 62, scale 1, offset 0
 63 Ap Min     46 :             0 Pickup from configuration 3, operand 63, scale 1, offset 0
 64 Ap Max     46 :            60 Pickup from configuration 3, operand 64, scale 1, offset 0
 65 Ap Dec X   46 :            -6 Pickup from configuration 3, operand 65, scale -1, offset 0
 66 Ap Dec Y   46 :            -5 Pickup from configuration 3, operand 66, scale 1, offset 0
 67 Thickness  48 :     -379.7693 Pickup from configuration 3, operand 67, scale 1, offset 0
 68 Thickness  49 :     -552.1559 Pickup from configuration 3, operand 68, scale 1, offset 0
 69 Glass      51 :                MIRROR
 70 Curvature  51 :  0.0008807026 Pickup from configuration 3, operand 70, scale 1, offset 0
 71 Conic      51 :      2.379386 Pickup from configuration 3, operand 71, scale 1, offset 0
 72 Ex Da  51   5 : 5.160897e-006 Pickup from configuration 6, operand 72, scale 1, offset 0
 73 Ex Da  51   6 : -1.406572e-006 Pickup from configuration 6, operand 73, scale 1, offset 0
 74 Ex Da  51   7 : -1.778524e-006 Pickup from configuration 6, operand 74, scale 1, offset 0
 75 Ex Da  51   8 : -6.144221e-008 Pickup from configuration 6, operand 75, scale 1, offset 0
 76 Ex Da  51   9 : 3.706071e-008 Pickup from configuration 6, operand 76, scale 1, offset 0
 77 Ex Da  51  10 : 2.471575e-008 Pickup from configuration 6, operand 77, scale 1, offset 0
 78 Ex Da  51  11 : 9.552933e-009 Pickup from configuration 6, operand 78, scale 1, offset 0
 79 Ap Type    51 :             4 Pickup from configuration 3, operand 79, scale 1, offset 0
 80 Ap Min     51 :           120 Pickup from configuration 3, operand 80, scale 1, offset 0
 81 Ap Max     51 :           120 Pickup from configuration 3, operand 81, scale 1, offset 0
 82 Ap Dec X   51 :             4 Pickup from configuration 3, operand 82, scale -1, offset 0
 83 Ap Dec Y   51 :            10 Pickup from configuration 3, operand 83, scale 1, offset 0
 84 Thickness  53 :      469.9907 Pickup from configuration 3, operand 84, scale 1, offset 0
 85 Thickness  54 :           -15 Pickup from configuration 4, operand 85, scale -1, offset 0
 86 Param 1    55 :          -167 Pickup from configuration 3, operand 86, scale -1, offset 0
 87 Param 4    55 :             0 Pickup from configuration 3, operand 87, scale -1, offset 0
 88 Param 8    57 :            -1 Pickup from configuration 3, operand 88, scale 1, offset 0
 89 NSC Position Surf 57 Object 1 Code 6:             90 Pickup from configuration 3, operand 89, scale -1,
offset 0
 90 NSC Property Surf 57 Object 2 Item 3:              1 Pickup from configuration 3, operand 90, scale 1,
offset 0
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 91 NSC Property Surf 57 Object 2 Item 4:              1 Pickup from configuration 3, operand 91, scale 1,
offset 0
 92 NSC Property Surf 57 Object 6 Item 3:              1 Pickup from configuration 3, operand 92, scale 1,
offset 0
 93 NSC Property Surf 57 Object 6 Item 4:              1 Pickup from configuration 3, operand 93, scale 1,
offset 0
 94 NSC Property Surf 57 Object 7 Item 3:              0 Pickup from configuration 3, operand 94, scale 1,
offset 0
 95 NSC Property Surf 57 Object 7 Item 4:              0 Pickup from configuration 3, operand 95, scale 1,
offset 0
 96 NSC Property Surf 57 Object 8 Item 3:              0 Pickup from configuration 3, operand 96, scale 1,
offset 0
 97 NSC Property Surf 57 Object 8 Item 4:              0 Pickup from configuration 3, operand 97, scale 1,
offset 0
 98 NSC Position Surf 57 Object 7 Code 1:          -37.5 Pickup from configuration 3, operand 98, scale -1,
offset 0
 99 NSC Position Surf 57 Object 7 Code 3:          -37.5 Pickup from configuration 3, operand 99, scale 1,
offset 0
100 NSC Position Surf 57 Object 7 Code 5:           -45 Pickup from configuration 3, operand 100, scale -1,
offset 0
101 NSC Position Surf 57 Object 8 Code 1:          29.9 Pickup from configuration 3, operand 101, scale -1,
offset 0
102 NSC Position Surf 57 Object 8 Code 3:          -29.9 Pickup from configuration 3, operand 102, scale 1,
offset 0
103 NSC Position Surf 57 Object 8 Code 5:            45 Pickup from configuration 3, operand 103, scale -1,
offset 0
104 NSC Position Surf 57 Object 4 Code 5:            45 Pickup from configuration 3, operand 104, scale -1,
offset 0
105 NSC Position Surf 57 Object 4 Code 6:           -90 Pickup from configuration 3, operand 105, scale -1,
offset 0
106 NSC Property Surf 57 Object 9 Item 3:             0 Pickup from configuration 3, operand 106, scale 1,
offset 0
107 NSC Property Surf 57 Object 9 Item 4:             0 Pickup from configuration 3, operand 107, scale 1,
offset 0
108 NSC Position Surf 57 Object 5 Code 5:           -45 Pickup from configuration 3, operand 108, scale -1,
offset 0
109 NSC Position Surf 57 Object 9 Code 1:          -260 Pickup from configuration 3, operand 109, scale -1,
offset 0
110 Thickness  58 :        1e-006 Pickup from configuration 3, operand 110, scale 1, offset 0
111 Param 4    59 :             0
112 Thickness  59 :     -469.9907 Pickup from configuration 3, operand 112, scale 1, offset 0
113 Glass      62 :                MIRROR
114 Curvature  62 :  0.0008416868 Pickup from configuration 3, operand 114, scale 1, offset 0
115 Conic      62 :     -2.367087 Pickup from configuration 3, operand 115, scale 1, offset 0
116 Ex Da  62   5 : 6.625941e-006 Pickup from configuration 6, operand 116, scale 1, offset 0
117 Ex Da  62   6 : 2.315082e-007 Pickup from configuration 6, operand 117, scale 1, offset 0
118 Ex Da  62   7 : 8.613342e-007 Pickup from configuration 6, operand 118, scale 1, offset 0
119 Ex Da  62   8 : 4.077265e-009 Pickup from configuration 6, operand 119, scale 1, offset 0
120 Ex Da  62   9 : 4.178335e-008 Pickup from configuration 6, operand 120, scale 1, offset 0
121 Ex Da  62  10 : 4.988724e-009 Pickup from configuration 6, operand 121, scale 1, offset 0
122 Ex Da  62  11 : 1.434465e-008 Pickup from configuration 6, operand 122, scale 1, offset 0
123 Ap Type    62 :             4 Pickup from configuration 3, operand 123, scale 1, offset 0
124 Ap Min     62 :           140 Pickup from configuration 3, operand 124, scale 1, offset 0
125 Ap Max     62 :           140 Pickup from configuration 3, operand 125, scale 1, offset 0
126 Ap Dec X   62 :           -10 Pickup from configuration 3, operand 126, scale -1, offset 0
127 Ap Dec Y   62 :            -5 Pickup from configuration 3, operand 127, scale 1, offset 0
128 Thickness  64 :       931.948 Pickup from configuration 3, operand 128, scale 1, offset 0
129 Ap Type    67 :             1 Pickup from configuration 3, operand 129, scale 1, offset 0
130 Ap Min     67 :             0 Pickup from configuration 3, operand 130, scale 1, offset 0
131 Ap Max     67 :           100 Pickup from configuration 3, operand 131, scale 1, offset 0
132 Ap Dec X   67 :             0 Pickup from configuration 3, operand 132, scale -1, offset 0
133 Ap Dec Y   67 :             4 Pickup from configuration 3, operand 133, scale 1, offset 0
134 Thickness  70 :      1160.038 Pickup from configuration 3, operand 134, scale 1, offset 0
135 Param 3    71 :     -9.087835 Pickup from configuration 3, operand 135, scale 1, offset 0
136 Param 4    71 :            -6 Pickup from configuration 3, operand 136, scale -1, offset 0
137 Param 5    71 :     0.4816678 Pickup from configuration 3, operand 137, scale -1, offset 0
138 Glass      72 :                MIRROR
139 Curvature  72 : -0.0008519355 Pickup from configuration 3, operand 139, scale 1, offset 0
140 Conic      72 :      2.131911 Pickup from configuration 3, operand 140, scale 1, offset 0
141 Ex Da  72   5 : 1.944818e-006 Pickup from configuration 6, operand 141, scale 1, offset 0
142 Ex Da  72   6 :   9.7896e-006 Pickup from configuration 6, operand 142, scale 1, offset 0
143 Ex Da  72   7 : 4.362207e-006 Pickup from configuration 6, operand 143, scale 1, offset 0
144 Ex Da  72   8 : 6.526498e-008 Pickup from configuration 6, operand 144, scale 1, offset 0
145 Ex Da  72   9 : -1.962942e-007 Pickup from configuration 6, operand 145, scale 1, offset 0
146 Ex Da  72  10 :  2.22158e-008 Pickup from configuration 6, operand 146, scale 1, offset 0
147 Ex Da  72  11 : -2.49122e-008 Pickup from configuration 6, operand 147, scale 1, offset 0
148 Ap Type    72 :             4 Pickup from configuration 3, operand 148, scale 1, offset 0
149 Ap Min     72 :           155 Pickup from configuration 3, operand 149, scale 1, offset 0
150 Ap Max     72 :           170 Pickup from configuration 3, operand 150, scale 1, offset 0
151 Ap Dec X   72 :            21 Pickup from configuration 3, operand 151, scale -1, offset 0
152 Ap Dec Y   72 :             6 Pickup from configuration 3, operand 152, scale 1, offset 0
153 Thickness  74 :     -1070.501 Pickup from configuration 3, operand 153, scale 1, offset 0
154 Param 3    77 :             0 Pickup from configuration 3, operand 154, scale 1, offset 0
155 Param 4    77 :           1.3 Pickup from configuration 3, operand 155, scale -1, offset 0
156 Param 5    77 :             0 Pickup from configuration 3, operand 156, scale -1, offset 0
157 Glass      78 :                MIRROR
158 Ap Type    78 :             4 Pickup from configuration 3, operand 158, scale 1, offset 0
159 Ap Min     78 :            70 Pickup from configuration 3, operand 159, scale 1, offset 0
160 Ap Max     78 :            80 Pickup from configuration 3, operand 160, scale 1, offset 0
161 Ap Dec X   78 :            -1 Pickup from configuration 3, operand 161, scale -1, offset 0
162 Ap Dec Y   78 :           -15 Pickup from configuration 3, operand 162, scale 1, offset 0
163 Param 1    82 :     -54.36108 Pickup from configuration 3, operand 163, scale -1, offset 0
164 Param 2    82 :      53.28572 Pickup from configuration 3, operand 164, scale 1, offset 0
165 Thickness  83 :     -109.0664 Pickup from configuration 3, operand 165, scale 1, offset 0
166 Thickness  84 :        -2.293 Pickup from configuration 3, operand 166, scale 1, offset 0
167 Thickness  85 :     -133.0203 Pickup from configuration 1, operand 167, scale -1, offset 0
```

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168 Thickness  86 :          2561 Pickup from configuration 1, operand 168, scale -1, offset 0
169 Param 3    87 :            22 Pickup from configuration 1, operand 169, scale -1, offset 0
170 Ex Da  88   5 : -0.0001024263 Pickup from configuration 3, operand 170, scale 1, offset 0
171 Ex Da  88   6 : 7.660798e-007 Pickup from configuration 3, operand 171, scale 1, offset 0
172 Ex Da  88   7 : -7.664986e-005 Pickup from configuration 3, operand 172, scale 1, offset 0
173 Ex Da  88   8 : 5.734925e-011 Pickup from configuration 3, operand 173, scale 1, offset 0
174 Ex Da  88   9 : -4.683853e-009 Pickup from configuration 3, operand 174, scale 1, offset 0
175 Ex Da  88  10 : 5.685189e-010 Pickup from configuration 3, operand 175, scale 1, offset 0
176 Ex Da  88  11 : 4.839863e-009 Pickup from configuration 3, operand 176, scale 1, offset 0
177 Ex Da  88  12 : 2.369604e-012 Pickup from configuration 3, operand 177, scale 1, offset 0
178 Ex Da  88  13 : -7.325434e-013 Pickup from configuration 3, operand 178, scale 1, offset 0
179 Ex Da  88  14 : 5.942096e-013 Pickup from configuration 3, operand 179, scale 1, offset 0
180 Ex Da  88  15 : -1.408657e-012 Pickup from configuration 3, operand 180, scale 1, offset 0
181 Ex Da  88  16 : -1.929673e-012 Pickup from configuration 3, operand 181, scale 1, offset 0
182 Thickness  89 :         -1900 Pickup from configuration 3, operand 182, scale 1, offset 0
183 Thickness  90 :         -1900 Pickup from configuration 3, operand 183, scale 1, offset 0
184 Param 3    91 :           -25 Pickup from configuration 1, operand 184, scale -1, offset 0
185 Ex Da  92   5 :  0.0002530622 Pickup from configuration 3, operand 185, scale 1, offset 0
186 Ex Da  92   6 : -1.490352e-006 Pickup from configuration 3, operand 186, scale 1, offset 0
187 Ex Da  92   7 :  0.0001743294 Pickup from configuration 3, operand 187, scale 1, offset 0
188 Ex Da  92   8 : 1.765386e-009 Pickup from configuration 3, operand 188, scale 1, offset 0
189 Ex Da  92   9 : 8.672591e-008 Pickup from configuration 3, operand 189, scale 1, offset 0
190 Ex Da  92  10 : 5.506373e-011 Pickup from configuration 3, operand 190, scale 1, offset 0
191 Ex Da  92  11 : 2.390401e-008 Pickup from configuration 3, operand 191, scale 1, offset 0
192 Ex Da  92  12 : -3.160465e-011 Pickup from configuration 3, operand 192, scale 1, offset 0
193 Ex Da  92  13 : -2.143139e-013 Pickup from configuration 3, operand 193, scale 1, offset 0
194 Ex Da  92  14 : -1.643454e-011 Pickup from configuration 3, operand 194, scale 1, offset 0
195 Ex Da  92  15 : -1.015372e-012 Pickup from configuration 3, operand 195, scale 1, offset 0
196 Ex Da  92  16 : -8.013021e-012 Pickup from configuration 3, operand 196, scale 1, offset 0
197 Thickness  93 :      985.7868 Pickup from configuration 3, operand 197, scale 1, offset 0
198 Thickness  95 :             8 Pickup from configuration 3, operand 198, scale 1, offset 0
199 Curvature  95 : -4.258615e-005 Pickup from configuration 3, operand 199, scale 1, offset 0
200 Curvature  96 : -4.256802e-005 Pickup from configuration 3, operand 200, scale 1, offset 0
201 Ex Da  95   3 :       0.00405 Pickup from configuration 3, operand 201, scale 1, offset 0
202 Ex Da  95   4 :       0.00405 Pickup from configuration 3, operand 202, scale 1, offset 0
203 Ex Da  96   3 :       0.00405 Pickup from configuration 3, operand 203, scale 1, offset 0
204 Ex Da  96   4 :       0.00405 Pickup from configuration 3, operand 204, scale 1, offset 0
205 Thickness  97 :            75 Pickup from configuration 3, operand 205, scale 1, offset 0
206 Thickness  98 :           0.5 Pickup from configuration 3, operand 206, scale 1, offset 0
207 Thickness  99 :           8.1 Pickup from configuration 3, operand 207, scale 1, offset 0
208 Thickness 100 :           0.5 Pickup from configuration 3, operand 208, scale 1, offset 0
209 Thickness 101 :            14 Pickup from configuration 3, operand 209, scale 1, offset 0
210 Thickness 102 :           0.5 Pickup from configuration 3, operand 210, scale 1, offset 0
211 Thickness 103 :        14.695 Pickup from configuration 3, operand 211, scale 1, offset 0
212 Thickness 104 :           0.5 Pickup from configuration 3, operand 212, scale 1, offset 0
213 Thickness 105 :       203.805 Pickup from configuration 3, operand 213, scale 1, offset 0
214 Param 3   106 :          45.5 Pickup from configuration 3, operand 214, scale 1, offset 0
215 Ex Da 107   5 : 9.600116e-005 Pickup from configuration 3, operand 215, scale 1, offset 0
216 Ex Da 107   6 : -3.23368e-006 Pickup from configuration 3, operand 216, scale 1, offset 0
217 Ex Da 107   7 : 1.086295e-006 Pickup from configuration 3, operand 217, scale 1, offset 0
218 Ex Da 107   8 : -2.181064e-008 Pickup from configuration 3, operand 218, scale 1, offset 0
219 Ex Da 107   9 : -3.197905e-007 Pickup from configuration 3, operand 219, scale 1, offset 0
220 Ex Da 107  10 : 2.310459e-008 Pickup from configuration 3, operand 220, scale 1, offset 0
221 Ex Da 107  11 : -1.09359e-008 Pickup from configuration 3, operand 221, scale 1, offset 0
222 Ex Da 107  12 : -9.82371e-010 Pickup from configuration 3, operand 222, scale 1, offset 0
223 Ex Da 107  13 : -1.224992e-010 Pickup from configuration 3, operand 223, scale 1, offset 0
224 Ex Da 107  14 : -2.386246e-009 Pickup from configuration 3, operand 224, scale 1, offset 0
225 Ex Da 107  15 : 3.865981e-010 Pickup from configuration 3, operand 225, scale 1, offset 0
226 Ex Da 107  16 : 2.185356e-009 Pickup from configuration 3, operand 226, scale 1, offset 0
227 Thickness 108 :         -1021 Pickup from configuration 3, operand 227, scale 1, offset 0
228 Param 3   109 :         -12.8 Pickup from configuration 3, operand 228, scale 1, offset 0
229 Ex Da 110   5 :  0.0002894571 Pickup from configuration 3, operand 229, scale 1, offset 0
230 Ex Da 110   6 :  8.48145e-007 Pickup from configuration 3, operand 230, scale 1, offset 0
231 Ex Da 110   7 :  0.0002951528 Pickup from configuration 3, operand 231, scale 1, offset 0
232 Ex Da 110   8 : -3.916696e-010 Pickup from configuration 3, operand 232, scale 1, offset 0
233 Ex Da 110   9 : -7.385289e-009 Pickup from configuration 3, operand 233, scale 1, offset 0
234 Ex Da 110  10 : -5.729502e-010 Pickup from configuration 3, operand 234, scale 1, offset 0
235 Ex Da 110  11 : -2.06668e-008 Pickup from configuration 3, operand 235, scale 1, offset 0
236 Ex Da 110  12 :  1.13941e-011 Pickup from configuration 3, operand 236, scale 1, offset 0
237 Ex Da 110  13 : 2.597312e-013 Pickup from configuration 3, operand 237, scale 1, offset 0
238 Ex Da 110  14 : 2.570157e-011 Pickup from configuration 3, operand 238, scale 1, offset 0
239 Ex Da 110  15 : -3.18217e-012 Pickup from configuration 3, operand 239, scale 1, offset 0
240 Ex Da 110  16 : 4.878962e-014 Pickup from configuration 3, operand 240, scale 1, offset 0
241 Thickness 111 :          1520 Pickup from configuration 3, operand 241, scale 1, offset 0
242 Param 3   112 :            28 Pickup from configuration 3, operand 242, scale 1, offset 0
243 Ex Da 113   5 : -0.0002988885 Pickup from configuration 3, operand 243, scale 1, offset 0
244 Ex Da 113   6 : -4.544015e-006 Pickup from configuration 3, operand 244, scale 1, offset 0
245 Ex Da 113   7 : -0.0003184067 Pickup from configuration 3, operand 245, scale 1, offset 0
246 Ex Da 113   8 : -9.629461e-009 Pickup from configuration 3, operand 246, scale 1, offset 0
247 Ex Da 113   9 : -3.593217e-007 Pickup from configuration 3, operand 247, scale 1, offset 0
248 Ex Da 113  10 : -3.613771e-009 Pickup from configuration 3, operand 248, scale 1, offset 0
249 Ex Da 113  11 : -1.195106e-007 Pickup from configuration 3, operand 249, scale 1, offset 0
250 Ex Da 113  12 : -7.762863e-011 Pickup from configuration 3, operand 250, scale 1, offset 0
251 Ex Da 113  13 : -6.030137e-012 Pickup from configuration 3, operand 251, scale 1, offset 0
252 Ex Da 113  14 : -2.607283e-010 Pickup from configuration 3, operand 252, scale 1, offset 0
253 Ex Da 113  15 : -5.49558e-012 Pickup from configuration 3, operand 253, scale 1, offset 0
254 Ex Da 113  16 : -4.892937e-011 Pickup from configuration 3, operand 254, scale 1, offset 0
255 Thickness 114 :          -380 Pickup from configuration 3, operand 255, scale 1, offset 0
256 Thickness 115 :          -260 Pickup from configuration 3, operand 256, scale 1, offset 0

Configuration   8:

  1 X-field     1 :       0.02876
  2 Y-field     1 :       0.02876
  3 X-field     2 :       0.01209
  4 Y-field     2 :       0.01209
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 5 X-field     3 :       0.02876
 6 Y-field     3 :       0.02876
 7 X-field     4 :       0.01209
 8 Y-field     4 :       0.04543
 9 X-field     5 :       0.04543
10 Y-field     5 :       0.01209
11 X-field     6 :       0.04543
12 Y-field     6 :       0.04543
13 X-field     7 :       0.02876
14 Y-field     7 :       0.02876
15 X-field     8 :       0.02876
16 Y-field     8 :       0.02876
17 X-field     9 :       0.02876
18 Y-field     9 :       0.02876
19 Wavelength  1 :           850
20 Thickness  30 :    -133.0203 Pickup from configuration 1, operand 20, scale 1, offset 0
21 Thickness  31 :            0 Pickup from configuration 3, operand 21, scale 1, offset 0
22 Param 1    32 :     -54.36108 Pickup from configuration 3, operand 22, scale -1, offset 0
23 Param 2    32 :     -53.28572 Pickup from configuration 3, operand 23, scale 1, offset 0
24 Param 5    33 :            0 Pickup from configuration 3, operand 24, scale -1, offset 0
25 Param 4    33 :          -45 Pickup from configuration 3, operand 25, scale -1, offset 0
26 Param 6    33 :            1 Pickup from configuration 3, operand 26, scale 1, offset 0
27 Param 3    34 :            0 Pickup from configuration 3, operand 27, scale 1, offset 0
28 Param 4    34 :            0 Pickup from configuration 3, operand 28, scale -1, offset 0
29 Glass      35 :              MIRROR
30 Ap Type    35 :            4 Pickup from configuration 3, operand 30, scale 1, offset 0
31 Ap Min     35 :           58 Pickup from configuration 3, operand 31, scale 1, offset 0
32 Ap Max     35 :           44 Pickup from configuration 3, operand 32, scale 1, offset 0
33 Ap Dec X   35 :           -5 Pickup from configuration 3, operand 33, scale -1, offset 0
34 Ap Dec Y   35 :           -4 Pickup from configuration 3, operand 34, scale 1, offset 0
35 Param 4    37 :          -45 Pickup from configuration 8, operand 25, scale 1, offset 0
36 Param 3    38 :            0 Pickup from configuration 8, operand 24, scale -1, offset 0
37 Param 6    38 :            0 Pickup from configuration 3, operand 37, scale 1, offset 0
38 Thickness  40 :     1047.162 Pickup from configuration 3, operand 38, scale 1, offset 0
39 Param 3    40 :            0 Pickup from configuration 8, operand 36, scale -1, offset 0
40 Param 6    40 :            1 Pickup from configuration 3, operand 40, scale 1, offset 0
41 Param 3    41 :     9.137534 Pickup from configuration 3, operand 41, scale 1, offset 0
42 Glass      42 :              MIRROR
43 Curvature  42 : -0.0008068501 Pickup from configuration 3, operand 43, scale 1, offset 0
44 Conic      42 :    -0.6688264 Pickup from configuration 3, operand 44, scale 1, offset 0
45 Ex Da  42   5 : -7.864168e-006 Pickup from configuration 6, operand 45, scale 1, offset 0
46 Ex Da  42   6 : -3.224085e-006 Pickup from configuration 6, operand 46, scale 1, offset 0
47 Ex Da  42   7 : 3.605028e-006 Pickup from configuration 6, operand 47, scale 1, offset 0
48 Ex Da  42   8 : -3.08007e-008 Pickup from configuration 6, operand 48, scale 1, offset 0
49 Ex Da  42   9 : -4.751014e-008 Pickup from configuration 6, operand 49, scale 1, offset 0
50 Ex Da  42  10 : -3.608009e-008 Pickup from configuration 6, operand 50, scale 1, offset 0
51 Ex Da  42  11 : -4.480333e-008 Pickup from configuration 6, operand 51, scale 1, offset 0
52 Param 2    42 :            0
53 Ap Type    42 :            4 Pickup from configuration 3, operand 53, scale 1, offset 0
54 Ap Min     42 :          125 Pickup from configuration 3, operand 54, scale 1, offset 0
55 Ap Max     42 :          130 Pickup from configuration 3, operand 55, scale 1, offset 0
56 Ap Dec X   42 :          -25 Pickup from configuration 3, operand 56, scale -1, offset 0
57 Ap Dec Y   42 :          -28 Pickup from configuration 3, operand 57, scale 1, offset 0
58 Param 3    43 :     9.137534 Pickup from configuration 8, operand 41, scale 1, offset 0
59 Thickness  43 :    -1160.062 Pickup from configuration 3, operand 59, scale 1, offset 0
60 Param 3    44 :    -18.27507 Pickup from configuration 3, operand 60, scale 1, offset 0
61 Param 3    45 :            0 Pickup from configuration 3, operand 61, scale 1, offset 0
62 Ap Type    46 :            1 Pickup from configuration 3, operand 62, scale 1, offset 0
63 Ap Min     46 :            0 Pickup from configuration 3, operand 63, scale 1, offset 0
64 Ap Max     46 :           60 Pickup from configuration 3, operand 64, scale 1, offset 0
65 Ap Dec X   46 :           -6 Pickup from configuration 3, operand 65, scale -1, offset 0
66 Ap Dec Y   46 :           -5 Pickup from configuration 3, operand 66, scale 1, offset 0
67 Thickness  48 :    -379.7693 Pickup from configuration 3, operand 67, scale 1, offset 0
68 Thickness  49 :    -552.1559 Pickup from configuration 3, operand 68, scale 1, offset 0
69 Glass      51 :              MIRROR
70 Curvature  51 :  0.0008807026 Pickup from configuration 3, operand 70, scale 1, offset 0
71 Conic      51 :     2.379386 Pickup from configuration 3, operand 71, scale 1, offset 0
72 Ex Da  51   5 : 5.160897e-006 Pickup from configuration 6, operand 72, scale 1, offset 0
73 Ex Da  51   6 : -1.406572e-006 Pickup from configuration 6, operand 73, scale 1, offset 0
74 Ex Da  51   7 : -1.778524e-006 Pickup from configuration 6, operand 74, scale 1, offset 0
75 Ex Da  51   8 : -6.144221e-008 Pickup from configuration 6, operand 75, scale 1, offset 0
76 Ex Da  51   9 : 3.706071e-008 Pickup from configuration 6, operand 76, scale 1, offset 0
77 Ex Da  51  10 : 2.471575e-008 Pickup from configuration 6, operand 77, scale 1, offset 0
78 Ex Da  51  11 : 9.552933e-009 Pickup from configuration 6, operand 78, scale 1, offset 0
79 Ap Type    51 :            4 Pickup from configuration 3, operand 79, scale 1, offset 0
80 Ap Min     51 :          120 Pickup from configuration 3, operand 80, scale 1, offset 0
81 Ap Max     51 :          120 Pickup from configuration 3, operand 81, scale 1, offset 0
82 Ap Dec X   51 :            4 Pickup from configuration 3, operand 82, scale -1, offset 0
83 Ap Dec Y   51 :           10 Pickup from configuration 3, operand 83, scale 1, offset 0
84 Thickness  53 :     469.9907 Pickup from configuration 3, operand 84, scale 1, offset 0
85 Thickness  54 :         -200 Pickup from configuration 5, operand 85, scale -1, offset 0
86 Param 1    55 :         -167 Pickup from configuration 3, operand 86, scale -1, offset 0
87 Param 4    55 :            0 Pickup from configuration 3, operand 87, scale -1, offset 0
88 Param 8    57 :           -1 Pickup from configuration 3, operand 88, scale 1, offset 0
 89 NSC Position Surf 57 Object 1 Code 6:             90 Pickup from configuration 3, operand 89, scale -1,
offset 0
 90 NSC Property Surf 57 Object 2 Item 3:              1 Pickup from configuration 3, operand 90, scale 1,
offset 0
 91 NSC Property Surf 57 Object 2 Item 4:              1 Pickup from configuration 3, operand 91, scale 1,
offset 0
 92 NSC Property Surf 57 Object 6 Item 3:              1 Pickup from configuration 3, operand 92, scale 1,
offset 0
 93 NSC Property Surf 57 Object 6 Item 4:              1 Pickup from configuration 3, operand 93, scale 1,
offset 0
 94 NSC Property Surf 57 Object 7 Item 3:              0 Pickup from configuration 3, operand 94, scale 1,
offset 0
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 95 NSC Property Surf 57 Object 7 Item 4:              0 Pickup from configuration 3, operand 95, scale 1,
offset 0
 96 NSC Property Surf 57 Object 8 Item 3:              0 Pickup from configuration 3, operand 96, scale 1,
offset 0
 97 NSC Property Surf 57 Object 8 Item 4:              0 Pickup from configuration 3, operand 97, scale 1,
offset 0
 98 NSC Position Surf 57 Object 7 Code 1:          -37.5 Pickup from configuration 3, operand 98, scale -1,
offset 0
 99 NSC Position Surf 57 Object 7 Code 3:          -37.5 Pickup from configuration 3, operand 99, scale 1,
offset 0
100 NSC Position Surf 57 Object 7 Code 5:            -45 Pickup from configuration 3, operand 100, scale -1,
offset 0
101 NSC Position Surf 57 Object 8 Code 1:           29.9 Pickup from configuration 3, operand 101, scale -1,
offset 0
102 NSC Position Surf 57 Object 8 Code 3:          -29.9 Pickup from configuration 3, operand 102, scale 1,
offset 0
103 NSC Position Surf 57 Object 8 Code 5:             45 Pickup from configuration 3, operand 103, scale -1,
offset 0
104 NSC Position Surf 57 Object 4 Code 5:             45 Pickup from configuration 3, operand 104, scale -1,
offset 0
105 NSC Position Surf 57 Object 4 Code 6:            -90 Pickup from configuration 3, operand 105, scale -1,
offset 0
106 NSC Property Surf 57 Object 9 Item 3:              0 Pickup from configuration 3, operand 106, scale 1,
offset 0
107 NSC Property Surf 57 Object 9 Item 4:              0 Pickup from configuration 3, operand 107, scale 1,
offset 0
108 NSC Position Surf 57 Object 5 Code 5:            -45 Pickup from configuration 3, operand 108, scale -1,
offset 0
109 NSC Position Surf 57 Object 9 Code 1:          -260 Pickup from configuration 3, operand 109, scale -1,
offset 0
110 Thickness  58 :        1e-006 Pickup from configuration 3, operand 110, scale 1, offset 0
111 Param 4    59 :             0
112 Thickness  59 :     -469.9907 Pickup from configuration 3, operand 112, scale 1, offset 0
113 Glass      62 :                MIRROR
114 Curvature  62 :  0.0008416868 Pickup from configuration 3, operand 114, scale 1, offset 0
115 Conic      62 :     -2.367087 Pickup from configuration 3, operand 115, scale 1, offset 0
116 Ex Da  62   5 : 6.625941e-006 Pickup from configuration 6, operand 116, scale 1, offset 0
117 Ex Da  62   6 : 2.315082e-007 Pickup from configuration 6, operand 117, scale 1, offset 0
118 Ex Da  62   7 : 8.613342e-007 Pickup from configuration 6, operand 118, scale 1, offset 0
119 Ex Da  62   8 : 4.077265e-009 Pickup from configuration 6, operand 119, scale 1, offset 0
120 Ex Da  62   9 : 4.178335e-008 Pickup from configuration 6, operand 120, scale 1, offset 0
121 Ex Da  62  10 : 4.988724e-009 Pickup from configuration 6, operand 121, scale 1, offset 0
122 Ex Da  62  11 : 1.434465e-008 Pickup from configuration 6, operand 122, scale 1, offset 0
123 Ap Type    62 :             4 Pickup from configuration 3, operand 123, scale 1, offset 0
124 Ap Min     62 :           140 Pickup from configuration 3, operand 124, scale 1, offset 0
125 Ap Max     62 :           140 Pickup from configuration 3, operand 125, scale 1, offset 0
126 Ap Dec X   62 :           -10 Pickup from configuration 3, operand 126, scale -1, offset 0
127 Ap Dec Y   62 :            -5 Pickup from configuration 3, operand 127, scale 1, offset 0
128 Thickness  64 :       931.948 Pickup from configuration 3, operand 128, scale 1, offset 0
129 Ap Type    67 :             1 Pickup from configuration 3, operand 129, scale 1, offset 0
130 Ap Min     67 :             0 Pickup from configuration 3, operand 130, scale 1, offset 0
131 Ap Max     67 :           100 Pickup from configuration 3, operand 131, scale 1, offset 0
132 Ap Dec X   67 :             0 Pickup from configuration 3, operand 132, scale -1, offset 0
133 Ap Dec Y   67 :             4 Pickup from configuration 3, operand 133, scale 1, offset 0
134 Thickness  70 :      1160.038 Pickup from configuration 3, operand 134, scale 1, offset 0
135 Param 3    71 :     -9.087835 Pickup from configuration 3, operand 135, scale 1, offset 0
136 Param 4    71 :            -6 Pickup from configuration 3, operand 136, scale -1, offset 0
137 Param 5    71 :     0.4816678 Pickup from configuration 3, operand 137, scale -1, offset 0
138 Glass      72 :                MIRROR
139 Curvature  72 : -0.0008519355 Pickup from configuration 3, operand 139, scale 1, offset 0
140 Conic      72 :      2.131911 Pickup from configuration 3, operand 140, scale 1, offset 0
141 Ex Da  72   5 : 1.944818e-006 Pickup from configuration 6, operand 141, scale 1, offset 0
142 Ex Da  72   6 :   9.7896e-006 Pickup from configuration 6, operand 142, scale 1, offset 0
143 Ex Da  72   7 : 4.362207e-006 Pickup from configuration 6, operand 143, scale 1, offset 0
144 Ex Da  72   8 : 6.526498e-008 Pickup from configuration 6, operand 144, scale 1, offset 0
145 Ex Da  72   9 : -1.962942e-007 Pickup from configuration 6, operand 145, scale 1, offset 0
146 Ex Da  72  10 :  2.22158e-008 Pickup from configuration 6, operand 146, scale 1, offset 0
147 Ex Da  72  11 : -2.49122e-008 Pickup from configuration 6, operand 147, scale 1, offset 0
148 Ap Type    72 :             4 Pickup from configuration 3, operand 148, scale 1, offset 0
149 Ap Min     72 :           155 Pickup from configuration 3, operand 149, scale 1, offset 0
150 Ap Max     72 :           170 Pickup from configuration 3, operand 150, scale 1, offset 0
151 Ap Dec X   72 :            21 Pickup from configuration 3, operand 151, scale -1, offset 0
152 Ap Dec Y   72 :             6 Pickup from configuration 3, operand 152, scale 1, offset 0
153 Thickness  74 :     -1070.501 Pickup from configuration 3, operand 153, scale 1, offset 0
154 Param 3    77 :             0 Pickup from configuration 3, operand 154, scale 1, offset 0
155 Param 4    77 :           1.3 Pickup from configuration 3, operand 155, scale -1, offset 0
156 Param 5    77 :             0 Pickup from configuration 3, operand 156, scale -1, offset 0
157 Glass      78 :                MIRROR
158 Ap Type    78 :             4 Pickup from configuration 3, operand 158, scale 1, offset 0
159 Ap Min     78 :            70 Pickup from configuration 3, operand 159, scale 1, offset 0
160 Ap Max     78 :            80 Pickup from configuration 3, operand 160, scale 1, offset 0
161 Ap Dec X   78 :            -1 Pickup from configuration 3, operand 161, scale -1, offset 0
162 Ap Dec Y   78 :           -15 Pickup from configuration 3, operand 162, scale 1, offset 0
163 Param 1    82 :     -54.36108 Pickup from configuration 3, operand 163, scale -1, offset 0
164 Param 2    82 :      53.28572 Pickup from configuration 3, operand 164, scale 1, offset 0
165 Thickness  83 :     -109.0664 Pickup from configuration 3, operand 165, scale 1, offset 0
166 Thickness  84 :        -2.293 Pickup from configuration 3, operand 166, scale 1, offset 0
167 Thickness  85 :     -133.0203 Pickup from configuration 1, operand 167, scale -1, offset 0
168 Thickness  86 :          2561 Pickup from configuration 1, operand 168, scale -1, offset 0
169 Param 3    87 :            22 Pickup from configuration 1, operand 169, scale -1, offset 0
170 Ex Da  88   5 : -0.0001024263 Pickup from configuration 3, operand 170, scale 1, offset 0
171 Ex Da  88   6 : 7.660798e-007 Pickup from configuration 3, operand 171, scale 1, offset 0
172 Ex Da  88   7 : -7.664986e-005 Pickup from configuration 3, operand 172, scale 1, offset 0
173 Ex Da  88   8 : 5.734925e-011 Pickup from configuration 3, operand 173, scale 1, offset 0
174 Ex Da  88   9 : -4.683853e-009 Pickup from configuration 3, operand 174, scale 1, offset 0
175 Ex Da  88  10 : 5.685189e-010 Pickup from configuration 3, operand 175, scale 1, offset 0
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176 Ex Da  88  11 : 4.839863e-009 Pickup from configuration 3, operand 176, scale 1, offset 0
177 Ex Da  88  12 : 2.369604e-012 Pickup from configuration 3, operand 177, scale 1, offset 0
178 Ex Da  88  13 : -7.325434e-013 Pickup from configuration 3, operand 178, scale 1, offset 0
179 Ex Da  88  14 : 5.942096e-013 Pickup from configuration 3, operand 179, scale 1, offset 0
180 Ex Da  88  15 : -1.408657e-012 Pickup from configuration 3, operand 180, scale 1, offset 0
181 Ex Da  88  16 : -1.929673e-012 Pickup from configuration 3, operand 181, scale 1, offset 0
182 Thickness  89 :         -1900 Pickup from configuration 3, operand 182, scale 1, offset 0
183 Thickness  90 :         -1900 Pickup from configuration 3, operand 183, scale 1, offset 0
184 Param 3    91 :           -25 Pickup from configuration 1, operand 184, scale -1, offset 0
185 Ex Da  92   5 :  0.0002530622 Pickup from configuration 3, operand 185, scale 1, offset 0
186 Ex Da  92   6 : -1.490352e-006 Pickup from configuration 3, operand 186, scale 1, offset 0
187 Ex Da  92   7 :  0.0001743294 Pickup from configuration 3, operand 187, scale 1, offset 0
188 Ex Da  92   8 : 1.765386e-009 Pickup from configuration 3, operand 188, scale 1, offset 0
189 Ex Da  92   9 : 8.672591e-008 Pickup from configuration 3, operand 189, scale 1, offset 0
190 Ex Da  92  10 : 5.506373e-011 Pickup from configuration 3, operand 190, scale 1, offset 0
191 Ex Da  92  11 : 2.390401e-008 Pickup from configuration 3, operand 191, scale 1, offset 0
192 Ex Da  92  12 : -3.160465e-011 Pickup from configuration 3, operand 192, scale 1, offset 0
193 Ex Da  92  13 : -2.143139e-013 Pickup from configuration 3, operand 193, scale 1, offset 0
194 Ex Da  92  14 : -1.643454e-011 Pickup from configuration 3, operand 194, scale 1, offset 0
195 Ex Da  92  15 : -1.015372e-012 Pickup from configuration 3, operand 195, scale 1, offset 0
196 Ex Da  92  16 : -8.013021e-012 Pickup from configuration 3, operand 196, scale 1, offset 0
197 Thickness  93 :      985.7868 Pickup from configuration 3, operand 197, scale 1, offset 0
198 Thickness  95 :             8 Pickup from configuration 3, operand 198, scale 1, offset 0
199 Curvature  95 : -4.258615e-005 Pickup from configuration 3, operand 199, scale 1, offset 0
200 Curvature  96 : -4.256802e-005 Pickup from configuration 3, operand 200, scale 1, offset 0
201 Ex Da  95   3 :       0.00405 Pickup from configuration 3, operand 201, scale 1, offset 0
202 Ex Da  95   4 :       0.00405 Pickup from configuration 3, operand 202, scale 1, offset 0
203 Ex Da  96   3 :       0.00405 Pickup from configuration 3, operand 203, scale 1, offset 0
204 Ex Da  96   4 :       0.00405 Pickup from configuration 3, operand 204, scale 1, offset 0
205 Thickness  97 :            75 Pickup from configuration 3, operand 205, scale 1, offset 0
206 Thickness  98 :           0.5 Pickup from configuration 3, operand 206, scale 1, offset 0
207 Thickness  99 :           8.1 Pickup from configuration 3, operand 207, scale 1, offset 0
208 Thickness 100 :           0.5 Pickup from configuration 3, operand 208, scale 1, offset 0
209 Thickness 101 :            14 Pickup from configuration 3, operand 209, scale 1, offset 0
210 Thickness 102 :           0.5 Pickup from configuration 3, operand 210, scale 1, offset 0
211 Thickness 103 :        14.695 Pickup from configuration 3, operand 211, scale 1, offset 0
212 Thickness 104 :           0.5 Pickup from configuration 3, operand 212, scale 1, offset 0
213 Thickness 105 :       203.805 Pickup from configuration 3, operand 213, scale 1, offset 0
214 Param 3   106 :          45.5 Pickup from configuration 3, operand 214, scale 1, offset 0
215 Ex Da 107   5 : 9.600116e-005 Pickup from configuration 3, operand 215, scale 1, offset 0
216 Ex Da 107   6 : -3.23368e-006 Pickup from configuration 3, operand 216, scale 1, offset 0
217 Ex Da 107   7 : 1.086295e-006 Pickup from configuration 3, operand 217, scale 1, offset 0
218 Ex Da 107   8 : -2.181064e-008 Pickup from configuration 3, operand 218, scale 1, offset 0
219 Ex Da 107   9 : -3.197905e-007 Pickup from configuration 3, operand 219, scale 1, offset 0
220 Ex Da 107  10 : 2.310459e-008 Pickup from configuration 3, operand 220, scale 1, offset 0
221 Ex Da 107  11 : -1.09359e-008 Pickup from configuration 3, operand 221, scale 1, offset 0
222 Ex Da 107  12 : -9.82371e-010 Pickup from configuration 3, operand 222, scale 1, offset 0
223 Ex Da 107  13 : -1.224992e-010 Pickup from configuration 3, operand 223, scale 1, offset 0
224 Ex Da 107  14 : -2.386246e-009 Pickup from configuration 3, operand 224, scale 1, offset 0
225 Ex Da 107  15 : 3.865981e-010 Pickup from configuration 3, operand 225, scale 1, offset 0
226 Ex Da 107  16 : 2.185356e-009 Pickup from configuration 3, operand 226, scale 1, offset 0
227 Thickness 108 :         -1021 Pickup from configuration 3, operand 227, scale 1, offset 0
228 Param 3   109 :         -12.8 Pickup from configuration 3, operand 228, scale 1, offset 0
229 Ex Da 110   5 :  0.0002894571 Pickup from configuration 3, operand 229, scale 1, offset 0
230 Ex Da 110   6 :  8.48145e-007 Pickup from configuration 3, operand 230, scale 1, offset 0
231 Ex Da 110   7 :  0.0002951528 Pickup from configuration 3, operand 231, scale 1, offset 0
232 Ex Da 110   8 : -3.916696e-010 Pickup from configuration 3, operand 232, scale 1, offset 0
233 Ex Da 110   9 : -7.385289e-009 Pickup from configuration 3, operand 233, scale 1, offset 0
234 Ex Da 110  10 : -5.729502e-010 Pickup from configuration 3, operand 234, scale 1, offset 0
235 Ex Da 110  11 : -2.06668e-008 Pickup from configuration 3, operand 235, scale 1, offset 0
236 Ex Da 110  12 :  1.13941e-011 Pickup from configuration 3, operand 236, scale 1, offset 0
237 Ex Da 110  13 : 2.597312e-013 Pickup from configuration 3, operand 237, scale 1, offset 0
238 Ex Da 110  14 : 2.570157e-011 Pickup from configuration 3, operand 238, scale 1, offset 0
239 Ex Da 110  15 : -3.18217e-012 Pickup from configuration 3, operand 239, scale 1, offset 0
240 Ex Da 110  16 : 4.878962e-014 Pickup from configuration 3, operand 240, scale 1, offset 0
241 Thickness 111 :          1520 Pickup from configuration 3, operand 241, scale 1, offset 0
242 Param 3   112 :            28 Pickup from configuration 3, operand 242, scale 1, offset 0
243 Ex Da 113   5 : -0.0002988885 Pickup from configuration 3, operand 243, scale 1, offset 0
244 Ex Da 113   6 : -4.544015e-006 Pickup from configuration 3, operand 244, scale 1, offset 0
245 Ex Da 113   7 : -0.0003184067 Pickup from configuration 3, operand 245, scale 1, offset 0
246 Ex Da 113   8 : -9.629461e-009 Pickup from configuration 3, operand 246, scale 1, offset 0
247 Ex Da 113   9 : -3.593217e-007 Pickup from configuration 3, operand 247, scale 1, offset 0
248 Ex Da 113  10 : -3.613771e-009 Pickup from configuration 3, operand 248, scale 1, offset 0
249 Ex Da 113  11 : -1.195106e-007 Pickup from configuration 3, operand 249, scale 1, offset 0
250 Ex Da 113  12 : -7.762863e-011 Pickup from configuration 3, operand 250, scale 1, offset 0
251 Ex Da 113  13 : -6.030137e-012 Pickup from configuration 3, operand 251, scale 1, offset 0
252 Ex Da 113  14 : -2.607283e-010 Pickup from configuration 3, operand 252, scale 1, offset 0
253 Ex Da 113  15 : -5.49558e-012 Pickup from configuration 3, operand 253, scale 1, offset 0
254 Ex Da 113  16 : -4.892937e-011 Pickup from configuration 3, operand 254, scale 1, offset 0
255 Thickness 114 :          -380 Pickup from configuration 3, operand 255, scale 1, offset 0
256 Thickness 115 :          -260 Pickup from configuration 3, operand 256, scale 1, offset 0

GLOBAL VERTEX COORDINATES, ORIENTATIONS, AND ROTATION/OFFSET MATRICES:

Reference Surface: 13

Surf          R11             R12             R13               X
              R21             R22             R23               Y
              R31             R32             R33               Z

  1   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
      0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
      0.0000000000   0.0000000000   1.0000000000  7.681748192E+003

  2   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 FIELD DEROTATE
      0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
```

```
     0.0000000000   0.0000000000   1.0000000000  7.681748192E+003

 3   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 pellicle
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.681748192E+003

 4   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.681748192E+003

 5   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 PRIMARY
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  2.281748192E+003

 6   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.415651083E+003

 7   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.544251083E+003

 8   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 CHOPPING
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.544251083E+003

 9   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 SECONDARY
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.415655821E+003

10   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 REMOVE CHOPPING
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.544251083E+003

11   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  7.415651083E+003

12   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 PRIME VERTEX
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  2.281748192E+003

13   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 REFERENCE
     0.0000000000   1.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000000000   1.0000000000  0.000000000E+000

14   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.7448991945  -0.6671770305  0.000000000E+000
     0.0000000000   0.6671770305   0.7448991945  0.000000000E+000

15   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 TERTIARY
     0.0000000000   0.7448991945  -0.6671770305  0.000000000E+000
     0.0000000000   0.6671770305   0.7448991945  0.000000000E+000

16   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.1097496200  -0.9939592652  0.000000000E+000
     0.0000000000   0.9939592652   0.1097496200  0.000000000E+000

17   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.1097496200  -0.9939592652 -1.306766130E+003
     0.0000000000   0.9939592652   0.1097496200  1.442886960E+002

18   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.8979607383  -0.4400755759 -1.306766130E+003
     0.0000000000   0.4400755759   0.8979607383  1.442886960E+002

19   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 C1
     0.0000000000   0.8979607383  -0.4400755759 -1.306766130E+003
     0.0000000000   0.4400755759   0.8979607383  1.442886960E+002

20   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.8528069043   0.5222263724 -1.306766130E+003
     0.0000000000  -0.5222263724   0.8528069043  1.442886960E+002

21   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.9669309102   0.2550384578 -2.191446056E+003
     0.0000000000  -0.2550384578   0.9669309102 -1.300412662E+003

22   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 C2
     0.0000000000   0.9669309102   0.2550384578 -2.191446056E+003
     0.0000000000  -0.2550384578   0.9669309102 -1.300412662E+003

23   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.9994327289  -0.0336781890 -2.191446056E+003
     0.0000000000   0.0336781890   0.9994327289 -1.300412662E+003

24   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.7189158605   0.6950971051 -2.235266548E+003
     0.0000000000  -0.6950971051   0.7189158605  2.669661595E-003

25   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 C3
     0.0000000000   0.7189158605   0.6950971051 -2.235266548E+003
     0.0000000000  -0.6950971051   0.7189158605  2.669661595E-003

26   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000
     0.0000000000   0.0000018409   1.0000000000 -2.235266548E+003
```

```
     0.0000000000  -1.0000000000   0.0000018409  2.669661595E-003

27   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 SKY DEROTATION
     0.0000000000   0.0000018409   1.0000000000 -2.684246206E+003
     0.0000000000  -1.0000000000   0.0000018409  1.843123348E-003

28   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 BEARING
     0.0000000000   0.0000018409   1.0000000000 -2.684246206E+003
     0.0000000000  -1.0000000000   0.0000018409  1.843123348E-003

29   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 BEARING
     0.0000000000   0.0000018409   1.0000000000 -4.199246206E+003
     0.0000000000  -1.0000000000   0.0000018409 -9.458792724E-004

30   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 IFTS Input
     0.0000000000   0.0000018409   1.0000000000 -4.199246206E+003
     0.0000000000  -1.0000000000   0.0000018409 -9.458792724E-004

31   1.0000000000   0.0000000000   0.0000000000  0.000000000E+000 image
     0.0000000000   0.0000018409   1.0000000000 -4.332266548E+003
     0.0000000000  -1.0000000000   0.0000018409 -1.190759854E-003

32   1.0000000000   0.0000000000   0.0000000000  5.436107504E+001 Decenter
     0.0000000000   0.0000018409   1.0000000000 -4.332266646E+003
     0.0000000000  -1.0000000000   0.0000018409  5.328452649E+001

33   0.7071067812   0.0000000000   0.7071067812  5.436107504E+001 Element Tilt
    -0.7071067812   0.0000018409   0.7071067812 -4.332266646E+003
    -0.0000013017  -1.0000000000   0.0000013017  5.328452649E+001

34   0.7071067812   0.0000000000   0.7071067812  5.436107504E+001 Element Tilt
    -0.7071067812   0.0000018409   0.7071067812 -4.332266646E+003
    -0.0000013017  -1.0000000000   0.0000013017  5.328452649E+001

35   0.7071067812   0.0000000000   0.7071067812  5.436107504E+001 PO1
    -0.7071067812   0.0000018409   0.7071067812 -4.332266646E+003
    -0.0000013017  -1.0000000000   0.0000013017  5.328452649E+001

36   0.7071067812   0.0000000000   0.7071067812  5.436107504E+001 Element Tilt
    -0.7071067812   0.0000018409   0.7071067812 -4.332266646E+003
    -0.0000013017  -1.0000000000   0.0000013017  5.328452649E+001

37   0.0000000000   0.0000000000   1.0000000000  5.436107504E+001 Element Tilt
    -1.0000000000   0.0000018409   0.0000000000 -4.332266646E+003
    -0.0000018409  -1.0000000000   0.0000000000  5.328452649E+001

38   0.0000000000   0.0000000000   1.0000000000  5.436107504E+001 Element Tilt
    -1.0000000000   0.0000018409   0.0000000000 -4.332266646E+003
    -0.0000018409  -1.0000000000   0.0000000000  5.328452649E+001

39   0.0000000000   0.0000000000   1.0000000000  5.436107504E+001 vertical dummy
    -1.0000000000   0.0000018409   0.0000000000 -4.332266646E+003
    -0.0000018409  -1.0000000000   0.0000000000  5.328452649E+001

40   0.0000000000   0.0000000000   1.0000000000  5.436107504E+001
    -1.0000000000   0.0000018409   0.0000000000 -4.332266646E+003
    -0.0000018409  -1.0000000000   0.0000000000  5.328452649E+001

41   0.0000000000   0.1588048885   0.9873099855  1.101523027E+003
    -1.0000000000   0.0000018176  -0.0000002923 -4.332266646E+003
    -0.0000018409  -0.9873099855   0.1588048885  5.328452649E+001

42   0.0000000000   0.1588048885   0.9873099855  1.101523027E+003 FM2_1
    -1.0000000000   0.0000018176  -0.0000002923 -4.332266646E+003
    -0.0000018409  -0.9873099855   0.1588048885  5.328452649E+001

43   0.0000000000   0.3135793044   0.9495620148  1.101523027E+003
    -1.0000000000   0.0000017481  -0.0000005773 -4.332266646E+003
    -0.0000018409  -0.9495620148   0.3135793044  5.328452649E+001

44   0.0000000000   0.0000000000   1.0000000000 -2.776110984E-002 return BS to vertical
    -1.0000000000   0.0000018409   0.0000000000 -4.332265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104869013E+002

45   0.0000000000   0.0000000000   1.0000000000 -2.776110984E-002 return BS to vertical
    -1.0000000000   0.0000018409   0.0000000000 -4.332265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104869013E+002

46   0.0000000000   0.0000000000   1.0000000000 -2.776110984E-002 BS
    -1.0000000000   0.0000018409   0.0000000000 -4.332265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104869013E+002

47   0.0000000000   0.0000000000   1.0000000000 -2.776110984E-002
    -1.0000000000   0.0000018409   0.0000000000 -4.332265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104869013E+002

48   0.0000000000   0.3135793044   0.9495620148 -2.776110984E-002
    -1.0000000000   0.0000017481  -0.0000005773 -4.332265976E+003
    -0.0000018409  -0.9495620148   0.3135793044 -3.104869013E+002

49   0.0000000000   0.3135793044   0.9495620148 -3.606422394E+002 focus
    -1.0000000000   0.0000017481  -0.0000005773 -4.332265757E+003
    -0.0000018409  -0.9495620148   0.3135793044 -4.295746865E+002

50   0.0000000000   0.1588048885   0.9873099855 -8.849484784E+002
    -1.0000000000   0.0000018176  -0.0000002923 -4.332265438E+003
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    -0.0000018409  -0.9873099855   0.1588048885 -6.027193397E+002

51   0.0000000000   0.1588048885   0.9873099855 -8.849484784E+002 FM1_3
    -1.0000000000   0.0000018176  -0.0000002923 -4.332265438E+003
    -0.0000018409  -0.9873099855   0.1588048885 -6.027193397E+002

52   0.0000000000   0.0000000000   1.0000000000 -8.849484784E+002
    -1.0000000000   0.0000018409   0.0000000000 -4.332265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027193397E+002

53   0.0000000000   0.0000000000   1.0000000000 -8.849484784E+002
    -1.0000000000   0.0000018409   0.0000000000 -4.332265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027193397E+002

54   0.0000000000   0.0000000000   1.0000000000 -4.149577344E+002 travel
    -1.0000000000   0.0000018409   0.0000000000 -4.332265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027193397E+002

55   0.0000000000   0.0000000000   1.0000000000 -4.149577344E+002
    -1.0000000000   0.0000018409   0.0000000000 -4.499265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027196471E+002

56   0.0000000000   0.0000000000   1.0000000000 -4.149577344E+002
    -1.0000000000   0.0000018409   0.0000000000 -4.499265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027196471E+002

57   0.0000000000   0.0000000000   1.0000000000 -4.149577344E+002
    -1.0000000000   0.0000018409   0.0000000000 -4.499265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027196471E+002

    NSC Object 1:
    -0.0000000000  -0.0000000000   1.0000000000 -4.149577344E+002
    -0.0000018409  -1.0000000000  -0.0000000000 -4.499265438E+003
     1.0000000000  -0.0000018409   0.0000000000 -6.027196471E+002

    NSC Object 2:
    -0.5000000000  -0.7071067812  -0.5000000000  3.504226561E+001
    -0.5000013017   0.7071067812  -0.4999986983 -4.499265438E+003
     0.7071058607   0.0000013017  -0.7071077016 -6.027196471E+002

    NSC Object 3:
     0.0000000000  -0.0000000000   1.0000000000 -4.149577344E+002
     1.0000000000  -0.0000018409  -0.0000000000 -4.499265438E+003
     0.0000018409   1.0000000000   0.0000000000 -6.027196471E+002

    NSC Object 4:
    -0.0000000000  -0.7071067812   0.7071067812  3.504226561E+001
    -0.0000018409  -0.7071067812  -0.7071067812 -4.499265438E+003
     1.0000000000  -0.0000013017  -0.0000013017 -6.027196471E+002

    NSC Object 5:
    -0.7071067812  -0.0000000000   0.7071067812  3.504226561E+001
     0.7071067812  -0.0000018409   0.7071067812 -4.499265438E+003
     0.0000013017   1.0000000000   0.0000013017 -6.027196471E+002

    NSC Object 6:
    -0.0000000000  -0.7071067812   0.7071067812 -1.275922941E+002
    -0.0000018409  -0.7071067812  -0.7071067812 -4.661899998E+003
     1.0000000000  -0.0000013017  -0.0000013017 -6.027199465E+002

    NSC Object 7:
    -0.5000000000  -0.7071067812   0.5000000000 -1.894641374E+002
     0.4999986983  -0.7071067812  -0.5000013017 -4.670738902E+003
     0.7071077016  -0.0000013017   0.7071058607 -5.652199628E+002

    NSC Object 8:
     0.5000000000  -0.7071067812   0.5000000000 -1.840901259E+002
    -0.5000013017  -0.7071067812  -0.4999986983 -4.676112789E+003
     0.7071058607  -0.0000013017  -0.7071077016 -6.326199726E+002

    NSC Object 9:
     0.0000000000   0.7071067812   0.7071067812 -1.488054975E+002
    -0.0000018409  -0.7071067812   0.7071067812 -4.315417666E+003
     1.0000000000  -0.0000013017   0.0000013017 -6.077193086E+002

58   0.0000000000   0.0000000000   1.0000000000 -4.149577354E+002
    -1.0000000000   0.0000018409   0.0000000000 -4.499265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027196471E+002

59   0.0000000000   0.0000000000   1.0000000000 -4.149577344E+002
    -1.0000000000   0.0000018409   0.0000000000 -4.666265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027199545E+002

60   0.0000000000   0.0000000000   1.0000000000 -8.849484784E+002 travel
    -1.0000000000   0.0000018409   0.0000000000 -4.666265438E+003
    -0.0000018409  -1.0000000000   0.0000000000 -6.027199545E+002

61   0.0000000000   0.1588048885   0.9873099855 -8.849484784E+002
    -1.0000000000   0.0000018176  -0.0000002923 -4.666265438E+003
    -0.0000018409  -0.9873099855   0.1588048885 -6.027199545E+002

62   0.0000000000   0.1588048885   0.9873099855 -8.849484784E+002 FM1_4
    -1.0000000000   0.0000018176  -0.0000002923 -4.666265438E+003
    -0.0000018409  -0.9873099855   0.1588048885 -6.027199545E+002

63   0.0000000000   0.3135793044   0.9495620148 -8.849484784E+002
```

```
    -1.0000000000   0.0000017481  -0.0000005773 -4.666265438E+003
    -0.0000018409  -0.9495620148   0.3135793044 -6.027199545E+002

64   0.0000000000   0.3135793044   0.9495620148 -8.849484784E+002
    -1.0000000000   0.0000017481  -0.0000005773 -4.666265438E+003
    -0.0000018409  -0.9495620148   0.3135793044 -6.027199545E+002

65   0.0000000000   0.0000000000   1.0000000000 -6.036683474E-003
    -1.0000000000   0.0000018409   0.0000000000 -4.666265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104803420E+002

66   0.0000000000   0.0000000000   1.0000000000 -6.036683474E-003
    -1.0000000000   0.0000018409   0.0000000000 -4.666265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104803420E+002

67   0.0000000000   0.0000000000   1.0000000000 -6.036683474E-003 BS
    -1.0000000000   0.0000018409   0.0000000000 -4.666265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104803420E+002

68   0.0000000000   0.0000000000   1.0000000000 -6.036683474E-003
    -1.0000000000   0.0000018409   0.0000000000 -4.666265976E+003
    -0.0000018409  -1.0000000000   0.0000000000 -3.104803420E+002

69   0.0000000000   0.3135793044   0.9495620148 -6.036683474E-003
    -1.0000000000   0.0000017481  -0.0000005773 -4.666265976E+003
    -0.0000018409  -0.9495620148   0.3135793044 -3.104803420E+002

70   0.0000000000   0.3135793044   0.9495620148 -6.036683474E-003
    -1.0000000000   0.0000017481  -0.0000005773 -4.666265976E+003
    -0.0000018409  -0.9495620148   0.3135793044 -3.104803420E+002

71  -0.1045261182   0.1587881437   0.9817640328  1.101521552E+003
    -0.9944867375  -0.0083587203  -0.1045287556 -4.666266646E+003
    -0.0083916361  -0.9872772950   0.1587864075  5.328342462E+001

72  -0.1045261182   0.1587881437   0.9817640328  1.101521552E+003 FM2_2
    -0.9944867375  -0.0083587203  -0.1045287556 -4.666266646E+003
    -0.0083916361  -0.9872772950   0.1587864075  5.328342462E+001

73  -0.2079163980  -0.0000210091   0.9781466000  1.101521552E+003
    -0.9781465998   0.0000334789  -0.2079163972 -4.666266646E+003
    -0.0000283791  -0.9999999992  -0.0000275108  5.328342462E+001

74  -0.2079163980  -0.0000210091   0.9781466000  1.101521552E+003
    -0.9781465998   0.0000334789  -0.2079163972 -4.666266646E+003
    -0.0000283791  -0.9999999992  -0.0000275108  5.328342462E+001

75  -0.8386731888  -0.0000210091   0.5446349989  5.441447247E+001 Element Tilt
    -0.5446349993   0.0000334789  -0.8386731881 -4.443691899E+003
    -0.0000006140  -0.9999999992  -0.0000395201  5.331287496E+001

76  -0.7771489898  -0.0000210091   0.6293166510  5.441447247E+001
    -0.6293166513   0.0000334789  -0.7771489891 -4.443691899E+003
    -0.0000047416  -0.9999999992  -0.0000392395  5.331287496E+001

77  -0.7626714421  -0.0000210091   0.6467861091  5.441447247E+001 Element Tilt
    -0.6467861094   0.0000334789  -0.7626714414 -4.443691899E+003
    -0.0000056306  -0.9999999992  -0.0000391218  5.331287496E+001

78  -0.7626714421  -0.0000210091   0.6467861091  5.441447247E+001 PO2
    -0.6467861094   0.0000334789  -0.7626714414 -4.443691899E+003
    -0.0000056306  -0.9999999992  -0.0000391218  5.331287496E+001

79  -0.7771489898  -0.0000210091   0.6293166510  5.441447247E+001 Element Tilt
    -0.6293166513   0.0000334789  -0.7771489891 -4.443691899E+003
    -0.0000047416  -0.9999999992  -0.0000392395  5.331287496E+001

80  -0.7071101839  -0.0000210091   0.7071033782  5.441447247E+001
    -0.7071033784   0.0000334789  -0.7071101832 -4.443691899E+003
    -0.0000088173  -0.9999999992  -0.0000385289  5.331287496E+001

81  -0.9999999998  -0.0000210091  -0.0000048124  5.441447247E+001 Element Tilt
     0.0000048117   0.0000334789  -0.9999999994 -4.443691899E+003
     0.0000210093  -0.9999999992  -0.0000334788  5.331287496E+001

82  -0.9999999998  -0.0000210091  -0.0000048124  5.227794919E-002 Decenter
     0.0000048117   0.0000334789  -0.9999999994 -4.443689854E+003
     0.0000210093  -0.9999999992  -0.0000334788  2.829984253E-002

83  -0.9999999998  -0.0000210091  -0.0000048124  5.227794919E-002
     0.0000048117   0.0000334789  -0.9999999994 -4.443689854E+003
     0.0000210093  -0.9999999992  -0.0000334788  2.829984253E-002

84  -0.9999999998  -0.0000210091  -0.0000048124  5.280281901E-002 Desired image
     0.0000048117   0.0000334789  -0.9999999994 -4.334623438E+003
     0.0000210093  -0.9999999992  -0.0000334788  3.195125309E-002

85  -0.9999999998  -0.0000210091  -0.0000048124  5.281385382E-002 IFTS Output
     0.0000048117   0.0000334789  -0.9999999994 -4.332330438E+003
     0.0000210093  -0.9999999992  -0.0000334788  3.202801994E-002

86  -0.9999999998  -0.0000210091  -0.0000048124  5.345399920E-002 BEARING
     0.0000048117   0.0000334789  -0.9999999994 -4.199310097E+003
     0.0000210093  -0.9999999992  -0.0000334788  3.648137871E-002

87  -0.9999999998  -0.0000212821   0.0000034082  4.112947562E-002
```

```
      0.0000048117  -0.3745755521  -0.9271963954 -6.760310095E+003
      0.0000210093  -0.9271963952   0.3745755521 -4.925777745E-002

 88  -0.9999999998  -0.0000212821   0.0000034082  4.112947562E-002 N1
      0.0000048117  -0.3745755521  -0.9271963954 -6.760310095E+003
      0.0000210093  -0.9271963952   0.3745755521 -4.925777745E-002

 89  -0.9999999998  -0.0000184557   0.0000111324  4.112947562E-002
      0.0000048117  -0.6946342874  -0.7193630563 -6.760310095E+003
      0.0000210093  -0.7193630561   0.6946342873 -4.925777745E-002

 90  -0.9999999998  -0.0000184557   0.0000111324  1.997788641E-002
      0.0000048117  -0.6946342874  -0.7193630563 -5.393520288E+003
      0.0000210093  -0.7193630561   0.6946342873 -1.319854404E+003

 91  -0.9999999998  -0.0000214313   0.0000022897 -1.173702805E-003
      0.0000048117  -0.3255364994  -0.9455294747 -4.026730481E+003
      0.0000210093  -0.9455294745   0.3255364994 -2.639659550E+003

 92  -0.9999999998  -0.0000214313   0.0000022897 -1.173702805E-003 N2
      0.0000048117  -0.3255364994  -0.9455294747 -4.026730481E+003
      0.0000210093  -0.9455294745   0.3255364994 -2.639659550E+003

 93  -0.9999999998  -0.0000203910  -0.0000069821 -1.173702805E-003
      0.0000048117   0.1045617587  -0.9945183953 -4.026730481E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.639659550E+003

 94  -0.9999999998  -0.0000203910  -0.0000069821 -8.056540205E-003
      0.0000048117   0.1045617587  -0.9945183953 -5.007113613E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.742735154E+003

 95  -0.9999999998  -0.0000203910  -0.0000069821 -8.056540205E-003 WINDOW
      0.0000048117   0.1045617587  -0.9945183953 -5.007113613E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.742735154E+003

 96  -0.9999999998  -0.0000203910  -0.0000069821 -8.112396804E-003
      0.0000048117   0.1045617587  -0.9945183953 -5.015069761E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.743571648E+003

 97  -0.9999999998  -0.0000203910  -0.0000069821 -8.112396804E-003
      0.0000048117   0.1045617587  -0.9945183953 -5.015069761E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.743571648E+003

 98  -0.9999999998  -0.0000203910  -0.0000069821 -8.636052417E-003 60K FILTER
      0.0000048117   0.1045617587  -0.9945183953 -5.089658640E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.751413780E+003

 99  -0.9999999998  -0.0000203910  -0.0000069821 -8.639543454E-003
      0.0000048117   0.1045617587  -0.9945183953 -5.090155899E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.751466060E+003

100  -0.9999999998  -0.0000203910  -0.0000069821 -8.696098261E-003 60K FILTER
      0.0000048117   0.1045617587  -0.9945183953 -5.098211498E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.752313011E+003

101  -0.9999999998  -0.0000203910  -0.0000069821 -8.699589298E-003
      0.0000048117   0.1045617587  -0.9945183953 -5.098708758E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.752365292E+003

102  -0.9999999998  -0.0000203910  -0.0000069821 -8.797338346E-003 60K FILTER
      0.0000048117   0.1045617587  -0.9945183953 -5.112632015E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.753829156E+003

103  -0.9999999998  -0.0000203910  -0.0000069821 -8.800829383E-003
      0.0000048117   0.1045617587  -0.9945183953 -5.113129274E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.753881437E+003

104  -0.9999999998  -0.0000203910  -0.0000069821 -8.903430973E-003 4K FILTER
      0.0000048117   0.1045617587  -0.9945183953 -5.127743722E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.755417972E+003

105  -0.9999999998  -0.0000203910  -0.0000069821 -8.906922011E-003
      0.0000048117   0.1045617587  -0.9945183953 -5.128240981E+003
      0.0000210093  -0.9945183951  -0.1045617586 -2.755470253E+003

106  -0.9999999998  -0.0000192722   0.0000096501 -1.032990377E-002
      0.0000048117  -0.6360523868  -0.7716458781 -5.330928803E+003
      0.0000210093  -0.7716458779   0.6360523867 -2.776780462E+003

107  -0.9999999998  -0.0000192722   0.0000096501 -1.032990377E-002 N3
      0.0000048117  -0.6360523868  -0.7716458781 -5.330928803E+003
      0.0000210093  -0.7716458779   0.6360523867 -2.776780462E+003

108  -0.9999999998  -0.0000066251   0.0000205097 -1.032990377E-002
      0.0000048117  -0.9961917796  -0.0871890942 -5.330928803E+003
      0.0000210093  -0.0871890941   0.9961917794 -2.776780462E+003

109  -0.9999999998  -0.0000110044   0.0000185323 -3.127034930E-002
      0.0000048117  -0.9521191579  -0.3057271810 -5.241908738E+003
      0.0000210093  -0.3057271809   0.9521191577 -3.793892269E+003

110  -0.9999999998  -0.0000110044   0.0000185323 -3.127034930E-002 N4
      0.0000048117  -0.9521191579  -0.3057271810 -5.241908738E+003
      0.0000210093  -0.3057271809   0.9521191577 -3.793892269E+003

111  -0.9999999998  -0.0000148367   0.0000156337 -3.127034930E-002
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       0.0000048117  -0.8607249844  -0.5090702321 -5.241908738E+003
       0.0000210093  -0.5090702319   0.8607249842 -3.793892269E+003

112  -0.9999999998  -0.0000057605   0.0000207692 -7.507090146E-003
       0.0000048117  -0.9989690505  -0.0453964325 -6.015695491E+003
       0.0000210093  -0.0453964324   0.9989690503 -2.485590293E+003

113  -0.9999999998  -0.0000057605   0.0000207692 -7.507090146E-003 N5
       0.0000048117  -0.9989690505  -0.0453964325 -6.015695491E+003
       0.0000210093  -0.0453964324   0.9989690503 -2.485590293E+003

114  -0.9999999998   0.0000046643   0.0000210425 -7.507090146E-003
       0.0000048117  -0.9033496526   0.4289048905 -6.015695491E+003
       0.0000210093   0.4289048905   0.9033496524 -2.485590293E+003

115  -0.9999999998   0.0000046643   0.0000210425 -1.550323112E-002 COLD STOP
       0.0000048117  -0.9033496526   0.4289048905 -6.178679349E+003
       0.0000210093   0.4289048905   0.9033496524 -2.828863161E+003

116  -0.9999999998   0.0000046643   0.0000210425 -2.097427494E-002 IMAGE
       0.0000048117  -0.9033496526   0.4289048905 -6.290194621E+003
       0.0000210093   0.4289048905   0.9033496524 -3.063734070E+003
```