

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/17/71 PAGE 407

MISSION/
FRAME NO.
5007

TIME 670506
YR.MO.DY 670506
PR.MI.SEC 1122 8.02

S/C POSITION
ALT 2651.93 KM
TILT RT 0.6595 KM/SEC
LAT 58.88 DEG
LONG -81.13 DEG

S/C ORIENTATION
TILT ANG 9.66 DEG
TILT AZIM 285.34 DEG
SWING ANG 89.71 DEG
N.DEV. 9.61 DEG

PHOTO ILLUMINATION
SUN AZIM 259.78 DEG
INCID ANG 82.31 DEG
EMISS ANG 25.10 DEG
PHASE ANG 107.41 DEG
ALPHA -25.10 DEG

PRINCIPAL POINT
LATITUDE 59.49 DEG
LONGITUDE -111.50 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 52.24 DEG AB 691.1 KM
A LONG 38.59 DEG BC 716.7 KM
B LAT 3.29 DEG CD 998.3 KM
B LONG -74.56 DEG DA 714.3 KM
C LAT -2.14 DEG TILT DISTANCE 13.5
C LONG -111.79 DEG
D LAT 67.39 DEG
D LONG 88.79 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 76.64 DEG AB 999.4 KM
A LONG -110.41 DEG BC 292.7 KM
B LAT 43.34 DEG CD 049.4 KM
B LONG -102.73 DEG DA 292.5 KM
C LAT 40.98 DEG TILT DISTANCE 03.6
C LONG -115.39 DEG
D LAT 73.05 DEG
D LONG -145.29 DEG

MISSION/
FRAME NO.
5008

TIME 670506
YR.MO.DY 670506
PR.MI.SEC 1122 8.02

S/C POSITION
ALT 2651.93 KM
TILT RT 0.6595 KM/SEC
LAT 58.88 DEG
LONG -81.13 DEG

S/C ORIENTATION
TILT ANG 9.66 DEG
TILT AZIM 285.34 DEG
SWING ANG 89.71 DEG
N.DEV. 9.61 DEG

PHOTO ILLUMINATION
SUN AZIM 259.78 DEG
INCID ANG 82.31 DEG
EMISS ANG 25.10 DEG
PHASE ANG 107.41 DEG
ALPHA -25.10 DEG

PRINCIPAL POINT
LATITUDE 59.49 DEG
LONGITUDE -111.50 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 52.24 DEG AB 691.1 KM
A LONG 38.59 DEG BC 716.7 KM
B LAT 3.29 DEG CD 998.3 KM
B LONG -74.56 DEG DA 714.3 KM
C LAT -2.14 DEG TILT DISTANCE 13.5
C LONG -111.79 DEG
D LAT 67.39 DEG
D LONG 88.79 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 76.64 DEG AB 999.4 KM
A LONG -110.41 DEG BC 292.7 KM
B LAT 43.34 DEG CD 049.4 KM
B LONG -102.73 DEG DA 292.5 KM
C LAT 40.98 DEG TILT DISTANCE 03.6
C LONG -115.39 DEG
D LAT 73.05 DEG
D LONG -145.29 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 478

MISSION/
FRAME NO.

5009 YR.NO.DY
HR.MI.SEC

TIME
670806 112213.40

S/C POSITION
ALT 2653.70 KM
ALT PT 9.6591 KM/SEC
LAT 58.85 DEG
LONG -81.12 DEG

S/C ORIENTATION
TILT ANG 9.65 DEG
TILT AZIM 285.19 DEG
SWING ANG 89.54 DEG
N.DEV. 9.52 DEG

PHOTO ILLUMINATION
SUN AZIM 259.85 DEG
INCID ANG 82.34 DEG
EMISS ANG 25.37 DEG
PHASE ANG 107.41 DEG
ALPHA -25.27 DEG

PRINCIPAL POINT
LATITUDE 59.43 DEG
LONGITUDE -111.43 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 52.47 DEG AB 639.6 KM
A LONG 38.36 DEG BC 732.8 KM
B LAT 2.27 DEG CD 591.3 KM
B LONG -74.52 DEG DA 716.8 KM
C LAT -1.97 DEG TILT DISTANCE
C LONG -111.45 DEG 13.5
D LAT 67.58 DEG
D LONG 88.68 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 76.52 DEG AB 063.6 KM
A LONG -110.01 DEG BC 293.2 KM
B LAT 43.15 DEG CD 053.0 KM
B LONG -102.70 DEG DA 292.5 KM
C LAT 49.81 DEG TILT DISTANCE
C LONG -115.36 DEG 33.4
D LAT 73.02 DEG
D LONG -145.04 DEG

MISSION/
FRAME NO.
5010

YR.NO.DY
HR.MI.SEC

TIME
670806 112214.08

S/C POSITION
ALT 2655.45 KM
ALT PT 9.6591 KM/SEC
LAT 58.82 DEG
LONG -81.11 DEG

S/C ORIENTATION
TILT ANG 9.63 DEG
TILT AZIM 285.03 DEG
SWING ANG 89.37 DEG
N.DEV. 9.44 DEG

PHOTO ILLUMINATION
SUN AZIM 259.93 DEG
INCID ANG 82.37 DEG
EMISS ANG 25.05 DEG
PHASE ANG 107.41 DEG
ALPHA -25.04 DEG

PRINCIPAL POINT
LATITUDE 59.37 DEG
LONGITUDE -111.35 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 52.58 DEG AB 704.5 KM
A LONG 38.13 DEG BC 749.8 KM
B LAT 1.73 DEG CD 609.2 KM
B LONG -74.88 DEG DA 719.3 KM
C LAT 8.76 DEG TILT DISTANCE
C LONG -102.04 DEG 13.5
D LAT 67.77 DEG
D LONG 88.57 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 76.46 DEG AB 061.2 KM
A LONG -109.82 DEG BC 293.5 KM
B LAT 43.07 DEG CD 050.5 KM
B LONG -102.66 DEG DA 292.4 KM
C LAT 40.72 DEG TILT DISTANCE
C LONG -115.32 DEG 03.3
D LAT 72.99 DEG
D LONG -144.78 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 409

MISSION/
FRAME NO.
5011

TIME 67CE06
YR.MO.DY 112218.74
PR.MI.SEC
S/C POSITION
ALT 2657.22 KM
ALT RT 0.6589 KM/SEC
LAT 58.79 DEG
LONG -81.10 DEG
S/C ORIENTATION
TILT ANG 9.62 DEG
TILT AZIM 284.87 DEG
SWING ANG 89.21 DEG
N.DEV. 9.35 DEG
PHOTO ILLUMINATION
SUN AZIM 260.00 DEG
INCID ANG 82.39 DEG
EMISS ANG 25.02 DEG
PHASE ANG 107.41 DEG
ALPHA -25.02 DEG
PRINCIPAL POINT
LATITUDE 59.30 DEG
LONGITUDE -111.28 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 52.68 DEG AB 709.8 KM
A LONG 37.91 DEG BC 767.6 KM
B LAT 1.16 DEG CD 619.2 KM
B LONG -74.84 DEG DA 721.5 KM
C LAT 8.44 DEG TILT DISTANCE
C LONG -102.07 DEG 13.5
D LAT 67.56 DEG
D LONG 88.45 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 76.40 DEG AB 001.8 KM
A LONG -109.62 DEG BC 293.7 KM
B LAT 42.99 DEG CD 051.2 KM
B LONG -102.63 DEG DA 292.4 KM
C LAT 40.64 DEG TILT DISTANCE
C LONG -115.28 DEG 03.1
D LAT 72.97 DEG
D LONG -144.52 DEG

MISSION/
FRAME NO.
5012

TIME 67CE06
YR.MO.DY 112221.40
PR.MI.SEC
S/C POSITION
ALT 2658.97 KM
ALT RT 0.6587 KM/SEC
LAT 58.76 DEG
LONG -81.09 DEG
S/C ORIENTATION
TILT ANG 9.61 DEG
TILT AZIM 284.72 DEG
SWING ANG 89.04 DEG
N.DEV. 9.26 DEG
PHOTO ILLUMINATION
SUN AZIM 260.08 DEG
INCID ANG 82.42 DEG
EMISS ANG 25.00 DEG
PHASE ANG 107.41 DEG
ALPHA -24.99 DEG
PRINCIPAL POINT
LATITUDE 59.24 DEG
LONGITUDE -111.20 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 52.78 DEG AB 715.8 KM
A LONG 37.68 DEG BC 786.5 KM
B LAT 0.55 DEG CD 529.4 KM
B LONG -74.60 DEG DA 724.2 KM
C LAT 8.12 DEG TILT DISTANCE
C LONG -102.10 DEG 13.4
D LAT 68.15 DEG
D LONG 88.34 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 76.33 DEG AB 002.5 KM
A LONG -109.43 DEG BC 293.9 KM
B LAT 42.90 DEG CD 051.8 KM
B LONG -102.60 DEG DA 292.3 KM
C LAT 40.55 DEG TILT DISTANCE
C LONG -115.24 DEG 03.0
D LAT 72.94 DEG
D LONG -144.27 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 410

MISSION/
FRAME NO.

5013
YR.MO.DY 670606
FR.MI.SEC 133225.00

S/C POSITION
ALT 5755.32 KM
ALT RT 0.1654 KM/SEC
LAT 11.15 DEG
LONG -74.61 DEG

S/C ORIENTATION
TILT ANG 7.62 DEG
TILT AZIM 279.65 DEG
SWING ANG 92.51 DEG
N.DEV. 359.71 DEG

PHOTO ILLUMINATION
SUN AZIM 270.83 DEG
INCID ANG 87.26 DEG
EMISS ANG 34.89 DEG
PHASE ANG 122.11 DEG
ALPHA -34.85 DEG

PRINCIPAL POINT
LATITUDE 14.32 DEG
LONGITUDE -102.40 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 26.57 DEG AB 624.4 KM
A LONG 1.54 DEG BC 881.0 KM
B LAT -25.41 DEG CD 456.4 KM
B LONG -21.83 DEG DA 431.1 KM
C LAT -2.51 DEG TILT DISTANCE 10.6
C LONG -28.61 DEG
D LAT 10.78 DEG
D LONG -24.59 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 56.12 DEG AB 277.2 KM
A LONG -99.46 DEG BC 376.6 KM
B LAT -25.85 DEG CD 121.5 KM
B LONG -100.47 DEG DA 152.4 KM
C LAT -26.76 DEG TILT DISTANCE 81.4
C LONG -136.65 DEG
D LAT 48.99 DEG
D LONG -153.51 DEG

MISSION/
FRAME NO.

5014
YR.MO.DY 670606
FR.MI.SEC 133227.72

S/C POSITION
ALT 5755.77 KM
ALT RT 0.1653 KM/SEC
LAT 11.14 DEG
LONG -74.61 DEG

S/C ORIENTATION
TILT ANG 7.61 DEG
TILT AZIM 279.58 DEG
SWING ANG 92.43 DEG
N.DEV. 359.68 DEG

PHOTO ILLUMINATION
SUN AZIM 270.84 DEG
INCID ANG 87.27 DEG
EMISS ANG 34.88 DEG
PHASE ANG 122.11 DEG
ALPHA -34.84 DEG

PRINCIPAL POINT
LATITUDE 14.27 DEG
LONGITUDE -102.39 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 26.53 DEG AB 622.8 KM
A LONG 1.37 DEG BC 885.5 KM
B LAT -25.51 DEG CD 457.8 KM
B LONG -21.71 DEG DA 431.2 KM
C LAT -2.57 DEG TILT DISTANCE 10.6
C LONG -28.58 DEG
D LAT 10.73 DEG
D LONG -24.58 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 56.04 DEG AB 277.1 KM
A LONG -99.39 DEG BC 378.5 KM
B LAT -25.92 DEG CD 129.8 KM
B LONG -100.49 DEG DA 134.5 KM
C LAT -26.90 DEG TILT DISTANCE 81.3
C LONG -136.91 DEG
D LAT 48.94 DEG
D LONG -152.41 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5016

YR.NO.DY 570605
HR.MI.SEC 133330.42

S/C POSITION
ALT 5756.22 KM
TILT RT 0.1652 KM/SEC
LAT 11.13 DEG
LONG -74.61 DEG

S/C ORIENTATION
TILT ANG 7.61 DEG
TILT AZIM 279.50 DEG
SWING ANG 92.35 DEG
N.DEV. 359.65 DEG

PHOTO ILLUMINATION
SUN AZIM 270.84 DEG
INCID ANG 87.28 DEG
EMISS ANG 34.87 DEG
PHASE ANG 122.11 DEG
ALPHA -34.83 DEG

PRINCIPAL POINT
LATITUDE 14.23 DEG
LONGITUDE -102.38 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.50 DEG AB 621.3 KM
A LONG 1.21 DEG BC 890.0 KM
B LAT -25.61 DEG CD 459.1 KM
B LONG -21.59 DEG DA 431.2 KM
C LAT -3.02 DEG TILT DISTANCE 10.6
C LONG -28.56 DEG
D LAT 10.69 DEG
D LONG -24.58 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 55.97 DEG AB 277.0 KM
A LONG -99.33 DEG BC 380.5 KM
B LAT -25.99 DEG CD 138.6 KM
B LONG -100.51 DEG DA 120.6 KM
C LAT -27.05 DEG TILT DISTANCE 81.3
C LONG -137.18 DEG
D LAT 48.89 DEG
D LONG -151.53 DEG

MISSION/
FRAME NO.
5016

YR.NO.DY 673605
HR.MI.SEC 133331.12

S/C POSITION
ALT 5756.66 KM
TILT RT 0.1650 KM/SEC
LAT 11.12 DEG
LONG -74.60 DEG

S/C ORIENTATION
TILT ANG 7.61 DEG
TILT AZIM 279.42 DEG
SWING ANG 92.27 DEG
N.DEV. 359.62 DEG

PHOTO ILLUMINATION
SUN AZIM 270.85 DEG
INCID ANG 87.29 DEG
EMISS ANG 34.85 DEG
PHASE ANG 122.11 DEG
ALPHA -34.82 DEG

PRINCIPAL POINT
LATITUDE 14.18 DEG
LONGITUDE -102.37 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.43 DEG AB 670.3 KM
A LONG 4.98 DEG BC 894.6 KM
B LAT -25.71 DEG CD 460.5 KM
B LONG -21.46 DEG DA 431.2 KM
C LAT -3.07 DEG TILT DISTANCE 10.5
C LONG -28.54 DEG
D LAT 10.64 DEG
D LONG -24.57 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 55.89 DEG AB 277.0 KM
A LONG -99.26 DEG BC 382.4 KM
B LAT -26.06 DEG CD 147.8 KM
B LONG -100.53 DEG DA 108.8 KM
C LAT -27.21 DEG TILT DISTANCE 81.3
C LONG -137.46 DEG
D LAT 48.84 DEG
D LONG -150.78 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 412

MISSION/
FRAME NO.

5017

YR.MO.DY
HR.MI.SEC

TIME
670606
133335.80

S/C POSITION
ALT 5757.11 KM
ALT RT 0.1649 KM/SEC
LAT 11.11 DEG
LONG -74.60 DEG

S/C ORIENTATION
TILT ANG 7.61 DEG
TILT AZIM 279.34 DEG
SWING ANG 92.19 DEG
N.DEV. 359.59 DEG

PHOTO ILLUMINATION
SUN AZIM 270.85 DEG
INCID ANG 87.30 DEG
EMISS ANG 34.84 DEG
PHASE ANG 122.11 DEG
ALPHA -34.81 DEG

PRINCIPAL POINT
LATITUDE 14.13 DEG
LONGITUDE -102.36 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.44 DEG AB 664.1 KM
A LONG 4.36 DEG BC 899.2 KM
B LAT -25.82 DEG CD 461.8 KM
B LONG -21.33 DEG DA 431.2 KM
C LAT -3.13 DEG TILT DISTANCE
C LONG -28.51 DEG 10.6
D LAT 10.59 DEG
D LONG -24.57 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 55.82 DEG AB 276.9 KM
A LONG -99.19 DEG BC 384.4 KM
B LAT -26.14 DEG CD 157.6 KM
B LONG -100.55 DEG DA 098.6 KM
C LAT -27.37 DEG TILT DISTANCE
C LONG -137.77 DEG 81.2
D LAT 48.79 DEG
D LONG -150.12 DEG

MISSION/
FRAME NO.

5018

YR.MO.DY
HR.MI.SEC

TIME
670806
133338.48

S/C POSITION
ALT 5757.55 KM
ALT RT 0.1648 KM/SEC
LAT 11.10 DEG
LONG -74.60 DEG

S/C ORIENTATION
TILT ANG 7.60 DEG
TILT AZIM 279.26 DEG
SWING ANG 92.11 DEG
N.DEV. 359.57 DEG

PHOTO ILLUMINATION
SUN AZIM 270.86 DEG
INCID ANG 87.30 DEG
EMISS ANG 34.83 DEG
PHASE ANG 122.11 DEG
ALPHA -34.80 DEG

PRINCIPAL POINT
LATITUDE 14.09 DEG
LONGITUDE -102.35 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.43 DEG AB 659.9 KM
A LONG 3.92 DEG BC 903.9 KM
B LAT -25.92 DEG CD 463.2 KM
B LONG -21.21 DEG DA 431.3 KM
C LAT -3.18 DEG TILT DISTANCE
C LONG -28.49 DEG 10.6
D LAT 10.54 DEG
D LONG -24.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 55.74 DEG AB 276.9 KM
A LONG -99.13 DEG BC 386.3 KM
B LAT -26.21 DEG CD 168.1 KM
B LONG -100.57 DEG DA 089.4 KM
C LAT -27.54 DEG TILT DISTANCE
C LONG -138.10 DEG 81.2
D LAT 48.74 DEG
D LONG -149.52 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 413

MISSION/
FRAME NO.

5019
YR.MO.DY
HR.MI.SEC

S/C POSITION
ALT 5757.99 KM
ALT RT 0.1646 KM/SEC
LAT 11.09 DEG
LONG -74.60 DEG

S/C ORIENTATION
TILT ANG 7.60 DEG
TILT AZIM 279.19 DEG
SWING ANG 92.03 DEG
N.DEV. 359.54 DEG

PHOTO ILLUMINATION
SUN AZIM 270.86 DEG
INCID ANG 87.31 DEG
EMISS ANG 34.82 DEG
PHASE ANG 122.11 DEG
ALPHA -34.79 DEG

PRINCIPAL POINT
LATITUDE 14.04 DEG
LONGITUDE -102.34 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.41 DEG AB 656.6 KM
A LONG 3.58 DEG BC 508.5 KM
B LAT -26.02 DEG CD 464.5 KM
B LONG -21.08 DEG DA 431.3 KM
C LAT -3.23 DEG TILT DISTANCE 10.6
C LONG -28.47 DEG
D LAT 10.50 DEG
D LONG -24.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 55.67 DEG AB 276.8 KM
A LONG -99.07 DEG BC 388.3 KM
B LAT -26.28 DEG CD 179.5 KM
B LONG -100.60 DEG DA 081.1 KM
C LAT -27.72 DEG TILT DISTANCE 81.2
C LONG -138.47 DEG
D LAT 48.68 DEG
D LONG -148.97 DEG

MISSION/
FRAME NO.

5020
YR.MO.DY
HR.MI.SEC

S/C POSITION
ALT 5758.42 KM
ALT RT 0.1645 KM/SEC
LAT 11.08 DEG
LONG -74.60 DEG

S/C ORIENTATION
TILT ANG 7.60 DEG
TILT AZIM 279.11 DEG
SWING ANG 91.95 DEG
N.DEV. 359.51 DEG

PHOTO ILLUMINATION
SUN AZIM 270.87 DEG
INCID ANG 87.32 DEG
EMISS ANG 34.81 DEG
PHASE ANG 122.11 DEG
ALPHA -34.78 DEG

PRINCIPAL POINT
LATITUDE 14.00 DEG
LONGITUDE -102.33 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.39 DEG AB 653.8 KM
A LONG 3.27 DEG BC 913.3 KM
B LAT -26.12 DEG CD 465.9 KM
B LONG -20.94 DEG DA 431.3 KM
C LAT -3.29 DEG TILT DISTANCE 10.6
C LONG -28.44 DEG
D LAT 10.45 DEG
D LONG -24.55 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 55.59 DEG AB 276.8 KM
A LONG -99.00 DEG BC 390.2 KM
B LAT -26.35 DEG CD 192.1 KM
B LONG -100.62 DEG DA 178.1 KM
C LAT -27.91 DEG TILT DISTANCE 81.2
C LONG -138.88 DEG
D LAT 49.11 DEG
D LONG -154.98 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 414

MISSION/
FRAME NO.

5021 YR.MO.DY 67CE06
HR.MI.SEC 1717 6.31

S/C POSITION
ALT 3341.53 KM
ALT RT -0.5753 KM/SEC
LAT -50.72 DEG
LONG -69.07 DEG

S/C ORIENTATION
TILT ANG 16.79 DEG
TILT AZIM 187.07 DEG
SWING ANG 25.53 DEG
N.DEV. 283.49 DEG

PHOTO ILLUMINATION
SUN AZIM 343.51 DEG
INCID ANG 86.87 DEG
EMISS ANG 57.64 DEG
PHASE ANG 119.51 DEG
ALPHA -34.34 DEG

PRINCIPAL POINT
LATITUDE -85.19 DEG
LONGITUDE -175.38 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -27.95 DEG AB 618.4 KM
A LONG -49.77 DEG BC 0. KM
B LAT 0. DEG CD 0. KM
B LONG 0. DEG DA 038.0 KM
C LAT 0. DEG TILT DISTANCE
C LONG 0. DEG 23.8
D LAT -19.32 DEG
D LONG -142.14 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -62.45 DEG AB 413.3 KM
A LONG -81.28 DEG BC 269.0 KM
B LAT -75.75 DEG CD 332.7 KM
B LONG -96.14 DEG DA 333.9 KM
C LAT -73.49 DEG TILT DISTANCE
C LONG 143.49 DEG 83.6
D LAT -62.50 DEG
D LONG -105.31 DEG

MISSION/
FRAME NO.

5022 YR.MO.DY 670807
HR.MI.SEC 003459.61

S/C POSITION
ALT 5106.27 KM
ALT RT -0.3124 KM/SEC
LAT -25.65 DEG
LONG -77.04 DEG

S/C ORIENTATION
TILT ANG 9.66 DEG
TILT AZIM 259.65 DEG
SWING ANG 91.20 DEG
N.DEV. 356.84 DEG

PHOTO ILLUMINATION
SUN AZIM 274.50 DEG
INCID ANG 84.46 DEG
EMISS ANG 41.42 DEG
PHASE ANG 125.87 DEG
ALPHA -41.40 DEG

PRINCIPAL POINT
LATITUDE -26.96 DEG
LONGITUDE -112.55 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -38.73 DEG AB 442.7 KM
A LONG -42.74 DEG BC 247.6 KM
B LAT -43.57 DEG CD 429.3 KM
B LONG -0.77 DEG DA 361.3 KM
C LAT -20.75 DEG TILT DISTANCE
C LONG -43.59 DEG 13.5
D LAT -9.68 DEG
D LONG -48.25 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 9.14 DEG AB 036.7 KM
A LONG -108.82 DEG BC 729.3 KM
B LAT -62.56 DEG CD 572.2 KM
B LONG -114.07 DEG DA 984.6 KM
C LAT -47.77 DEG TILT DISTANCE
C LONG -170.94 DEG 03.6
D LAT 7.49 DEG
D LONG -136.50 DEG

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 415

TIME	S/C POSITION	S/C ORIENTATION	PHOTO ILLUMINATION	PRINCIPAL POINT
670807	ALT 5008.71 KM	TILT ANG. 8.87 DEG	SUN AZIM 287.82 DEG	LATITUDE 26.54 DEG
113551.31	ALT RT 0.3409 KM/SEC	TILT AZIM 281.77 DEG	INCID ANG 82.34 DEG	LONGITUDE -120.17 DEG
	LAT 24.01 DEG	SWING ANG 89.99 DEG	EMISS ANG 36.78 DEG	
	LONG -89.35 DEG	N.DEV. 1.31 DEG	PHASE ANG 119.12 DEG	
			ALPHA -36.78 DEG	

MEDIUM RESOLUTION		SIDE LENGTH
CORNER	COORDINATE	
A LAT	35.82 DEG	AB 347.3 KM
A LONG	-6.11 DEG	BC 489.6 KM
B LAT	-40.25 DEG	CD 388.2 KM
B LONG	-49.56 DEG	DA 358.2 KM
C LAT	8.69 DEG	TILT DISTANCE
C LONG	-57.86 DEG	12.4
D LAT	19.55 DEG	
D LONG	-52.58 DEG	

HIGH RESOLUTION	
CORNER	COORDINATE
A LAT	61.14 DEG
A LONG	-116.75 DEG
B LAT	-7.97 DEG
B LONG	-116.62 DEG
C LAT	-17.87 DEG
C LONG	-151.58 DEG
D LAT	53.92 DEG
D LONG	175.99 DEG
	AB 969.3 KM
	BC 567.5 KM
	CD 161.2 KM
	DA 097.4 KM
	TILT DISTANCE 94.9

S/C POSITION		S/C ORIENTATION		PHOTO ILLUMINATION		PRINCIPAL POINT	
ALT	2551.47 KM	TILT ANG	9.97 DEG	SUN AZIM	258.80 DEG	LATITUDE	59.08 DEG
ALT RT	0.6902 KM/SEC	TILT AZIM	284.12 DEG	INCID ANG	81.66 DEG	LONGITUDE	-129.77 DEG
LAT	58.75 DEG	SWING ANG	88.79 DEG	EMISS ANG	25.31 DEG		
LONG	-99.81 DEG	N.DEV.	9.38 DEG	PHASE ANG	106.96 DEG		
				ALPHA	-25.31 DEG		

CORNER	COORDINATE	MEDIUM RESOLUTION
A LAT	55.57 DEG	SIDE LENGTH
A LONG	12.06 DEG	AB 483.5 KM
B LAT	7.88 DEG	BC 469.1 KM
B LONG	-94.39 DEG	CD 0. KM
C LAT	C.	DA 0. KM
C LONG	0. DEG	TILT DISTANCE
D LAT	0. DEG	13.9
D LONG	0. DEG	

HIGH RESOLUTION		
CORNER	COORDINATE	SIDE LENGTH
A LAT	75.98 DEG	AB 962.4 KM
A LONG	-128.17 DEG	BC 282.8 KM
B LAT	43.44 DEG	CD 010.0 KM
B LONG	-121.32 DEG	DA 280.9 KM
C LONG	-133.58 DEG	TILT DISTANCE 06.9
D LONG	-160.31 DEG	

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 416

MISSION/
FRAME NO.

5026 YR.MO.DY

HR.MI.SEC

TIME
670808
0142 5.01

S/C POSITION

ALT 5069.05 KM
ALT RT -0.3300 KM/SEC
LAT -25.62 DEG
LONG -90.85 DEG

S/C ORIENTATION

TILT ANG 9.43 DEG
TILT AZIM 258.46 DEG
SWING ANG 89.54 DEG
N.DEV. 350.34 DEG

PHOTO ILLUMINATION

SUN AZIM 274.41 DEG
INCID ANG 84.79 DEG
EMISS ANG 39.98 DEG
PHASE ANG 124.76 DEG
ALPHA -39.98 DEG

PRINCIPAL POINT

LATITUDE -27.65 DEG
LONGITUDE -125.06 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 35.82 DEG AB 453.8 KM
A LONG -56.82 DEG BC 391.9 KM
B LAT -42.59 DEG CD 409.6 KM
B LONG -6.37 DEG DA 359.5 KM
C LAT -21.42 DEG TILT DISTANCE
C LONG -56.26 DEG 13.2
D LAT -10.46 DEG
D LONG -61.05 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 7.40 DEG AB 011.8 KM
A LONG -120.26 DEG BC 696.5 KM
B LAT -63.23 DEG CD 933.9 KM
B LONG -126.97 DEG DA 076.9 KM
C LAT -49.13 DEG TILT DISTANCE
C LONG 174.43 DEG 01.1
D LAT 12.78 DEG
D LONG -152.59 DEG

MISSION/
FRAME NO.

5027 YR.MO.DY

HR.MI.SEC

TIME
670808
0905 0.11

S/C POSITION

ALT 5872.85 KM
ALT RT -0.1403 KM/SEC
LAT -11.23 DEG
LONG -96.46 DEG

S/C ORIENTATION

TILT ANG 85.48 DEG
TILT AZIM 95.65 DEG
SWING ANG 105.91 DEG
N.DEV. 195.91 DEG

PHOTO ILLUMINATION

SUN AZIM 264.93 DEG
INCID ANG 119.93 DEG
EMISS ANG 90.00 DEG
PHASE ANG 31.36 DEG
ALPHA 90.00 DEG

PRINCIPAL POINT

LATITUDE -11.54 DEG
LONGITUDE -91.87 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0. DEG AB 0. KM
A LONG 0. DEG BC 0. KM
B LAT 0. DEG CD 0. KM
B LONG 0. DEG DA 0. KM
C LAT 0. DEG TILT DISTANCE
C LONG 0. DEG 13.4
D LAT 0. DEG
D LONG 0. DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0. DEG AB 0. KM
A LONG 0. DEG BC 0. KM
B LAT 0. DEG CD 0. KM
B LONG 0. DEG DA 0. KM
C LAT 0. DEG TILT DISTANCE
C LONG 0. DEG 01.2
D LAT 0. DEG
D LONG 0. DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 417

MISSION/
FRAME NO.
5028

YR,MO,DY 07CE08
HR,MI,SEC 145230.01

TIME
ALT 5015.44 KM
ALT RT 0.3397 KM/SEC
LAT 24.16 DEG
LONG -103.16 DEG

S/C POSITION
TILT ANG 8.66 DEG
TILT AZIM 281.13 DEG
SWING ANG 89.71 DEG
N.DEV. 1.29 DEG

S/C ORIENTATION
TILT ANG 8.66 DEG
TILT AZIM 281.13 DEG
SWING ANG 89.71 DEG
N.DEV. 1.29 DEG

PHOTO ILLUMINATION
SUN AZIM 267.72 DEG
INCID ANG 82.11 DEG
EMISS ANG 35.84 DEG
PHASE ANG 117.96 DEG
ALPHA -35.84 DEG

PRINCIPAL POINT
LATITUDE 26.39 DEG
LONGITUDE -133.19 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 38.74 DEG AB 345.7 KM
A LONG -17.64 DEG BC 343.6 KM
B LAT -35.05 DEG CD 415.6 KM
B LONG -65.51 DEG DA 360.0 KM
C LAT 8.48 DEG TILT DISTANCE 12.1
C LONG -70.72 DEG
D LAT 19.41 DEG
D LONG -65.84 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 60.89 DEG AB 967.5 KM
A LONG -129.42 DEG BC 566.8 KM
B LAT -8.15 DEG CD 148.4 KM
B LONG -129.55 DEG DA 038.3 KM
C LAT -17.17 DEG TILT DISTANCE 92.7
C LONG -161.95 DEG
D LAT 55.11 DEG
D LONG 164.94 DEG

MISSION/
FRAME NO.
5029

YR,MO,DY 07CE08
HR,MI,SEC 215121.31

TIME
ALT 2548.18 KM
ALT RT 0.6911 KM/SEC
LAT 59.08 DEG
LONG -113.56 DEG

S/C POSITION
TILT ANG 10.99 DEG
TILT AZIM 284.66 DEG
SWING ANG -90.22 DEG
N.DEV. 12.99 DEG

S/C ORIENTATION
TILT ANG 10.99 DEG
TILT AZIM 284.66 DEG
SWING ANG -90.22 DEG
N.DEV. 12.99 DEG

PHOTO ILLUMINATION
SUN AZIM 254.71 DEG
INCID ANG 79.35 DEG
EMISS ANG 28.08 DEG
PHASE ANG 107.42 DEG
ALPHA -28.07 DEG

PRINCIPAL POINT
LATITUDE 59.12 DEG
LONGITUDE -147.18 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 61.53 DEG AB 430.7 KM
A LONG 1.70 DEG BC 353.3 KM
B LAT 12.08 DEG CD 0. KM
B LONG -109.30 DEG DA 585.1 KM
C LAT 0. DEG TILT DISTANCE 15.4
C LONG 0. DEG
D LAT 69.59 DEG
D LONG 65.19 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 75.62 DEG AB 967.9 KM
A LONG -150.67 DEG BC 293.5 KM
B LAT 43.78 DEG CD 022.6 KM
B LONG -137.14 DEG DA 294.0 KM
C LAT 40.86 DEG TILT DISTANCE 18.2
C LONG -149.67 DEG
D LAT 71.18 DEG
D LONG 178.47 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 418

MISSION/ FRAME NO. 5030	YR.MO.DY 670809	TIME 024334.91	S/C POSITION ALT 5068.60 KM LAT -0.3305 KN/SEC LONG -25.33 DEG LONG -104.74 DEG	S/C ORIENTATION TILT ANG 9.57 DEG TILT AZIM 261.53 DEG SWING ANG 92.15 DEG N.DEV. 356.97 DEG	PHOTO ILLUMINATION SUN AZIM 274.89 DEG INCID ANG 83.32 DEG EMISS ANG 40.65 DEG PHASE ANG 123.95 DEG ALPHA -40.63 DEG	PRINCIPAL POINT LATITUDE -25.79 DEG LONGITUDE -139.29 DEG																		
<p>MEDIUM RESOLUTION</p> <table border="0"> <tr> <td>CORNER COORDINATE</td> <td>SIDE LENGTH</td> </tr> <tr> <td>A LAT 38.80 DEG</td> <td>AB 406.2 KM</td> </tr> <tr> <td>A LONG -68.74 DEG</td> <td>BC 149.3 KM</td> </tr> <tr> <td>B LAT -44.44 DEG</td> <td>CD 392.8 KM</td> </tr> <tr> <td>B LONG -31.61 DEG</td> <td>DA 359.2 KM</td> </tr> <tr> <td>C LAT -20.44 DEG</td> <td>TILT DISTANCE 13.4</td> </tr> <tr> <td>C LONG -71.34 DEG</td> <td></td> </tr> <tr> <td>D LAT -9.33 DEG</td> <td></td> </tr> <tr> <td>D LONG -75.68 DEG</td> <td></td> </tr> </table>							CORNER COORDINATE	SIDE LENGTH	A LAT 38.80 DEG	AB 406.2 KM	A LONG -68.74 DEG	BC 149.3 KM	B LAT -44.44 DEG	CD 392.8 KM	B LONG -31.61 DEG	DA 359.2 KM	C LAT -20.44 DEG	TILT DISTANCE 13.4	C LONG -71.34 DEG		D LAT -9.33 DEG		D LONG -75.68 DEG	
CORNER COORDINATE	SIDE LENGTH																							
A LAT 38.80 DEG	AB 406.2 KM																							
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D LAT 7.98 DEG																								
D LONG -161.91 DEG																								

MISSION/ FRAME NO. 5031	YR.MO.DY 670809	TIME 052218.81	S/C POSITION ALT 1363.52 KM LAT 0.1875 KN/SEC LONG -113.59 DEG	S/C ORIENTATION TILT ANG 21.85 DEG TILT AZIM 280.21 DEG SWING ANG 89.14 DEG N.DEV. 359.11 DEG	PHOTO ILLUMINATION SUN AZIM 270.77 DEG INCID ANG 88.33 DEG EMISS ANG 41.64 DEG PHASE ANG 129.97 DEG ALPHA -41.64 DEG	PRINCIPAL POINT LATITUDE 27.92 DEG LONGITUDE -135.74 DEG																		
<p>MEDIUM RESOLUTION</p> <table border="0"> <tr> <td>CORNER COORDINATE</td> <td>SIDE LENGTH</td> </tr> <tr> <td>A LAT 44.92 DEG</td> <td>AB 124.2 KM</td> </tr> <tr> <td>A LONG -111.91 DEG</td> <td>BC 568.9 KM</td> </tr> <tr> <td>B LAT 7.73 DEG</td> <td>CD 565.9 KM</td> </tr> <tr> <td>B LONG -119.57 DEG</td> <td>DA 246.3 KM</td> </tr> <tr> <td>C LAT 0.69 DEG</td> <td>TILT DISTANCE 31.9</td> </tr> <tr> <td>C LONG -145.61 DEG</td> <td></td> </tr> <tr> <td>D LAT 24.15 DEG</td> <td></td> </tr> <tr> <td>D LONG -150.57 DEG</td> <td></td> </tr> </table>							CORNER COORDINATE	SIDE LENGTH	A LAT 44.92 DEG	AB 124.2 KM	A LONG -111.91 DEG	BC 568.9 KM	B LAT 7.73 DEG	CD 565.9 KM	B LONG -119.57 DEG	DA 246.3 KM	C LAT 0.69 DEG	TILT DISTANCE 31.9	C LONG -145.61 DEG		D LAT 24.15 DEG		D LONG -150.57 DEG	
CORNER COORDINATE	SIDE LENGTH																							
A LAT 44.92 DEG	AB 124.2 KM																							
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A LAT 37.06 DEG	AB 557.5 KM																							
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D LAT 37.93 DEG																								
D LONG -140.91 DEG																								

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/19/71 PAGE 419

MISSION/
FRAME NO.
5032

TIME 670809
YR,MO,DY 670809
HR,MI,SEC 155741.21
S/C POSITION
ALT 1396.82 KM
LAT RT 0.1642 KM/SEC
LAT 22.61 DEG
LONG -116.73 DEG
S/C ORIENTATION
TILT ANG 21.33 DEG
TILT AZIM 280.73 DEG
SWING ANG 90.08 DEG
N.DEV. 358.56 DEG
PHOTO ILLUMINATION
SUN AZIM 271.23 DEG
INCID ANG 89.19 DEG
EMISS ANG 41.02 DEG
PHASE ANG 132.20 DEG
ALPHA -41.02 DEG
PRINCIPAL POINT
LATITUDE 24.81 DEG
LONGITUDE -138.12 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 42.23 DEG AB 152.9 KM
A LONG -114.58 DEG BC 600.6 KM
B LAT 4.04 DEG CD 595.9 KM
B LONG -122.17 DEG DA 260.1 KM
C LAT -2.24 DEG TILT DISTANCE 31.1
C LONG -148.15 DEG
D LAT 52.39 DEG
D LONG -152.55 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 34.11 DEG AB 568.3 KM
A LONG -134.84 DEG BC 206.0 KM
B LAT 15.30 DEG CD 618.7 KM
B LONG -135.96 DEG DA 206.2 KM
C LAT 14.62 DEG TILT DISTANCE 37.6
C LONG -142.96 DEG
D LAT 35.15 DEG
D LONG -143.02 DEG

MISSION/
FRAME NO.
5033

TIME 670809
YR,MO,DY 670809
HR,MI,SEC 205743.22
S/C POSITION
ALT 145.32 KM
LAT RT -0.1826 KM/SEC
LAT -25.64 DEG
LONG 60.19 DEG
S/C ORIENTATION
TILT ANG 5.43 DEG
TILT AZIM 135.70 DEG
SWING ANG 40.71 DEG
N.DEV. 85.32 DEG
PHOTO ILLUMINATION
SUN AZIM 79.10 DEG
INCID ANG 71.89 DEG
EMISS ANG 5.88 DEG
PHASE ANG 75.20 DEG
ALPHA -3.38 DEG
PRINCIPAL POINT
LATITUDE -25.97 DEG
LONGITUDE 60.54 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -24.19 DEG AB 118.3 KM
A LONG 58.61 DEG BC 105.5 KM
B LAT -24.42 DEG CD 123.8 KM
B LONG 62.88 DEG DA 99.0 KM
C LAT -27.50 DEG TILT DISTANCE 7.4
C LONG 62.75 DEG
D LAT -27.44 DEG
D LONG 58.16 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -25.67 DEG AB 52.6 KM
A LONG 59.61 DEG BC 13.4 KM
B LAT -25.82 DEG CD 52.9 KM
B LONG 61.54 DEG DA 13.1 KM
C LAT -26.26 DEG TILT DISTANCE 57.8
C LONG 61.51 DEG
D LAT -26.10 DEG
D LONG 59.57 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 420

MISSION/
FRAME NO.
5034

TIME
YR.MO.DY 670809
HR.MI.SEC 205749.88

S/C POSITION
ALT 144.11 KM
ALT RT -0.1803 KM/SEC
LAT -25.28 DEG
LONG 60.23 DEG

S/C ORIENTATION
TILT ANG 5.20 DEG
TILT AZIM 132.60 DEG
SWING ANG 37.62 DEG
N.DEV. 85.31 DEG

PHOTO ILLUMINATION
SUN AZIM 79.21 DEG
INCID ANG 71.78 DEG
EMISS ANG 5.63 DEG
PHASE ANG 75.20 DEG
ALPHA -3.48 DEG

PRINCIPAL POINT
LATITUDE -25.57 DEG
LONGITUDE 60.58 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -23.81 DEG AB 117.3 KM
A LONG 58.67 DEG BC 104.5 KM
B LAT -24.03 DEG CD 122.4 KM
B LONG 62.50 DEG DA 98.0 KM
C LAT -27.48 DEG TILT DISTANCE 7.0
C LONG 62.75 DEG
D LAT -27.02 DEG
D LONG 58.24 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -25.28 DEG AB 52.2 KM
A LONG 59.65 DEG BC 13.3 KM
B LAT -25.42 DEG CD 52.5 KM
B LONG 61.56 DEG DA 12.9 KM
C LAT -25.86 DEG TILT DISTANCE 55.3
C LONG 61.53 DEG
D LAT -25.71 DEG
D LONG 59.62 DEG

MISSION/
FRAME NO.
5035

TIME
YR.MO.DY 670805
HR.MI.SEC 205756.44

S/C POSITION
ALT 142.93 KM
ALT RT -0.1781 KM/SEC
LAT -24.92 DEG
LONG 60.27 DEG

S/C ORIENTATION
TILT ANG 4.99 DEG
TILT AZIM 129.27 DEG
SWING ANG 34.29 DEG
N.DEV. 85.30 DEG

PHOTO ILLUMINATION
SUN AZIM 79.32 DEG
INCID ANG 71.67 DEG
EMISS ANG 5.40 DEG
PHASE ANG 75.20 DEG
ALPHA -3.58 DEG

PRINCIPAL POINT
LATITUDE -25.18 DEG
LONGITUDE 60.62 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -23.43 DEG AB 116.5 KM
A LONG 58.73 DEG BC 103.5 KM
B LAT -23.65 DEG CD 121.0 KM
B LONG 62.52 DEG DA 97.1 KM
C LAT -27.07 DEG TILT DISTANCE 6.7
C LONG 62.76 DEG
D LAT -26.61 DEG
D LONG 58.31 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -24.89 DEG AB 51.8 KM
A LONG 59.71 DEG BC 13.2 KM
B LAT -25.03 DEG CD 52.0 KM
B LONG 61.59 DEG DA 12.8 KM
C LAT -25.47 DEG TILT DISTANCE 53.1
C LONG 61.56 DEG
D LAT -25.31 DEG
D LONG 59.67 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 421

MISSION/ FRAME NO. 5036	TIME 670809	YR.NO.DY 670809	HR.MI.SEC 2058 2.90	S/C POSITION ALT 141.79 KM ALT RT -0.1759 KM/SEC LAT -24.56 DEG LONG 60.30 DEG	S/C ORIENTATION TILT ANG 4.80 DEG TILT AZIM 129.72 DEG SWING ANG 30.75 DEG N.DEV. 85.29 DEG	PHOTO ILLUMINATION SUN AZIM 79.42 DEG INCID ANG 71.57 DEG EMISS ANG 5.20 DEG PHASE ANG 75.20 DEG ALPHA -3.68 DEG	PRINCIPAL POINT LATITUDE -24.79 DEG LONGITUDE 60.66 DEG																																				
<p>MEDIUM RESOLUTION</p> <table> <tr> <th>CORNER</th> <th>COORDINATE</th> <th>SIDE</th> <th>LENGTH</th> </tr> <tr> <td>A LAT</td> <td>-23.06 DEG</td> <td>AB</td> <td>115.8 KM</td> </tr> <tr> <td>A LONG</td> <td>58.78 DEG</td> <td>BC</td> <td>102.6 KM</td> </tr> <tr> <td>B LAT</td> <td>-23.28 DEG</td> <td>CD</td> <td>119.7 KM</td> </tr> <tr> <td>B LONG</td> <td>62.94 DEG</td> <td>DA</td> <td>96.3 KM</td> </tr> <tr> <td>C LAT</td> <td>-26.66 DEG</td> <td>TILT DISTANCE</td> <td></td> </tr> <tr> <td>C LONG</td> <td>62.77 DEG</td> <td></td> <td>6.5</td> </tr> <tr> <td>D LAT</td> <td>-26.21 DEG</td> <td></td> <td></td> </tr> <tr> <td>D LONG</td> <td>58.38 DEG</td> <td></td> <td></td> </tr> </table>								CORNER	COORDINATE	SIDE	LENGTH	A LAT	-23.06 DEG	AB	115.8 KM	A LONG	58.78 DEG	BC	102.6 KM	B LAT	-23.28 DEG	CD	119.7 KM	B LONG	62.94 DEG	DA	96.3 KM	C LAT	-26.66 DEG	TILT DISTANCE		C LONG	62.77 DEG		6.5	D LAT	-26.21 DEG			D LONG	58.38 DEG		
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MISSION/ FRAME NO. 5037	TIME 670810	YR.NO.DY 670810	HR.MI.SEC 0322 3.51	S/C POSITION ALT 124.63 KM ALT RT -0.1384 KM/SEC LAT -18.85 DEG LONG 57.39 DEG	S/C ORIENTATION TILT ANG 3.62 DEG TILT AZIM 246.45 DEG SWING ANG 151.00 DEG N.DEV. 84.41 DEG	PHOTO ILLUMINATION SUN AZIM 81.50 DEG INCID ANG 70.83 DEG EMISS ANG 3.98 DEG PHASE ANG 67.08 DEG ALPHA 3.74 DEG	PRINCIPAL POINT LATITUDE -18.95 DEG LONGITUDE 57.14 DEG																																				
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LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 422

MISSION/
FRAME NO.
5038

YR.NO.OY 670810
HR.MI.SEC 054535.21

S/C POSITION
ALT 103.08 KM
LAT RT -0.0159 KM/SEC
LAT -0.92 DEG
LONG 55.52 DEG

S/C ORIENTATION
TILT ANG 59.39 DEG
TILT AZIM 269.69 DEG
SWING ANG 177.06 DEG
N.DEV. 87.14 DEG

PHOTO ILLUMINATION
SUN AZIM 88.21 DEG
INCID ANG 73.88 DEG
EMISS ANG 65.76 DEG
PHASE ANG 8.25 DEG
ALPHA 65.39 DEG

PRINCIPAL POINT
LATITUDE -0.95 DEG
LONGITUDE 49.14 DEG

MEDIUM RESOLUTION

CORNER COORDINATE
A LAT 5.00 DEG
A LONG 39.25 DEG
B LAT 0.37 DEG
B LONG 52.93 DEG
C LAT -2.43 DEG
C LONG 52.76 DEG
D LAT -5.09 DEG
D LONG 43.56 DEG

SIDE LENGTH
AB 392.2 KM
BC 84.9 KM
CD 142.1 KM
DA 243.0 KM
TILT DISTANCE 35.7

HIGH RESOLUTION

CORNER COORDINATE
A LAT -0.21 DEG
A LONG 42.15 DEG
B LAT -0.74 DEG
B LONG 51.41 DEG
C LAT -1.23 DEG
C LONG 51.37 DEG
D LAT -1.48 DEG
D LONG 41.63 DEG

SIDE LENGTH
AB 280.1 KM
BC 14.7 KM
CD 294.2 KM
DA 41.7 KM
TILT DISTANCE 28.9

MISSION/
FRAME NO.
5039

YR.NO.OY 670810
HR.MI.SEC 105251.41

S/C POSITION
ALT 1252.42 KM
LAT RT 0.2500 KM/SEC
LAT 37.14 DEG
LONG -128.86 DEG

S/C ORIENTATION
TILT ANG 26.78 DEG
TILT AZIM 283.18 DEG
SWING ANG 89.39 DEG
N.DEV. 3.14 DEG

PHOTO ILLUMINATION
SUN AZIM 263.63 DEG
INCID ANG 79.81 DEG
EMISS ANG 50.85 DEG
PHASE ANG 130.65 DEG
ALPHA -50.85 DEG

PRINCIPAL POINT
LATITUDE 38.71 DEG
LONGITUDE -159.45 DEG

MEDIUM RESOLUTION

CORNER COORDINATE
A LAT 55.44 DEG
A LONG -132.02 DEG
B LAT 20.54 DEG
B LONG -139.62 DEG
C LAT 0. DEG
C LONG 0. DEG
D LAT 61.28 DEG
D LONG 150.68 DEG

SIDE LENGTH
AB 043.1 KM
BC 454.7 KM
CD 0. KM
DA 541.5 KM
TILT DISTANCE 40.2

HIGH RESOLUTION

CORNER COORDINATE
A LAT 47.97 DEG
A LONG -156.71 DEG
B LAT 29.81 DEG
B LONG -155.52 DEG
C LAT 27.73 DEG
C LONG -164.74 DEG
D LAT 48.05 DEG
D LONG -169.02 DEG

SIDE LENGTH
AB 548.7 KM
BC 252.8 KM
CD 620.8 KM
DA 249.0 KM
TILT DISTANCE 07.1

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

PAGE 423

04/10/71

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

5040

YR,MO,DY
HR,MI,SEC

TIME
67CE10
125148.01

S/C POSITION
ALT 123.74 KM
ALT RT -0.2144 KM/SEC
LAT -30.94 DEG
LONG 55.87 DEG

S/C ORIENTATION
TILT ANG 15.46 DEG
TILT AZIM 110.72 DEG
SWING ANG 15.74 DEG
N.DEV. 85.95 DEG

PHOTO ILLUMINATION
SUN AZIM 77.73 DEG
INCID ANG 73.37 DEG
EMISS ANG 11.46 DEG
PHASE ANG 83.12 DEG
ALPHA -9.84 DEG

PRINCIPAL POINT
LATITUDE -31.29 DEG
LONGITUDE 51.96 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -25.24 DEG AB 138.8 KM
A LONG 45.70 DEG BC 127.1 KM
B LAT -29.40 DEG CD 144.5 KM
B LONG 54.55 DEG DA 108.0 KM
C LAT -33.59 DEG TILT DISTANCE 14.5
C LONG 54.66 DEG
D LAT -32.88 DEG
D LONG 45.22 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -33.96 DEG AB 61.2 KM
A LONG 50.85 DEG BC 15.7 KM
B LAT -31.11 DEG CD 61.5 KM
B LONG 53.20 DEG DA 14.6 KM
C LAT -31.63 DEG TILT DISTANCE 12.3
C LONG 53.17 DEG
D LAT -31.44 DEG
D LONG 50.80 DEG

MISSION/
FRAME NO.

5041

YR,MO,DY
HR,MI,SEC

TIME
67CE10
161122.41

S/C POSITION
ALT 103.27 KM
ALT RT -0.3263 KM/SEC
LAT -2.41 DEG
LONG 51.87 DEG

S/C ORIENTATION
TILT ANG 53.52 DEG
TILT AZIM 274.00 DEG
SWING ANG 178.82 DEG
N.DEV. 86.52 DEG

PHOTO ILLUMINATION
SUN AZIM 87.84 DEG
INCID ANG 72.85 DEG
EMISS ANG 58.42 DEG
PHASE ANG 15.53 DEG
ALPHA 56.22 DEG

PRINCIPAL POINT
LATITUDE -2.06 DEG
LONGITUDE 46.97 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.00 DEG AB 464.3 KM
A LONG 35.06 DEG BC 78.5 KM
B LAT -0.59 DEG CD 130.0 KM
B LONG 45.26 DEG DA 328.4 KM
C LAT -3.58 DEG TILT DISTANCE 08.5
C LONG 45.62 DEG
D LAT -6.76 DEG
D LONG 35.04 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -1.39 DEG AB 144.3 KM
A LONG 43.84 DEG BC 13.0 KM
B LAT -1.98 DEG CD 145.4 KM
B LONG 48.58 DEG DA 24.3 KM
C LAT -2.40 DEG TILT DISTANCE 23.1
C LONG 48.54 DEG
D LAT -2.18 DEG
D LONG 43.73 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 424

MISSION/
FRAME NO.
5042

TIME 670810
YR.MO.DY 2234 8.51
HR.MI.SEC
S/C POSITION
ALT 102.35 KM
ALT RT -0.3159 KM/SEC
LAT -0.89 DEG
LONG 48.48 DEG
S/C ORIENTATION
TILT ANG 50.93 DEG
TILT AZIM 268.58 DEG
SWING ANG 175.57 DEG
N.DEV. 86.34 DEG
PHOTO ILLUMINATION
SUN AZIM 88.16 DEG
INCID ANG 72.43 DEG
EMISS ANG 55.31 DEG
PHASE ANG 17.13 DEG
ALPHA 55.30 DEG
PRINCIPAL POINT
LATITUDE -0.99 DEG
LONGITUDE 44.10 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.74 DEG AB 450.1 KM
A LONG 32.22 DEG BC 75.9 KM
B LAT 5.19 DEG CD 127.5 KM
B LONG 46.65 DEG DA 271.3 KM
C LAT -2.32 DEG TILT DISTANCE 98.8
C LONG 46.50 DEG
D LAT -5.57 DEG
D LONG 34.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.60 DEG AB 117.3 KM
A LONG 41.64 DEG BC 12.3 KM
B LAT -0.82 DEG CD 119.8 KM
B LONG 45.51 DEG DA 21.5 KM
C LAT -1.23 DEG TILT DISTANCE 49.7
C LONG 45.48 DEG
D LAT -1.29 DEG
D LONG 41.51 DEG

MISSION/
FRAME NO.
5043

TIME 670811
YR.MO.DY 035621-21
HR.MI.SEC
S/C POSITION
ALT 1190.57 KM
ALT RT -0.2776 KM/SEC
LAT -44.89 DEG
LONG -129.44 DEG
S/C ORIENTATION
TILT ANG 20.20 DEG
TILT AZIM 252.29 DEG
SWING ANG 90.31 DEG
N.DEV. 1.71 DEG
PHOTO ILLUMINATION
SUN AZIM 267.93 DEG
INCID ANG 94.32 DEG
EMISS ANG 35.60 DEG
PHASE ANG 129.91 DEG
ALPHA -35.59 DEG
PRINCIPAL POINT
LATITUDE -47.53 DEG
LONGITUDE -151.45 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -29.28 DEG AB 970.0 KM
A LONG -136.14 DEG BC 345.8 KM
B LAT -60.13 DEG CD 312.1 KM
B LONG -121.25 DEG DA 043.5 KM
C LAT -64.65 DEG TILT DISTANCE 29.3
C LONG 136.62 DEG
D LAT -13.33 DEG
D LONG -178.42 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -39.61 DEG AB 472.6 KM
A LONG -149.22 DEG BC 154.6 KM
B LAT -55.22 DEG CD 506.0 KM
B LONG -147.44 DEG DA 155.0 KM
C LAT -59.92 DEG TILT DISTANCE 23.9
C LONG -150.39 DEG
D LAT -39.16 DEG
D LONG -155.82 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 425

MISSION/ FRAME NO. 5044	TIME 670811	YR.MO.DY 080725.39	S/C POSITION ALT 102.07 KM ALT RT -0.0168 KM/SEC LAT -1.24 DEG LONG 43.17 DEG	S/C ORIENTATION TILT ANG 4.70 DEG TILT AZIM 267.20 DEG SWING ANG 172.31 DEG N.DEV. 85.10 DEG	PHOTO ILLUMINATION SUN AZIM 87.96 DEG INCID ANG 68.78 DEG EMISS ANG 4.98 DEG PHASE ANG 63.80 DEG ALPHA 4.98 DEG	PRINCIPAL POINT LATITUDE -1.25 DEG LONGITUDE 42.89 DEG																																								
<table> <tr> <th colspan="2">MEDIUM RESOLUTION</th> <th colspan="2">HIGH RESOLUTION</th> </tr> <tr> <th>CORNER COORDINATE</th> <th>SIDE LENGTH</th> <th>CORNER COORDINATE</th> <th>SIDE LENGTH</th> </tr> <tr> <td>A LAT C.09 DEG</td> <td>AB 84.3 KM</td> <td>A LAT -1.04 DEG</td> <td>AB 37.0 KM</td> </tr> <tr> <td>A LONG 41.55 DEG</td> <td>BC 68.6 KM</td> <td>A LONG 42.29 DEG</td> <td>BC 9.1 KM</td> </tr> <tr> <td>B LAT -0.23 DEG</td> <td>CD 85.0 KM</td> <td>B LAT -1.15 DEG</td> <td>CD 37.1 KM</td> </tr> <tr> <td>B LONG 44.32 DEG</td> <td>DA 73.9 KM</td> <td>B LONG 43.51 DEG</td> <td>DA 9.4 KM</td> </tr> <tr> <td>C LAT -2.49 DEG</td> <td>TILT DISTANCE 6.7</td> <td>C LAT -1.45 DEG</td> <td>TILT DISTANCE 50.0</td> </tr> <tr> <td>C LONG 44.13 DEG</td> <td></td> <td>C LONG 43.48 DEG</td> <td></td> </tr> <tr> <td>D LAT -2.34 DEG</td> <td></td> <td>D LAT -1.35 DEG</td> <td></td> </tr> <tr> <td>D LONG 41.33 DEG</td> <td></td> <td>D LONG 42.25 DEG</td> <td></td> </tr> </table>							MEDIUM RESOLUTION		HIGH RESOLUTION		CORNER COORDINATE	SIDE LENGTH	CORNER COORDINATE	SIDE LENGTH	A LAT C.09 DEG	AB 84.3 KM	A LAT -1.04 DEG	AB 37.0 KM	A LONG 41.55 DEG	BC 68.6 KM	A LONG 42.29 DEG	BC 9.1 KM	B LAT -0.23 DEG	CD 85.0 KM	B LAT -1.15 DEG	CD 37.1 KM	B LONG 44.32 DEG	DA 73.9 KM	B LONG 43.51 DEG	DA 9.4 KM	C LAT -2.49 DEG	TILT DISTANCE 6.7	C LAT -1.45 DEG	TILT DISTANCE 50.0	C LONG 44.13 DEG		C LONG 43.48 DEG		D LAT -2.34 DEG		D LAT -1.35 DEG		D LONG 41.33 DEG		D LONG 42.25 DEG	
MEDIUM RESOLUTION		HIGH RESOLUTION																																												
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D LONG 41.33 DEG		D LONG 42.25 DEG																																												

MISSION/ FRAME NO. 5045	TIME 670811	YR.MO.DY 080729.96	S/C POSITION ALT 102.00 KM ALT RT -0.0149 KM/SEC LAT -0.97 DEG LONG 43.19 DEG	S/C ORIENTATION TILT ANG 4.67 DEG TILT AZIM 270.39 DEG SWING ANG 175.52 DEG N.DEV. 85.12 DEG	PHOTO ILLUMINATION SUN AZIM 88.07 DEG INCID ANG 68.74 DEG EMISS ANG 4.95 DEG PHASE ANG 63.80 DEG ALPHA 4.94 DEG	PRINCIPAL POINT LATITUDE -0.97 DEG LONGITUDE 42.92 DEG																																								
<table> <tr> <th colspan="2">MEDIUM RESOLUTION</th> <th colspan="2">HIGH RESOLUTION</th> </tr> <tr> <th>CORNER COORDINATE</th> <th>SIDE LENGTH</th> <th>CORNER COORDINATE</th> <th>SIDE LENGTH</th> </tr> <tr> <td>A LAT C.37 DEG</td> <td>AB 84.4 KM</td> <td>A LAT -0.76 DEG</td> <td>AB 37.0 KM</td> </tr> <tr> <td>A LONG 41.57 DEG</td> <td>BC 68.6 KM</td> <td>A LONG 42.31 DEG</td> <td>BC 9.1 KM</td> </tr> <tr> <td>B LAT 0.05 DEG</td> <td>CD 84.7 KM</td> <td>B LAT -0.87 DEG</td> <td>CD 37.0 KM</td> </tr> <tr> <td>B LONG 44.34 DEG</td> <td>DA 73.8 KM</td> <td>B LONG 43.53 DEG</td> <td>DA 9.4 KM</td> </tr> <tr> <td>C LAT -2.21 DEG</td> <td>TILT DISTANCE 6.7</td> <td>C LAT -1.17 DEG</td> <td>TILT DISTANCE 49.7</td> </tr> <tr> <td>C LONG 44.16 DEG</td> <td></td> <td>C LONG 43.50 DEG</td> <td></td> </tr> <tr> <td>D LAT -2.06 DEG</td> <td></td> <td>D LAT -1.07 DEG</td> <td></td> </tr> <tr> <td>D LONG 41.36 DEG</td> <td></td> <td>D LONG 42.28 DEG</td> <td></td> </tr> </table>							MEDIUM RESOLUTION		HIGH RESOLUTION		CORNER COORDINATE	SIDE LENGTH	CORNER COORDINATE	SIDE LENGTH	A LAT C.37 DEG	AB 84.4 KM	A LAT -0.76 DEG	AB 37.0 KM	A LONG 41.57 DEG	BC 68.6 KM	A LONG 42.31 DEG	BC 9.1 KM	B LAT 0.05 DEG	CD 84.7 KM	B LAT -0.87 DEG	CD 37.0 KM	B LONG 44.34 DEG	DA 73.8 KM	B LONG 43.53 DEG	DA 9.4 KM	C LAT -2.21 DEG	TILT DISTANCE 6.7	C LAT -1.17 DEG	TILT DISTANCE 49.7	C LONG 44.16 DEG		C LONG 43.50 DEG		D LAT -2.06 DEG		D LAT -1.07 DEG		D LONG 41.36 DEG		D LONG 42.28 DEG	
MEDIUM RESOLUTION		HIGH RESOLUTION																																												
CORNER COORDINATE	SIDE LENGTH	CORNER COORDINATE	SIDE LENGTH																																											
A LAT C.37 DEG	AB 84.4 KM	A LAT -0.76 DEG	AB 37.0 KM																																											
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LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 426

MISSION/
FRAME NO.

5046 YR.MO.DY
FR.MI.SEC

TIME
570211
080734.47

S/C POSITION
ALT 101.94 KM
ALT RT -0.0131 KM/SEC
LAT -0.71 DEG
LONG 43.22 DEG

S/C ORIENTATION
TILT ANG 4.66 DEG
TILT AZIM 273.58 DEG
SWING ANG 178.71 DEG
N.DEV. 85.15 DEG

PHOTO ILLUMINATION
SUN AZIM 88.17 DEG
INCID ANG 68.71 DEG
EMISS ANG 4.93 DEG
PHASE ANG 63.80 DEG
ALPHA 4.91 DEG

PRINCIPAL POINT
LATITUDE -0.70 DEG
LONGITUDE 42.94 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.65 DEG AB 84.5 KM
A LONG 41.59 DEG BC 68.5 KM
B LAT 0.33 DEG CD 84.5 KM
B LONG 44.27 DEG DA 73.8 KM
C LAT -1.53 DEG TILT DISTANCE 5.7
C LONG 44.18 DEG
D LAT -1.78 DEG
D LONG 41.38 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.49 DEG AB 37.0 KM
A LONG 42.34 DEG BC 9.1 KM
B LAT -0.60 DEG CD 37.0 KM
B LONG 43.55 DEG DA 9.4 KM
C LAT -0.90 DEG TILT DISTANCE 49.6
C LONG 43.53 DEG
D LAT -0.80 DEG
D LONG 42.31 DEG

MISSION/
FRAME NO.

5047 YR.MO.DY
FR.MI.SEC

TIME
570211
080738.93

S/C POSITION
ALT 101.88 KM
ALT RT -0.0113 KM/SEC
LAT -0.46 DEG
LONG 43.24 DEG

S/C ORIENTATION
TILT ANG 4.66 DEG
TILT AZIM 276.73 DEG
SWING ANG 181.88 DEG
N.DEV. 85.17 DEG

PHOTO ILLUMINATION
SUN AZIM 88.28 DEG
INCID ANG 68.68 DEG
EMISS ANG 4.94 DEG
PHASE ANG 63.80 DEG
ALPHA 4.88 DEG

PRINCIPAL POINT
LATITUDE -0.43 DEG
LONGITUDE 42.96 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.92 DEG AB 84.6 KM
A LONG 41.61 DEG BC 68.5 KM
B LAT 0.60 DEG CD 84.4 KM
B LONG 44.39 DEG DA 73.8 KM
C LAT -1.66 DEG TILT DISTANCE 6.7
C LONG 44.20 DEG
D LAT -1.51 DEG
D LONG 41.41 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.22 DEG AB 37.0 KM
A LONG 42.36 DEG BC 9.1 KM
B LAT -0.23 DEG CD 37.0 KM
B LONG 43.68 DEG DA 9.4 KM
C LAT -0.63 DEG TILT DISTANCE 49.6
C LONG 43.55 DEG
D LAT -0.53 DEG
D LONG 42.33 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 24/10/71 PAGE 427

MISSION/ FRAME NO. 5048	TIME 570E11	S/C POSITION ALT 101.99 KM TILT RT -0.0157 KM/SEC LAT -1.09 DEG LONG 41.42 DEG	S/C ORIENTATION TILT ANG 24.80 DEG TILT AZIM 96.35 DEG SWING ANG 1.80 DEG N.DEV. 85.13 DEG	PHOTO ILLUMINATION SUN AZIM 87.89 DEG INCID ANG 67.07 DEG EMISS ANG 26.36 DEG PHASE ANG 93.18 DEG ALPHA -28.15 DEG	PRINCIPAL POINT LATITUDE -1.26 DEG LONGITUDE 42.98 DEG
<p>MEDIUM RESOLUTION</p> <p>CORNER COORDINATE SIDE LENGTH</p> <p>A LAT -0.07 DEG AB 108.3 KM</p> <p>A LONG 41.65 DEG BC 99.1 KM</p> <p>B LAT 0.19 DEG CD 110.9 KM</p> <p>B LONG 45.26 DEG DA 65.3 KM</p> <p>C LAT -3.08 DEG TILT DISTANCE 36.6</p> <p>C LONG 45.05 DEG</p> <p>D LAT -2.22 DEG</p> <p>D LONG 41.48 DEG</p>					
<p>HIGH RESOLUTION</p> <p>CORNER COORDINATE SIDE LENGTH</p> <p>A LAT -1.05 DEG AB 45.8 KM</p> <p>A LONG 42.31 DEG BC 11.2 KM</p> <p>B LAT -1.15 DEG CD 45.9 KM</p> <p>B LONG 43.82 DEG DA 9.4 KM</p> <p>C LAT -1.52 DEG TILT DISTANCE 81.2</p> <p>C LONG 43.79 DEG</p> <p>D LAT -1.36 DEG</p> <p>D LONG 42.28 DEG</p>					

MISSION/ FRAME NO. 5049	TIME 670E11	S/C POSITION ALT 101.85 KM TILT RT -0.0138 KM/SEC LAT -0.82 DEG LONG 41.45 DEG	S/C ORIENTATION TILT ANG 24.79 DEG TILT AZIM 95.75 DEG SWING ANG 1.14 DEG N.DEV. 86.01 DEG	PHOTO ILLUMINATION SUN AZIM 88.01 DEG INCID ANG 67.04 DEG EMISS ANG 26.36 DEG PHASE ANG 93.18 DEG ALPHA -25.18 DEG	PRINCIPAL POINT LATITUDE -0.97 DEG LONGITUDE 43.00 DEG
<p>MEDIUM RESOLUTION</p> <p>CORNER COORDINATE SIDE LENGTH</p> <p>A LAT 0.22 DEG AB 109.5 KM</p> <p>A LONG 41.68 DEG BC 99.0 KM</p> <p>B LAT 0.49 DEG CD 110.6 KM</p> <p>B LONG 45.29 DEG DA 65.2 KM</p> <p>C LAT -2.78 DEG TILT DISTANCE 36.6</p> <p>C LONG 45.06 DEG</p> <p>D LAT -1.93 DEG</p> <p>D LONG 41.51 DEG</p>					
<p>HIGH RESOLUTION</p> <p>CORNER COORDINATE SIDE LENGTH</p> <p>A LAT -0.76 DEG AB 45.8 KM</p> <p>A LONG 42.33 DEG BC 11.2 KM</p> <p>B LAT -0.85 DEG CD 45.8 KM</p> <p>B LONG 43.84 DEG DA 9.4 KM</p> <p>C LAT -1.22 DEG TILT DISTANCE 81.1</p> <p>C LONG 43.82 DEG</p> <p>D LAT -1.07 DEG</p> <p>D LONG 42.31 DEG</p>					

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 428

MISSION/
FRAME NO.
5050

YR.MO.DY 670811
HR.MI.SEC 111844.91

S/C POSITION
ALT 101.77 KM
ALT RT -0.0118 KM/SEC
LAT -0.53 DEG
LONG 41.47 DEG

S/C ORIENTATION
TILT ANG 24.79 DEG
TILT AZIM 95.13 DEG
SWING ANG 0.46 DEG
N.DEV. 85.87 DEG

PHOTO ILLUMINATION
SUN AZIM 88.14 DEG
INCID ANG 67.00 DEG
EMISS ANG 26.35 DEG
PHASE ANG 93.18 DEG
ALPHA -26.21 DEG

PRINCIPAL POINT
LATITUDE -0.67 DEG
LONGITUDE 43.03 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.53 DEG AB 109.8 KM
A LONG 41.71 DEG BC 98.9 KM
B LAT 0.79 DEG CD 119.2 KM
B LONG 45.33 DEG DA 65.2 KM
C LAT -2.47 DEG TILT DISTANCE 36.6
C LONG 45.08 DEG
D LAT -1.62 DEG
D LONG 41.53 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.46 DEG AB 45.8 KM
A LONG 42.36 DEG BC 11.2 KM
B LAT -0.55 DEG CD 45.8 KM
B LONG 43.87 DEG DA 9.4 KM
C LAT -0.92 DEG TILT DISTANCE 81.1
C LONG 43.84 DEG
D LAT -0.77 DEG
D LONG 42.33 DEG

MISSION/
FRAME NO.
5051

YR.MO.DY 670811
HR.MI.SEC 111849.71

S/C POSITION
ALT 101.72 KM
ALT RT -0.0098 KM/SEC
LAT -0.25 DEG
LONG 41.49 DEG

S/C ORIENTATION
TILT ANG 24.79 DEG
TILT AZIM 94.53 DEG
SWING ANG 359.80 DEG
N.DEV. 85.74 DEG

PHOTO ILLUMINATION
SUN AZIM 88.27 DEG
INCID ANG 66.97 DEG
EMISS ANG 26.35 DEG
PHASE ANG 93.18 DEG
ALPHA -26.24 DEG

PRINCIPAL POINT
LATITUDE -0.38 DEG
LONGITUDE 43.05 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.82 DEG AB 110.3 KM
A LONG 41.73 DEG BC 98.9 KM
B LAT 1.09 DEG CD 109.8 KM
B LONG 45.36 DEG DA 65.1 KM
C LAT -2.17 DEG TILT DISTANCE 36.6
C LONG 45.09 DEG
D LAT -1.32 DEG
D LONG 41.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.16 DEG AB 45.7 KM
A LONG 42.38 DEG BC 11.2 KM
B LAT -0.26 DEG CD 45.7 KM
B LONG 43.89 DEG DA 9.4 KM
C LAT -0.63 DEG TILT DISTANCE 81.1
C LONG 43.86 DEG
D LAT -0.47 DEG
D LONG 42.36 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/12/71 PAGE 429

MISSION/
FRAME NO.

5052

YR,MO,DY
PR,MI,SEC

TIME
670811
143052.11

S/C POSITION
ALT 100.67 KM
ALT RT 0.0126 KM/SEC
LAT 2.95 DEG
LONG 40.00 DEG

S/C ORIENTATION
TILT ANG 51.58 DEG
TILT AZIM 269.52 DEG
SWING ANG 177.10 DEG
N.DEV. 87.50 DEG

PHOTO ILLUMINATION
SUN AZIM 89.39 DEG
INCID ANG 72.74 DEG
EMISS ANG 55.99 DEG
PHASE ANG 16.75 DEG
ALPHA 55.99 DEG

PRINCIPAL POINT
LATITUDE 2.91 DEG
LONGITUDE 35.59 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 8.55 DEG AB 446.7 KM
A LONG 23.45 DEG BC 75.3 KM
B LAT 4.09 DEG CD 125.1 KM
B LONG 28.14 DEG DA 272.5 KM
C LAT 1.62 DEG TILT DISTANCE 01.1
C LONG 38.03 DEG
D LAT -1.76 DEG
D LONG 26.42 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.29 DEG AB 120.5 KM
A LONG 33.03 DEG BC 12.2 KM
B LAT 3.08 DEG CD 122.3 KM
B LONG 37.01 DEG DA 21.5 KM
C LAT 2.68 DEG TILT DISTANCE 67.3
C LONG 36.99 DEG
D LAT 2.59 DEG
D LONG 32.94 DEG

MISSION/
FRAME NO.

5053

YR,MO,DY
PR,MI,SEC

TIME
670811
18405.71

S/C POSITION
ALT 1150.50 KM
ALT RT 0.2778 KM/SEC
LAT 42.56 DEG
LONG -146.99 DEG

S/C ORIENTATION
TILT ANG 25.58 DEG
TILT AZIM 297.39 DEG
SWING ANG 106.97 DEG
N.DEV. 12.64 DEG

PHOTO ILLUMINATION
SUN AZIM 261.58 DEG
INCID ANG 80.80 DEG
EMISS ANG 46.71 DEG
PHASE ANG 125.83 DEG
ALPHA -45.27 DEG

PRINCIPAL POINT
LATITUDE 48.85 DEG
LONGITUDE -176.10 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 68.29 DEG AB 049.6 KM
A LONG -145.57 DEG BC 261.5 KM
B LAT 33.43 DEG CD 241.6 KM
B LONG -143.50 DEG DA 365.9 KM
C LAT 16.77 DEG TILT DISTANCE 38.2
C LONG 162.44 DEG
D LAT 74.29 DEG
D LONG 156.39 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 58.15 DEG AB 533.7 KM
A LONG -176.97 DEG BC 177.7 KM
B LAT 41.04 DEG CD 607.6 KM
B LONG -169.93 DEG DA 238.5 KM
C LAT 39.91 DEG TILT DISTANCE 91.4
C LONG -177.51 DEG
D LAT 57.83 DEG
D LONG 168.15 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/77: PAGE 433

MISSION/
FRAME NO.

5054 YR.MO.DY 67CE11
HR.MI.SEC 204536.81

S/C POSITION
ALT 132.77 KM
ALT RT -0.1618 KM/SEC
LAT -22.62 DEG
LONG 34.26 DEG

S/C ORIENTATION
TILT ANG 57.90 DEG
TILT AZIM 227.83 DEG
SWING ANG 111.35 DEG
N.DEV. 40.18 DEG

PHOTO ILLUMINATION
SUN AZIM 82.80 DEG
INCID ANG 79.62 DEG
EMISS ANG 65.63 DEG
PHASE ANG 33.85 DEG
ALPHA 35.54 DEG

PRINCIPAL POINT
LATITUDE -27.74 DEG
LONGITUDE 27.72 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -23.38 DEG AB 161.4 KM
A LONG 27.43 DEG BC 164.9 KM
B LAT -25.43 DEG CD 661.4 KM
B LONG 32.81 DEG DA 0. KM
C LAT -41.93 DEG TILT DISTANCE 26.8
C LONG 24.59 DEG
D LAT 0. DEG
D LONG 0. DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -26.73 DEG AB 117.0 KM
A LONG 25.89 DEG BC 45.6 KM
B LAT -27.41 DEG CD 162.3 KM
B LONG 31.16 DEG DA 89.9 KM
C LAT -28.71 DEG TILT DISTANCE 66.4
C LONG 29.29 DEG
D LAT -28.48 DEG
D LONG 23.19 DEG

MISSION/
FRAME NO.

5055 YR.MO.DY 67CE12
HR.MI.SEC 0004 0.12

S/C POSITION
ALT 100.14 KM
ALT RT 0.8375 KM/SEC
LAT 2.19 DEG
LONG 34.67 DEG

S/C ORIENTATION
TILT ANG 8.34 DEG
TILT AZIM 272.08 DEG
SWING ANG 177.33 DEG
N.DEV. 85.29 DEG

PHOTO ILLUMINATION
SUN AZIM 89.29 DEG
INCID ANG 69.28 DEG
EMISS ANG 8.82 DEG
PHASE ANG 60.47 DEG
ALPHA 8.81 DEG

PRINCIPAL POINT
LATITUDE 2.21 DEG
LONGITUDE 34.19 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.58 DEG AB 84.6 KM
A LONG 32.79 DEG BC 66.1 KM
B LAT 3.20 DEG CD 85.7 KM
B LONG 35.56 DEG DA 75.3 KM
C LAT 1.82 DEG TILT DISTANCE 11.8
C LONG 35.29 DEG
D LAT 1.10 DEG
D LONG 32.92 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.42 DEG AB 35.9 KM
A LONG 33.57 DEG BC 8.9 KM
B LAT 2.31 DEG CD 27.0 KM
B LONG 34.79 DEG DA 9.4 KM
C LAT 2.02 DEG TILT DISTANCE 89.1
C LONG 34.76 DEG
D LAT 2.11 DEG
D LONG 33.55 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/11/71 PAGE 43

MISSION/
FRAME NO.
5056

YR,MO,DY 670812
PR,MI,SEC 0004 0.58

TIME

S/C POSITION
ALT 100.18 KM
ALT RT 0.0093 KM/SEC
LAT 2.45 DEG
LONG 74.69 DEG

S/C ORIENTATION
TILT ANG 8.33 DEG
TILT AZIM 273.84 DEG
SWING ANG 179.11 DEG
N.DEV. 95.33 DEG

PHOTO ILLUMINATION
SUN AZIM 89.39 DEG
INCID ANG 69.26 DEG
EMISS ANG 8.81 DEG
PHASE ANG 60.47 DEG
ALPHA 8.78 DEG

PRINCIPAL POINT
LATITUDE 2.48 DEG
LONGITUDE 34.21 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.45 DEG AB 86.7 KM
A LONG 32.81 DEG AC 45.1 KM
B LAT 2.47 DEG CD 86.3 KM
B LONG 35.59 DEG DA 75.3 KM
C LAT 1.30 DEG TILT DISTANCE 11.3
C LONG 35.41 DEG
D LAT 1.27 DEG
D LONG 32.61 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.49 DEG AB 36.9 KM
A LONG 33.59 DEG AC 9.9 KM
B LAT 2.58 DEG CD 37.0 KM
B LONG 34.81 DEG DA 9.4 KM
C LAT 2.29 DEG TILT DISTANCE 89.2
C LONG 34.79 DEG
D LAT 2.38 DEG
D LONG 33.57 DEG

MISSION/
FRAME NO.
5057

YR,MO,DY 670812
PR,MI,SEC 0004 0.04

TIME

S/C POSITION
ALT 100.23 KM
ALT RT 0.0111 KM/SEC
LAT 2.71 DEG
LONG 34.71 DEG

S/C ORIENTATION
TILT ANG 8.33 DEG
TILT AZIM 275.60 DEG
SWING ANG 180.88 DEG
N.DEV. 85.37 DEG

PHOTO ILLUMINATION
SUN AZIM 89.50 DEG
INCID ANG 69.23 DEG
EMISS ANG 8.81 DEG
PHASE ANG 60.47 DEG
ALPHA 8.75 DEG

PRINCIPAL POINT
LATITUDE 2.75 DEG
LONGITUDE 34.23 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.17 DEG AB 86.9 KM
A LONG 32.83 DEG AC 45.1 KM
B LAT 2.75 DEG CD 86.7 KM
B LONG 35.61 DEG DA 75.4 KM
C LAT 1.57 DEG TILT DISTANCE 11.3
C LONG 35.43 DEG
D LAT 1.44 DEG
D LONG 32.63 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.96 DEG AB 37.0 KM
A LONG 33.62 DEG AC 9.9 KM
B LAT 2.85 DEG CD 37.0 KM
B LONG 34.83 DEG DA 9.4 KM
C LAT 2.56 DEG TILT DISTANCE 89.2
C LONG 34.81 DEG
D LAT 2.65 DEG
D LONG 33.59 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/13/71 PAGE 432

MISSION/
FRAME NO.

5039 YR.MO.DY
PR.MI.SEC

TIME
670612
000413.50

S/C POSITION
ALT 100.28 KM
ALT RT 0.0129 KM/SEC
LAT 2.96 DEG
LONG 34.72 DEG

S/C ORIENTATION
TILT ANG 8.33 DEG
TILT AZIM 277.36 DEG
SWING ANG 182.65 DEG
N.DEV. 85.41 DEG

PHOTO ILLUMINATION
SUN AZIM 89.40 DEG
INCID ANG 59.21 DEG
EMISS ANG 8.82 DEG
PHASE ANG 60.37 DEG
ALPHA 8.73 DEG

PRINCIPAL POINT
LATITUDE 1.03 DEG
LONGITUDE 14.25 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.40 DEG AB 85.1 KM
A LONG 30.83 DEG BC 56.2 KM
B LAT 4.72 DEG CD 84.6 KM
B LONG 25.64 DEG DA 75.4 KM
C LAT 1.84 DEG TILT DISTANCE 11.8
C LONG 35.46 DEG
D LAT 1.92 DEG
D LONG 32.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.23 DEG AB 37.0 KM
A LONG 31.64 DEG BC 8.9 KM
B LAT 3.12 DEG CD 17.0 KM
B LONG 34.86 DEG DA 9.4 KM
C LAT 2.83 DEG TILT DISTANCE 89.1
C LONG 34.83 DEG
D LAT 2.92 DEG
D LONG 33.61 DEG

MISSION/
FRAME NO.

5055 YR.MO.DY
PR.MI.SEC

TIME
670612
0115 8.71

S/C POSITION
ALT 100.02 KM
ALT RT 0.0085 KM/SEC
LAT 2.32 DEG
LONG 32.93 DEG

S/C ORIENTATION
TILT ANG 22.55 DEG
TILT AZIM 96.19 DEG
SWING ANG 1.52 DEG
N.DEV. 85.81 DEG

PHOTO ILLUMINATION
SUN AZIM 89.33 DEG
INCID ANG 67.54 DEG
EMISS ANG 23.94 DEG
PHASE ANG 91.33 DEG
ALPHA -23.81 DEG

PRINCIPAL POINT
LATITUDE 2.17 DEG
LONGITUDE 34.33 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.75 DEG AB 102.1 KM
A LONG 23.13 DEG BC 92.3 KM
B LAT 3.54 DEG CD 103.2 KM
B LONG 26.41 DEG DA 64.2 KM
C LAT 0.48 DEG TILT DISTANCE 32.9
C LONG 36.18 DEG
D LAT 1.24 DEG
D LONG 32.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.38 DEG AB 43.2 KM
A LONG 33.46 DEG BC 10.7 KM
B LAT 2.29 DEG CD 43.2 KM
B LONG 35.09 DEG DA 9.1 KM
C LAT 1.93 DEG TILT DISTANCE 52.8
C LONG 35.06 DEG
D LAT 2.08 DEG
D LONG 33.64 DEG

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MISSION/
FRAME NO.
5060

YR.NO.DY 67C812
HR.MI.SEC 031513.51

S/C POSITION
ALT 100.06 KM
ALT RT 0.0104 KM/SEC
LAT 2.60 DEG
LONG 32.95 DEG

S/C ORIENTATION
TILT ANG 22.55 DEG
TILT AZIM 95.52 DEG
SWING ANG 0.79 DEG
N.DEV. 85.69 DEG

PHOTO ILLUMINATION
SUN AZIM 89.46 DEG
INCID ANG 67.52 DEG
EMISS ANG 23.93 DEG
PHASE ANG 91.33 DEG
ALPHA -23.83 DEG

PRINCIPAL POINT
LATITUDE 2.47 DEG
LONGITUDE 34.33 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.64 DEG AB 102.5 KM
A LONG 33.06 DEG BC 92.8 KM
B LAT 3.83 DEG CD 103.0 KM
B LONG 36.44 DEG DA 64.0 KM
C LAT 0.77 DEG TILT DISTANCE 32.9
C LONG 36.20 DEG
D LAT 1.53 DEG
D LONG 32.88 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.67 DEG AB 43.2 KM
A LONG 33.69 DEG BC 10.7 KM
B LAT 2.58 DEG CD 43.2 KM
B LONG 35.11 DEG DA 9.1 KM
C LAT 2.22 DEG TILT DISTANCE 52.7
C LONG 35.09 DEG
D LAT 2.37 DEG
D LONG 33.66 DEG

MISSION/
FRAME NO.
5061

YR.NO.DY 67C812
HR.MI.SEC 031518.31

S/C POSITION
ALT 100.12 KM
ALT RT 0.0123 KM/SEC
LAT 2.88 DEG
LONG 32.98 DEG

S/C ORIENTATION
TILT ANG 22.55 DEG
TILT AZIM 94.85 DEG
SWING ANG 0.37 DEG
N.DEV. 85.57 DEG

PHOTO ILLUMINATION
SUN AZIM 89.58 DEG
INCID ANG 67.49 DEG
EMISS ANG 23.93 DEG
PHASE ANG 91.33 DEG
ALPHA -23.95 DEG

PRINCIPAL POINT
LATITUDE 2.76 DEG
LONGITUDE 34.35 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.94 DEG AB 102.8 KM
A LONG 33.08 DEG BC 92.9 KM
B LAT 4.13 DEG CD 102.8 KM
B LONG 36.48 DEG DA 64.1 KM
C LAT 1.07 DEG TILT DISTANCE 32.9
C LONG 36.22 DEG
D LAT 1.83 DEG
D LONG 32.91 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.96 DEG AB 43.2 KM
A LONG 33.71 DEG BC 11.7 KM
B LAT 2.87 DEG CD 43.3 KM
B LONG 35.14 DEG DA 9.1 KM
C LAT 2.52 DEG TILT DISTANCE 52.7
C LONG 35.11 DEG
D LAT 2.66 DEG
D LONG 33.69 DEG

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MISSION/
FRAME NO.

5062

TIME

670512
031523.21

S/C POSITION

ALT 100.18 KM
ALT RT 0.0143 KM/SEC
LAT 3.16 DEG
LONG 33.00 DEG

S/C ORIENTATION

TILT ANG 22.55 DEG
TILT AZIM 94.17 DEG
SWING ANG 359.33 DEG
N.DEV. 85.45 DEG

PHOTO ILLUMINATION

SUN AZIM 89.70 DEG
INCID ANG 67.86 DEG
EMISS ANG 23.93 DEG
PHASE ANG 91.33 DEG
ALPHA -23.88 DEG

PRINCIPAL POINT

LATITUDE 3.06 DEG
LONGITUDE 34.38 DEG

MEDIUM RESOLUTION

CORNER COORDINATE
A LAT 4.24 DEG
A LONG 33.11 DEG
B LAT 4.43 DEG
B LONG 34.52 DEG
C LAT 1.37 DEG
C LONG 36.24 DEG
D LAT 2.13 DEG
D LONG 32.53 DEG

SIDE LENGTH
AB 103.1 KM
BC 93.3 KM
CD 102.6 KM
DA 64.1 KM
TILT DISTANCE 32.9

HIGH RESOLUTION

CORNER COORDINATE
A LAT 3.26 DEG
A LONG 33.74 DEG
B LAT 3.17 DEG
B LONG 35.17 DEG
C LAT 2.81 DEG
C LONG 35.14 DEG
D LAT 2.96 DEG
D LONG 33.71 DEG

SIDE LENGTH
AB 43.3 KM
BC 18.7 KM
CD 43.3 KM
DA 9.1 KM
TILT DISTANCE 52.7

MISSION/
FRAME NO.

5063

TIME

670512
042530.61

S/C POSITION

ALT 99.44 KM
ALT RT -0.0094 KM/SEC
LAT -0.20 DEG
LONG 30.97 DEG

S/C ORIENTATION

TILT ANG 29.10 DEG
TILT AZIM 95.21 DEG
SWING ANG 0.41 DEG
N.DEV. 85.95 DEG

PHOTO ILLUMINATION

SUN AZIM 88.28 DEG
INCID ANG 67.48 DEG
EMISS ANG 30.95 DEG
PHASE ANG 98.22 DEG
ALPHA -30.79 DEG

PRINCIPAL POINT

LATITUDE -0.37 DEG
LONGITUDE 32.81 DEG

MEDIUM RESOLUTION

CORNER COORDINATE
A LAT 0.81 DEG
A LONG 31.45 DEG
B LAT 1.19 DEG
B LONG 35.41 DEG
C LAT -2.33 DEG
C LONG 35.13 DEG
D LAT -1.30 DEG
D LONG 31.28 DEG

SIDE LENGTH
AB 120.2 KM
BC 106.9 KM
CD 120.8 KM
DA 64.1 KM
TILT DISTANCE 44.1

HIGH RESOLUTION

CORNER COORDINATE
A LAT -0.16 DEG
A LONG 32.11 DEG
B LAT -0.26 DEG
B LONG 33.72 DEG
C LAT -0.64 DEG
C LONG 33.69 DEG
D LAT -0.47 DEG
D LONG 32.08 DEG

SIDE LENGTH
AB 48.9 KM
BC 11.7 KM
CD 48.9 KM
DA 9.4 KM
TILT DISTANCE 38.8

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MISSION/
FRAME NO.
5064

TIME 675812
YR.MO.DY 670612
PR.MI.SEC 053453.31

S/C POSITION
ALT 98.27 KM
ALT RT -0.0027 KM/SEC
LAT 0.78 DEG
LONG 29.30 DEG

S/C ORIENTATION
TILT ANG 53.18 DEG
TILT AZIM 269.24 DEG
SWING ANG 176.46 DEG
N.DEV. 86.93 DEG

PHOTO ILLUMINATION
SUN AZIM 85.71 DEG
INCID ANG 73.56 DEG
EMISS ANG 55.41 DEG
PHASE ANG 18.15 DEG
ALPHA 55.40 DEG

PRINCIPAL POINT
LATITUDE 0.72 DEG
LONGITUDE 25.07 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.68 DEG AB 477.8 KM
A LONG 12.21 DEG BC 72.9 KM
B LAT 1.65 DEG CD 122.0 KM
B LONG 27.53 DEG DA 250.1 KM
C LAT -0.55 DEG TILT DISTANCE 99.7
C LONG 27.40 DEG
D LAT -3.50 DEG
D LONG 16.87 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.10 DEG AB 113.7 KM
A LONG 22.68 DEG BC 11.9 KM
B LAT 0.88 DEG CD 115.7 KM
B LONG 26.43 DEG DA 20.6 KM
C LAT 0.49 DEG TILT DISTANCE 56.5
C LONG 26.40 DEG
D LAT 0.43 DEG
D LONG 22.58 DEG

MISSION/
FRAME NO.
5065

TIME 675812
YR.MO.DY 670612
PR.MI.SEC 114521.71

S/C POSITION
ALT 1191.99 KM
ALT RT -0.2772 KM/SEC
LAT -44.71 DEG
LONG -147.27 DEG

S/C ORIENTATION
TILT ANG 19.92 DEG
TILT AZIM 240.48 DEG
SWING ANG 82.52 DEG
N.DEV. 358.95 DEG

PHOTO ILLUMINATION
SUN AZIM 268.06 DEG
INCID ANG 93.61 DEG
EMISS ANG 35.08 DEG
PHASE ANG 128.46 DEG
ALPHA -34.84 DEG

PRINCIPAL POINT
LATITUDE -49.87 DEG
LONGITUDE -168.65 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -31.31 DEG AB 977.5 KM
A LONG -152.47 DEG BC 399.4 KM
B LAT -62.49 DEG CD 403.2 KM
B LONG -137.09 DEG DA 801.6 KM
C LAT -70.41 DEG TILT DISTANCE 28.8
C LONG 145.46 DEG
D LAT -22.50 DEG
D LONG 171.52 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -41.10 DEG AB 474.0 KM
A LONG -165.83 DEG BC 157.7 KM
B LAT -56.79 DEG CD 507.2 KM
B LONG -165.29 DEG DA 148.5 KM
C LAT -57.43 DEG TILT DISTANCE 20.6
C LONG -174.81 DEG
D LAT -40.71 DEG
D LONG -172.29 DEG

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MISSION/
FRAME NO.

5066

YR.MO.DY 670612

HR.MI.SEC 1254 0.79

S/C POSITION
ALT 122.85 KM
ALT RT 0.1393 KM/SEC
LAT 21.42 DEG
LONG 29.29 DEG

S/C ORIENTATION
TILT ANG 1.47 DEG
TILT AZIM 351.69 DEG
SWING ANG 256.91 DEG
N.DEV. 85.23 DEG

PHOTO ILLUMINATION
SUN AZIM 97.13 DEG
INCID ANG 68.77 DEG
EMISS ANG 1.48 DEG
PHASE ANG 68.35 DEG
ALPHA 0.40 DEG

PRINCIPAL POINT
LATITUDE 21.53 DEG
LONGITUDE 29.27 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 23.69 DEG AB 102.1 KM
A LONG 27.55 DEG BC 85.3 KM
B LAT 22.80 DEG CD 107.1 KM
B LONG 31.20 DEG DA 85.9 KM
C LAT 20.00 DEG TILT DISTANCE
C LONG 30.88 DEG 2.1
D LAT 20.26 DEG
D LONG 27.37 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 21.77 DEG AB 44.3 KM
A LONG 28.50 DEG BC 11.1 KM
B LAT 21.65 DEG CD 44.2 KM
B LONG 39.07 DEG DA 11.1 KM
C LAT 21.28 DEG TILT DISTANCE
C LONG 30.03 DEG 15.6
D LAT 21.40 DEG
D LONG 28.47 DEG

MISSION/
FRAME NO.

5067

YR.MO.DY 670612

HR.MI.SEC 1254 6.57

S/C POSITION
ALT 123.67 KM
ALT RT 0.1414 KM/SEC
LAT 21.75 DEG
LONG 29.32 DEG

S/C ORIENTATION
TILT ANG 1.79 DEG
TILT AZIM 354.10 DEG
SWING ANG 259.31 DEG
N.DEV. 85.22 DEG

PHOTO ILLUMINATION
SUN AZIM 97.28 DEG
INCID ANG 68.78 DEG
EMISS ANG 1.92 DEG
PHASE ANG 68.36 DEG
ALPHA 0.41 DEG

PRINCIPAL POINT
LATITUDE 21.87 DEG
LONGITUDE 29.39 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 23.46 DEG AB 103.0 KM
A LONG 27.57 DEG BC 85.9 KM
B LAT 23.16 DEG CD 100.6 KM
B LONG 31.26 DEG DA 86.5 KM
C LAT 20.34 DEG TILT DISTANCE
C LONG 26.53 DEG 2.5
D LAT 20.60 DEG
D LONG 27.39 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.12 DEG AB 44.6 KM
A LONG 28.52 DEG BC 11.2 KM
B LAT 21.99 DEG CD 44.5 KM
B LONG 30.11 DEG DA 11.2 KM
C LAT 21.63 DEG TILT DISTANCE
C LONG 30.07 DEG 19.0
D LAT 21.75 DEG
D LONG 28.50 DEG

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MISSION/
FRAME NO.
5068

TIME 67CE12
YR.MO.DY 125412.35
PR.MI.SEC
S/C POSITION
ALT 124.49 KM
LAT RT 0.1436 KM/SEC
LAT 22.07 DEG
LONG 29.35 DEG
S/C ORIENTATION
TILT ANG 2.11 DEG
TILT AZIM 355.79 DEG
SWING ANG 260.99 DEG
N.DEV. 85.21 DEG
PHOTO ILLUMINATION
SUN AZIM 97.43 DEG
INCID ANG 68.80 DEG
EMISS ANG 2.26 DEG
PHASE ANG 68.36 DEG
ALPHA 0.42 DEG
PRINCIPAL POINT
LATITUDE 22.22 DEG
LONGITUDE 29.33 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.82 DEG AB 104.9 KM
A LONG 27.58 DEG BC 86.5 KM
B LAT 23.52 DEG CD 107.1 KM
B LONG 31.31 DEG DA 87.1 KM
C LAT 20.68 DEG TILT DISTANCE
C LONG 20.57 DEG 3.0
C LAT 20.55 DEG
D LONG 27.41 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.47 DEG AB 45.0 KM
A LONG 28.55 DEG BC 11.3 KM
B LAT 22.34 DEG CD 44.8 KM
B LONG 30.15 DEG DA 11.3 KM
C LAT 21.97 DEG TILT DISTANCE
C LONG 30.11 DEG 22.4
D LAT 22.09 DEG
D LONG 28.52 DEG

MISSION/
FRAME NO.
5069

TIME 67CE12
YR.MO.DY 125418.13
PR.MI.SEC
S/C POSITION
ALT 125.33 KM
LAT RT 0.1457 KM/SEC
LAT 22.39 DEG
LONG 29.38 DEG
S/C ORIENTATION
TILT ANG 2.43 DEG
TILT AZIM 357.04 DEG
SWING ANG 262.23 DEG
N.DEV. 85.20 DEG
PHOTO ILLUMINATION
SUN AZIM 97.57 DEG
INCID ANG 68.81 DEG
EMISS ANG 2.61 DEG
PHASE ANG 68.36 DEG
ALPHA 0.43 DEG
PRINCIPAL POINT
LATITUDE 22.57 DEG
LONGITUDE 29.37 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 24.18 DEG AB 104.9 KM
A LONG 27.59 DEG BC 87.1 KM
B LAT 23.68 DEG CD 101.6 KM
B LONG 31.27 DEG DA 87.8 KM
C LAT 21.02 DEG TILT DISTANCE
C LONG 21.02 DEG 3.4
D LAT 21.29 DEG
D LONG 27.43 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.82 DEG AB 45.3 KM
A LONG 28.57 DEG BC 11.3 KM
B LAT 22.69 DEG CD 45.1 KM
B LONG 30.19 DEG DA 11.4 KM
C LAT 22.32 DEG TILT DISTANCE
C LONG 30.15 DEG 25.8
D LAT 22.44 DEG
D LONG 28.55 DEG

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MISSION/
FRAME NO.
5070

TIME 670812
YR.MO.DY 670812
PR.MI.SEC 120349.11

S/C POSITION
ALT 113.14 KM
ALT RT 0.1102 KM/SEC
LAT 17.11 DEG
LONG 27.13 DEG

S/C ORIENTATION
TILT ANG 11.95 DEG
TILT AZIM 283.86 DEG
SWING ANG 189.48 DEG
N.DEV. 86.18 DEG

PHOTO ILLUMINATION
SUN AZIM 95.04 DEG
INCID ANG 69.57 DEG
EMISS ANG 12.74 DEG
ALPHA 12.57 DEG

PRINCIPAL POINT
LATITUDE 17.30 DEG
LONGITUDE 26.33 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 18.53 DEG AB 100.5 KM
A LONG 24.61 DEG BC 73.8 KM
B LAT 18.42 DEG CD 97.6 KM
B LONG 27.57 DEG DA 89.1 KM
C LAT 15.99 DEG TILT DISTANCE 17.1
C LONG 27.74 DEG
D LAT 15.59 DEG
D LONG 24.39 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 17.53 DEG AB 42.9 KM
A LONG 25.57 DEG BC 10.1 KM
B LAT 17.41 DEG CD 42.7 KM
B LONG 27.05 DEG DA 10.9 KM
C LAT 17.08 DEG TILT DISTANCE 28.8
C LONG 27.02 DEG
D LAT 17.17 DEG
D LONG 25.55 DEG

MISSION/
FRAME NO.
5071

TIME 670812
YR.MO.DY 670812
PR.MI.SEC 1910 2.21

S/C POSITION
ALT 98.27 KM
ALT RT -0.0060 KM/SEC
LAT 0.40 DEG
LONG 24.02 DEG

S/C ORIENTATION
TILT ANG 3.42 DEG
TILT AZIM 268.10 DEG
SWING ANG 173.64 DEG
N.DEV. 85.54 DEG

PHOTO ILLUMINATION
SUN AZIM 88.61 DEG
INCID ANG 69.96 DEG
EMISS ANG 3.62 DEG
ALPHA 3.62 DEG

PRINCIPAL POINT
LATITUDE 0.39 DEG
LONGITUDE 23.82 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.66 DEG AB 80.9 KM
A LONG 22.53 DEG BC 66.5 KM
B LAT 1.40 DEG CD 81.3 KM
B LONG 25.19 DEG DA 70.3 KM
C LAT -0.79 DEG TILT DISTANCE 4.9
C LONG 25.03 DEG
D LAT -0.65 DEG
D LONG 22.35 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.59 DEG AB 35.5 KM
A LONG 23.24 DEG BC 8.8 KM
B LAT 0.49 DEG CD 35.5 KM
B LONG 24.41 DEG DA 9.0 KM
C LAT 0.20 DEG TILT DISTANCE 36.4
C LONG 24.39 DEG
D LAT 0.29 DEG
D LONG 23.22 DEG

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MISSION/ FRAME NO. 5072	TIME 670812	S/C POSITION ALT 98.25 KM ALT RT -0.0042 KM/SEC LAT 0.55 DEG LONG 24.04 DEG	S/C ORIENTATION TILT ANG 3.43 DEG TILT AZIM 272.35 DEG SWING ANG 177.90 DEG N.DEV. 85.56 DEG	PHOTO ILLUMINATION SUN AZIM 88.71 DEG INCID ANG 69.93 DEG EMISS ANG 3.50 DEG PHASE ANG 66.34 DEG ALPHA 3.59 DEG	PRINCIPAL POINT LATITUDE 0.55 DEG LONGITUDE 23.84 DEG
MEDIUM RESOLUTION					
CORNER COORDINATE		SIDE LENGTH		HIGH RESOLUTION	
A LAT 1.93 DEG		AB 81.0 KM		CORNER COORDINATE	
A LONG 22.55 DEG		BC 66.6 KM		SIDE LENGTH	
B LAT 1.67 DEG		CD 81.1 KM		AB 35.5 KM	
B LONG 25.22 DEG		DA 73.3 KM		A LONG 23.26 DEG	
C LAT -0.52 DEG		TILT DISTANCE 4.9		B LAT 0.76 DEG	
C LONG 25.05 DEG				B LONG 24.43 DEG	
D LAT -0.38 DEG				C LAT 3.47 DEG	
D LONG 22.37 DEG				TILT DISTANCE 36.2	

MISSION/ FRAME NO. 5073	TIME 670812	S/C POSITION ALT 98.23 KM ALT RT -0.0024 KM/SEC LAT 0.91 DEG LONG 24.06 DEG	S/C ORIENTATION TILT ANG 3.40 DEG TILT AZIM 276.63 DEG SWING ANG 182.18 DEG N.DEV. 85.57 DEG	PHOTO ILLUMINATION SUN AZIM 88.80 DEG INCID ANG 69.90 DEG EMISS ANG 3.60 DEG PHASE ANG 66.34 DEG ALPHA 3.56 DEG	PRINCIPAL POINT LATITUDE 0.93 DEG LONGITUDE 23.86 DEG
MEDIUM RESOLUTION					
CORNER COORDINATE		SIDE LENGTH		HIGH RESOLUTION	
A LAT 2.20 DEG		AB 81.1 KM		CORNER COORDINATE	
A LONG 22.57 DEG		BC 66.6 KM		SIDE LENGTH	
B LAT 1.94 DEG		CD 81.0 KM		AB 35.5 KM	
B LONG 25.24 DEG		DA 70.3 KM		A LONG 23.28 DEG	
C LAT -0.26 DEG		TILT DISTANCE 4.9		B LAT 1.03 DEG	
C LONG 25.07 DEG				B LONG 24.45 DEG	
D LAT -0.11 DEG				C LAT 0.74 DEG	
D LONG 22.40 DEG				TILT DISTANCE 36.1	

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MISSION/
FRAME NO.
5074

TIME
570812
YR.MO.DY
191015.41
HR.MI.SEC

S/C POSITION
ALT 98.23 KM
ALT RT -0.0007 KM/SEC
LAT 1.16 DEG
LONG 24.08 DEG

S/C ORIENTATION
TILT ANG 3.42 DEG
TILT AZIM 280.88 DEG
SWING ANG 186.44 DEG
N.DEV. 85.59 DEG

PHOTO ILLUMINATION
SUN AZIM 88.90 DEG
INCID ANG 69.87 DEG
EMISS ANG 3.61 DEG
PHASE ANG 66.34 DEG
ALPHA 3.53 DEG

PRINCIPAL POINT
LATITUDE 1.20 DEG
LONGITUDE 23.88 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.47 DEG AB 81.3 KM
A LONG 22.59 DEG BC 66.6 KM
B LAT 2.20 DEG CD 80.8 KM
B LONG 25.26 DEG DA 70.3 KM
C LAT 0.01 DEG TILT DISTANCE 4.9
C LONG 25.09 DEG
D LAT 0.16 DEG
D LONG 22.42 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.39 DEG AB 35.5 KM
A LONG 23.30 DEG BC 8.8 KM
B LAT 1.30 DEG CD 35.5 KM
B LONG 24.47 DEG DA 9.0 KM
C LAT 1.01 DEG TILT DISTANCE 36.3
C LONG 24.45 DEG
D LAT 1.09 DEG
D LONG 23.28 DEG

MISSION/
FRAME NO.
5075

TIME
670812
YR.MO.DY
2221 9.01
HR.MI.SEC

S/C POSITION
ALT 98.33 KM
ALT RT -0.0055 KM/SEC
LAT 0.54 DEG
LONG 22.28 DEG

S/C ORIENTATION
TILT ANG 25.87 DEG
TILT AZIM 95.28 DEG
SWING ANG 1.00 DEG
N.DEV. 86.30 DEG

PHOTO ILLUMINATION
SUN AZIM 88.60 DEG
INCID ANG 68.30 DEG
EMISS ANG 27.46 DEG
PHASE ANG 95.59 DEG
ALPHA -27.32 DEG

PRINCIPAL POINT
LATITUDE 0.39 DEG
LONGITUDE 23.85 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.54 DEG AB 108.4 KM
A LONG 22.56 DEG BC 97.7 KM
B LAT 1.84 DEG CD 109.4 KM
B LONG 26.13 DEG DA 83.3 KM
C LAT -1.78 DEG TILT DISTANCE 38.4
C LONG 25.92 DEG
D LAT -0.53 DEG
D LONG 22.40 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.59 DEG AB 45.1 KM
A LONG 23.20 DEG BC 11.0 KM
B LAT 0.51 DEG CD 45.1 KM
B LONG 24.69 DEG DA 9.1 KM
C LAT 0.15 DEG TILT DISTANCE 95.2
C LONG 24.66 DEG
D LAT 0.30 DEG
D LONG 23.18 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 441

MISSION/ FRAME NO. 5076	TIME 670812	S/C POSITION ALT 98.30 KM ALT RT -0.0035 KM/SEC LAT 0.82 DEG LONG 22.30 DEG	S/C ORIENTATION TILT ANG 25.87 DEG TILT AZIM 94.71 DEG SWING ANG 0.36 DEG N.DEV. 86.16 DEG	PHOTO ILLUMINATION SUN AZIM 88.72 DEG INCID ANG 68.27 DEG EMISS ANG 27.46 DEG PHASE ANG 95.59 DEG ALPHA -27.34 DEG	PRINCIPAL POINT LATITUDE 0.69 DEG LONGITUDE 23.88 DEG																																				
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MISSION/ FRAME NO. 5077	TIME 670812	S/C POSITION ALT 98.29 KM ALT RT -0.0016 KM/SEC LAT 1.10 DEG LONG 22.32 DEG	S/C ORIENTATION TILT ANG 25.87 DEG TILT AZIM 94.13 DEG SWING ANG 359.71 DEG N.DEV. 86.02 DEG	PHOTO ILLUMINATION SUN AZIM 88.84 DEG INCID ANG 68.24 DEG EMISS ANG 27.46 DEG PHASE ANG 95.59 DEG ALPHA -27.37 DEG	PRINCIPAL POINT LATITUDE 0.98 DEG LONGITUDE 23.90 DEG																																				
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LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 442

MISSION/
FRAME NO.
5078

YR.MO.DY
HR.MI.SEC
67CE12
222123.71

TIME
67CE12
222123.71

S/C POSITION
ALT 98.29 KM
ALT RT 0.0005 KM/SEC
LAT 1.39 DEG
LONG 22.35 DEG

S/C ORIENTATION
TILT ANG 25.88 DEG
TILT AZIM 93.53 DEG
SWING ANG 359.95 DEG
N.DEV. 85.88 DEG

PHOTO ILLUMINATION
SUN AZIM 88.96 DEG
INCID ANG 68.21 DEG
EMISS ANG 27.46 DEG
PHASE ANG 95.59 DEG
ALPHA -27.40 DEG

PRINCIPAL POINT
LATITUDE 1.29 DEG
LONGITUDE 23.93 DEG

MEDIUM RESOLUTION
CORNER COORDINATE
A LAT 2.44 DEG
A LONG 22.63 DEG
B LAT 2.74 DEG
B LONG 26.24 DEG
C LAT -0.47 DEG
C LONG 25.56 DEG
D LAT 0.37 DEG
D LONG 22.47 DEG

SIDE LENGTH
AB 109.4 KM
BC 97.7 KM
CD 108.4 KM
DA 63.0 KM
TILT DISTANCE 38.4

HIGH RESOLUTION
CORNER COORDINATE
A LAT 1.49 DEG
A LONG 23.27 DEG
B LAT 1.41 DEG
B LONG 24.76 DEG
C LAT 1.04 DEG
C LONG 24.73 DEG
D LAT 1.19 DEG
D LONG 23.25 DEG

SIDE LENGTH
AB 45.1 KM
BC 11.0 KM
CD 45.1 KM
DA 9.1 KM
TILT DISTANCE 95.2

MISSION/
FRAME NO.
5079

YR.MO.DY
HR.MI.SEC
67D813
023432.21

TIME
67D813
023432.21

S/C POSITION
ALT 1244.88 KM
ALT RT 0.2538 KM/SEC
LAT 37.73 DEG
LONG -163.64 DEG

S/C ORIENTATION
TILT ANG 25.80 DEG
TILT AZIM 281.34 DEG
SWING ANG 89.21 DEG
N.DEV. 3.68 DEG

PHOTO ILLUMINATION
SUN AZIM 263.28 DEG
INCID ANG 79.39 DEG
EMISS ANG 48.37 DEG
PHASE ANG 127.76 DEG
ALPHA -48.37 DEG

PRINCIPAL POINT
LATITUDE 38.66 DEG
LONGITUDE 167.55 DEG

MEDIUM RESOLUTION
CORNER COORDINATE
A LAT 55.52 DEG
A LONG -166.42 DEG
B LAT 21.31 DEG
B LONG -173.04 DEG
C LAT 8.51 DEG
C LONG 157.01 DEG
D LAT 61.47 DEG
D LONG 134.57 DEG

SIDE LENGTH
AB 931.7 KM
BC 440.1 KM
CD 614.0 KM
DA 338.8 KM
TILT DISTANCE 38.5

HIGH RESOLUTION
CORNER COORDINATE
A LAT 47.71 DEG
A LONG 169.99 DEG
B LAT 30.00 DEG
B LONG 171.43 DEG
C LAT 28.09 DEG
C LONG 163.01 DEG
D LAT 47.68 DEG
D LONG 158.87 DEG

SIDE LENGTH
AB 535.6 KM
BC 230.0 KM
CD 598.8 KM
DA 226.3 KM
TILT DISTANCE 94.3

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 443

MISSION/ FRAME NO. 5080	TIME 670813	S/C POSITION ALT 98.31 KM ALT RT 0.0066 KM/SEC LAT 2.44 DEG LONG 17.18 DEG	S/C ORIENTATION TILT ANG 13.73 DEG TILT AZIM 96.38 DEG SWING ANG 1.73 DEG N.DEV. 85.52 DEG	PHOTO ILLUMINATION SUN AZIM 89.35 DEG INCID ANG 69.29 DEG EMISS ANG 14.52 DEG PHASE ANG 83.71 DEG ALPHA -14.43 DEG	PRINCIPAL POINT LATITUDE 2.35 DEG LONGITUDE 17.97 DEG																		
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MISSION/ FRAME NO. 5081	TIME 670813	S/C POSITION ALT 98.35 KM ALT RT 0.0084 KM/SEC LAT 2.70 DEG LONG 17.20 DEG	S/C ORIENTATION TILT ANG 13.72 DEG TILT AZIM 95.32 DEG SWING ANG 0.63 DEG N.DEV. 85.45 DEG	PHOTO ILLUMINATION SUN AZIM 89.45 DEG INCID ANG 69.26 DEG EMISS ANG 14.52 DEG PHASE ANG 83.71 DEG ALPHA -14.45 DEG	PRINCIPAL POINT LATITUDE 2.62 DEG LONGITUDE 17.99 DEG																		
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LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 444

MISSION/
FRAME NO.
5082

TIME
YR.MO.DY 67CE13
HR.MI.SEC 0755 4.51

S/C POSITION
ALT 98.39 KM
ALT RT 0.0102 KM/SEC
LAT 2.96 DEG
LONG 17.22 DEG

S/C ORIENTATION
TILT ANG 13.72 DEG
TILT AZIM 94.26 DEG
SWING ANG 359.54 DEG
N.DEV. 85.38 DEG

PHOTO ILLUMINATION
SUN AZIM 89.56 DEG
INCID ANG 69.24 DEG
EMISS ANG 14.52 DEG
PHASE ANG 83.71 DEG
ALPHA -14.47 DEG

PRINCIPAL POINT
LATITUDE 2.90 DEG
LONGITUDE 18.01 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.06 DEG AB 87.5 KM
A LONG 16.81 DEG BC 78.9 KM
B LAT 4.07 DEG CD 87.3 KM
B LONG 15.71 DEG DA 63.7 KM
C LAT 1.48 DEG TILT DISTANCE 19.2
C LONG 19.49 DEG
D LAT 1.56 DEG
D LONG 16.65 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.09 DEG AB 37.8 KM
A LONG 17.43 DEG BC 9.6 KM
B LAT 3.00 DEG CD 37.8 KM
B LONG 18.68 DEG DA 8.8 KM
C LAT 2.68 DEG TILT DISTANCE 48.6
C LONG 18.65 DEG
D LAT 2.80 DEG
D LONG 17.41 DEG

MISSION/
FRAME NO.
5083

TIME
YR.MO.DY 67CE13
HR.MI.SEC 0755 5.01

S/C POSITION
ALT 98.44 KM
ALT RT 0.0121 KM/SEC
LAT 3.22 DEG
LONG 17.24 DEG

S/C ORIENTATION
TILT ANG 13.73 DEG
TILT AZIM 93.19 DEG
SWING ANG 358.44 DEG
N.DEV. 85.31 DEG

PHOTO ILLUMINATION
SUN AZIM 89.56 DEG
INCID ANG 69.21 DEG
EMISS ANG 14.52 DEG
PHASE ANG 83.71 DEG
ALPHA -14.50 DEG

PRINCIPAL POINT
LATITUDE 3.17 DEG
LONGITUDE 18.03 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.33 DEG AB 87.7 KM
A LONG 16.84 DEG BC 78.9 KM
B LAT 4.35 DEG CD 87.2 KM
B LONG 15.74 DEG DA 63.7 KM
C LAT 1.76 DEG TILT DISTANCE 19.3
C LONG 19.51 DEG
D LAT 2.24 DEG
D LONG 16.67 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.36 DEG AB 37.9 KM
A LONG 17.45 DEG BC 9.6 KM
B LAT 3.27 DEG CD 37.8 KM
B LONG 18.70 DEG DA 8.8 KM
C LAT 2.96 DEG TILT DISTANCE 48.6
C LONG 18.67 DEG
D LAT 3.08 DEG
D LONG 17.43 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 445

MISSION/
FRAME NO.
5084

YR.NO.DY 670813
HR.MI.SEC 110057.51
TIME
S/C POSITION
ALT 114.82 KM
ALT RT -0.1134 KM/SEC
LAT -14.82 DEG
LONG 14.02 DEG
S/C ORIENTATION
TILT ANG 2.44 DEG
TILT AZIM 220.64 DEG
SWING ANG 125.96 DEG
N.DEV. 85.26 DEG
PHOTO ILLUMINATION
SUN AZIM 83.70 DEG
INCID ANG 72.93 DEG
EMISS ANG 2.60 DEG
PHASE ANG 70.94 DEG
ALPHA 1.88 DEG
PRINCIPAL POINT
LATITUDE -14.95 DEG
LONGITUDE 13.91 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -13.49 DEG AB 93.3 KM
A LONG 12.42 DEG BC 79.0 KM
B LAT -13.77 DEG CD 95.7 KM
B LONG 15.57 DEG DA 81.0 KM
C LAT -16.38 DEG TILT DISTANCE 3.4
C LONG 15.41 DEG
D LAT -16.15 DEG
D LONG 12.13 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -14.72 DEG AB 41.3 KM
A LONG 13.22 DEG BC 10.4 KM
B LAT -14.83 DEG CD 41.5 KM
B LONG 14.63 DEG DA 10.5 KM
C LAT -15.17 DEG TILT DISTANCE 25.9
C LONG 14.60 DEG
D LAT -15.06 DEG
D LONG 13.19 DEG

MISSION/
FRAME NO.
5085

YR.NO.DY 670813
HR.MI.SEC 102540.21
TIME
S/C POSITION
ALT 1239.43 KM
ALT RT 0.2558 KM/SEC
LAT 37.81 DEG
LONG -172.42 DEG
S/C ORIENTATION
TILT ANG 25.84 DEG
TILT AZIM 281.32 DEG
SWING ANG 89.46 DEG
N.DEV. 3.94 DEG
PHOTO ILLUMINATION
SUN AZIM 262.87 DEG
INCID ANG 78.93 DEG
EMISS ANG 48.32 DEG
PHASE ANG 127.25 DEG
ALPHA -48.32 DEG
PRINCIPAL POINT
LATITUDE 38.73 DEG
LONGITUDE 158.84 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 55.63 DEG AB 826.9 KM
A LONG -175.34 DEG BC 431.3 KM
B LAT 21.55 DEG CD 599.7 KM
B LONG 178.29 DEG DA 340.4 KM
C LAT 9.23 DEG TILT DISTANCE 36.6
C LONG 148.57 DEG
D LAT 61.40 DEG
D LONG 125.89 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 47.76 DEG AB 533.2 KM
A LONG 161.18 DEG BC 228.0 KM
B LAT 30.13 DEG CD 595.9 KM
B LONG 162.77 DEG DA 225.6 KM
C LAT 28.22 DEG TILT DISTANCE 94.7
C LONG 154.42 DEG
D LAT 47.70 DEG
D LONG 150.10 DEG

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MISSION/
FRAME NO.
5086

TIME
YR,MO,DY 670813
HR,MI,SEC 204542.31

S/C POSITION
ALT 178.15 KM
ALT RT 0-2353 KM/SEC
LAT 37.70 DEG
LONG 13.43 DEG

S/C ORIENTATION
TILT ANG 3.13 DEG
TILT AZIM 4.16 DEG
SWING ANG 268.47 DEG
N.DEV. 84.29 DEG

PHOTO ILLUMINATION
SUN AZIM 103.32 DEG
INCID ANG 71.34 DEG
EMISS ANG 3.45 DEG
PHASE ANG 70.83 DEG
ALPHA 0.48 DEG

PRINCIPAL POINT
LATITUDE 38.02 DEG
LONGITUDE 13.46 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 40.35 DEG AB 150.8 KM
A LONG 10.46 DEG BC 124.9 KM
B LAT 39.84 DEG CD 144.4 KM
B LONG 16.53 DEG DA 125.4 KM
C LAT 35.76 DEG TILT DISTANCE 4.4
C LONG 16.12 DEG
D LAT 36.21 DEG
D LONG 10.25 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 38.38 DEG AB 64.5 KM
A LONG 12.14 DEG BC 16.2 KM
B LAT 38.17 DEG CD 64.1 KM
B LONG 14.84 DEG DA 16.2 KM
C LAT 37.64 DEG TILT DISTANCE 33.2
C LONG 14.76 DEG
D LAT 37.85 DEG
D LONG 12.09 DEG

MISSION/
FRAME NO.
5087

TIME
YR,MO,DY 670813
HR,MI,SEC 204550.71

S/C POSITION
ALT 180.14 KM
ALT RT 0-2378 KM/SEC
LAT 38.14 DEG
LONG 13.49 DEG

S/C ORIENTATION
TILT ANG 3.58 DEG
TILT AZIM 4.40 DEG
SWING ANG 268.67 DEG
N.DEV. 84.24 DEG

PHOTO ILLUMINATION
SUN AZIM 103.52 DEG
INCID ANG 71.41 DEG
EMISS ANG 3.95 DEG
PHASE ANG 70.83 DEG
ALPHA 0.53 DEG

PRINCIPAL POINT
LATITUDE 38.51 DEG
LONGITUDE 13.52 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 40.88 DEG AB 153.0 KM
A LONG 10.46 DEG BC 126.5 KM
B LAT 40.35 DEG CD 145.6 KM
B LONG 17.08 DEG DA 126.9 KM
C LAT 35.23 DEG TILT DISTANCE 5.0
C LONG 16.22 DEG
D LAT 36.69 DEG
D LONG 10.27 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 38.88 DEG AB 65.3 KM
A LONG 12.18 DEG BC 16.4 KM
B LAT 38.66 DEG CD 64.9 KM
B LONG 14.93 DEG DA 16.4 KM
C LAT 38.13 DEG TILT DISTANCE 38.0
C LONG 14.84 DEG
D LAT 38.34 DEG
D LONG 12.13 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

5088 YR.MO.DY
HR.MI.SEC

TIME
670813
204559.21

S/C POSITION
ALT 182.17 KM
ALT RT 0.2403 KM/SEC
LAT 38.59 DEG
LONG 13.55 DEG

S/C ORIENTATION
TILT ANG 4.02 DEG
TILT AZIM 4.59 DEG
SWING ANG 268.84 DEG
N.DEV. 84.20 DEG

PHOTO ILLUMINATION
SUN AZIM 103.73 DEG
INCID ANG 71.48 DEG
EMISS ANG 4.45 DEG
PHASE ANG 70.83 DEG
ALPHA 0.59 DEG

PRINCIPAL POINT
LATITUDE 39.01 DEG
LONGITUDE 13.59 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 41.41 DEG AB 155.4 KM
A LONG 10.45 DEG BC 128.2 KM
B LAT 40.88 DEG CD 147.0 KM
B LONG 17.23 DEG DA 128.6 KM
C LAT 36.71 DEG TILT DISTANCE 5.6
C LONG 16.33 DEG
D LAT 37.17 DEG
D LONG 10.28 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 39.38 DEG AB 66.1 KM
A LONG 12.22 DEG BC 16.6 KM
B LAT 39.16 DEG CD 65.6 KM
B LONG 15.02 DEG DA 16.6 KM
C LAT 38.62 DEG TILT DISTANCE 42.8
C LONG 14.93 DEG
D LAT 38.84 DEG
D LONG 12.17 DEG

MISSION/
FRAME NO.

5089 YR.MO.DY
HR.MI.SEC

TIME
670813
2050 7.81

S/C POSITION
ALT 184.25 KM
ALT RT 0.2429 KM/SEC
LAT 39.04 DEG
LONG 13.60 DEG

S/C ORIENTATION
TILT ANG 4.48 DEG
TILT AZIM 4.76 DEG
SWING ANG 268.97 DEG
N.DEV. 84.15 DEG

PHOTO ILLUMINATION
SUN AZIM 103.94 DEG
INCID ANG 71.55 DEG
EMISS ANG 4.95 DEG
PHASE ANG 70.83 DEG
ALPHA 0.65 DEG

PRINCIPAL POINT
LATITUDE 39.51 DEG
LONGITUDE 13.66 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 41.56 DEG AB 157.8 KM
A LONG 10.45 DEG BC 129.9 KM
B LAT 41.41 DEG CD 148.3 KM
B LONG 17.39 DEG DA 130.3 KM
C LAT 37.19 DEG TILT DISTANCE 6.3
C LONG 16.43 DEG
D LAT 37.66 DEG
D LONG 10.30 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 39.89 DEG AB 66.9 KM
A LONG 12.26 DEG BC 16.8 KM
B LAT 39.67 DEG CD 66.4 KM
B LONG 15.12 DEG DA 16.8 KM
C LAT 39.12 DEG TILT DISTANCE 47.6
C LONG 15.02 DEG
D LAT 39.34 DEG
D LONG 12.21 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5090

YR.MO.DY 670613
HR.MI.SEC 235525.41

S/C POSITION
ALT 119.51 KM
TILT ANG 9.12 DEG
TILT AZIM 282.37 DEG
SWING ANG 187.76 DEG
N.DEV. 85.79 DEG

PHOTO ILLUMINATION
SUN AZIM 95.81 DEG
INCID ANG 70.71 DEG
EMISS ANG 9.76 DEG
PHASE ANG 61.01 DEG
ALPHA 9.59 DEG

PRINCIPAL POINT
LATITUDE 20.32 DEG
LONGITUDE 9.22 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 21.58 DEG AB 102.9 KM
A LONG 7.36 DEG BC 78.7 KM
B LAT 21.51 DEG CD 101.1 KM
B LONG 10.58 DEG DA 91.0 KM
C LAT 18.92 DEG TILT DISTANCE 13.0
C LONG 10.73 DEG
D LAT 18.98 DEG
D LONG 7.20 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 20.57 DEG AB 44.4 KM
A LONG 8.43 DEG BC 10.6 KM
B LAT 20.44 DEG CD 44.3 KM
B LONG 9.98 DEG DA 11.3 KM
C LAT 20.09 DEG TILT DISTANCE 97.7
C LONG 9.95 DEG
D LAT 20.19 DEG
D LONG 8.40 .DEG

MISSION/
FRAME NO.
5091

YR.MO.DY 670613
HR.MI.SEC 235530.91

S/C POSITION
ALT 120.21 KM
TILT ANG 9.17 DEG
TILT AZIM 284.29 DEG
SWING ANG 189.59 DEG
N.DEV. 85.84 DEG

PHOTO ILLUMINATION
SUN AZIM 95.94 DEG
INCID ANG 70.72 DEG
EMISS ANG 9.81 DEG
PHASE ANG 61.01 DEG
ALPHA 9.70 DEG

PRINCIPAL POINT
LATITUDE 20.65 DEG
LONGITUDE 9.24 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.32 DEG AB 103.7 KM
A LONG 7.37 DEG BC 79.2 KM
B LAT 21.85 DEG CD 101.5 KM
B LONG 11.03 DEG DA 91.5 KM
C LAT 19.25 DEG TILT DISTANCE 13.0
C LONG 10.76 DEG
D LAT 19.30 DEG
D LONG 7.21 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 20.90 DEG AB 44.6 KM
A LONG 8.44 DEG BC 10.7 KM
B LAT 20.77 DEG CD 44.5 KM
B LONG 10.01 DEG DA 11.4 KM
C LAT 20.42 DEG TILT DISTANCE 98.2
C LONG 9.98 DEG
D LAT 20.52 DEG
D LONG 8.42 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
5092

YR.NO.DY 670813
HR.MI.SEC 235542.21

S/C POSITION
ALT 120.94 KM
ALT RT 0.1305 KM/SEC
LAT 20.81 DEG
LONG 9.93 DEG

S/C ORIENTATION
TILT ANG 9.23 DEG
TILT AZIM 286.22 DEG
SWING ANG 191.64 DEG
N.DEV. 85.88 DEG

PHOTO ILLUMINATION
SUN AZIM 96.07 DEG
INCID ANG 70.73 DEG
EMISS ANG 9.88 DEG
PHASE ANG 61.01 DEG
ALPHA 9.71 DEG

PRINCIPAL POINT
LATITUDE 20.99 DEG
LONGITUDE 9.26 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.67 DEG AB 104.6 KM
A LONG 7.37 DEG BC 79.7 KM
B LAT 22.20 DEG CD 101.9 KM
B LONG 11.07 DEG DA 92.1 KM
C LAT 19.58 DEG TILT DISTANCE 13.1
C LONG 10.80 DEG
D LAT 19.63 DEG
D LONG 7.23 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 21.24 DEG AB 44.9 KM
A LONG 8.46 DEG BC 10.8 KM
B LAT 21.11 DEG CD 44.8 KM
B LONG 10.04 DEG DA 11.5 KM
C LAT 20.76 DEG TILT DISTANCE 98.8
C LONG 10.01 DEG
D LAT 20.86 DEG
D LONG 8.44 DEG

MISSION/
FRAME NO.
5093

YR.NO.DY 670813
HR.MI.SEC 235542.21

S/C POSITION
ALT 121.68 KM
ALT RT 0.1326 KM/SEC
LAT 21.13 DEG
LONG 9.96 DEG

S/C ORIENTATION
TILT ANG 9.29 DEG
TILT AZIM 288.15 DEG
SWING ANG 193.59 DEG
N.DEV. 85.93 DEG

PHOTO ILLUMINATION
SUN AZIM 96.19 DEG
INCID ANG 70.74 DEG
EMISS ANG 9.95 DEG
PHASE ANG 61.01 DEG
ALPHA 9.72 DEG

PRINCIPAL POINT
LATITUDE 21.33 DEG
LONGITUDE 9.29 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 23.03 DEG AB 105.6 KM
A LONG 7.37 DEG BC 80.3 KM
B LAT 22.55 DEG CD 102.3 KM
B LONG 11.11 DEG DA 92.8 KM
C LAT 19.91 DEG TILT DISTANCE 13.2
C LONG 10.84 DEG
D LAT 19.97 DEG
D LONG 7.24 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 21.58 DEG AB 45.2 KM
A LONG 8.48 DEG BC 10.8 KM
B LAT 21.45 DEG CD 45.1 KM
B LONG 10.08 DEG DA 11.5 KM
C LAT 21.10 DEG TILT DISTANCE 99.6
C LONG 10.04 DEG
D LAT 21.20 DEG
D LONG 8.45 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 450

MISSION/
FRAME NO.
5094

TIME
67CE14
030241.62

S/C POSITION
ALT 99.76 KM
LAT 0.0376 KM/SEC
LONG 7.26 DEG

S/C ORIENTATION
TILT ANG 19.11 DEG
TILT AZIM 274.76 DEG
SWING ANG 180.27 DEG
N.DEV. 85.94 DEG

PHOTO ILLUMINATION
SUN AZIM 90.93 DEG
INCID ANG 71.63 DEG
EMISS ANG 20.25 DEG
PHASE ANG 51.43 DEG
ALPHA 20.19 DEG

PRINCIPAL POINT
LATITUDE 7.36 DEG
LONGITUDE 5.90 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 8.94 DEG AB 96.4 KM
A LONG 4.14 DEG BC 53.9 KM
B LAT 8.32 DEG CD 96.2 KM
B LONG 7.30 DEG DA 87.3 KM
C LAT 6.21 DEG TILT DISTANCE 27.8
C LONG 7.13 DEG
D LAT 6.07 DEG
D LONG 3.94 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 7.58 DEG AB 40.9 KM
A LONG 5.19 DEG BC 9.0 KM
B LAT 7.46 DEG CD 40.9 KM
B LONG 6.54 DEG DA 10.3 KM
C LAT 7.16 DEG TILT DISTANCE 10.8
C LONG 6.52 DEG
D LAT 7.24 DEG
D LONG 5.16 DEG

MISSION/
FRAME NO.
5095

TIME
67CE14
030246.38

S/C POSITION
ALT 99.94 KM
LAT 0.0396 KM/SEC
LONG 7.54 DEG

S/C ORIENTATION
TILT ANG 19.11 DEG
TILT AZIM 275.55 DEG
SWING ANG 181.11 DEG
N.DEV. 86.04 DEG

PHOTO ILLUMINATION
SUN AZIM 91.03 DEG
INCID ANG 71.62 DEG
EMISS ANG 20.25 DEG
PHASE ANG 51.43 DEG
ALPHA 20.17 DEG

PRINCIPAL POINT
LATITUDE 7.65 DEG
LONGITUDE 5.92 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 9.23 DEG AB 96.8 KM
A LONG 4.15 DEG BC 64.0 KM
B LAT 8.61 DEG CD 96.2 KM
B LONG 7.32 DEG DA 87.5 KM
C LAT 6.50 DEG TILT DISTANCE 27.8
C LONG 7.16 DEG
D LAT 6.36 DEG
D LONG 3.57 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 7.87 DEG AB 41.0 KM
A LONG 5.20 DEG BC 9.0 KM
B LAT 7.75 DEG CD 40.9 KM
B LONG 6.56 DEG DA 10.3 KM
C LAT 7.45 DEG TILT DISTANCE 10.8
C LONG 6.54 DEG
D LAT 7.53 DEG
D LONG 5.18 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 451

MISSION/ FRAME NO. 5096	TIME 670814 030251.14	YR.MO.DY 030251.14	HR.MI.SEC 030251.14	S/C POSITION ALT 100.13 KM ALT RT 0.0415 KM/SEC LAT 7.81 DEG LONG 7.09 DEG	S/C ORIENTATION TILT ANG 19.11 DEG TILT AZIM 276.34 DEG SWING ANG 181.94 DEG N.DEV. 86.14 DEG	PHOTO ILLUMINATION SUN AZIM 91.13 DEG INCID ANG 71.60 DEG EMISS ANG 20.26 DEG PHASE ANG 51.43 DEG ALPHA 20.16 DEG	PRINCIPAL POINT LATITUDE 7.93 DEG LONGITUDE 5.94 DEG																		
<p>MEDIUM RESOLUTION</p> <table> <tr> <th>CORNER COORDINATE</th> <th>SIDE LENGTH</th> </tr> <tr> <td>A LAT 97.53 DEG</td> <td>AB 97.3 KM</td> </tr> <tr> <td>A LONG 4.16 DEG</td> <td>BC 64.2 KM</td> </tr> <tr> <td>B LAT 8.90 DEG</td> <td>CD 96.1 KM</td> </tr> <tr> <td>B LONG 7.35 DEG</td> <td>DA 87.7 KM</td> </tr> <tr> <td>C LAT 6.79 DEG</td> <td>TILT DISTANCE 27.8</td> </tr> <tr> <td>C LONG 7.18 DEG</td> <td></td> </tr> <tr> <td>D LAT 6.64 DEG</td> <td></td> </tr> <tr> <td>D LONG 3.59 DEG</td> <td></td> </tr> </table>								CORNER COORDINATE	SIDE LENGTH	A LAT 97.53 DEG	AB 97.3 KM	A LONG 4.16 DEG	BC 64.2 KM	B LAT 8.90 DEG	CD 96.1 KM	B LONG 7.35 DEG	DA 87.7 KM	C LAT 6.79 DEG	TILT DISTANCE 27.8	C LONG 7.18 DEG		D LAT 6.64 DEG		D LONG 3.59 DEG	
CORNER COORDINATE	SIDE LENGTH																								
A LAT 97.53 DEG	AB 97.3 KM																								
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CORNER COORDINATE	SIDE LENGTH																								
A LAT 8.16 DEG	AB 41.1 KM																								
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C LONG 6.56 DEG																									
D LAT 7.82 DEG																									
D LONG 5.20 DEG																									

MISSION/ FRAME NO. 5097	TIME 670814 030255.90	YR.MO.DY 030255.90	HR.MI.SEC 030255.90	S/C POSITION ALT 100.33 KM ALT RT 0.0434 KM/SEC LAT 8.08 DEG LONG 7.11 DEG	S/C ORIENTATION TILT ANG 19.12 DEG TILT AZIM 277.14 DEG SWING ANG 182.78 DEG N.DEV. 86.23 DEG	PHOTO ILLUMINATION SUN AZIM 91.23 DEG INCID ANG 71.59 DEG EMISS ANG 20.28 DEG PHASE ANG 51.43 DEG ALPHA 20.14 DEG	PRINCIPAL POINT LATITUDE 8.22 DEG LONGITUDE 5.96 DEG																		
<p>MEDIUM RESOLUTION</p> <table> <tr> <th>CORNER COORDINATE</th> <th>SIDE LENGTH</th> </tr> <tr> <td>A LAT 9.83 DEG</td> <td>AB 97.7 KM</td> </tr> <tr> <td>A LONG 4.17 DEG</td> <td>BC 64.3 KM</td> </tr> <tr> <td>B LAT 9.19 DEG</td> <td>CD 96.1 KM</td> </tr> <tr> <td>B LONG 7.37 DEG</td> <td>DA 87.9 KM</td> </tr> <tr> <td>C LAT 7.08 DEG</td> <td>TILT DISTANCE 27.9</td> </tr> <tr> <td>C LONG 7.20 DEG</td> <td></td> </tr> <tr> <td>D LAT 6.53 DEG</td> <td></td> </tr> <tr> <td>D LONG 4.01 DEG</td> <td></td> </tr> </table>								CORNER COORDINATE	SIDE LENGTH	A LAT 9.83 DEG	AB 97.7 KM	A LONG 4.17 DEG	BC 64.3 KM	B LAT 9.19 DEG	CD 96.1 KM	B LONG 7.37 DEG	DA 87.9 KM	C LAT 7.08 DEG	TILT DISTANCE 27.9	C LONG 7.20 DEG		D LAT 6.53 DEG		D LONG 4.01 DEG	
CORNER COORDINATE	SIDE LENGTH																								
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B LAT 8.32 DEG	CD 41.1 KM																								
B LONG 6.60 DEG	DA 10.3 KM																								
C LAT 8.03 DEG	TILT DISTANCE 11.0																								
C LONG 6.58 DEG																									
D LAT 8.11 DEG																									
D LONG 5.22 DEG																									

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5098

YR.MO.DY
670814
HR.MI.SEC
061011.71

S/C POSITION
ALT 100.50 KM
ALT RT -0.0482 KM/SEC
LAT -4.97 DEG
LONG 4.32 DEG

S/C ORIENTATION
TILT ANG 5.20 DEG
TILT AZIM 263.51 DEG
SWING ANG 169.23 DEG
N.DEV. 85.67 DEG

PHOTO ILLUMINATION
SUN AZIM 86.87 DEG
INCID ANG 72.16 DEG
EMISS ANG 5.50 DEG
PHASE ANG 66.67 DEG
ALPHA 5.49 DEG

PRINCIPAL POINT
LATITUDE -5.01 DEG
LONGITUDE 4.02 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.70 DEG AB 83.0 KM
A LONG 2.68 DEG BC 67.4 KM
B LAT -3.99 DEG CD 84.0 KM
B LONG 5.41 DEG DA 73.1 KM
C LAT -6.21 DEG TILT DISTANCE 7.4
C LONG 5.26 DEG
D LAT -6.10 DEG
D LONG 2.47 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -4.81 DEG AB 36.5 KM
A LONG 3.42 DEG BC 9.0 KM
B LAT -4.90 DEG CD 36.6 KM
B LONG 4.62 DEG DA 9.3 KM
C LAT -5.20 DEG TILT DISTANCE 55.3
C LONG 4.60 DEG
D LAT -5.12 DEG
D LONG 3.40 DEG

MISSION/
FRAME NO.
5099

YR.MO.DY
670814
HR.MI.SEC
061016.30

S/C POSITION
ALT 100.29 KM
ALT RT -0.0463 KM/SEC
LAT -4.71 DEG
LONG 4.34 DEG

S/C ORIENTATION
TILT ANG 5.15 DEG
TILT AZIM 266.38 DEG
SWING ANG 172.11 DEG
N.DEV. 85.70 DEG

PHOTO ILLUMINATION
SUN AZIM 86.95 DEG
INCID ANG 72.12 DEG
EMISS ANG 5.45 DEG
PHASE ANG 66.67 DEG
ALPHA 5.45 DEG

PRINCIPAL POINT
LATITUDE -4.73 DEG
LONGITUDE 4.04 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.42 DEG AB 82.9 KM
A LONG 2.70 DEG BC 67.3 KM
B LAT -3.71 DEG CD 83.7 KM
B LONG 5.43 DEG DA 72.9 KM
C LAT -5.93 DEG TILT DISTANCE 7.3
C LONG 5.28 DEG
D LAT -5.82 DEG
D LONG 2.51 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -4.53 DEG AB 36.4 KM
A LONG 3.44 DEG BC 9.0 KM
B LAT -4.63 DEG CD 36.5 KM
B LONG 4.65 DEG DA 9.3 KM
C LAT -4.92 DEG TILT DISTANCE 54.8
C LONG 4.62 DEG
D LAT -4.84 DEG
D LONG 3.42 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5100

TIME 670614
YR,MO,DY 061020.63
PR,MI,SEC
S/C POSITION
ALT 100.08 KM
ALT RT -0.0445 KM/SEC
LAT -4.45 DEG
LONG 4.36 DEG
S/C ORIENTATION
TILT ANG 5.12 DEG
TILT AZIM 269.25 DEG
SWING ANG 175.00 DEG
N.DEV. 85.72 DEG
PHOTO ILLUMINATION
SUN AZIM 87.04 DEG
INCID ANG 72.08 DEG
EMISS ANG 5.42 DEG
PHASE ANG 66.67 DEG
ALPHA 5.41 DEG
PRINCIPAL POINT
LATITUDE -4.46 DEG
LONGITUDE 4.07 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.15 DEG AB 82.9 KM
A LONG 2.73 DEG BC 67.1 KM
B LAT -3.44 DEG CD 83.3 KM
B LONG 5.45 DEG DA 72.7 KM
C LAT -5.45 DEG TILT DISTANCE 7.3
C LONG 5.30 DEG
D LAT -5.54 DEG
D LONG 2.54 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -4.26 DEG AB 36.4 KM
A LONG 3.47 DEG BC 8.9 KM
B LAT -4.35 DEG CD 36.4 KM
B LONG 4.67 DEG DA 9.2 KM
C LAT -4.65 DEG TILT DISTANCE 54.5
C LONG 4.65 DEG
D LAT -4.56 DEG
D LONG 3.45 DEG

MISSION/
FRAME NO.
5101

TIME 670614
YR,MO,DY 061025.31
PR,MI,SEC
S/C POSITION
ALT 99.89 KM
ALT RT -0.0427 KM/SEC
LAT -4.19 DEG
LONG 4.38 DEG
S/C ORIENTATION
TILT ANG 5.10 DEG
TILT AZIM 272.13 DEG
SWING ANG 177.89 DEG
N.DEV. 85.75 DEG
PHOTO ILLUMINATION
SUN AZIM 87.13 DEG
INCID ANG 72.95 DEG
EMISS ANG 5.40 DEG
PHASE ANG 66.67 DEG
ALPHA 5.38 DEG
PRINCIPAL POINT
LATITUDE -4.18 DEG
LONGITUDE 4.09 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.88 DEG AB 82.9 KM
A LONG 2.75 DEG BC 67.1 KM
B LAT -3.17 DEG CD 83.0 KM
B LONG 5.47 DEG DA 72.6 KM
C LAT -5.37 DEG TILT DISTANCE 7.3
C LONG 5.31 DEG
D LAT -5.26 DEG
D LONG 2.57 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.99 DEG AB 36.3 KM
A LONG 3.49 DEG BC 8.9 KM
B LAT -4.08 DEG CD 36.3 KM
B LONG 4.69 DEG DA 9.2 KM
C LAT -4.37 DEG TILT DISTANCE 54.3
C LONG 4.67 DEG
D LAT -4.29 DEG
D LONG 3.47 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5102

YR.NO.DY
PR.MI.SEC
67CE14
053623.11

S/C POSITION
ALT 250.34 KM
ALT RT 0.3044 KM/SEC
LAT 51.29 DEG
LONG 8.67 DEG

S/C ORIENTATION
TILT ANG 33.99 DEG
TILT AZIM 240.89 DEG
SWING ANG 178.41 DEG
N.DEV. 116.62 DEG

PHOTO ILLUMINATION
SUN AZIM 101.79 DEG
INCID ANG 77.76 DEG
EMISS ANG 39.77 DEG
PHASE ANG 51.72 DEG
ALPHA 21.40 DEG

PRINCIPAL POINT
LATITUDE 48.22 DEG
LONGITUDE 1.08 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 46.60 DEG AB 459.5 KM
A LONG -17.01 DEG BC 165.1 KM
B LAT 52.68 DEG CD 483.2 KM
B LONG 4.30 DEG DA 387.6 KM
C LAT 47.53 DEG TILT DISTANCE 54.1
C LONG 8.71 DEG
D LAT 26.06 DEG
D LONG -6.23 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 46.99 DEG AB 151.6 KM
A LONG -2.93 DEG BC 24.7 KM
B LAT 49.69 DEG CD 152.1 KM
B LONG 3.41 DEG DA 33.6 KM
C LAT 48.99 DEG TILT DISTANCE 10.4
C LONG 4.06 DEG
D LAT 46.08 DEG
D LONG -2.00 DEG

MISSION/
FRAME NO.
5103

YR.NO.DY
PR.MI.SEC
67CE14
102450.61

S/C POSITION
ALT 1236.54 KM
ALT RT 0.2570 KM/SEC
LAT 37.85 DEG
LONG 178.75 DEG

S/C ORIENTATION
TILT ANG 25.40 DEG
TILT AZIM 280.99 DEG
SWING ANG 89.61 DEG
N.DEV. 4.05 DEG

PHOTO ILLUMINATION
SUN AZIM 262.91 DEG
INCID ANG 78.98 DEG
EMISS ANG 47.26 DEG
PHASE ANG 126.24 DEG
ALPHA -47.26 DEG

PRINCIPAL POINT
LATITUDE 38.72 DEG
LONGITUDE 150.81 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 56.59 DEG AD 022.5 KM
A LONG 176.18 DEG BC 423.8 KM
B LAT 21.64 DEG CD 548.1 KM
B LONG 170.00 DEG DA 306.2 KM
C LAT 10.79 DEG TILT DISTANCE 37.8
C LONG 142.33 DEG
D LAT 61.29 DEG
D LONG 120.55 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 47.65 DEG AB 527.9 KM
A LONG 153.07 DEG BC 219.2 KM
B LAT 30.21 DEG CD 587.3 KM
B LONG 154.68 DEG DA 217.6 KM
C LAT 28.41 DEG TILT DISTANCE 89.7
C LONG 146.63 DEG
D LAT 47.60 DEG
D LONG 142.40 DEG

LUNAR CRATER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5114

TIME 67CE14
YR,MO,DY 124136.31
PR,MI,SEC 124136.31
S/C POSITION
ALT 127.44 KM
TILT ANG 4.54 DEG
TILT AZIM 278.98 DEG
INCID ANG 70.98 DEG
SWISS ANG 4.87 DEG
SWING ANG 183.23 DEG
N.DEV. 85.32 DEG
LAT 23.44 DEG
LONG 3.18 DEG
S/C ORIENTATION
TILT ANG 4.54 DEG
TILT AZIM 278.98 DEG
INCID ANG 70.98 DEG
SWISS ANG 4.87 DEG
SWING ANG 183.23 DEG
N.DEV. 85.32 DEG
LAT 23.44 DEG
LONG 3.18 DEG
PHOTO ILLUMINATION
SUN AZIM 95.95 DEG
INCID ANG 70.98 DEG
SWISS ANG 4.87 DEG
SWING ANG 183.23 DEG
N.DEV. 85.32 DEG
LAT 23.44 DEG
LONG 3.18 DEG
PRINCIPAL POINT
LATITUDE 23.50 DEG
LONGITUDE 2.82 DEG
ALPHA 4.87 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.18 DEG AB 106.1 KM
A LONG 1.94 DEG BC 85.9 KM
B LAT 24.78 DEG CD 105.7 KM
B LONG 4.78 DEG DA 92.4 KM
C LAT 21.56 DEG TILT DISTANCE 6.5
C LONG 4.48 DEG
D LAT 22.33 DEG
D LONG 7.73 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 23.75 DEG AB 46.2 KM
A LONG 1.99 DEG BC 11.4 KM
B LAT 23.63 DEG CD 46.2 KM
B LONG 7.65 DEG DA 11.7 KM
C LAT 23.25 DEG TILT DISTANCE 48.2
C LONG 3.62 DEG
D LAT 23.37 DEG
D LONG 1.96 DEG

MISSION/
FRAME NO.
5105

TIME 67CE14
YR,MO,DY 12412.71
PR,MI,SEC 12412.71
S/C POSITION
ALT 131.45 KM
TILT ANG 4.94 DEG
TILT AZIM 295.90 DEG
INCID ANG 71.06 DEG
SWISS ANG 5.21 DEG
SWING ANG 230.95 DEG
N.DEV. 85.40 DEG
LAT 24.93 DEG
LONG 3.32 DEG
S/C ORIENTATION
TILT ANG 4.94 DEG
TILT AZIM 295.90 DEG
INCID ANG 71.06 DEG
SWISS ANG 5.21 DEG
SWING ANG 230.95 DEG
N.DEV. 85.40 DEG
LAT 24.93 DEG
LONG 3.32 DEG
PHOTO ILLUMINATION
SUN AZIM 97.55 DEG
INCID ANG 71.06 DEG
SWISS ANG 5.21 DEG
SWING ANG 230.95 DEG
N.DEV. 85.40 DEG
LAT 24.93 DEG
LONG 3.32 DEG
PRINCIPAL POINT
LATITUDE 25.09 DEG
LONGITUDE 2.95 DEG
ALPHA 4.93 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.23 DEG AB 116.6 KM
A LONG 1.94 DEG BC 88.8 KM
B LAT 26.41 DEG CD 108.2 KM
B LONG 5.03 DEG DA 95.5 KM
C LAT 23.50 DEG TILT DISTANCE 6.3
C LONG 4.68 DEG
D LAT 23.68 DEG
D LONG 6.89 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.35 DEG AB 47.8 KM
A LONG 2.09 DEG BC 11.8 KM
B LAT 25.21 DEG CD 47.6 KM
B LONG 3.82 DEG DA 12.1 KM
C LAT 24.83 DEG TILT DISTANCE 51.5
C LONG 3.78 DEG
D LAT 24.95 DEG
D LONG 2.06 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5106

YR.NO.DY 670814
HR.MI.SEC 124127.51

S/C POSITION
ALT 135.44 KM
ALT RT 0.1654 KM/SEC
LAT 26.39 DEG
LONG 3.45 DEG

S/C ORIENTATION
TILT ANG 5.48 DEG
TILT AZIM 209.43 DEG
SWING ANG 214.57 DEG
N.DEV. 85.45 DEG

PHOTO ILLUMINATION
SUN AZIM 99.12 DEG
INCID ANG 71.14 DEG
EMISS ANG 5.91 DEG
PHASE ANG 66.11 DEG
ALPHA 5.00 DEG

PRINCIPAL POINT
LATITUDE 26.57 DEG
LONGITUDE 3.08 DEG

MEDIUM RESOLUTION
CORNER COORDINATE
A LAT 28.39 DEG
A LONG 0.59 DEG
B LAT 27.95 DEG
B LONG 5.27 DEG
C LAT 24.95 DEG
C LONG 4.88 DEG
D LAT 25.14 DEG
D LONG 0.86 DEG

SIDE LENGTH
AB 115.2 KM
BC 91.7 KM
CD 110.4 KM
DA 98.7 KM
TILT DISTANCE 7.8

HIGH RESOLUTION
CORNER COORDINATE
A LAT 26.84 DEG
A LONG 2.17 DEG
B LAT 26.70 DEG
B LONG 3.99 DEG
C LAT 26.30 DEG
C LONG 3.95 DEG
D LAT 26.43 DEG
D LONG 2.15 DEG

SIDE LENGTH
AB 49.4 KM
BC 12.1 KM
CD 49.1 KM
DA 12.5 KM
TILT DISTANCE 58.4

MISSION/
FRAME NO.
5107

YR.NO.DY 670814
HR.MI.SEC 124152.01

S/C POSITION
ALT 139.77 KM
ALT RT 0.1743 KM/SEC
LAT 27.70 DEG
LONG 3.59 DEG

S/C ORIENTATION
TILT ANG 5.38 DEG
TILT AZIM 319.97 DEG
SWING ANG 225.10 DEG
N.DEV. 85.52 DEG

PHOTO ILLUMINATION
SUN AZIM 98.70 DEG
INCID ANG 71.24 DEG
EMISS ANG 6.90 DEG
PHASE ANG 65.11 DEG
ALPHA 5.07 DEG

PRINCIPAL POINT
LATITUDE 28.10 DEG
LONGITUDE 3.21 DEG

MEDIUM RESOLUTION
CORNER COORDINATE
A LAT 20.01 DEG
A LONG 0.58 DEG
B LAT 25.54 DEG
B LONG 5.53 DEG
C LAT 26.43 DEG
C LONG 5.07 DEG
D LAT 26.63 DEG
D LONG 0.50 DEG

SIDE LENGTH
AB 120.4 KM
BC 95.1 KM
CD 113.2 KM
DA 102.5 KM
TILT DISTANCE 9.1

HIGH RESOLUTION
CORNER COORDINATE
A LAT 28.38 DEG
A LONG 2.26 DEG
B LAT 28.23 DEG
B LONG 4.17 DEG
C LAT 27.82 DEG
C LONG 4.12 DEG
D LAT 27.95 DEG
D LONG 2.24 DEG

SIDE LENGTH
AB 51.1 KM
BC 12.5 KM
CD 50.7 KM
DA 13.0 KM
TILT DISTANCE 69.0

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MISSION/
FRAME NO.
5108

TIME 670814
YR.MO.DY 154445.91
HR.MI.SEC
S/C POSITION
ALT 97.46 KM
ALT RT -0.0142 KM/SEC
LAT -0.05 DEG
LONG -0.52 DEG
S/C ORIENTATION
TILT ANG 10.15 DEG
TILT AZIM 269.96 DEG
SWING ANG 175.40 DEG
N.DEV. 85.44 DEG
PHOTO ILLUMINATION
SUN AZIM 88.48 DEG
INCID ANG 72.21 DEG
EMISS ANG 10.73 DEG
PHASE ANG 61.48 DEG
ALPHA 10.73 DEG
PRINCIPAL POINT
LATITUDE -0.05 DEG
LONGITUDE -1.10 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.29 DEG AB 83.2 KM
A LONG -2.48 DEG BC 63.8 KM
B LAT 0.90 DEG CD 84.1 KM
B LONG -0.23 DEG DA 74.8 KM
C LAT -1.20 DEG TILT DISTANCE 14.5
C LONG 0.07 DEG
D LAT -1.17 DEG
D LONG -2.70 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.15 DEG AB 36.3 KM
A LONG -1.70 DEG BC 8.7 KM
B LAT 0.04 DEG CD 36.4 KM
B LONG -0.51 DEG DA 9.3 KM
C LAT -0.24 DEG TILT DISTANCE 09.0
C LONG -0.53 DEG
D LAT -0.16 DEG
D LONG -1.73 DEG

MISSION/
FRAME NO.
5109

TIME 670814
YR.MO.DY 154450.41
HR.MI.SEC
S/C POSITION
ALT 97.40 KM
ALT RT -0.0124 KM/SEC
LAT 0.20 DEG
LONG -0.50 DEG
S/C ORIENTATION
TILT ANG 10.14 DEG
TILT AZIM 271.41 DEG
SWING ANG 176.87 DEG
N.DEV. 85.49 DEG
PHOTO ILLUMINATION
SUN AZIM 88.56 DEG
INCID ANG 72.18 DEG
EMISS ANG 10.71 DEG
PHASE ANG 61.48 DEG
ALPHA 10.70 DEG
PRINCIPAL POINT
LATITUDE 0.22 DEG
LONGITUDE -1.07 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.57 DEG AB 83.3 KM
A LONG -2.46 DEG BC 63.8 KM
B LAT 1.18 DEG CD 83.9 KM
B LONG 0.25 DEG DA 74.8 KM
C LAT -0.92 DEG TILT DISTANCE 14.4
C LONG 0.10 DEG
D LAT -0.89 DEG
D LONG -2.67 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.42 DEG AB 36.3 KM
A LONG -1.68 DEG BC 8.7 KM
B LAT 0.32 DEG CD 36.4 KM
B LONG -0.49 DEG DA 9.3 KM
C LAT 0.03 DEG TILT DISTANCE 08.8
C LONG -0.51 DEG
D LAT 0.11 DEG
D LONG -1.71 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

5110 YR.NO.DY 670814
HR.MI.SEC 154454.91

S/C POSITION
ALT 97.35 KM
ALT RT -0.0106 KM/SEC
LAT 0.46 DEG
LONG -0.48 DEG

S/C ORIENTATION
TILT ANG 10.13 DEG
TILT AZIM 272.86 DEG
SWING ANG 178.34 DEG
N.DEV. 85.54 DEG

PHOTO ILLUMINATION
SUN AZIM 88.65 DEG
INCID ANG 72.15 DEG
EMISS ANG 10.70 DEG
PHASE ANG 61.48 DEG
ALPHA 10.67 DEG

PRINCIPAL POINT
LATITUDE 0.49 DEG
LONGITUDE -1.05 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.84 DEG AB 83.4 KM
A LONG -2.45 DEG BC 63.7 KM
B LAT 1.45 DEG CD 83.7 KM
B LONG 0.28 DEG DA 74.7 KM
C LAT -0.65 DEG TILT DISTANCE 14.4
C LONG 0.12 DEG
D LAT -0.61 DEG
D LONG -2.64 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.69 DEG AB 36.3 KM
A LONG -1.66 DEG BC 8.7 KM
B LAT 0.59 DEG CD 36.3 KM
B LONG -0.47 DEG DA 9.3 KM
C LAT 0.30 DEG TILT DISTANCE 08.7
C LONG -0.49 DEG
D LAT 0.39 DEG
D LONG -1.68 DEG

MISSION/
FRAME NO.

5111 YR.NO.DY 670814
HR.MI.SEC 154459.41

S/C POSITION
ALT 97.31 KM
ALT RT -0.0087 KM/SEC
LAT 0.72 DEG
LONG -0.46 DEG

S/C ORIENTATION
TILT ANG 10.12 DEG
TILT AZIM 274.31 DEG
SWING ANG 179.82 DEG
N.DEV. 85.59 DEG

PHOTO ILLUMINATION
SUN AZIM 88.74 DEG
INCID ANG 72.12 DEG
EMISS ANG 10.69 DEG
PHASE ANG 61.48 DEG
ALPHA 10.64 DEG

PRINCIPAL POINT
LATITUDE 0.76 DEG
LONGITUDE -1.03 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.12 DEG AB 83.5 KM
A LONG -2.43 DEG BC 63.7 KM
B LAT 1.72 DEG CD 83.5 KM
B LONG 0.30 DEG DA 74.7 KM
C LAT -0.37 DEG TILT DISTANCE 14.4
C LONG 0.14 DEG
D LAT -0.34 DEG
D LONG -2.62 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.97 DEG AB 36.3 KM
A LONG -1.64 DEG BC 8.7 KM
B LAT 0.86 DEG CD 36.3 KM
B LONG -0.44 DEG DA 9.3 KM
C LAT 0.58 DEG TILT DISTANCE 08.6
C LONG -0.47 DEG
D LAT 0.66 DEG
D LONG -1.66 DEG

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MISSION/
FRAME NO.
5112

TIME
67CE14
185549.00

S/C POSITION
ALT 97.57 KM
ALT RT -0.0138 KM/SEC
LAT -0.01 DEG
LONG -2.27 DEG

S/C ORIENTATION
TILT ANG 19.78 DEG
TILT AZIM 96.63 DEG
SWING ANG 2.48 DEG
N.DEV. 86.29 DEG

PHOTO ILLUMINATION
SUN AZIM 88.43 DEG
INCID ANG 70.61 DEG
EMISS ANG 20.94 DEG
PHASE ANG 91.35 DEG
ALPHA -20.77 DEG

PRINCIPAL POINT
LATITUDE -0.14 DEG
LONGITUDE -1.11 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.99 DEG AB 94.1 KM
A LONG -2.34 DEG BC 85.9 KM
B LAT 1.14 DEG CD 95.4 KM
B LONG 0.76 DEG DA 62.5 KM
C LAT -1.69 DEG TILT DISTANCE 28.4
C LONG 0.60 DEG
D LAT -1.07 DEG
D LONG -2.49 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.05 DEG AB 40.3 KM
A LONG -1.72 DEG BC 10.1 KM
B LAT -0.03 DEG CD 40.4 KM
B LONG -0.39 DEG DA 8.8 KM
C LAT -0.36 DEG TILT DISTANCE 18.9
C LONG -0.42 DEG
D LAT -0.24 DEG
D LONG -1.74 DEG

MISSION/
FRAME NO.
5113

TIME
67CB14
185553.74

S/C POSITION
ALT 97.51 KM
ALT RT -0.0119 KM/SEC
LAT 0.26 DEG
LONG -2.25 DEG

S/C ORIENTATION
TILT ANG 19.77 DEG
TILT AZIM 95.87 DEG
SWING ANG 1.68 DEG
N.DEV. 86.19 DEG

PHOTO ILLUMINATION
SUN AZIM 88.53 DEG
INCID ANG 70.58 DEG
EMISS ANG 20.93 DEG
PHASE ANG 91.35 DEG
ALPHA -20.79 DEG

PRINCIPAL POINT
LATITUDE 0.15 DEG
LONGITUDE -1.09 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.27 DEG AB 94.3 KM
A LONG -2.31 DEG BC 85.9 KM
B LAT 1.43 DEG CD 95.2 KM
B LONG 0.79 DEG DA 62.5 KM
C LAT -1.40 DEG TILT DISTANCE 28.4
C LONG 0.61 DEG
D LAT -0.78 DEG
D LONG -2.47 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.34 DEG AB 40.3 KM
A LONG -1.70 DEG BC 10.1 KM
B LAT 0.26 DEG CD 40.3 KM
B LONG -0.37 DEG DA 8.8 KM
C LAT -0.07 DEG TILT DISTANCE 18.8
C LONG -0.39 DEG
D LAT 0.05 DEG
D LONG -1.72 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5114

YR.NO.DY 67CE14
HR.MI.SEC 185552.48

S/C POSITION
ALT 97.46 KM
ALT RT -0.0100 KM/SEC
LAT 0.54 DEG
LONG -2.23 DEG

S/C ORIENTATION
TILT ANG 19.77 DEG
TILT AZIM 95.11 DEG
SWING ANG 0.87 DEG
N.DEV. 86.08 DEG

PHOTO ILLUMINATION
SUN AZIM 88.63 DEG
INCL ANG 70.55 DEG
EMISS ANG 20.93 DEG
PHASE ANG 91.35 DEG
ALPHA -20.82 DEG

PRINCIPAL POINT
LATITUDE 0.43 DEG
LONGITUDE -1.07 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.56 DEG AB 94.4 KM
A LONG -2.29 DEG BC 85.9 KM
B LAT 1.72 DEG CD 94.9 KM
B LONG 0.82 DEG DA 62.4 KM
C LAT -1.11 DEG TILT DISTANCE 28.4
C LONG 0.62 DEG
D LAT -0.49 DEG
D LONG -2.44 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.62 DEG AB 40.3 KM
A LONG -1.67 DEG BC 12.1 KM
B LAT 0.55 DEG CD 40.3 KM
B LONG -0.35 DEG DA 8.8 KM
C LAT 0.21 DEG TILT DISTANCE 18.7
C LONG -0.37 DEG
D LAT 0.33 DEG
D LONG -1.70 DEG

MISSION/
FRAME NO.
5115

YR.NO.DY 67CE14
HR.MI.SEC 1856 3.22

S/C POSITION
ALT 97.41 KM
ALT RT -0.0081 KM/SEC
LAT 0.81 DEG
LONG -2.20 DEG

S/C ORIENTATION
TILT ANG 19.77 DEG
TILT AZIM 94.35 DEG
SWING ANG 0.06 DEG
N.DEV. 85.98 DEG

PHOTO ILLUMINATION
SUN AZIM 88.73 DEG
INCL ANG 70.52 DEG
EMISS ANG 20.93 DEG
PHASE ANG 91.35 DEG
ALPHA -20.84 DEG

PRINCIPAL POINT
LATITUDE 0.72 DEG
LONGITUDE -1.05 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.85 DEG AB 94.6 KM
A LONG -2.27 DEG BC 85.8 KM
B LAT 2.01 DEG CD 94.6 KM
B LONG 0.85 DEG DA 62.4 KM
C LAT -0.81 DEG TILT DISTANCE 28.4
C LONG 0.64 DEG
D LAT -0.20 DEG
D LONG -2.42 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.91 DEG AB 40.3 KM
A LONG -1.65 DEG BC 10.1 KM
B LAT 0.83 DEG CD 40.3 KM
B LONG -0.33 DEG DA 8.8 KM
C LAT 0.50 DEG TILT DISTANCE 18.7
C LONG -0.35 DEG
D LAT 0.62 DEG
D LONG -1.67 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5116

TIME
670814
220243.30

S/C POSITION
ALT 115.22 KM
ALT RT -0.1112 KM/SEC
LAT -14.15 DEG
LONG -5.14 DEG

S/C ORIENTATION
TILT ANG 14.50 DEG
TILT AZIM 104.04 DEG
SWING ANG 10.24 DEG
N.DEV. 86.92 DEG

PHOTO ILLUMINATION
SUN AZIM 83.95 DEG
INCID ANG 73.01 DEG
EMISS ANG 15.49 DEG
PHASE ANG 87.63 DEG
ALPHA -14.68 DEG

PRINCIPAL POINT
LATITUDE -14.39 DEG
LONGITUDE -4.13 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -13.06 DEG AB 101.5 KM
A LONG -5.61 DEG BC 93.7 KM
B LAT -12.99 DEG CD 105.5 KM
B LONG -2.17 DEG DA 74.7 KM
C LAT -16.08 DEG TILT DISTANCE 20.4
C LONG -2.24 DEG
D LAT -15.52 DEG
D LONG -5.81 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -14.17 DEG AB 44.5 KM
A LONG -4.86 DEG BC 11.4 KM
B LAT -14.25 DEG CD 44.8 KM
B LONG -3.35 DEG DA 10.3 KM
C LAT -14.63 DEG TILT DISTANCE 57.4
C LONG -3.36 DEG
D LAT -14.51 DEG
D LONG -4.88 DEG

MISSION/
FRAME NO.
5117

TIME
670814
220248.72

S/C POSITION
ALT 114.62 KM
ALT RT -0.1092 KM/SEC
LAT -13.85 DEG
LONG -5.11 DEG

S/C ORIENTATION
TILT ANG 14.45 DEG
TILT AZIM 102.86 DEG
SWING ANG 9.03 DEG
N.DEV. 86.84 DEG

PHOTO ILLUMINATION
SUN AZIM 84.04 DEG
INCID ANG 72.96 DEG
EMISS ANG 15.43 DEG
PHASE ANG 87.63 DEG
ALPHA -14.73 DEG

PRINCIPAL POINT
LATITUDE -14.05 DEG
LONGITUDE -4.13 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -12.74 DEG AB 101.2 KM
A LONG -5.58 DEG BC 93.1 KM
B LAT -12.66 DEG CD 104.7 KM
B LONG -2.15 DEG DA 74.3 KM
C LAT -15.74 DEG TILT DISTANCE 20.3
C LONG -2.24 DEG
D LAT -15.19 DEG
D LONG -5.77 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -13.84 DEG AB 44.3 KM
A LONG -4.83 DEG BC 11.3 KM
B LAT -13.93 DEG CD 44.5 KM
B LONG -3.33 DEG DA 10.2 KM
C LAT -14.30 DEG TILT DISTANCE 56.9
C LONG -3.35 DEG
D LAT -14.18 DEG
D LONG -4.86 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

5118

TIME

67CE14

S/C POSITION

ALT 114.04 KM

ALT RT -0.1071 KM/SEC

LAT -13.54 DEG

LONG -5.09 DEG

S/C ORIENTATION

TILT ANG 14.41 DEG

TILT AZIM 101.53 DEG

SWING ANG 7.81 DEG

N.DEV. 86.76 DEG

PHOTO ILLUMINATION

SUN AZIM 84.14 DEG

INCID ANG 72.90 DEG

EMISS ANG 15.38 DEG

PHASE ANG 87.63 DEG

ALPHA -14.78 DEG

PRINCIPAL POINT

LATITUDE -13.74 DEG

LONGITUDE -4.11 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT -12.42 DEG AB 100.9 KM

A LONG -5.55 DEG BC 92.6 KM

B LAT -12.34 DEG CD 123.9 KM

B LONG -2.14 DEG DA 73.9 KM

C LAT -15.40 DEG TILT DISTANCE 20.3

C LONG -2.23 DEG

D LAT -14.85 DEG

D LONG -5.74 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT -13.52 DEG AB 44.1 KM

A LONG -4.81 DEG BC 11.2 KM

B LAT -13.60 DEG CD 44.3 KM

B LONG -3.31 DEG DA 10.2 KM

C LAT -13.97 DEG TILT DISTANCE 56.4

C LONG -3.33 DEG

D LAT -13.86 DEG

D LONG -4.83 DEG

MISSION/
FRAME NO.

5119

TIME

67CE14

S/C POSITION

ALT 113.48 KM

ALT RT -0.1051 KM/SEC

LAT -13.24 DEG

LONG -5.06 DEG

S/C ORIENTATION

TILT ANG 14.38 DEG

TILT AZIM 100.51 DEG

SWING ANG 6.61 DEG

N.DEV. 86.69 DEG

PHOTO ILLUMINATION

SUN AZIM 84.23 DEG

INCID ANG 72.85 DEG

EMISS ANG 15.34 DEG

PHASE ANG 87.63 DEG

ALPHA -14.82 DEG

PRINCIPAL POINT

LATITUDE -13.41 DEG

LONGITUDE -4.09 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT -12.11 DEG AB 100.6 KM

A LONG -5.52 DEG BC 92.1 KM

B LAT -12.23 DEG CD 103.1 KM

B LONG -2.12 DEG DA 73.5 KM

C LAT -15.06 DEG TILT DISTANCE 20.2

C LONG -2.23 DEG

D LAT -14.52 DEG

D LONG -5.71 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT -13.20 DEG AB 43.9 KM

A LONG -4.78 DEG BC 11.2 KM

B LAT -13.28 DEG CD 44.0 KM

B LONG -3.30 DEG DA 10.1 KM

C LAT -13.65 DEG TILT DISTANCE 56.0

C LONG -3.32 DEG

D LAT -13.53 DEG

D LONG -4.81 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5120

TIME
670515
012125.52

S/C POSITION
ALT 106.09 KM
ALT RT 0.0729 KM/SEC
LAT 12.41 DEG
LONG -4.77 DEG

S/C ORIENTATION
TILT ANG 11.95 DEG
TILT AZIM 91.21 DEG
SWING ANG 356.11 DEG
N.DEV. 84.77 DEG

PHOTO ILLUMINATION
SUN AZIM 92.93 DEG
INCID ANG 70.39 DEG
EMISS ANG 12.70 DEG
PHASE ANG 83.08 DEG
ALPHA -12.70 DEG

PRINCIPAL POINT
LATITUDE 12.40 DEG
LONGITUDE -4.01 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.67 DEG AB 93.1 KM
A LONG -5.23 DEG BC 83.2 KM
B LAT 13.62 DEG CD 92.2 KM
B LONG -2.17 DEG DA 69.1 KM
C LAT 10.90 DEG TILT DISTANCE 16.7
C LONG -2.47 DEG
D LAT 11.39 DEG
D LONG -5.52 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.61 DEG AB 40.2 KM
A LONG -4.65 DEG BC 30.2 KM
B LAT 12.50 DEG CD 40.1 KM
B LONG -3.29 DEG DA 9.4 KM
C LAT 12.16 DEG TILT DISTANCE 28.9
C LONG -3.33 DEG
D LAT 12.30 DEG
D LONG -4.67 DEG

MISSION/
FRAME NO.
5121

TIME
670515
012134.40

S/C POSITION
ALT 106.45 KM
ALT RT 0.0748 KM/SEC
LAT 12.69 DEG
LONG -4.75 DEG

S/C ORIENTATION
TILT ANG 11.98 DEG
TILT AZIM 89.90 DEG
SWING ANG 354.75 DEG
N.DEV. 84.70 DEG

PHOTO ILLUMINATION
SUN AZIM 93.04 DEG
INCID ANG 70.37 DEG
EMISS ANG 12.72 DEG
PHASE ANG 83.08 DEG
ALPHA -12.71 DEG

PRINCIPAL POINT
LATITUDE 12.69 DEG
LONGITUDE -3.99 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.57 DEG AB 93.5 KM
A LONG -5.21 DEG BC 83.5 KM
B LAT 13.53 DEG CD 92.1 KM
B LONG -2.12 DEG DA 69.4 KM
C LAT 11.19 DEG TILT DISTANCE 16.7
C LONG -2.44 DEG
D LAT 11.69 DEG
D LONG -5.50 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.90 DEG AB 40.3 KM
A LONG -4.62 DEG BC 30.3 KM
B LAT 12.80 DEG CD 40.3 KM
B LONG -3.26 DEG DA 9.5 KM
C LAT 12.46 DEG TILT DISTANCE 29.1
C LONG -3.30 DEG
D LAT 12.59 DEG
D LONG -4.65 DEG

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MISSION/
FRAME NO.

5122 YR.NO.DY
PR.MI.SEC

TIME:
670815
012139.33

S/C POSITION
ALT 106.83 KM
ALT RT 0.0767 KM/SEC
LAT 12.97 DEG
LONG -4.73 DEG

S/C ORIENTATION
TILT ANG 12.70 DEG
TILT AZIM 88.58 DEG
SWING ANG 353.41 DEG
N.DEV. 84.63 DEG

PHOTO ILLUMINATION
SUN AZIM 93.16 DEG
INCID ANG 70.36 DEG
EMISS ANG 12.75 DEG
PHASE ANG 83.08 DEG
ALPHA -12.72 DEG

PRINCIPAL POINT
LATITUDE 12.99 DEG
LONGITUDE -3.95 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.27 DEG AB 94.1 KM
A LONG -5.29 DEG BC 83.8 KM
B LAT 14.23 DEG CD 92.3 KM
B LONG -2.68 DEG DA 69.6 KM
C LAT 11.48 DEG TILT DISTANCE 10.7
C LONG -2.40 DEG
D LAT 11.58 DEG
D LONG -5.47 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.20 DEG AB 43.5 KM
A LONG -4.60 DEG BC 10.3 KM
B LAT 13.39 DEG CD 40.4 KM
B LONG -3.23 DEG DA 9.5 KM
C LAT 12.76 DEG TILT DISTANCE 29.4
C LONG -3.26 DEG
D LAT 12.89 DEG
D LONG -4.62 DEG

MISSION/
FRAME NO.

5123 YR.NO.DY
PR.MI.SEC

TIME:
670815
012144.31

S/C POSITION
ALT 107.21 KM
ALT RT 0.0786 KM/SEC
LAT 13.26 DEG
LONG -4.70 DEG

S/C ORIENTATION
TILT ANG 12.04 DEG
TILT AZIM 87.26 DEG
SWING ANG 352.05 DEG
N.DEV. 84.55 DEG

PHOTO ILLUMINATION
SUN AZIM 93.27 DEG
INCID ANG 70.35 DEG
EMISS ANG 12.79 DEG
PHASE ANG 83.08 DEG
ALPHA -12.74 DEG

PRINCIPAL POINT
LATITUDE 13.29 DEG
LONGITUDE -3.93 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.58 DEG AB 94.7 KM
A LONG -5.26 DEG BC 84.2 KM
B LAT 14.54 DEG CD 92.4 KM
B LONG -2.03 DEG DA 69.9 KM
C LAT 11.78 DEG TILT DISTANCE 16.8
C LONG -2.37 DEG
D LAT 12.29 DEG
D LONG -5.45 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.50 DEG AB 40.7 KM
A LONG -4.57 DEG BC 10.4 KM
B LAT 13.40 DEG CD 40.5 KM
B LONG -3.20 DEG DA 9.5 KM
C LAT 13.06 DEG TILT DISTANCE 29.8
C LONG -3.23 DEG
D LAT 13.19 DEG
D LONG -4.60 DEG

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MISSION/
FRAME NO.

5124

YR.MO.DY
HR.MI.SEC

TIME
570215
0220 3.81

S/C POSITION
ALT 1236.58 KM
ALT RT 0.2565 KM/SEC
LAT 37.83 DEG
LONG 170.09 DEG

S/C ORIENTATION
TILT ANG 24.99 DEG
TILT AZIM 281.58 DEG
SWING ANG 91.70 DEG
N.DEV. 4.96 DEG

PHOTO ILLUMINATION
SUN AZIM 262.90 DEG
INCID ANG 79.06 DEG
EMISS ANG 46.34 DEG
PHASE ANG 125.39 DEG
ALPHA -46.33 DEG

PRINCIPAL POINT
LATITUDE 39.47 DEG
LONGITUDE 142.78 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 56.68 DEG AB 621.3 KM
A LONG 167.80 DEG BC 410.1 KM
B LAT 22.14 DEG CD 521.9 KM
B LONG 162.61 DEG DA 311.4 KM
C LAT 12.75 DEG TILT DISTANCE 37.1
C LONG 136.12 DEG
D LAT 61.57 DEG
D LONG 111.33 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 47.88 DEG AB 524.6 KM
A LONG 144.77 DEG BC 213.3 KM
B LAT 30.57 DEG CD 581.5 KM
B LONG 146.78 DEG DA 214.0 KM
C LAT 28.89 DEG TILT DISTANCE 83.7
C LONG 139.02 DEG
D LAT 47.81 DEG
D LONG 134.23 DEG

MISSION/
FRAME NO.

5125

YR.MO.DY
HR.MI.SEC

TIME
670215
0416 4.93

S/C POSITION
ALT 220.06 KM
ALT RT -0.2792 KM/SEC
LAT -42.21 DEG
LONG -11.63 DEG

S/C ORIENTATION
TILT ANG 5.47 DEG
TILT AZIM 185.49 DEG
SWING ANG 89.41 DEG
N.DEV. 83.62 DEG

PHOTO ILLUMINATION
SUN AZIM 79.62 DEG
INCID ANG 81.10 DEG
EMISS ANG 6.16 DEG
PHASE ANG 79.44 DEG
ALPHA 1.61 DEG

PRINCIPAL POINT
LATITUDE -42.93 DEG
LONGITUDE -11.73 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -40.06 DEG AB 175.7 KM
A LONG -15.16 DEG BC 156.5 KM
B LAT -40.68 DEG CD 193.8 KM
B LONG -7.54 DEG DA 156.7 KM
C LAT -45.84 DEG TILT DISTANCE 7.6
C LONG -7.65 DEG
D LAT -45.12 DEG
D LONG -16.59 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -43.42 DEG AB 79.4 KM
A LONG -13.41 DEG BC 20.2 KM
B LAT -42.70 DEG CD 80.1 KM
B LONG -9.88 DEG DA 20.1 KM
C LAT -43.37 DEG TILT DISTANCE 58.2
C LONG -9.94 DEG
D LAT -43.07 DEG
D LONG -13.55 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
S126

TIME 677E15
YR.NO.DY 041615.36
PR.MI.SEC 041615.36

S/C POSITION
ALT 217.25 KM
ALT RT -0.2765 KM/SEC
LAT -41.70 DEG
LONG -11.53 DEG

S/C ORIENTATION
TILT ANG 4.95 DEG
TILT AZIM 185.58 DEG
SWING ANG 89.35 DEG
N.DEV. 83.69 DEG

PHOTO ILLUMINATION
SUN AZIM 79.55 DEG
INCID ANG 80.93 DEG
EMISS ANG 5.57 DEG
PHASE ANG 79.44 DEG
ALPHA 1.45 DEG

PRINCIPAL POINT
LATITUDE -42.32 DEG
LONGITUDE -11.51 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -35.51 DEG AB 174.8 KM
A LONG -15.01 DEG BC 154.3 KM
B LAT -40.12 DEG CD 187.4 KM
B LONG -7.53 DEG DA 150.2 KM
C LAT -45.20 DEG TILT DISTANCE 6.8
C LONG -7.28 DEG
D LAT -44.52 DEG
D LONG -14.36 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -41.84 DEG AB 78.3 KM
A LONG -13.29 DEG BC 12.9 KM
B LAT -42.12 DEG CD 79.0 KM
B LONG -9.83 DEG DA 19.8 KM
C LAT -42.77 DEG TILT DISTANCE 52.7
C LONG -9.89 DEG
D LAT -42.49 DEG
D LONG -13.42 DEG

MISSION/
FRAME NO.
S127

TIME 677E15
YR.NO.DY 041625.35
PR.MI.SEC 041625.35

S/C POSITION
ALT 214.41 KM
ALT RT -0.2743 KM/SEC
LAT -41.18 DEG
LONG -11.45 DEG

S/C ORIENTATION
TILT ANG 4.43 DEG
TILT AZIM 185.46 DEG
SWING ANG 89.29 DEG
N.DEV. 83.75 DEG

PHOTO ILLUMINATION
SUN AZIM 79.69 DEG
INCID ANG 80.76 DEG
EMISS ANG 4.98 DEG
PHASE ANG 79.44 DEG
ALPHA 1.29 DEG

PRINCIPAL POINT
LATITUDE -41.72 DEG
LONGITUDE -11.53 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -38.55 DEG AB 173.3 KM
A LONG -14.86 DEG BC 151.6 KM
B LAT -35.55 DEG CD 184.0 KM
B LONG -7.53 DEG DA 151.8 KM
C LAT -44.55 DEG TILT DISTANCE 6.1
C LONG -7.79 DEG
D LAT -42.87 DEG
D LONG -16.13 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -41.25 DEG AB 77.3 KM
A LONG -13.17 DEG BC 19.6 KM
B LAT -41.53 DEG CD 77.9 KM
B LONG -9.79 DEG DA 19.6 KM
C LAT -42.17 DEG TILT DISTANCE 47.1
C LONG -9.85 DEG
D LAT -41.89 DEG
D LONG -13.29 DEG

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MISSION/
FRAME NO.
5126

TIME 670815
YF.MO.DY 341635.80
FP.MI.SEC
S/C POSITION
ALT 211.56 KM
ALT RT -0.2712 KM/SEC
LAT -48.54 DEG
LONG -11.39 DEG
S/C ORIENTATION
TILT ANG 3.89 DEG
TILT AZIM 185.32 DEG
SWING ANG 89.19 DEG
N.DEV. 83.91 DEG
PHOTO ILLUMINATION
SUN AZIM 79.72 DEG
INCID ANG 89.59 DEG
EMISS ANG 4.37 DEG
PHASE ANG 79.44 DEG
ALPHA 1.12 DEG
PRINCIPAL POINT
LATITUDE -41.12 DEG
LONGITUDE -11.44 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -38.32 DEG AB 171.1 KM
A LONG -14.72 DEG BC 149.3 KM
B LAT -38.97 DEG CD 180.7 KM
B LONG -7.52 DEG DA 149.5 KM
C LAT -43.49 DEG TILT DISTANCE 5.3
C LONG -7.72 DEG
D LAT -42.23 DEG
D LONG -15.91 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -43.66 DEG AB 76.2 KM
A LONG -13.04 DEG BC 19.3 KM
B LAT -40.93 DEG CD 76.7 KM
B LONG -9.74 DEG DA 19.3 KM
C LAT -41.56 DEG TILT DISTANCE 41.4
C LONG -9.80 DEG
D LAT -41.29 DEG
D LONG -13.16 DEG

MISSION/
FRAME NO.
5129

TIME 670815
YF.MO.DY 075437.20
FP.MI.SEC
S/C POSITION
ALT 232.74 KM
ALT RT 0.2899 KM/SEC
LAT 48.30 DEG
LONG -4.19 DEG
S/C ORIENTATION
TILT ANG 6.98 DEG
TILT AZIM 65.95 DEG
SWING ANG 328.49 DEG
N.DEV. 81.37 DEG
PHOTO ILLUMINATION
SUN AZIM 107.73 DEG
INCID ANG 73.16 DEG
EMISS ANG 7.93 DEG
PHASE ANG 79.22 DEG
ALPHA -6.13 DEG
PRINCIPAL POINT
LATITUDE 48.68 DEG
LONGITUDE -2.89 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 51.70 DEG AB 202.5 KM
A LONG -7.31 DEG BC 174.3 KM
B LAT 50.56 DEG CD 191.9 KM
B LONG 2.34 DEG DA 157.8 KM
C LAT 45.29 DEG TILT DISTANCE 9.6
C LONG 1.19 DEG
D LAT 46.50 DEG
D LONG -7.78 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 49.20 DEG AB 85.6 KM
A LONG -4.90 DEG BC 21.8 KM
B LAT 48.81 DEG CD 85.0 KM
B LONG -0.64 DEG DA 20.9 KM
C LAT 48.10 DEG TILT DISTANCE 74.5
C LONG -3.85 DEG
D LAT 48.51 DEG
D LONG -5.02 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5130

TIME
670215
675448.44

YR.NO.OY
HR.MI.SEC

S/C POSITION
ALT 236.91 KM
LAT 0.2526 KM/SEC
LONG 48.86 DEG
-4.09 DEG

S/C ORIENTATION
TILT ANG 7.29 DEG
TILT AZIM 62.25 DEG
SWING ANG 324.58 DEG
N.DEV. 81.17 DEG

PHOTO ILLUMINATION
SUN AZIM 108.04 DEG
INCID ANG 73.26 DEG
EMISS ANG 9.29 DEG
PHASE ANG 79.22 DEG
ALPHA -5.75 DEG

PRINCIPAL POINT
LATITUDE 49.31 DEG
LONGITUDE -2.74 DEG

CORNER COORDINATE
A LAT 52.41 DEG
A LONG -7.29 DEG
B LAT 51.63 DEG
B LONG 3.73 DEG
C LAT 45.58 DEG
C LONG 1.42 DEG
D LAT 47.72 DEG
D LONG -7.75 DEG

SIDE LENGTH
AB 206.5 KM
BC 177.3 KM
CD 194.3 KM
DA 160.4 KM
TILT DISTANCE 10.0

HIGH RESOLUTION
CORNER COORDINATE
A LAT 49.85 DEG
A LONG -4.80 DEG
B LAT 49.44 DEG
B LONG -0.42 DEG
C LAT 48.73 DEG
C LONG -2.64 DEG
D LAT 49.15 DEG
D LONG -4.92 DEG

SIDE LENGTH
AB 86.9 KM
BC 22.1 KM
CD 85.2 KM
DA 21.2 KM
TILT DISTANCE 77.8

MISSION/
FRAME NO.
5131

TIME
670215
675455.82

YR.NO.OY
HR.MI.SEC

S/C POSITION
ALT 239.37 KM
LAT 0.2953 KM/SEC
LONG 49.42 DEG
-3.99 DEG

S/C ORIENTATION
TILT ANG 7.63 DEG
TILT AZIM 58.83 DEG
SWING ANG 321.15 DEG
N.DEV. 80.95 DEG

PHOTO ILLUMINATION
SUN AZIM 108.36 DEG
INCID ANG 73.37 DEG
EMISS ANG 8.59 DEG
PHASE ANG 79.22 DEG
ALPHA -5.96 DEG

PRINCIPAL POINT
LATITUDE 49.95 DEG
LONGITUDE -2.58 DEG

CORNER COORDINATE
A LAT 52.12 DEG
A LONG -7.27 DEG
B LAT 52.32 DEG
B LONG 4.15 DEG
C LAT 46.58 DEG
C LONG 1.66 DEG
D LAT 47.75 DEG
D LONG -7.72 DEG

SIDE LENGTH
AB 210.7 KM
BC 183.4 KM
CD 196.2 KM
DA 163.1 KM
TILT DISTANCE 10.5

HIGH RESOLUTION
CORNER COORDINATE
A LAT 52.51 DEG
A LONG -4.70 DEG
B LAT 50.09 DEG
B LONG -0.19 DEG
C LAT 49.36 DEG
C LONG -0.42 DEG
D LAT 49.80 DEG
D LONG -4.83 DEG

SIDE LENGTH
AB 98.3 KM
BC 22.5 KM
CD 87.5 KM
DA 21.5 KM
TILT DISTANCE 91.5

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 469

MISSION/

FRAME NO.

5132

TIME

670615

PR.NO.DY

075511.52

S/C POSITION

ALT 242.82 KM

ALT RT 0.2980 KM/SEC

LAT 50.03 DEG

LONG -3.86 DEG

S/C ORIENTATION

TILT ANG 8.00 DEG

TILT AZIM 55.68 DEG

SWING ANG 317.89 DEG

N.DEV. 80.74 DEG

PHOTO ILLUMINATION

SUN AZIM 108.69 DEG.

INCID ANG 73.47 DEG

EMISS ANG 9.13 DEG

PHASE ANG 79.22 DEG

ALPHA -5.88 DEG

PRINCIPAL POINT

LATITUDE 50.62 DEG

LONGITUDE -2.41 DFG

MEDIUM RESOLUTION

CORNER COORDINATE

A LAT 53.86 DEG

A LONG -7.26 DEG

B LAT 53.01 DEG

B LONG 4.59 DEG

C LAT 47.20 DEG

C LONG 1.51 DEG

D LAT 48.38 DEG

D LONG -7.69 DEG

SIDE LENGTH

AB 215.3 KM

BC 183.7 KM

CD 198.5 KM

DA 165.9 KM

TILT DISTANCE 11.1

HIGH RESOLUTION

CORNER COORDINATE

A LAT 51.18 DEG

A LONG -4.60 DEG

B LAT 50.75 DEG

B LONG 3.05 DEG

C LAT 50.01 DEG

C LONG -0.20 DEG

D LAT 50.46 DEG

D LONG -4.73 DEG

SIDE LENGTH

AB 89.7 KM

BC 22.9 KM

CD 88.8 KM

DA 21.9 KM

TILT DISTANCE 85.5

MISSION/

FRAME NO.

5133

TIME

670815

PR.NO.DY

105415.24

S/C POSITION

ALT 103.34 KM

ALT RT 0.066C KM/SEC

LAT 11.47 DEG

LONG -10.07 DEG

S/C ORIENTATION

TILT ANG 11.50 DEG

TILT AZIM 271.85 DEG

SWING ANG 177.40 DEG

N.DEV. 85.72 DEG

PHOTO ILLUMINATION

SUN AZIM 92.21 DEG

INCID ANG 72.20 DEG

EMISS ANG 11.88 DEG

PHASE ANG 60.32 DEG

ALPHA 11.88 DEG

PRINCIPAL POINT

LATITUDE 11.50 DEG

LONGITUDE -10.75 DFG

MEDIUM RESOLUTION

CORNER COORDINATE

A LAT 12.54 DEG

A LONG -12.31 DEG

B LAT 12.51 DEG

B LONG -5.32 DEG

C LAT 10.29 DEG

C LONG -5.50 DEG

D LAT 10.29 DEG

D LONG -12.51 DEG

SIDE LENGTH

AB 89.4 KM

BC 67.4 KM

CD 90.0 KM

DA 80.5 KM

TILT DISTANCE 16.9

HIGH RESOLUTION

CORNER COORDINATE

A LAT 11.71 DEG

A LONG -11.43 DEG

B LAT 11.60 DEG

B LONG -13.12 DEG

C LAT 11.30 DEG

C LONG -10.15 DEG

D LAT 11.38 DEG

D LONG -11.45 DEG

SIDE LENGTH

AB 38.9 KM

BC 9.2 KM

CD 38.9 KM

DA 9.9 KM

TILT DISTANCE 20.5

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 470

MISSION/
FRAME NO.
5134

TIME
670815

YR.NO.DY
105435.34

HR.MI.SEC

S/C POSITION
ALT 104.69 KM
ALT RT 0.0736 KM/SEC
LAT 12.57 DEG
LONG -9.98 DEG

S/C ORIENTATION
TILT ANG 11.20 DEG
TILT AZIM 277.46 DEG
SWING ANG 183.09 DEG
N.DEV. 85.95 DEG

PHOTO ILLUMINATION
SUN AZIM 92.60 DEG
INCID ANG 72.16 DEG
EMISS ANG 11.88 DEG
PHASE ANG 60.32 DEG
ALPHA 11.84 DEG

PRINCIPAL POINT
LATITUDE 12.66 DEG
LONGITUDE -10.67 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 14.14 DEG AB 91.3 KM
A LONG -12.27 DEG BC 68.3 KM
B LAT 13.70 DEG CD 90.4 KM
B LONG -9.20 DEG DA 81.5 KM
C LAT 11.45 DEG TILT DISTANCE 16.0
C LONG -5.39 DEG
D LAT 11.45 DEG
D LONG -12.43 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 12.88 DEG AB 39.4 KM
A LONG -11.35 DEG BC 9.3 KM
B LAT 12.77 DEG CD 39.4 KM
B LONG -10.02 DEG DA 10.0 KM
C LAT 12.46 DEG TILT DISTANCE 20.5
C LONG -10.05 DEG
D LAT 12.55 DEG
D LONG -11.38 DEG

MISSION/
FRAME NO.
5135

TIME
670815

YR.NO.DY
105455.49

HR.MI.SEC

S/C POSITION
ALT 106.25 KM
ALT RT 0.0815 KM/SEC
LAT 13.72 DEG
LONG -9.88 DEG

S/C ORIENTATION
TILT ANG 11.31 DEG
TILT AZIM 283.24 DEG
SWING ANG 188.97 DEG
N.DEV. 86.17 DEG

PHOTO ILLUMINATION
SUN AZIM 93.02 DEG
INCID ANG 72.13 DEG
EMISS ANG 12.01 DEG
PHASE ANG 60.52 DEG
ALPHA 11.80 DEG

PRINCIPAL POINT
LATITUDE 13.88 DEG
LONGITUDE -10.58 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 15.29 DEG AB 93.5 KM
A LONG -12.23 DEG BC 69.4 KM
B LAT 14.94 DEG CD 91.1 KM
B LONG -9.07 DEG DA 82.9 KM
C LAT 12.66 DEG TILT DISTANCE 16.1
C LONG -5.27 DEG
D LAT 12.66 DEG
D LONG -12.35 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 14.10 DEG AB 40.1 KM
A LONG -11.28 DEG BC 9.5 KM
B LAT 13.99 DEG CD 39.9 KM
B LONG -9.92 DEG DA 10.2 KM
C LAT 13.68 DEG TILT DISTANCE 21.7
C LONG -9.95 DEG
D LAT 13.76 DEG
D LONG -11.30 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5136

TIME 670815
YR.MO.DY 67CE15
HR.MI.SEC 105516.48

S/C POSITION
ALT 108.05 KM
LAT RT 0.0897 KM/SEC
LAT 14.91 DEG
LONG -9.78 DEG

S/C ORIENTATION
TILT ANG 11.54 DEG
TILT AZIM 289.08 DEG
SWING ANG 194.90 DEG
N.DEV. 86.41 DEG

PHOTO ILLUMINATION
SUN AZIM 93.45 DEG
INCID ANG 72.11 DEG
EMISS ANG 12.27 DEG
PHASE ANG 60.32 DEG
ALPHA 11.75 DEG

PRINCIPAL POINT
LATITUDE 15.15 DEG
LONGITUDE -10.49 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 16.71 DEG AB 96.0 KM
A LONG -12.21 DEG BC 76.7 KM
B LAT 16.24 DEG CD 92.0 KM
B LONG -8.54 DEG DA 84.5 KM
C LAT 13.51 DEG TILT DISTANCE 16.5
C LONG -5.16 DEG
C LAT 13.52 DEG
D LONG -12.29 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 15.38 DEG AB 40.8 KM
A LONG -11.20 DEG BC 9.6 KM
B LAT 15.26 DEG CD 40.6 KM
B LONG -9.81 DEG DA 10.4 KM
C LAT 14.94 DEG TILT DISTANCE 24.3
C LONG -9.84 DEG
D LAT 15.03 DEG
D LONG -11.22 DEG

MISSION/
FRAME NO.
5137

TIME 670815
YR.MO.DY 670815
HR.MI.SEC 171449.61

S/C POSITION
ALT 99.50 KM
LAT RT 0.0311 KM/SEC
LAT 6.50 DEG
LONG -13.97 DEG

S/C ORIENTATION
TILT ANG 13.40 DEG
TILT AZIM 277.71 DEG
SWING ANG 183.32 DEG
N.DEV. 85.93 DEG

PHOTO ILLUMINATION
SUN AZIM 90.54 DEG
INCID ANG 72.84 DEG
EMISS ANG 14.18 DEG
PHASE ANG 58.78 DEG
ALPHA 14.05 DEG

PRINCIPAL POINT
LATITUDE 6.60 DEG
LONGITUDE -14.75 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 8.05 DEG AB 88.9 KM
A LONG -16.30 DEG BC 64.5 KM
B LAT 7.57 DEG CD 87.8 KM
B LONG -13.38 DEG DA 79.7 KM
C LAT 5.46 DEG TILT DISTANCE 19.2
C LONG -13.55 DEG
D LAT 5.43 DEG
D LONG -15.46 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 6.81 DEG AB 38.2 KM
A LONG -15.40 DEG BC 8.9 KM
B LAT 6.70 DEG CD 38.1 KM
B LONG -14.14 DEG DA 9.7 KM
C LAT 6.41 DEG TILT DISTANCE 45.0
C LONG -14.16 DEG
D LAT 6.49 DEG
D LONG -15.42 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5138
YR.MO.DY
670815
PR.MI.SEC
202147.21

S/C POSITION
ALT 104.04 KM
ALT RT -0.0659 KM/SEC
LAT -7.40 DEG
LONG -16.86 DEG

S/C ORIENTATION
TILT ANG 1.45 DEG
TILT AZIM 158.59 DEG
SWING ANG 64.49 DEG
N.DEV. 95.51 DEG

PHOTO ILLUMINATION
SUN AZIM 86.30 DEG
INCID ANG 73.73 DEG
EMISS ANG 1.54 DEG
PHASE ANG 74.19 DEG
ALPHA -0.47 DEG

PRINCIPAL POINT
LATITUDE -7.48 DEG
LONGITUDE -16.83 DEG

CORNER COORDINATE SIDE LENGTH
A LAT -6.19 DEG AB 84.8 KM
A LONG -18.14 DEG BC 72.5 KM
B LAT -6.40 DEG CD 86.2 KM
B LONG -15.34 DEG DA 72.1 KM
C LAT -8.79 DEG TILT DISTANCE 1.9
C LONG -15.49 DEG
D LAT -8.56 DEG
D LONG -18.36 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -7.28 DEG AB 37.4 KM
A LONG -17.43 DEG BC 9.4 KM
B LAT -7.38 DEG CD 37.5 KM
B LONG -16.19 DEG DA 9.4 KM
C LAT -7.69 DEG TILT DISTANCE 15.4
C LONG -16.22 DEG
D LAT -7.59 DEG
D LONG -17.46 DEG

MISSION/
FRAME NO.
5139
YR.MO.DY
670815
PR.MI.SEC
202152.01

S/C POSITION
ALT 103.73 KM
ALT RT -0.0640 KM/SEC
LAT -7.13 DEG
LONG -16.84 DEG

S/C ORIENTATION
TILT ANG 1.21 DEG
TILT AZIM 153.31 DEG
SWING ANG 58.81 DEG
N.DEV. 85.51 DEG

PHOTO ILLUMINATION
SUN AZIM 86.38 DEG
INCID ANG 73.68 DEG
EMISS ANG 1.28 DEG
PHASE ANG 74.19 DEG
ALPHA -0.51 DEG

PRINCIPAL POINT
LATITUDE -7.19 DEG
LONGITUDE -16.80 DEG

CORNER COORDINATE SIDE LENGTH
A LAT -5.90 DEG AB 84.6 KM
A LONG -18.11 DEG BC 72.4 KM
B LAT -6.11 DEG CD 85.7 KM
B LONG -15.31 DEG DA 71.8 KM
C LAT -8.49 DEG TILT DISTANCE 1.5
C LONG -15.47 DEG
D LAT -8.26 DEG
D LONG -18.32 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -5.99 DEG AB 37.3 KM
A LONG -17.41 DEG BC 9.4 KM
B LAT -7.09 DEG CD 37.4 KM
B LONG -16.17 DEG DA 9.4 KM
C LAT -7.40 DEG TILT DISTANCE 12.8
C LONG -16.19 DEG
D LAT -7.30 DEG
D LONG -17.43 DEG

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MISSION/
FRAME NO.
5143

TIME 67CE15
YR.WO.DY 202155.81
PR.WI.SEC
S/C POSITION
ALT 103.42 KM
ALT RT -0.0621 KM/SEC
LAT -6.85 DEG
LONG -15.81 DEG
S/C ORIENTATION
TILT ANG 0.99 DEG
TILT AZIM 144.94 DEG
SWING ANG 50.44 DEG
N.DEV. 85.51 DEG
PHOTO ILLUMINATION
SUN AZIM 85.46 DEG
INCID ANG 73.64 DEG
EMISS ANG 1.05 DEG
PHASE ANG 74.19 DEG
ALPHA -0.55 DEG
PRINCIPAL POINT
LATITUDE -4.97 DEG
LONGITUDE -16.78 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -5.61 DEG AB 84.5 KM
A LONG -18.68 DEG BC 72.1 KM
B LAT -5.82 DEG CD 85.3 KM
B LONG -15.29 DEG DA 71.5 KM
C LAT -6.19 DEG TILT DISTANCE 1.2
C LONG -15.46 DEG
D LAT -7.56 DEG
D LONG -18.29 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -5.70 DEG AB 37.2 KM
A LONG -17.38 DEG AC 9.4 KM
B LAT -6.80 DEG CD 37.3 KM
B LONG -16.15 DEG DA 9.3 KM
C LAT -7.10 DEG TILT DISTANCE 10.5
C LONG -16.17 DEG
D LAT -7.01 DEG
D LONG -17.41 DEG

MISSION/
FRAME NO.
5141

TIME 67CE15
YR.WO.DY 20221.61
PR.WI.SEC
S/C POSITION
ALT 103.13 KM
ALT RT -0.0602 KM/SEC
LAT -6.58 DEG
LONG -16.79 DEG
S/C ORIENTATION
TILT ANG 0.80 DEG
TILT AZIM 132.14 DEG
SWING ANG 37.65 DEG
N.DEV. 85.51 DEG
PHOTO ILLUMINATION
SUN AZIM 86.54 DEG
INCID ANG 73.60 DEG
EMISS ANG 0.84 DEG
PHASE ANG 74.19 DEG
ALPHA -0.59 DEG
PRINCIPAL POINT
LATITUDE -6.61 DEG
LONGITUDE -16.75 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -5.32 DEG AB 84.4 KM
A LONG -18.06 DEG BC 71.9 KM
B LAT -5.53 DEG CD 84.2 KM
B LONG -15.27 DEG DA 71.4 KM
C LAT -7.90 DEG TILT DISTANCE 0.9
C LONG -15.44 DEG
D LAT -7.67 DEG
D LONG -18.24 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -6.41 DEG AB 37.1 KM
A LONG -17.36 DEG BC 9.3 KM
B LAT -6.51 DEG CD 37.2 KM
B LONG -16.13 DEG DA 9.3 KM
C LAT -6.81 DEG TILT DISTANCE 8.4
C LONG -16.15 DEG
D LAT -5.72 DEG
D LONG -17.38 DEG

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MISSION/
FRAME NO.
5142

TIME 670815
YR.MO.DY 233640.12
PR.MI.SEC
S/C POSITION
ALT 105.77 KM
ALT RT 0.0743 KM/SEC
LAT 12.76 DEG
LONG -16.94 DEG
S/C ORIENTATION
TILT ANG 8.48 DEG
TILT AZIM 99.30 DEG
SWING ANG 4.18 DEG
N.DEV. 84.99 DEG
PHOTO ILLUMINATION
SUN AZIM 92.78 DEG
INCID ANG 71.45 DEG
EMISS ANG 9.01 DEG
PHASE ANG 80.40 DEG
ALPHA -8.95 DEG
PRINCIPAL POINT
LATITUDE 12.67 DEG
LONGITUDE -16.41 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.55 DEG AB 89.1 KM
A LONG -17.72 DEG BC 79.5 KM
B LAT 13.83 DEG CD 89.9 KM
B LONG -14.70 DEG DA 69.9 KM
C LAT 11.22 DEG TILT DISTANCE 11.7
C LONG -14.54 DEG
D LAT 11.65 DEG
D LONG -17.53 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.88 DEG AB 39.0 KM
A LONG -17.04 DEG BC 10.0 KM
B LAT 12.77 DEG CD 39.1 KM
B LONG -15.72 DEG DA 9.4 KM
C LAT 12.45 DEG TILT DISTANCE 90.8
C LONG -15.75 DEG
D LAT 12.57 DEG
D LONG -17.07 DEG

MISSION/
FRAME NO.
5143

TIME 670815
YR.MO.DY 233655.58
PR.MI.SEC
S/C POSITION
ALT 107.29 KM
ALT RT 0.0819 KM/SEC
LAT 13.87 DEG
LONG -16.85 DEG
S/C ORIENTATION
TILT ANG 8.47 DEG
TILT AZIM 91.82 DEG
SWING ANG 356.50 DEG
N.DEV. 84.67 DEG
PHOTO ILLUMINATION
SUN AZIM 93.20 DEG
INCID ANG 71.40 DEG
EMISS ANG 9.00 DEG
PHASE ANG 80.40 DEG
ALPHA -8.99 DEG
PRINCIPAL POINT
LATITUDE 13.85 DEG
LONGITUDE -16.30 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 15.15 DEG AB 91.1 KM
A LONG -17.64 DEG BC 80.6 KM
B LAT 15.04 DEG CD 90.5 KM
B LONG -14.53 DEG DA 70.9 KM
C LAT 12.39 DEG TILT DISTANCE 11.7
C LONG -14.82 DEG
D LAT 12.82 DEG
D LONG -17.84 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.07 DEG AB 39.6 KM
A LONG -16.94 DEG BC 10.1 KM
B LAT 13.95 DEG CD 39.6 KM
B LONG -15.60 DEG DA 9.5 KM
C LAT 13.62 DEG TILT DISTANCE 90.6
C LONG -15.63 DEG
D LAT 13.75 DEG
D LONG -16.97 DEG

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MISSION/
FRAME NO.
5144

TIME
670815
YR.MO.DY
233515.74
HR.MI.SEC

S/C POSITION
ALT 109.02 KM
TILT ANG 8.60 DEG
TILT AZIM 84.28 DEG
LAT 15.01 DEG
LONG -16.75 DEG
SWING ANG 348.94 DEG
N.DEV. 84.45 DEG

PHOTO ILLUMINATION
SUN AZIM 93.64 DEG
INCID ANG 71.36 DEG
EMISS ANG 9.15 DEG
PHASE ANG 80.40 DEG
ALPHA -9.04 DEG

PRINCIPAL POINT
LATITUDE 15.06 DEG
LONGITUDE -16.19 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 16.39 DEG AB 93.4 KM
A LONG -17.56 DEG BC 82.1 KM
B LAT 16.28 DEG CD 91.3 KM
B LONG -14.35 DEG DA 72.1 KM
C LAT 13.59 DEG TILT DISTANCE 11.9
C LONG -14.68 DEG
D LAT 14.03 DEG
D LONG -17.75 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 15.28 DEG AB 40.3 KM
A LONG -15.84 DEG BC 10.3 KM
B LAT 15.17 DEG CD 40.2 KM
B LONG -15.47 DEG DA 9.7 KM
C LAT 14.83 DEG TILT DISTANCE 92.1
C LONG -15.50 DEG
D LAT 14.96 DEG
D LONG -16.87 DEG

MISSION/
FRAME NO.
5145

TIME
670815
YR.MO.DY
233940.30
HR.MI.SEC

S/C POSITION
ALT 110.94 KM
TILT ANG 8.89 DEG
TILT AZIM 76.94 DEG
LAT 16.17 DEG
LONG -16.65 DEG
SWING ANG 341.49 DEG
N.DEV. 84.22 DEG

PHOTO ILLUMINATION
SUN AZIM 94.09 DEG
INCID ANG 71.33 DEG
EMISS ANG 9.47 DEG
PHASE ANG 83.40 DEG
ALPHA -9.09 DEG

PRINCIPAL POINT
LATITUDE 16.30 DEG
LONGITUDE -16.07 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 17.67 DEG AB 95.9 KM
A LONG -17.48 DEG BC 83.7 KM
B LAT 17.55 DEG CD 92.2 KM
B LONG -14.17 DEG DA 73.5 KM
C LAT 14.81 DEG TILT DISTANCE 12.3
C LONG -14.55 DEG
D LAT 15.25 DEG
D LONG -17.67 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 16.53 DEG AB 41.1 KM
A LONG -16.74 DEG BC 10.5 KM
B LAT 16.41 DEG CD 40.9 KM
B LONG -15.33 DEG DA 9.9 KM
C LAT 13.06 DEG TILT DISTANCE 95.2
C LONG -15.37 DEG
D LAT 16.20 DEG
D LONG -16.77 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

5146
YR.NO.DY
HR.MI.SEC

TIME
670E16
024750.29

S/C POSITION
ALT 100.78 KM
ALT RT 0.0308 KM/SEC
LAT 6.50 DEG
LONG -19.20 DEG

S/C ORIENTATION
TILT ANG 15.49 DEG
TILT AZIM 94.37 DEG
SWING ANG 359.85 DEG
N.DEV. 85.56. DEG

PHOTO ILLUMINATION
SUN AZIM 90.64 DEG
INCID ANG 71.51 DEG
EMISS ANG 16.41 DEG
PHASE ANG 87.89 DEG
ALPHA -16.38 DEG

PRINCIPAL POINT
LATITUDE 6.43 DEG
LONGITUDE -18.27 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 7.61 DEG AB 91.7 KM
A LONG -19.51 DEG BC 82.9 KM
B LAT 7.57 DEG CD 91.6 KM
B LONG -16.46 DEG DA 65.0 KM
C LAT 4.94 DEG TILT DISTANCE 21.9
C LONG -16.69 DEG
D LAT 5.48 DEG
D LONG -19.58 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 6.63 DEG AB 39.5 KM
A LONG -18.88 DEG BC 10.0 KM
B LAT 6.54 DEG CD 39.5 KM
B LONG -17.57 DEG DA 9.0 KM
C LAT 6.21 DEG TILT DISTANCE 68.7
C LONG -17.60 DEG
D LAT 6.33 DEG
D LONG -18.90 DEG

MISSION/
FRAME NO.

5147
YR.NO.DY
HR.MI.SEC

TIME
670E16
024755.17

S/C POSITION
ALT 100.94 KM
ALT RT 0.0328 KM/SEC
LAT 6.78 DEG
LONG -19.18 DEG

S/C ORIENTATION
TILT ANG 15.49 DEG
TILT AZIM 93.36 DEG
SWING ANG 358.80 DEG
N.DEV. 85.47 DEG

PHOTO ILLUMINATION
SUN AZIM 90.74 DEG
INCID ANG 71.49 DEG
EMISS ANG 16.42 DEG
PHASE ANG 87.89 DEG
ALPHA -16.40 DEG

PRINCIPAL POINT
LATITUDE 6.73 DEG
LONGITUDE -18.25 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 7.91 DEG AB 92.0 KM
A LONG -15.49 DEG BC 83.0 KM
B LAT 7.97 DEG CD 91.5 KM
B LONG -16.43 DEG DA 65.1 KM
C LAT 5.24 DEG TILT DISTANCE 21.9
C LONG -16.67 DEG
D LAT 5.77 DEG
D LONG -15.65 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 6.92 DEG AB 39.6 KM
A LONG -18.85 DEG BC 10.0 KM
B LAT 6.84 DEG CD 39.5 KM
B LONG -17.54 DEG DA 9.0 KM
C LAT 6.51 DEG TILT DISTANCE 68.7
C LONG -17.57 DEG
D LAT 6.63 DEG
D LONG -18.88 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/13/71 PAGE 477

MISSION/
FRAME NO.

5148 YR.NO.DY
HR.MI.SEC

TIME
670216 024759.85

S/C POSITION
ALT 101.09 KM
ALT RT 0.0346 KM/SEC
LAT 7.05 DEG
LONG -19.15 DEG

S/C ORIENTATION
TILT ANG 15.50 DEG
TILT AZIM 92.40 DEG
SWING ANG 357.89 DEG
N.DEV. 85.39 DEG

PHOTO ILLUMINATION
SUN AZIM 90.84 DEG
INCID ANG 71.47 DEG
EMISS ANG 15.43 DEG
PHASE ANG 87.89 DEG
ALPHA -16.42 DEG

PRINCIPAL POINT
LATITUDE 7.01 DEG
LONGITUDE -19.22 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 8.20 DEG AB 92.3 KM
A LONG -15.47 DEG BC 83.2 KM
B LAT 8.25 DEG CD 91.5 KM
B LONG -16.39 DEG DA 65.2 KM
C LAT 5.52 DEG TILT DISTANCE 21.9
C LONG -16.65 DEG
D LAT 6.05 DEG
D LONG -15.63 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 7.21 DEG AB 39.6 KM
A LONG -18.83 DEG AC 10.0 KM
B LAT 7.12 DEG CD 39.6 KM
B LONG -17.51 DEG DA 9.0 KM
C LAT 6.79 DEG TILT DISTANCE 68.8
C LONG -17.54 DEG
D LAT 6.91 DEG
D LONG -18.85 DEG

MISSION/
FRAME NO.

5149 YR.NO.DY
HR.MI.SEC

TIME
670216 0248 4.33

S/C POSITION
ALT 101.25 KM
ALT RT 0.0364 KM/SEC
LAT 7.31 DEG
LONG -19.13 DEG

S/C ORIENTATION
TILT ANG 15.51 DEG
TILT AZIM 91.47 DEG
SWING ANG 356.84 DEG
N.DEV. 85.31 DEG

PHOTO ILLUMINATION
SUN AZIM 90.94 DEG
INCID ANG 71.45 DEG
EMISS ANG 15.34 DEG
PHASE ANG 87.89 DEG
ALPHA -16.44 DEG

PRINCIPAL POINT
LATITUDE 7.28 DEG
LONGITUDE -18.20 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 8.47 DEG AB 92.7 KM
A LONG -15.45 DEG BC 83.3 KM
B LAT 8.53 DEG CD 91.5 KM
B LONG -16.36 DEG DA 65.3 KM
C LAT 5.79 DEG TILT DISTANCE 21.9
C LONG -16.62 DEG
D LAT 6.33 DEG
D LONG -15.61 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 7.48 DEG AB 39.7 KM
A LONG -19.81 DEG BC 10.1 KM
B LAT 7.39 DEG CD 39.6 KM
B LONG -17.49 DEG DA 9.0 KM
C LAT 7.06 DEG TILT DISTANCE 68.9
C LONG -17.52 DEG
D LAT 7.18 DEG
D LONG -18.83 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 478

MISSION/
FRAME NO.
5150

YR.MO.DY 670616
FR.MI.SEC 055937.30

S/C POSITION
ALT 102.91 KM
LAT RT 0.0494 KM/SEC
LAT 9.25 DEG
LONG -20.72 DEG

S/C ORIENTATION
TILT ANG 5.19 DEG
TILT AZIM 99.23 DEG
SWING ANG 4.24 DEG
N.DEV. 85.00 DEG

PHOTO ILLUMINATION
SUN AZIM 91.48 DEG
INCID ANG 72.08 DEG
EMISS ANG 5.50 DEG
PHASE ANG 77.53 DEG
ALPHA -5.45 DEG

PRINCIPAL POINT
LATITUDE 9.20 DEG
LONGITUDE -20.41 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 10.46 DEG AB 85.2 KM
A LONG -21.69 DEG BC 74.7 KM
B LAT 10.30 DEG CD 85.6 KM
B LONG -18.83 DEG DA 69.1 KM
C LAT 7.85 DEG TILT DISTANCE 7.0
C LONG -15.05 DEG
D LAT 8.19 DEG
D LONG -21.88 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 9.40 DEG AB 37.4 KM
A LONG -21.01 DEG BC 9.5 KM
B LAT 9.30 DEG CD 37.4 KM
B LONG -19.77 DEG DA 9.2 KM
C LAT 8.99 DEG TILT DISTANCE 55.3
C LONG -19.79 DEG
D LAT 9.10 DEG
D LONG -21.04 DEG

MISSION/
FRAME NO.
5151

YR.MO.DY 670616
FR.MI.SEC 055942.12

S/C POSITION
ALT 103.15 KM
LAT RT 0.0513 KM/SEC.
LAT 9.52 DEG
LONG -20.70 DEG

S/C ORIENTATION
TILT ANG 5.18 DEG
TILT AZIM 96.19 DEG
SWING ANG 1.18 DEG
N.DEV. 84.97 DEG

PHOTO ILLUMINATION
SUN AZIM 91.58 DEG
INCID ANG 72.06 DEG
EMISS ANG 5.49 DEG
PHASE ANG 77.53 DEG
ALPHA -5.47 DEG

PRINCIPAL POINT
LATITUDE 9.49 DEG
LONGITUDE -20.39 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 10.75 DEG AB 85.6 KM
A LONG -21.67 DEG BC 74.9 KM
B LAT 10.60 DEG CD 85.7 KM
B LONG -18.80 DEG DA 69.3 KM
C LAT 8.14 DEG TILT DISTANCE 7.0
C LONG -19.03 DEG
D LAT 8.48 DEG
D LONG -21.86 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 9.69 DEG AB 37.5 KM
A LONG -20.99 DEG BC 9.5 KM
B LAT 9.59 DEG CD 37.5 KM
B LONG -19.74 DEG DA 9.2 KM
C LAT 9.28 DEG TILT DISTANCE 55.1
C LONG -19.77 DEG
D LAT 9.39 DEG
D LONG -21.01 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5152

TIME 670614
YR.NO.DY 055546.92
PR.MI.SEC
S/C POSITION
ALT 103.40 KM
ALT RT 0.0532 KM/SEC
LAT 9.80 DEG
LONG -20.68 DEG
S/C ORIENTATION
TILT ANG 5.18 DEG
TILT AZIM 93.16 DEG
SWING ANG 358.13 DEG
N.DEV. 84.94 DEG
PHOTO ILLUMINATION
SUN AZIM 91.68 DEG
INCLD ANG 72.04 DEG
EMISS ANG 5.49 DEG
PHASE ANG 77.53 DEG
ALPHA -5.49 DEG
PRINCIPAL POINT
LATITUDE 9.78 DEG
LONGITUDE -20.36 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 11.05 DEG AB 85.9 KM
A LONG -21.65 DEG BC 75.0 KM
B LAT 10.89 DEG CD 85.7 KM
B LONG -18.76 DEG DA 69.5 KM
C LAT 8.43 DEG TILT DISTANCE
C LONG -19.06 DEG 7.0
D LAT 6.77 DEG
D LONG -21.24 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 9.99 DEG AB 37.6 KM
A LONG -20.97 DEG BC 9.6 KM
B LAT 9.88 DEG CD 37.6 KM
B LONG -19.71 DEG DA 9.2 KM
C LAT 9.57 DEG TILT DISTANCE
C LONG -19.74 DEG 55.1
D LAT 9.68 DEG
D LONG -20.99 DEG

MISSION/
FRAME NO.
5153

TIME 670616
YR.NO.DY 055551.72
PR.MI.SEC
S/C POSITION
ALT 103.66 KM
ALT RT 0.0551 KM/SEC
LAT 10.07 DEG
LONG -20.65 DEG
S/C ORIENTATION
TILT ANG 5.19 DEG
TILT AZIM 90.14 DEG
SWING ANG 355.09 DEG
N.DEV. 84.90 DEG
PHOTO ILLUMINATION
SUN AZIM 91.78 DEG
INCLD ANG 72.03 DEG
EMISS ANG 5.50 DEG
PHASE ANG 77.53 DEG
ALPHA -5.50 DEG
PRINCIPAL POINT
LATITUDE 10.07 DEG
LONGITUDE -20.34 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 11.35 DEG AB 86.3 KM
A LONG -21.63 DEG BC 75.2 KM
B LAT 11.19 DEG CD 85.8 KM
B LONG -18.73 DEG DA 69.6 KM
C LAT 8.72 DEG TILT DISTANCE
C LONG -18.57 DEG 7.0
D LAT 5.06 DEG
D LONG -21.82 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 10.28 DEG AB 37.7 KM
A LONG -20.94 DEG BC 9.6 KM
B LAT 10.17 DEG CD 37.7 KM
B LONG -19.68 DEG DA 9.3 KM
C LAT 9.86 DEG TILT DISTANCE
C LONG -19.71 DEG 55.3
D LAT 9.97 DEG
D LONG -20.97 DEG

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MISSION/
FRAME NO.
5154

TIME
YR.NO.DY 670616
HR.MI.SEC 055556.50

S/C POSITION
ALT 103.93 KM
ALT RT 0.0569 KM/SEC
LAT 10.35 DEG
LONG -22.53 DEG

S/C ORIENTATION
TILT ANG 5.22 DEG
TILT AZIM 87.15 DEG
SWING ANG 352.09 DEG
N.DEV. 84.87 DEG

PHOTO ILLUMINATION
SUN AZIM 91.87 DEG
INCID ANG 72.01 DEG
EMISS ANG 5.54 DEG
PHASE ANG 77.53 DEG
ALPHA -5.52 DEG

PRINCIPAL POINT
LATITUDE 10.36 DEG
LONGITUDE -20.31 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 11.64 DEG AB 86.7 KM
A LONG -21.61 DEG BC 75.5 KM
B LAT 11.48 DEG CD 85.9 KM
B LONG -18.69 DEG DA 69.8 KM
C LAT 5.01 DEG TILT DISTANCE 7.1
C LONG -18.55 DEG
D LAT 5.34 DEG
D LONG -21.79 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 19.57 DEG AB 37.8 KM
A LONG -20.92 DEG BC 9.6 KM
B LAT 10.46 DEG CD 37.8 KM
B LONG -19.66 DEG DA 9.3 KM
C LAT 10.15 DEG TILT DISTANCE 55.6
C LONG -19.69 DEG
D LAT 10.26 DEG
D LONG -20.95 DEG

MISSION/
FRAME NO.
5155

TIME
YR.NO.DY 670616
HR.MI.SEC 06001.28

S/C POSITION
ALT 104.21 KM
ALT RT 0.0588 KM/SEC
LAT 10.62 DEG
LONG -20.61 DEG

S/C ORIENTATION
TILT ANG 5.27 DEG
TILT AZIM 84.21 DEG
SWING ANG 349.13 DEG
N.DEV. 84.84 DEG

PHOTO ILLUMINATION
SUN AZIM 91.97 DEG
INCID ANG 72.00 DEG
EMISS ANG 5.58 DEG
PHASE ANG 77.53 DEG
ALPHA -5.54 DEG

PRINCIPAL POINT
LATITUDE 10.65 DEG
LONGITUDE -20.29 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 11.94 DEG AB 87.1 KM
A LONG -21.59 DEG BC 75.7 KM
B LAT 11.78 DEG CD 85.9 KM
B LONG -18.66 DEG DA 70.0 KM
C LAT 5.29 DEG TILT DISTANCE 7.1
C LONG -18.92 DEG
D LAT 5.63 DEG
D LONG -21.77 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 10.86 DEG AB 37.9 KM
A LONG -20.90 DEG BC 9.6 KM
B LAT 10.75 DEG CD 37.9 KM
B LONG -19.63 DEG DA 9.3 KM
C LAT 10.43 DEG TILT DISTANCE 56.1
C LONG -19.66 DEG
D LAT 10.55 DEG
D LONG -20.92 DEG

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MISSION/
FRAME NO.
5156

TIME 670816
YR.MO.DY 670816
PR.MI.SEC 0600 6.04

S/C POSITION
ALT 104.49 KM
ALT RT 0.0607 KM/SEC
LAT 10.89 DEG
LONG -20.59 DEG

S/C ORIENTATION
TILT ANG 5.32 DEG
TILT AZIM 81.33 DEG
SWING ANG 346.24 DEG
N.DEV. 84.81 DEG

PHOTO ILLUMINATION
SUN AZIM 92.07 DEG
INCID ANG 71.98 DEG
EMISS ANG 5.64 DEG
PHASE ANG 77.53 DEG
ALPHA -5.55 DEG

PRINCIPAL POINT
LATITUDE 10.94 DEG
LONGITUDE -20.26 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 12.23 DEG AB 87.5 KM
A LONG -21.57 DEG BC 75.9 KM
B LAT 12.07 DEG CD 86.3 KM
B LONG -18.62 DEG DA 70.2 KM
C LAT 9.58 DEG TILT DISTANCE 7.2
C LONG -18.89 DEG
D LAT 5.52 DEG
D LONG -21.75 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 11.15 DEG AB 38.0 KM
A LONG -20.87 DEG BC 9.7 KM
B LAT 11.04 DEG CD 38.0 KM
B LONG -19.60 DEG DA 9.3 KM
C LAT 13.72 DEG TILT DISTANCE 56.7
C LONG -19.63 DEG
D LAT 10.84 DEG
D LONG -20.90 DEG

MISSION/
FRAME NO.
5157

TIME 670816
YR.MO.DY 670816
PR.MI.SEC 0600 10.80

S/C POSITION
ALT 104.79 KM
ALT RT 0.0626 KM/SEC
LAT 11.16 DEG
LONG -20.56 DEG

S/C ORIENTATION
TILT ANG 5.39 DEG
TILT AZIM 78.53 DEG
SWING ANG 343.42 DEG
N.DEV. 84.77 DEG

PHOTO ILLUMINATION
SUN AZIM 92.17 DEG
INCID ANG 71.97 DEG
EMISS ANG 5.72 DEG
PHASE ANG 77.53 DEG
ALPHA -5.57 DEG

PRINCIPAL POINT
LATITUDE 11.23 DEG
LONGITUDE -20.24 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 12.52 DEG AB 87.9 KM
A LONG -21.55 DEG BC 76.1 KM
B LAT 12.36 DEG CD 86.1 KM
B LONG -18.59 DEG DA 70.5 KM
C LAT 5.87 DEG TILT DISTANCE 7.3
C LONG -18.86 DEG
D LAT 10.21 DEG
D LONG -21.73 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 11.43 DEG AB 38.2 KM
A LONG -20.85 DEG BC 9.7 KM
B LAT 11.33 DEG CD 38.1 KM
B LONG -19.57 DEG DA 9.4 KM
C LAT 11.01 DEG TILT DISTANCE 57.4
C LONG -19.61 DEG
D LAT 11.13 DEG
D LONG -20.88 DEG

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MISSION/
FRAME NO.

5158
YR.MO.DY
HR.MI.SEC

TIME
670E16
1010 5.61

S/C POSITION
ALT 1232.98 KM
ALT RT 0.2564 KM/SEC
LAT 37.69 DEG
LONG 152.57 DEG

S/C ORIENTATION
TILT ANG 24.22 DEG
TILT AZIM 278.35 DEG
SWING ANG 89.23 DEG
N.DEV. 4.67 DEG

PHOTO ILLUMINATION
SUN AZIM 263.23 DEG
INCID ANG 79.06 DEG
EMISS ANG 44.55 DEG
PHASE ANG 123.60 DEG
ALPHA -44.54 DEG

PRINCIPAL POINT
LATITUDE 37.83 DEG
LONGITUDE 126.77 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 54.93 DEG AB 015.0 KM
A LONG 150.37 DEG BC 416.2 KM
B LAT 21.13 DEG CD 457.3 KM
B LONG 145.52 DEG DA 241.4 KM
C LAT 11.66 DEG TILT DISTANCE 35.8
C LONG 120.50 DEG
D LAT 55.64 DEG
D LONG 103.46 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 46.58 DEG AB 516.4 KM
A LONG 128.72 DEG BC 201.5 KM
B LAT 29.52 DEG CD 568.6 KM
B LONG 130.55 DEG DA 199.2 KM
C LAT 27.84 DEG TILT DISTANCE 73.7
C LONG 123.21 DEG
D LAT 46.42 DEG
D LONG 119.16 DEG

MISSION/
FRAME NO.

5159

YR.MO.DY
HR.MI.SEC

TIME
670E16
122E16.71

S/C POSITION
ALT 155.03 KM
ALT RT 0.1962 KM/SEC
LAT 31.62 DEG
LONG -22.20 DEG

S/C ORIENTATION
TILT ANG 2.28 DEG
TILT AZIM 11.14 DEG
SWING ANG 275.62 DEG
N.DEV. 84.44 DEG

PHOTO ILLUMINATION
SUN AZIM 99.31 DEG
INCID ANG 72.76 DEG
EMISS ANG 2.49 DEG
PHASE ANG 72.66 DEG
ALPHA -9.11 DEG

PRINCIPAL POINT
LATITUDE 31.82 DEG
LONGITUDE -22.16 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 33.83 DEG AB 130.0 KM
A LONG -24.53 DEG BC 108.5 KM
B LAT 33.41 DEG CD 126.0 KM
B LONG -15.40 DEG DA 108.4 KM
C LAT 25.86 DEG TILT DISTANCE 3.2
C LONG -15.59 DEG
D LAT 30.26 DEG
D LONG -24.76 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 32.14 DEG AB 56.0 KM
A LONG -23.22 DEG BC 14.1 KM
B LAT 31.96 DEG CD 55.8 KM
B LONG -21.04 DEG DA 14.0 KM
C LAT 31.50 DEG TILT DISTANCE 24.2
C LONG -21.11 DEG
D LAT 31.68 DEG
D LONG -23.26 DEG

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MISSION/
FRAME NO.
5161

YR.MO.DY
67CE16

PR.MI.SEC
122E23.91

TIME
5:50

S/C POSITION
ALT 156.45 KM
ALT RT 0.1986 KM/SEC
LAT 32.01 DEG
LONG -22.16 DEG

S/C ORIENTATION
TILT ANG 2.67 DEG
TILT AZIM 10.32 DEG
SWING ANG 274.77 DEG
N.DEV. 84.42 DEG

PHOTO ILLUMINATION
SUN AZIM 99.47 DEG
INCID ANG 72.79 DEG
EMISS ANG 3.91 DEG
PHASE ANG 72.86 DEG
ALPHA -0.29 DEG

PRINCIPAL POINT
LATITUDE 32.25 DEG
LONGITUDE -22.11 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 34.28 DEG AD 131.5 KM
A LONG -24.52 DEG BC 109.5 KM
B LAT 33.86 DEG CD 124.9 KM
B LONG -19.30 DEG DA 109.5 KM
C LAT 30.27 DEG TILT DISTANCE 3.7
C LONG -15.50 DEG
D LAT 20.47 DEG
D LONG -24.74 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 32.57 DEG AB 56.6 KM
A LONG -23.18 DEG BC 14.2 KM
B LAT 32.39 DEG CD 56.3 KM
B LONG -20.98 DEG DA 14.2 KM
C LAT 31.92 DEG TILT DISTANCE 28.4
C LONG -21.05 DEG
D LAT 32.10 DEG
D LONG -23.23 DEG

MISSION/
FRAME NO.
5161

YR.MO.DY
67CE16

PR.MI.SEC
122E23.41

TIME
5:50

S/C POSITION
ALT 157.95 KM
ALT RT 0.2015 KM/SEC
LAT 32.42 DEG
LONG -22.12 DEG

S/C ORIENTATION
TILT ANG 3.08 DEG
TILT AZIM 9.49 DEG
SWING ANG 274.12 DEG
N.DEV. 84.38 DEG

PHOTO ILLUMINATION
SUN AZIM 99.64 DEG
INCID ANG 72.83 DEG
EMISS ANG 3.36 DEG
PHASE ANG 72.86 DEG
ALPHA -0.07 DEG

PRINCIPAL POINT
LATITUDE 32.69 DEG
LONGITUDE -22.06 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 34.75 DEG AB 133.3 KM
A LONG -24.52 DEG BC 117.8 KM
B LAT 34.32 DEG CD 127.9 KM
B LONG -19.20 DEG DA 110.5 KM
C LAT 20.70 DEG TILT DISTANCE 4.3
C LONG -19.83 DEG
D LAT 31.10 DEG
D LONG -24.73 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 33.02 DEG AB 57.2 KM
A LONG -23.15 DEG BC 14.4 KM
B LAT 32.83 DEG CD 56.9 KM
B LONG -20.92 DEG DA 14.3 KM
C LAT 32.36 DEG TILT DISTANCE 32.7
C LONG -20.98 DEG
D LAT 32.55 DEG
D LONG -23.20 DEG

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MISSION/
FRAME NO.

5162

YR.MO.DY
PR.MI.SEC

TIME
670816
122639.21

S/C POSITION
ALT 159.53 KM
ALT RT 0.2035 KM/SEC
LAT 32.84 DEG
LONG -22.07 DEG

S/C ORIENTATION
TILT ANG 3.50 DEG
TILT AZIM 9.20 DEG
SWING ANG 273.61 DEG
N.DEV. 84.35 DEG

PHOTO ILLUMINATION
SUN AZIM 99.81 DEG
INCID ANG 72.86 DEG
EMISS ANG 3.82 DEG
PHASE ANG 72.86 DEG
ALPHA -0.74 DEG

PRINCIPAL POINT
LATITUDE 33.16 DEG
LONGITUDE -22.01 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 35.24 DEG AB 135.1 KM
A LONG -24.51 DEG BC 112.1 KM
B LAT 34.80 DEG CD 128.9 KM
B LONG -19.09 DEG DA 111.9 KM
C LAT 31.15 DEG TILT DISTANCE 4.9
C LONG -19.75 DEG
D LAT 31.55 DEG
D LONG -24.71 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 33.48 DEG AB 57.8 KM
A LONG -23.12 DEG BC 14.5 KM
B LAT 33.30 DEG CD 57.4 KM
B LONG -20.84 DEG DA 14.5 KM
C LAT 32.82 DEG TILT DISTANCE 37.2
C LONG -20.91 DEG
D LAT 33.01 DEG
D LONG -23.16 DEG

MISSION/
FRAME NO.

5163

YR.MO.DY
PR.MI.SEC

TIME
670816
194258.41

S/C POSITION
ALT 1230.74 KM
ALT RT 0.2566 KM/SEC
LAT 37.62 DEG
LONG 147.19 DEG

S/C ORIENTATION
TILT ANG 24.35 DEG
TILT AZIM 279.21 DEG
SWING ANG 89.37 DEG
N.DEV. 4.27 DEG

PHOTO ILLUMINATION
SUN AZIM 262.74 DEG
INCID ANG 78.54 DEG
EMISS ANG 44.80 DEG
PHASE ANG 123.34 DEG
ALPHA -44.80 DEG

PRINCIPAL POINT
LATITUDE 38.74 DEG
LONGITUDE 121.22 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 54.52 DEG AB 613.4 KM
A LONG 145.21 DEG BC 412.9 KM
B LAT 21.22 DEG CD 460.7 KM
B LONG 135.83 DEG DA 246.1 KM
C LAT 11.92 DEG TILT DISTANCE 36.0
C LONG 114.63 DEG
D LAT 50.06 DEG
D LONG 57.66 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 46.78 DEG AB 516.6 KM
A LONG 123.31 DEG BC 203.5 KM
B LAT 29.71 DEG CD 569.2 KM
B LONG 124.93 DEG DA 200.5 KM
C LAT 28.08 DEG TILT DISTANCE 75.4
C LONG 117.53 DEG
D LAT 46.70 DEG
D LONG 113.64 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5164

TIME 670E17
YR.MO.DY 310425.12
HR.MI.SEC
S/C POSITION
ALT 109.19 KM
ALT RT 0.0696 KM/SEC
LAT 12.53 DEG
LONG -30.95 DEG
S/C ORIENTATION
TILT ANG 0.53 DEG
TILT AZIM 342.44 DEG
SWING ANG 247.68 DEG
N.DEV. 85.24 DEG
PHOTO ILLUMINATION
SUN AZIM 92.37 DEG
INCID ANG 73.02 DEG
EMISS ANG 0.67 DEG
PHASE ANG 72.75 DEG
ALPHA 0.23 DEG
PRINCIPAL POINT
LATITUDE 12.56 DEG
LONGITUDE -30.97 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.55 DEG AB 90.1 KM
A LONG -32.40 DEG BC 75.7 KM
B LAT 13.70 DEG CD 89.4 KM
B LONG -29.35 DEG DA 76.1 KM
C LAT 11.21 DEG TILT DISTANCE
C LONG -29.58 DEG 1.0
D LAT 11.44 DEG
D LONG -32.58 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.78 DEG AB 39.3 KM
A LONG -31.62 DEG BC 9.9 KM
B LAT 12.67 DEG CD 39.3 KM
B LONG -30.29 DEG DA 9.9 KM
C LAT 12.35 DEG TILT DISTANCE
C LONG -30.32 DEG 6.6
D LAT 12.45 DEG
D LONG -31.64 DEG

MISSION/
FRAME NO.
5165

TIME 670E17
YR.MO.DY 010430.10
HR.MI.SEC
S/C POSITION
ALT 109.54 KM
ALT RT 0.0715 KM/SEC
LAT 12.81 DEG
LONG -30.93 DEG
S/C ORIENTATION
TILT ANG 0.90 DEG
TILT AZIM 349.42 DEG
SWING ANG 254.65 DEG
N.DEV. 85.23 DEG
PHOTO ILLUMINATION
SUN AZIM 92.47 DEG
INCID ANG 73.01 DEG
EMISS ANG 0.95 DEG
PHASE ANG 72.79 DEG
ALPHA 0.21 DEG
PRINCIPAL POINT
LATITUDE 12.86 DEG
LONGITUDE -30.94 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.26 DEG AB 90.5 KM
A LONG -32.38 DEG BC 75.9 KM
B LAT 14.00 DEG CD 89.5 KM
B LONG -25.31 DEG DA 76.4 KM
C LAT 11.51 DEG TILT DISTANCE
C LONG -29.55 DEG 1.3
D LAT 11.74 DEG
D LONG -32.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.08 DEG AB 39.5 KM
A LONG -31.59 DEG BC 9.9 KM
B LAT 12.97 DEG CD 39.4 KM
B LONG -30.26 DEG DA 9.9 KM
C LAT 12.65 DEG TILT DISTANCE
C LONG -30.29 DEG 9.5
D LAT 12.76 DEG
D LONG -31.62 DEG

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MISSION/
FRAME NO.
5166

YR.MO.DY
PR.MI.SEC

TIME
670617
010035.03

S/C POSITION
ALT 109.89 KM
ALT RT 0.0734 KM/SEC
LAT 13.09 DEG
LONG -30.90 DEG

S/C ORIENTATION
TILT ANG 1.17 DEG
TILT AZIM 353.12 DEG
SWING ANG 258.34 DEG
N.DEV. 85.23 DEG

PHOTO ILLUMINATION
SUN AZIM 92.57 DEG
INCID ANG 72.99 DEG
EMISS ANG 1.24 DEG
PHASE ANG 72.79 DEG
ALPHA 0.20 DEG

PRINCIPAL POINT
LATITUDE 13.16 DEG
LONGITUDE -30.91 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.55 DEG AB 91.0 KM
A LONG -32.36 DEG BC 76.2 KM
B LAT 14.31 DEG CD 89.6 KM
B LONG -29.27 DEG DA 76.7 KM
C LAT 11.80 DEG TILT DISTANCE 1.7
C LONG -29.52 DEG
D LAT 12.04 DEG
D LONG -32.54 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.38 DEG AB 39.6 KM
A LONG -31.57 DEG BC 9.9 KM
B LAT 13.27 DEG CD 39.6 KM
B LONG -30.23 DEG DA 10.0 KM
C LAT 12.94 DEG TILT DISTANCE 12.4
C LONG -30.26 DEG
D LAT 13.05 DEG
D LONG -31.60 DEG

MISSION/
FRAME NO.
5167

YR.MO.DY
PR.MI.SEC

TIME
670617
010039.91

S/C POSITION
ALT 110.25 KM
ALT RT 0.0753 KM/SEC
LAT 13.37 DEG
LONG -30.88 DEG

S/C ORIENTATION
TILT ANG 1.44 DEG
TILT AZIM 355.39 DEG
SWING ANG 260.61 DEG
N.DEV. 85.22 DEG

PHOTO ILLUMINATION
SUN AZIM 92.67 DEG
INCID ANG 72.98 DEG
EMISS ANG 1.53 DEG
PHASE ANG 72.79 DEG
ALPHA 0.18 DEG

PRINCIPAL POINT
LATITUDE 13.46 DEG
LONGITUDE -30.89 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.87 DEG AB 91.5 KM
A LONG -32.35 DEG BC 76.5 KM
B LAT 14.61 DEG CD 89.8 KM
B LONG -29.24 DEG DA 76.9 KM
C LAT 12.10 DEG TILT DISTANCE 2.0
C LONG -25.49 DEG
D LAT 12.33 DEG
D LONG -32.52 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.68 DEG AB 39.8 KM
A LONG -31.55 DEG BC 10.0 KM
B LAT 13.57 DEG CD 39.7 KM
B LONG -30.20 DEG DA 10.0 KM
C LAT 13.24 DEG TILT DISTANCE 15.3
C LONG -30.23 DEG
D LAT 13.35 DEG
D LONG -31.57 DEG

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MISSION/
FRAME NO.
5168

TIME 670817
YR.MO.DY 670817
PR.MI.SEC 040447.41

S/C POSITION
ALT 169.19 KM
ALT RT -0.2159 KM/SEC
LAT -30.30 DEG
LONG -36.51 DEG

S/C ORIENTATION
TILT ANG 9.81 DEG
TILT AZIM 255.48 DEG
SWING ANG 159.45 DEG
N.DEV. 83.18 DEG

PHOTO ILLUMINATION
SUN AZIM 82.62 DEG
INCID ANG 89.46 DEG
EMISS ANG 10.78 DEG
PHASE ANG 59.75 DEG
ALPHA 10.70 DEG

PRINCIPAL POINT
LATITUDE -30.54 DEG
LONGITUDE -37.60 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -28.15 DEG AB 142.2 KM
A LONG -40.19 DEG BC 112.1 KM
B LAT -28.54 DEG CD 149.5 KM
B LONG -34.52 DEG DA 130.7 KM
C LAT -22.23 DEG TILT DISTANCE 13.9
C LONG -35.23 DEG
D LAT -32.40 DEG
D LONG -41.07 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -30.16 DEG AR 62.8 KM
A LONG -38.79 DEG BC 15.1 KM
B LAT -30.40 DEG CD 63.2 KM
B LONG -36.41 DEG DA 16.1 KM
C LAT -30.89 DEG TILT DISTANCE 05.2
C LONG -35.47 DEG
D LAT -30.58 DEG
D LONG -39.88 DEG

MISSION/
FRAME NO.
5169

TIME 072333.32
YR.MO.DY 670817
PR.MI.SEC 072333.32

S/C POSITION
ALT 105.27 KM
ALT RT -0.3447 KM/SEC
LAT -3.94 DEG
LONG -35.83 DEG

S/C ORIENTATION
TILT ANG 7.86 DEG
TILT AZIM 265.78 DEG
SWING ANG 171.33 DEG
N.DEV. 85.47 DEG

PHOTO ILLUMINATION
SUN AZIM 87.47 DEG
INCID ANG 75.21 DEG
EMISS ANG 8.34 DEG
PHASE ANG 66.87 DEG
ALPHA 8.33 DEG

PRINCIPAL POINT
LATITUDE -3.97 DEG
LONGITUDE -36.30 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.56 DEG AB 88.1 KM
A LONG -37.75 DEG BC 69.7 KM
B LAT -2.93 DEG CD 89.5 KM
B LONG -34.57 DEG DA 78.8 KM
C LAT -5.22 DEG TILT DISTANCE 11.2
C LONG -35.02 DEG
D LAT -5.15 DEG
D LONG -37.59 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.76 DEG AB 38.7 KM
A LONG -36.95 DEG BC 9.4 KM
B LAT -3.87 DEG CD 38.8 KM
B LONG -35.67 DEG DA 9.9 KM
C LAT -4.18 DEG TILT DISTANCE 84.0
C LONG -35.70 DEG
D LAT -4.09 DEG
D LONG -36.97 DEG

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MISSION/
FRAME NO.
5170

YR. MO. DY 670617
HR. MI. SEC 072338.20
TIME
S/C POSITION
ALT 105.06 KM
ALT RT -0.0428 KM/SEC
LAT -3.66 DEG
LONG -35.80 DEG
S/C ORIENTATION
TILT ANG 7.82 DEG
TILT AZIM 267.79 DEG
SWING ANG 173.36 DEG
N.DEV. 85.52 DEG
PHOTO ILLUMINATION
SUN AZIM 87.55 DEG
INCID ANG 75.17 DEG
EMISS ANG 8.30 DEG
PHASE ANG 66.87 DEG
ALPHA 8.30 DEG
PRINCIPAL POINT
LATITUDE -3.68 DEG
LONGITUDE -36.28 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.27 DEG AB 88.1 KM
A LONG -37.73 DEG BC 69.5 KM
B LAT -2.63 DEG CD 89.1 KM
B LONG -34.84 DEG DA 78.6 KM
C LAT -4.92 DEG TILT DISTANCE 11.1
C LONG -35.00 DEG
D LAT -4.65 DEG
D LONG -37.95 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.47 DEG AB 38.6 KM
A LONG -36.92 DEG BC 9.4 KM
B LAT -3.57 DEG CD 38.7 KM
B LONG -35.65 DEG DA 9.9 KM
C LAT -3.88 DEG TILT DISTANCE 83.5
C LONG -35.67 DEG
D LAT -3.79 DEG
D LONG -36.95 DEG

MISSION/
FRAME NO.
5171

YR. MO. DY 670617
HR. MI. SEC 072343.03
TIME
S/C POSITION
ALT 104.86 KM
ALT RT -0.0409 KM/SEC
LAT -3.38 DEG
LONG -35.78 DEG
S/C ORIENTATION
TILT ANG 7.79 DEG
TILT AZIM 269.80 DEG
SWING ANG 175.39 DEG
N.DEV. 85.56 DEG
PHOTO ILLUMINATION
SUN AZIM 87.62 DEG
INCID ANG 75.13 DEG
EMISS ANG 8.26 DEG
PHASE ANG 66.87 DEG
ALPHA 8.26 DEG
PRINCIPAL POINT
LATITUDE -3.39 DEG
LONGITUDE -36.25 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -1.57 DEG AB 88.1 KM
A LONG -37.70 DEG BC 69.4 KM
B LAT -2.34 DEG CD 88.8 KM
B LONG -34.82 DEG DA 78.4 KM
C LAT -4.62 DEG TILT DISTANCE 11.1
C LONG -34.58 DEG
D LAT -4.55 DEG
D LONG -37.92 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.17 DEG AB 38.5 KM
A LONG -36.89 DEG BC 9.3 KM
B LAT -3.28 DEG CD 38.6 KM
B LONG -35.62 DEG DA 9.8 KM
C LAT -3.59 DEG TILT DISTANCE 83.2
C LONG -35.65 DEG
D LAT -3.50 DEG
D LONG -36.92 DEG

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MISSION/
FRAME NO.
5172

TIME 670817
YR.MO.DY 670817
HR.MI.SEC 072347.81
S/C POSITION
ALT 104.66 KM
ALT RT -0.0390 KM/SEC
LAT -3.11 DEG
LONG -35.76 DEG
S/C ORIENTATION
TILT ANG 7.77 DEG
TILT AZIM 271.80 DEG
SWING ANG 177.41 DEG
N.DEV. 85.60 DEG
PHOTO ILLUMINATION
SUN AZIM 87.70 DEG
INCID ANG 75.09 DEG
EMISS ANG 8.24 DEG
PHASE ANG 66.87 DEG
ALPHA 8.22 DEG
PRINCIPAL POINT
LATITUDE -3.10 DEG
LONGITUDE -36.23 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -1.68 DEG AB 88.1 KM
A LONG -37.68 DEG BC 69.2 KM
B LAT -2.05 DEG CD 88.5 KM
B LONG -34.79 DEG DA 78.3 KM
C LAT -4.33 DEG TILT DISTANCE 11.0
C LONG -34.56 DEG
D LAT -4.26 DEG
D LONG -37.89 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.88 DEG AB 38.5 KM
A LONG -36.87 DEG BC 9.3 KM
B LAT -2.99 DEG CD 38.5 KM
B LONG -35.60 DEG DA 9.8 KM
C LAT -3.30 DEG TILT DISTANCE 83.0
C LONG -35.62 DEG
D LAT -3.21 DEG
D LONG -36.89 DEG

MISSION/
FRAME NO.
5173

TIME 103435.11
YR.MO.DY 670817
HR.MI.SEC 103435.11
S/C POSITION
ALT 105.17 KM
ALT RT -0.0432 KM/SEC
LAT -3.70 DEG
LONG -37.56 DEG
S/C ORIENTATION
TILT ANG 17.97 DEG
TILT AZIM 97.69 DEG
SWING ANG 3.51 DEG
N.DEV. 86.31 DEG
PHOTO ILLUMINATION
SUN AZIM 87.39 DEG
INCID ANG 73.73 DEG
EMISS ANG 19.10 DEG
PHASE ANG 92.54 DEG
ALPHA -18.84 DEG
PRINCIPAL POINT
LATITUDE -3.85 DEG
LONGITUDE -36.44 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.64 DEG AB 98.4 KM
A LONG -37.75 DEG BC 90.0 KM
B LAT -2.51 DEG CD 100.1 KM
B LONG -34.50 DEG DA 67.5 KM
C LAT -5.48 DEG TILT DISTANCE 25.6
C LONG -34.66 DEG
D LAT -4.85 DEG
D LONG -37.52 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.65 DEG AB 42.4 KM
A LONG -37.08 DEG BC 10.7 KM
B LAT -3.73 DEG CD 42.5 KM
B LONG -35.68 DEG DA 9.4 KM
C LAT -4.09 DEG TILT DISTANCE 97.4
C LONG -35.71 DEG
D LAT -3.96 DEG
D LONG -37.11 DEG

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MISSION/
FRAME NO.
5174

YR,MO,DY 670817
HR,MI,SEC 103440.13

S/C POSITION
ALT 104.96 KM
ALT RT -0.0412 KM/SEC.
LAT -3.42 DEG
LONG -37.54 DEG

S/C ORIENTATION
TILT ANG 17.96 DEG
TILT AZIM 96.80 DEG
SWING ANG 2.58 DEG
N.DEV. 86.21 DEG

PHOTO ILLUMINATION
SUN AZIM 87.47 DEG
INCID ANG 73.69 DEG
EMISS ANG 19.08 DEG
PHASE ANG 92.54 DEG
ALPHA -18.87 DEG

PRINCIPAL POINT
LATITUDE -3.55 DEG
LONGITUDE -36.42 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.33 DEG AB 98.4 KM
A LONG -37.72 DEG BC 89.8 KM
B LAT -2.21 DEG CD 99.7 KM
B LONG -34.47 DEG DA 67.4 KM
C LAT -5.17 DEG TILT DISTANCE
C LONG -34.85 DEG 25.6
D LAT -4.55 DEG
D LONG -37.89 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.35 DEG AB 42.3 KM
A LONG -37.06 DEG BC 10.7 KM
B LAT -3.43 DEG CD 42.4 KM
B LONG -35.66 DEG DA 9.4 KM
C LAT -3.78 DEG TILT DISTANCE
C LONG -35.69 DEG 97.2
D LAT -3.66 DEG
D LONG -37.08 DEG

MISSION/
FRAME NO.
5175

YR,MO,DY 670817
HR,MI,SEC 103445.10

S/C POSITION
ALT 104.76 KM
ALT RT -0.0392 KM/SEC
LAT -3.13 DEG
LONG -37.51 DEG

S/C ORIENTATION
TILT ANG 17.95 DEG
TILT AZIM 95.92 DEG
SWING ANG 1.65 DEG
N.DEV. 86.12 DEG

PHOTO ILLUMINATION
SUN AZIM 87.56 DEG
INCID ANG 73.65 DEG
EMISS ANG 19.07 DEG
PHASE ANG 92.54 DEG
ALPHA -18.90 DEG

PRINCIPAL POINT
LATITUDE -3.25 DEG
LONGITUDE -36.40 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.03 DEG AB 98.5 KM
A LONG -37.69 DEG BC 89.6 KM
B LAT -1.91 DEG CD 99.3 KM
B LONG -34.45 DEG DA 67.2 KM
C LAT -4.86 DEG TILT DISTANCE
C LONG -34.64 DEG 25.6
D LAT -4.25 DEG
D LONG -37.86 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -3.05 DEG AB 42.3 KM
A LONG -37.04 DEG BC 10.7 KM
B LAT -3.13 DEG CD 42.3 KM
B LONG -35.64 DEG DA 9.4 KM
C LAT -3.48 DEG TILT DISTANCE
C LONG -35.67 DEG 97.1
D LAT -3.35 DEG
D LONG -37.06 DEG

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MISSION/
FRAME NO.
5176

TIME 670217
YR,MO,DY 103453.02
PR,MI,SEC 670217
S/C POSITION
ALT 105.57 KM
ALT RT -0.373 KM/SEC
LAT -2.85 DEG
LONG -37.49 DEG
S/C ORIENTATION
TILT ANG 17.94 DEG
TILT AZIM 95.25 DEG
SWING ANG 0.74 DEG
N.DEV. 86.62 DEG
PHOTO ILLUMINATION
SUN AZIM 87.95 DEG
INCID ANG 73.62 DEG
EMISS ANG 19.77 DEG
PHASE ANG 92.54 DEG
ALPHA -18.93 DEG
PRINCIPAL POINT
LATITUDE -2.95 DEG
LONGITUDE -36.37 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -1.74 DEG AB 99.5 KM
A LONG -37.67 DEG BC 99.4 KM
B LAT -1.61 DEG CD 98.3 KM
B LONG -34.42 DEG DA 97.1 KM
C LAT -4.55 DEG TILT DISTANCE 25.6
C LONG -34.62 DEG
D LAT -3.54 DEG
D LONG -37.84 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -2.75 DEG AB 42.2 KM
A LONG -37.31 DEG BC 10.6 KM
B LAT -2.83 DEG CD 42.2 KM
B LONG -35.62 DEG DA 9.4 KM
C LAT -3.18 DEG TILT DISTANCE 97.1
C LONG -35.65 DEG
D LAT -3.06 DEG
D LONG -37.04 DEG

MISSION/
FRAME NO.
5177

TIME 670217
YR,MO,DY 1341 6.01
PR,MI,SEC 670217
S/C POSITION
ALT 130.79 KM
ALT RT -0.7441 KM/SEC
LAT -18.69 DEG
LONG -40.61 DEG
S/C ORIENTATION
TILT ANG 6.84 DEG
TILT AZIM 131.25 DEG
SWING ANG 36.94 DEG
N.DEV. 86.05 DEG
PHOTO ILLUMINATION
SUN AZIM 83.89 DEG
INCID ANG 77.03 DEG
EMISS ANG 7.36 DEG
PHASE ANG 82.08 DEG
ALPHA -5.11 DEG
PRINCIPAL POINT
LATITUDE -19.03 DEG
LONGITUDE -40.19 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -17.47 DEG AB 105.4 KM
A LONG -41.86 DEG BC 96.2 KM
B LAT -17.62 DEG CD 112.4 KM
B LONG -38.18 DEG DA 88.4 KM
C LAT -20.79 DEG TILT DISTANCE 9.4
C LONG -28.26 DEG
D LAT -20.37 DEG
D LONG -42.20 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -18.78 DEG AB 47.6 KM
A LONG -40.99 DEG BC 12.2 KM
B LAT -18.89 DEG CD 47.9 KM
B LONG -39.34 DEG DA 11.7 KM
C LAT -19.29 DEG TILT DISTANCE 73.0
C LONG -39.36 DEG
D LAT -19.17 DEG
D LONG -41.03 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

04/10/71

MISSION/
FRAME NO.
5178

TIME 070017
YR.NO.DY 13A130.81
HR.MI.SEC
S/C POSITION
ALT 127.45 KM
ALT RT -0.1354 KM/SEC
LAT -17.36 DEG
LONG -40.49 DEG
S/C ORIENTATION
TILT ANG 6.15 DEG
TILT AZIM 121.15 DEG
SWING ANG 26.82 DEG
N.DEV. 85.95 DEG
PHOTO ILLUMINATION
SUN AZIM 84.19 DEG
INCID ANG 76.77 DEG
EMISS ANG 6.60 DEG
PHASE ANG 82.08 DEG
ALPHA -5.34 DEG
PRINCIPAL POINT
LATITUDE -17.60 DEG
LONGITUDE -40.08 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -18.67 DEG AB 104.4 KM
A LONG -41.69 DEG BC 93.4 KM
B LAT -16.21 DEG CD 108.7 KM
B LONG -28.11 DEG DA 85.8 KM
C LAT -19.29 DEG TILT DISTANCE 8.4
C LONG -28.23 DEG
D LAT -18.89 DEG
D LONG -41.59 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -17.35 DEG AB 45.3 KM
A LONG -40.85 DEG RC 11.8 KM
B LAT -17.46 DEG CD 45.6 KM
B LONG -39.25 DEG DA 11.4 KM
C LAT -17.85 DEG TILT DISTANCE 65.5
C LONG -39.27 DEG
D LAT -17.73 DEG
D LONG -40.88 DEG

MISSION/
FRAME NO.
5179

TIME 670017
YR.NO.DY 13A153.91
HR.MI.SEC
S/C POSITION
ALT 124.41 KM
ALT RT -0.1270 KM/SEC
LAT -16.07 DEG
LONG -40.37 DEG
S/C ORIENTATION
TILT ANG 5.70 DEG
TILT AZIM 109.39 DEG
SWING ANG 15.02 DEG
N.DEV. 85.85 DEG
PHOTO ILLUMINATION
SUN AZIM 84.48 DEG
INCID ANG 76.52 DEG
EMISS ANG 6.11 DEG
PHASE ANG 82.08 DEG
ALPHA -5.57 DEG
PRINCIPAL POINT
LATITUDE -16.21 DEG
LONGITUDE -39.97 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -14.71 DEG AB 102.7 KM
A LONG -41.54 DEG BC 90.9 KM
B LAT -14.84 DEG CD 104.7 KM
B LONG -28.04 DEG DA 83.6 KM
C LAT -17.84 DEG TILT DISTANCE 7.7
C LONG -28.19 DEG
D LAT -17.46 DEG
D LONG -41.80 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -15.97 DEG AB 45.3 KM
A LONG -40.71 DEG BC 11.5 KM
B LAT -16.07 DEG CD 45.4 KM
B LONG -39.16 DEG DA 11.1 KM
C LAT -16.45 DEG TILT DISTANCE 60.7
C LONG -39.19 DEG
D LAT -16.33 DEG
D LONG -40.74 DEG

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MISSION/
FRAME NO.
5180

TIME 670217
YR.MO.DY 134216.71
HR.MI.SEC
S/C POSITION
ALT 121.62 KM
ALT RT -0.1185 KM/SEC
LAT -14.80 DEG
LONG -45.26 DEG
S/C ORIENTATION
TILT ANG 5.52 DEG
TILT AZIM 96.42 DEG
SWING ANG 2.02 DEG
N.DEV. 85.74 DEG
PHOTO ILLUMINATION
SUN AZIM 84.77 DEG
INCID ANG 76.29 DEG
EMISS ANG 5.91 DEG
PHASE ANG 82.08 DEG
ALPHA -5.80 DEG
PRINCIPAL POINT
LATITUDE -14.84 DEG
LONGITUDE -39.86 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -13.36 DEG AB 101.2 KM
A LONG -41.40 DEG BC 88.7 KM
B LAT -13.49 DEG CD 101.4 KM
B LONG -37.57 DEG DA 81.6 KM
C LAT -16.42 DEG TILT DISTANCE 7.5
C LONG -38.17 DEG
D LAT -16.05 DEG
D LONG -41.63 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -14.61 DEG AB 44.3 KM
A LONG -40.58 DEG BC 11.3 KM
B LAT -14.71 DEG CD 44.3 KM
B LONG -39.08 DEG DA 10.9 KM
C LAT -15.08 DEG TILT DISTANCE 58.8
C LONG -39.10 DEG
D LAT -14.96 DEG
D LONG -40.61 DEG

MISSION/
FRAME NO.
5181

TIME 670217
YR.MO.DY 175442.31
HR.MI.SEC
S/C POSITION
ALT 1181.29 KM
ALT RT 0.2773 KM/SEC
LAT 41.61 DEG
LONG 134.27 DEG
S/C ORIENTATION
TILT ANG 23.43 DEG
TILT AZIM 279.06 DEG
SWING ANG 89.88 DEG
N.DEV. 5.58 DEG
PHOTO ILLUMINATION
SUN AZIM 261.61 DEG
INCID ANG 78.65 DEG
EMISS ANG 41.94 DEG
PHASE ANG 120.58 DEG
ALPHA -41.93 DEG
PRINCIPAL POINT
LATITUDE 41.85 DEG
LONGITUDE 109.39 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 58.19 DEG AB 967.2 KM
A LONG 133.15 DEG BC 344.7 KM
B LAT 26.05 DEG CD 516.9 KM
B LONG 127.94 DEG DA 760.0 KM
C LAT 10.64 DEG TILT DISTANCE 34.5
C LONG 94.57 DEG
D LAT 59.54 DEG
D LONG 59.37 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 50.12 DEG AB 487.5 KM
A LONG 111.11 DEG BC 178.7 KM
B LAT 34.05 DEG CD 531.6 KM
B LONG 113.25 DEG DA 178.4 KM
C LAT 32.58 DEG TILT DISTANCE 63.8
C LONG 106.42 DEG
D LAT 49.88 DEG
D LONG 101.95 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5182

YR.NO.DY
HR.MI.SEC

TIME
670817
232547.41

S/C POSITION
ALT 167.46 KM
ALT RT 0.2121 KM/SEC
LAT 34.67 DEG
LONG -40.95 DEG

S/C ORIENTATION
TILT ANG 5.54 DEG
TILT AZIM 302.61 DEG
SWING ANG 207.00 DEG
N.DEV. 84.86 DEG

PHOTO ILLUMINATION
SUN AZIM 99.31 DEG
INCID ANG 74.56 DEG
EMISS ANG 6.07 DEG
PHASE ANG 68.98 DEG
ALPHA 5.56 DEG

PRINCIPAL POINT
LATITUDE 34.96 DEG
LONGITUDE -41.50 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 37.23 DEG AB 142.6 KM
A LONG -44.36 DEG BC 113.2 KM
B LAT 36.62 DEG CD 137.6 KM
B LONG -38.52 DEG DA 122.9 KM
C LAT 32.52 DEG TILT DISTANCE 7.9
C LONG -39.14 DEG
D LAT 33.18 DEG
D LONG -44.55 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 35.31 DEG AB 61.1 KM
A LONG -42.73 DEG BC 15.0 KM
B LAT 35.11 DEG CD 60.8 KM
B LONG -40.27 DEG DA 15.5 KM
C LAT 34.62 DEG TILT DISTANCE 59.0
C LONG -40.34 DEG
D LAT 34.80 DEG
D LONG -42.77 DEG

MISSION/
FRAME NO.
5183

YR.NO.DY
HR.MI.SEC

TIME
670817
232555.31

S/C POSITION
ALT 169.14 KM
ALT RT 0.2146 KM/SEC
LAT 35.09 DEG
LONG -40.90 DEG

S/C ORIENTATION
TILT ANG 5.74 DEG
TILT AZIM 306.41 DEG
SWING ANG 210.79 DEG
N.DEV. 84.87 DEG

PHOTO ILLUMINATION
SUN AZIM 99.47 DEG
INCID ANG 74.59 DEG
EMISS ANG 6.30 DEG
PHASE ANG 68.98 DEG
ALPHA 5.59 DEG

PRINCIPAL POINT
LATITUDE 35.43 DEG
LONGITUDE -41.45 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 37.73 DEG AB 144.6 KM
A LONG -44.37 DEG BC 114.5 KM
B LAT 37.11 DEG CD 138.7 KM
B LONG -38.41 DEG DA 124.3 KM
C LAT 33.37 DEG TILT DISTANCE 8.2
C LONG -35.05 DEG
D LAT 33.63 DEG
D LONG -44.54 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 35.78 DEG AB 61.7 KM
A LONG -42.70 DEG BC 15.2 KM
B LAT 35.57 DEG CD 61.4 KM
B LONG -40.20 DEG DA 15.7 KM
C LAT 35.08 DEG TILT DISTANCE 61.1
C LONG -40.27 DEG
D LAT 35.26 DEG
D LONG -42.74 DEG

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MISSION/ FRAME NO. 5184	TIME 670817 2330 3.21	YR.MO.DY 670817	HR.MI.SEC 2330 3.21	S/C POSITION ALT 170.85 KM ALT RT 0.2170 KM/SEC LAT 35.51 DEG LONG -40.84 DEG	S/C ORIENTATION TILT ANG 5.94 DEG TILT AZIM 309.94 DEG SWING ANG 214.31 DEG N.DEV. 84.98 DEG	PHOTO ILLUMINATION SUN AZIM 99.62 DEG INCID ANG 74.63 DEG EMISS ANG 6.55 DEG PHASE ANG 68.98 DEG ALPHA 5.62 DEG	PRINCIPAL POINT LATITUDE 35.89 DEG LONGITUDE -41.53 DEG
MEDIUM RESOLUTION							
CORNER COORDINATE		SIDE LENGTH		HIGH RESOLUTION			
A LAT 28.23 DEG		AB 146.5 KM		CORNER COORDINATE		SIDE LENGTH	
A LONG -44.38 DEG		BC 115.8 KM		A LAT 36.25 DEG		AB 62.4 KM	
B LAT 37.59 DEG		CD 139.8 KM		A LONG -42.67 DEG		BC 15.3 KM	
B LONG -38.30 DEG		DA 125.7 KM		B LAT 36.04 DEG		CD 62.1 KM	
C LAT 33.81 DEG		TILT DISTANCE 8.5		B LONG -40.13 DEG		DA 15.9 KM	
C LONG -32.57 DEG				C LAT 35.54 DEG		TILT DISTANCE 63.5	
D LAT 34.08 DEG				C LONG -40.20 DEG			
D LONG -44.52 DEG				D LAT 35.72 DEG			
				D LONG -42.71 DEG			

MISSION/ FRAME NO. 5185	TIME 670817 233011.11	YR.MO.DY 670817	HR.MI.SEC 233011.11	S/C POSITION ALT 172.57 KM ALT RT 0.2195 KM/SEC LAT 35.93 DEG LONG -40.79 DEG	S/C ORIENTATION TILT ANG 6.21 DEG TILT AZIM 313.19 DEG SWING ANG 217.55 DEG N.DEV. 84.89 DEG	PHOTO ILLUMINATION SUN AZIM 99.78 DEG INCID ANG 74.67 DEG EMISS ANG 6.83 DEG PHASE ANG 68.98 DEG ALPHA 5.65 DEG	PRINCIPAL POINT LATITUDE 36.36 DEG LONGITUDE -41.35 DEG
MEDIUM RESOLUTION							
CORNER COORDINATE		SIDE LENGTH		HIGH RESOLUTION			
A LAT 28.73 DEG		AB 148.5 KM		CORNER COORDINATE		SIDE LENGTH	
A LONG -44.35 DEG		BC 117.1 KM		A LAT 36.72 DEG		AB 63.1 KM	
B LAT 38.08 DEG		CD 140.9 KM		A LONG -42.64 DEG		BC 15.5 KM	
B LONG -38.18 DEG		DA 127.2 KM		B LAT 36.51 DEG		CD 62.7 KM	
C LAT 34.26 DEG		TILT DISTANCE 8.8		B LONG -40.06 DEG		DA 16.0 KM	
C LONG -32.88 DEG				C LAT 36.00 DEG		TILT DISTANCE 66.2	
D LAT 34.63 DEG				C LONG -40.13 DEG			
D LONG -44.51 DEG				D LAT 36.19 DEG			
				D LONG -42.68 DEG			

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY-MISSION AND FRAME NUMBER 04/10/71 PAGE 495

MISSION/
FRAME NO.
5186

YR.NO.DY
670218
HR.MI.SEC
023757.83

S/C POSITION
ALT 136.75 KM
ALT RT 0.1569 KM/SEC
LAT 25.67 DEG
LONG -43.72 DEG

S/C ORIENTATION
TILT ANG 1.14 DEG
TILT AZIM 349.95 DEG
SWING ANG 254.55 DEG
N.DEV. 84.61 DEG

PHOTO ILLUMINATION
SUN AZIM 96.38 DEG
INCID ANG 73.85 DEG
EMISS ANG 1.23 DEG
PHASE ANG 73.51 DEG
ALPHA 0.34 DEG

PRINCIPAL POINT
LATITUDE 25.76 DEG
LONGITUDE -43.74 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 27.52 DEG AB 113.5 KM
A LONG -45.69 DEG BC 95.0 KM
B LAT 27.15 DEG CD 111.8 KM
B LONG -41.50 DEG DA 95.7 KM
C LAT 24.04 DEG TILT DISTANCE
C LONG -41.90 DEG 1.6
D LAT 24.37 DEG
D LONG -45.53 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 26.04 DEG AB 49.3 KM
A LONG -44.62 DEG BC 12.4 KM
B LAT 25.88 DEG CD 49.2 KM
B LONG -42.82 DEG DA 12.4 KM
C LAT 25.48 DEG TILT DISTANCE
C LONG -42.86 DEG 12.0
D LAT 25.63 DEG
D LONG -44.66 DEG

MISSION/
FRAME NO.
5187

YR.NO.DY
670218
HR.MI.SEC
0238 4.12

S/C POSITION
ALT 137.76 KM
ALT RT 0.1591 KM/SEC
LAT 26.02 DEG
LONG -43.68 DEG

S/C ORIENTATION
TILT ANG 1.48 DEG
TILT AZIM 353.61 DEG
SWING ANG 258.20 DEG
N.DEV. 84.60 DEG

PHOTO ILLUMINATION
SUN AZIM 96.50 DEG
INCID ANG 73.86 DEG
EMISS ANG 1.59 DEG
PHASE ANG 73.51 DEG
ALPHA 0.34 DEG

PRINCIPAL POINT
LATITUDE 26.13 DEG
LONGITUDE -43.79 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 27.91 DEG AB 114.6 KM
A LONG -45.68 DEG BC 95.7 KM
B LAT 27.54 DEG CD 112.4 KM
B LONG -41.43 DEG DA 96.4 KM
C LAT 24.40 DEG TILT DISTANCE
C LONG -41.85 DEG 2.1
D LAT 24.73 DEG
D LONG -45.51 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 26.41 DEG AB 49.7 KM
A LONG -44.59 DEG BC 12.5 KM
B LAT 26.26 DEG CD 49.6 KM
B LONG -42.77 DEG DA 12.5 KM
C LAT 25.85 DEG TILT DISTANCE
C LONG -42.82 DEG 15.6
D LAT 26.00 DEG
D LONG -44.63 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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04/10/71

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
5188

TIME
67CE18

YR.NO.DY
67CE18

HR.MI.SEC
023810.44

S/C POSITION
ALT 138.77 KM
ALT RT 0.1613 KN/SEC
LAT 26.37 DEG
LONG -43.65 DEG

S/C ORIENTATION
TILT ANG 1.82 DEG
TILT AZIM 355.91 DEG
SWING ANG 260.48 DEG
N.DEV. 84.58 DEG

PHOTO ILLUMINATION
SUN AZIM 96.63 DEG
INCID ANG 73.87 DEG
EMISS ANG 1.96 DEG
PHASE ANG 73.51 DEG
ALPHA 0.35 DEG

PRINCIPAL POINT
LATITUDE 26.51 DEG
LONGITUDE -43.66 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 28.30 DEG AB 115.8 KM
A LONG -45.67 DEG BC 96.5 KM
B LAT 27.53 DEG CD 113.0 KM
B LONG -41.35 DEG DA 97.2 KM
C LAT 24.77 DEG TILT DISTANCE 2.5
C LONG -41.79 DEG
D LAT 25.10 DEG
D LONG -45.89 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 26.79 DEG AB 50.1 KM
A LONG -44.56 DEG BC 12.6 KM
B LAT 26.64 DEG CD 49.9 KM
B LONG -42.72 DEG DA 12.6 KM
C LAT 26.22 DEG TILT DISTANCE 19.3
C LONG -42.77 DEG
D LAT 26.38 DEG
D LONG -44.60 DEG

MISSION/
FRAME NO.
5189

TIME
67CE18

YR.NO.DY
67CE18

HR.MI.SEC
023816.81

S/C POSITION
ALT 139.80 KM
ALT RT 0.1635 KN/SEC
LAT 26.72 DEG
LONG -43.61 DEG

S/C ORIENTATION
TILT ANG 2.17 DEG
TILT AZIM 357.49 DEG
SWING ANG 262.04 DEG
N.DEV. 84.56 DEG

PHOTO ILLUMINATION
SUN AZIM 96.76 DEG
INCID ANG 73.87 DEG
EMISS ANG 2.34 DEG
PHASE ANG 73.51 DEG
ALPHA 0.35 DEG

PRINCIPAL POINT
LATITUDE 26.89 DEG
LONGITUDE -43.62 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 28.70 DEG AB 117.0 KM
A LONG -45.65 DEG BC 97.3 KM
B LAT 28.32 DEG CD 113.6 KM
B LONG -41.28 DEG DA 98.3 KM
C LAT 25.14 DEG TILT DISTANCE 3.1
C LONG -41.74 DEG
D LAT 25.48 DEG
D LONG -45.87 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 27.18 DEG AB 50.5 KM
A LONG -44.53 DEG BC 12.7 KM
B LAT 27.02 DEG CD 50.3 KM
B LONG -42.67 DEG DA 12.7 KM
C LAT 26.60 DEG TILT DISTANCE 23.0
C LONG -42.72 DEG
D LAT 26.76 DEG
D LONG -44.57 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 498

MISSION/
FRAME NO.
5190

YR.MO.DY 670818
HR.MI.SEC 023823.22

S/C POSITION
ALT 140.86 KM
ALT RT 0.1657 KM/SEC
LAT 27.07 DEG
LONG -43.57 DEG

S/C ORIENTATION
TILT ANG 2.52 DEG
TILT AZIM 358.64 DEG
SWING ANG 263.18 DEG
N.DEV. 84.54 DEG

PHOTO ILLUMINATION
SUN AZIM 96.89 DEG
INCID ANG 73.88 DEG
EMISS ANG 2.72 DEG
PHASE ANG 73.51 DEG
ALPHA 0.35 DEG

PRINCIPAL POINT
LATITUDE 27.27 DEG
LONGITUDE -43.58 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 29.11 DEG AB 118.2 KM
A LONG -45.64 DEG BC 98.1 KM
B LAT 28.72 DEG CD 114.3 KM
B LONG -41.20 DEG DA 98.8 KM
C LAT 25.51 DEG TILT DISTANCE 3.5
C LONG -41.68 DEG
D LAT 25.85 DEG
D LONG -45.85 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 27.56 DEG AB 50.9 KM
A LONG -44.50 DEG BC 12.8 KM
B LAT 27.40 DEG CD 50.7 KM
B LONG -42.61 DEG DA 12.8 KM
C LAT 26.98 DEG TILT DISTANCE 26.7
C LONG -42.67 DEG
D LAT 27.14 DEG
D LONG -44.54 DEG

MISSION/
FRAME NO.
5191

YR.MO.DY 670818
HR.MI.SEC 023829.68

S/C POSITION
ALT 141.94 KM
ALT RT 0.1680 KM/SEC
LAT 27.42 DEG
LONG -43.53 DEG

S/C ORIENTATION
TILT ANG 2.87 DEG
TILT AZIM 359.52 DEG
SWING ANG 264.05 DEG
N.DEV. 84.53 DEG

PHOTO ILLUMINATION
SUN AZIM 97.02 DEG
INCID ANG 73.89 DEG
EMISS ANG 3.11 DEG
PHASE ANG 73.51 DEG
ALPHA 0.36 DEG

PRINCIPAL POINT
LATITUDE 27.66 DEG
LONGITUDE -43.54 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 29.51 DEG AB 119.4 KM
A LONG -45.62 DEG BC 99.0 KM
B LAT 29.12 DEG CD 114.9 KM
B LONG -41.13 DEG DA 99.6 KM
C LAT 25.88 DEG TILT DISTANCE 4.0
C LONG -41.62 DEG
D LAT 26.23 DEG
D LONG -45.82 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 27.95 DEG AB 51.3 KM
A LONG -44.47 DEG BC 12.9 KM
B LAT 27.78 DEG CD 51.1 KM
B LONG -42.56 DEG DA 12.9 KM
C LAT 27.36 DEG TILT DISTANCE 30.5
C LONG -42.61 DEG
D LAT 27.52 DEG
D LONG -44.51 DEG

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MISSION/
FRAME NO.
5192

TIME 670218
YR,MO,DY 023E36.17
PR,MI,SEC
S/C POSITION
ALT 143.03 KM
LAT RT 0.1702 KM/SEC
LONG 27.78 DEG
TILT ANG 3.23 DEG
TILT AZIM 0.22 DEG
SWING ANG 264.72 DEG
N.DEV. 84.51 DEG
PHOTO ILLUMINATION
SUN AZIM 97.15 DEG
INCID ANG 73.90 DEG
EMISS ANG 3.49 DEG
PHASE ANG 73.51 DEG
ALPHA 0.36 DEG
PRINCIPAL POINT
LATITUDE 28.04 DEG
LONGITUDE -43.49 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 29.92 DEG AB 120.7 KM
A LONG -45.51 DEG BC 99.8 KM
B LAT 29.52 DEG CD 115.5 KM
B LONG -41.05 DEG DA 100.5 KM
C LAT 26.26 DEG TILT DISTANCE 4.5
C LONG -41.56 DEG
D LAT 26.60 DEG
D LONG -45.80 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 28.34 DEG AB 51.8 KM
A LONG -44.44 DEG BC 13.0 KM
B LAT 28.17 DEG CD 51.5 KM
B LONG -42.51 DEG DA 13.0 KM
C LAT 27.75 DEG TILT DISTANCE 34.3
C LONG -42.56 DEG
D LAT 27.91 DEG
D LONG -44.47 DEG

MISSION/
FRAME NO.
5193

TIME 670218
YR,MO,DY 023E42.71
PR,MI,SEC
S/C POSITION
ALT 144.15 KM
LAT RT 0.1725 KM/SEC
LONG 28.14 DEG
TILT ANG 3.59 DEG
TILT AZIM 0.78 DEG
SWING ANG 265.27 DEG
N.DEV. 84.48 DEG
PHOTO ILLUMINATION
SUN AZIM 97.29 DEG
INCID ANG 73.91 DEG
EMISS ANG 3.88 DEG
PHASE ANG 73.51 DEG
ALPHA 0.36 DEG
PRINCIPAL POINT
LATITUDE 28.43 DEG
LONGITUDE -43.45 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 30.33 DEG AB 122.0 KM
A LONG -45.60 DEG BC 100.7 KM
B LAT 29.93 DEG CD 116.3 KM
B LONG -40.97 DEG DA 101.4 KM
C LAT 26.64 DEG TILT DISTANCE 5.0
C LONG -41.50 DEG
D LAT 26.99 DEG
D LONG -45.78 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 28.73 DEG AB 52.2 KM
A LONG -44.41 DEG BC 13.1 KM
B LAT 28.56 DEG CD 51.9 KM
B LONG -42.45 DEG DA 13.1 KM
C LAT 28.13 DEG TILT DISTANCE 38.1
C LONG -42.51 DEG
D LAT 28.30 DEG
D LONG -44.44 DEG

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MISSION/
FRAME NO.

5194
YR.NO.DY
670618
PR.MI.SEC
085844.31

S/C POSITION
ALT 127.39 KM
ALT RT 0.1334 KM/SEC
LAT 21.95 DEG
LONG -47.60 DEG

S/C ORIENTATION
TILT ANG 1.32 DEG
TILT AZIM 47.56 DEG
SWING ANG 312.11 DEG
N.DEV. 84.52 DEG

PHOTO ILLUMINATION
SUN AZIM 95.06 DEG
INCID ANG 73.99 DEG
EMISS ANG 1.41 DEG
PHASE ANG 74.95 DEG
ALPHA -0.96 DEG

PRINCIPAL POINT
LATITUDE 22.01 DEG
LONGITUDE -47.52 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 23.64 DEG AB 105.6 KM
A LONG -49.26 DEG BC 89.2 KM
B LAT 23.22 DEG CD 104.2 KM
B LONG -45.48 DEG DA 88.2 KM
C LAT 20.40 DEG TILT DISTANCE 1.7
C LONG -45.84 DEG
D LAT 20.73 DEG
D LONG -49.50 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.27 DEG AB 45.9 KM
A LONG -48.32 DEG BC 11.6 KM
B LAT 22.13 DEG CD 45.9 KM
B LONG -46.69 DEG DA 11.5 KM
C LAT 21.75 DEG TILT DISTANCE 13.9
C LONG -46.73 DEG
D LAT 21.90 DEG
D LONG -48.35 DEG

MISSION/
FRAME NO.

5195
YR.NO.DY
670618
PR.MI.SEC
085850.10

S/C POSITION
ALT 128.17 KM
ALT RT 0.1355 KM/SEC
LAT 22.27 DEG
LONG -47.57 DEG

S/C ORIENTATION
TILT ANG 1.57 DEG
TILT AZIM 39.62 DEG
SWING ANG 304.16 DEG
N.DEV. 84.50 DEG

PHOTO ILLUMINATION
SUN AZIM 95.18 DEG
INCID ANG 73.99 DEG
EMISS ANG 1.69 DEG
PHASE ANG 74.95 DEG
ALPHA -0.96 DEG

PRINCIPAL POINT
LATITUDE 22.36 DEG
LONGITUDE -47.49 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 24.00 DEG AB 106.5 KM
A LONG -49.25 DEG BC 89.3 KM
B LAT 23.68 DEG CD 104.5 KM
B LONG -45.42 DEG DA 88.8 KM
C LAT 20.74 DEG TILT DISTANCE 2.1
C LONG -45.80 DEG
D LAT 21.08 DEG
D LONG -45.48 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.62 DEG AB 46.2 KM
A LONG -48.29 DEG BC 11.6 KM
B LAT 22.48 DEG CD 46.1 KM
B LONG -46.64 DEG DA 11.6 KM
C LAT 22.10 DEG TILT DISTANCE 16.7
C LONG -46.69 DEG
D LAT 22.24 DEG
D LONG -48.32 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
5196

TIME
670218
YR.MO.DY
085655.93
HR.MI.SEC

S/C POSITION
ALT 128.96 KM
TILT ANG 1.85 DEG
TILT AZIM 33.95 DEG
SWING ANG 298.47 DEG
N.DEV. 84.48 DEG
LAT 22.60 DEG
LONG -47.54 DEG

S/C ORIENTATION
TILT ANG 1.85 DEG
TILT AZIM 33.95 DEG
SWING ANG 298.47 DEG
N.DEV. 84.48 DEG

PHOTO ILLUMINATION
SUN AZIM 95.29 DEG
INCID ANG 73.99 DEG
EMISS ANG 1.99 DEG
PHASE ANG 74.95 DEG
ALPHA -0.97 DEG

PRINCIPAL POINT
LATITUDE 22.71 DEG
LONGITUDE -47.45 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 24.36 DEG AB 107.4 KM
A LONG -45.23 DEG BC 90.4 KM
B LAT 24.04 DEG CD 105.1 KM
B LONG -45.36 DEG DA 89.4 KM
C LAT 21.68 DEG TILT DISTANCE 2.5
C LONG -45.75 DEG
D LAT 21.42 DEG
D LONG -49.45 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 22.97 DEG AB 46.6 KM
A LONG -48.26 DEG BC 11.7 KM
B LAT 22.83 DEG CD 46.4 KM
B LONG -46.60 DEG DA 11.6 KM
C LAT 22.44 DEG TILT DISTANCE 19.6
C LONG -46.64 DEG
D LAT 22.59 DEG
D LONG -48.30 DEG

MISSION/
FRAME NO.
5197

TIME
670218
YR.MO.DY
0855 1.79
HR.MI.SEC

S/C POSITION
ALT 129.78 KM
TILT ANG 2.14 DEG
TILT AZIM 29.78 DEG
SWING ANG 294.29 DEG
N.DEV. 84.46 DEG
LAT 22.92 DEG
LONG -47.50 DEG

S/C ORIENTATION
TILT ANG 2.14 DEG
TILT AZIM 29.78 DEG
SWING ANG 294.29 DEG
N.DEV. 84.46 DEG

PHOTO ILLUMINATION
SUN AZIM 95.41 DEG
INCID ANG 73.99 DEG
EMISS ANG 2.30 DEG
PHASE ANG 74.95 DEG
ALPHA -0.97 DEG

PRINCIPAL POINT
LATITUDE 23.06 DEG
LONGITUDE -47.42 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 24.73 DEG AB 108.3 KM
A LONG -49.21 DEG BC 91.1 KM
B LAT 24.40 DEG CD 105.5 KM
B LONG -45.30 DEG DA 90.0 KM
C LAT 21.42 DEG TILT DISTANCE 2.9
C LONG -45.70 DEG
D LAT 21.76 DEG
D LONG -49.43 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 23.33 DEG AB 46.9 KM
A LONG -48.23 DEG BC 11.8 KM
B LAT 23.18 DEG CD 46.7 KM
B LONG -46.56 DEG DA 11.7 KM
C LAT 22.79 DEG TILT DISTANCE 22.7
C LONG -46.60 DEG
D LAT 22.94 DEG
D LONG -48.27 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
5198

YR.NO.DY
670818
HR.MI.SEC
0859 7.68

S/C POSITION
ALT 130.61 KM
ALT RT 0.1419 KM/SEC
LAT 23.25 DEG
LONG -47.47 DEG

S/C ORIENTATION
TILT ANG 2.45 DEG
TILT AZIM 26.62 DEG
SWING ANG 291.12 DEG
N.DEV. 84.43 DEG

PHOTO ILLUMINATION
SUN AZIM 95.52 DEG
INCID ANG 73.99 DEG
EMISS ANG 2.63 DEG
PHASE ANG 74.95 DEG
ALPHA -0.98 DEG

PRINCIPAL POINT
LATITUDE 23.41 DEG
LONGITUDE -47.38 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.10 DEG AB 109.3 KM
A LONG -49.20 DEG BC 91.7 KM
B LAT 24.77 DEG CD 106.0 KM
B LONG -45.23 DEG DA 90.6 KM
C LAT 21.76 DEG TILT DISTANCE 3.3
C LONG -45.65 DEG
D LAT 22.11 DEG
D LONG -49.41 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 23.68 DEG AB 47.2 KM
A LONG -48.20 DEG BC 11.9 KM
B LAT 23.53 DEG CD 47.0 KM
B LONG -46.51 DEG DA 11.8 KM
C LAT 23.14 DEG TILT DISTANCE 26.0
C LONG -46.56 DEG
D LAT 23.29 DEG
D LONG -48.24 DEG

MISSION/
FRAME NO.
5199

YR.NO.DY
670819
HR.MI.SEC
085513.61

S/C POSITION
ALT 131.45 KM
ALT RT 0.1440 KM/SEC
LAT 23.58 DEG
LONG -47.44 DEG

S/C ORIENTATION
TILT ANG 2.76 DEG
TILT AZIM 24.16 DEG
SWING ANG 288.63 DEG
N.DEV. 84.41 DEG

PHOTO ILLUMINATION
SUN AZIM 95.64 DEG
INCID ANG 73.99 DEG
EMISS ANG 2.97 DEG
PHASE ANG 74.95 DEG
ALPHA -0.98 DEG

PRINCIPAL POINT
LATITUDE 23.77 DEG
LONGITUDE -47.34 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.47 DEG AB 110.3 KM
A LONG -49.18 DEG BC 92.4 KM
B LAT 25.13 DEG CD 106.5 KM
B LONG -45.17 DEG DA 91.3 KM
C LAT 22.11 DEG TILT DISTANCE 3.8
C LONG -45.60 DEG
D LAT 22.46 DEG
D LONG -49.38 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 24.04 DEG AB 47.5 KM
A LONG -48.17 DEG BC 12.0 KM
B LAT 23.89 DEG CD 47.3 KM
B LONG -46.46 DEG DA 11.9 KM
C LAT 23.49 DEG TILT DISTANCE 29.3
C LONG -46.51 DEG
D LAT 23.65 DEG
D LONG -48.21 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

5200 YR.NO.DY 670618
HR.MI.SEC 085519.57
TIME
S/C POSITION ALT 132.32 KM
ALT RT 0.1462 KM/SEC
LAT 23.91 DEG
LONG -47.40 DEG
S/C ORIENTATION
TILT ANG 3.07 DEG
TILT AZIM 22.19 DEG
SWING ANG 286.55 DEG
N.DEV. 84.39 DEG
PHOTO ILLUMINATION
SUN AZIM 95.76 DEG
INCID ANG 73.99 DEG
EMISS ANG 3.31 DEG
PHASE ANG 74.95 DEG
ALPHA -0.99 DEG
PRINCIPAL POINT
LATITUDE 24.12 DEG
LONGITUDE -47.30 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.84 DEG AB 111.3 KM
A LONG -49.16 DEG BC 93.1 KM
B LAT 25.50 DEG CD 107.0 KM
B LONG -45.10 DEG DA 92.0 KM
C LAT 22.46 DEG TILT DISTANCE 4.2
C LONG -45.55 DEG
D LAT 22.81 DEG
D LONG -49.36 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 24.40 DEG AB 47.9 KM
A LONG -48.14 DEG BC 12.0 KM
B LAT 24.24 DEG CD 47.6 KM
B LONG -46.42 DEG DA 12.0 KM
C LAT 23.85 DEG TILT DISTANCE 32.6
C LONG -46.47 DEG
D LAT 24.00 DEG
D LONG -48.18 DEG

MISSION/
FRAME NO.

5201 YR.NO.DY 670618
HR.MI.SEC 085525.57
TIME
S/C POSITION ALT 133.20 KM
ALT RT 0.1483 KM/SEC
LAT 24.24 DEG
LONG -47.37 DEG
S/C ORIENTATION
TILT ANG 3.39 DEG
TILT AZIM 20.59 DEG
SWING ANG 285.03 DEG
N.DEV. 84.36 DEG
PHOTO ILLUMINATION
SUN AZIM 95.88 DEG
INCID ANG 73.99 DEG
EMISS ANG 3.66 DEG
PHASE ANG 74.95 DEG
ALPHA -0.99 DEG
PRINCIPAL POINT
LATITUDE 24.48 DEG
LONGITUDE -47.27 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.22 DEG AB 112.4 KM
A LONG -49.15 DEG BC 93.8 KM
B LAT 25.88 DEG CD 107.5 KM
B LONG -45.04 DEG DA 92.7 KM
C LAT 22.81 DEG TILT DISTANCE 4.7
C LONG -46.50 DEG
D LAT 23.16 DEG
D LONG -49.34 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 24.76 DEG AB 48.2 KM
A LONG -48.11 DEG BC 12.1 KM
B LAT 24.60 DEG CD 47.9 KM
B LONG -46.37 DEG DA 12.1 KM
C LAT 24.21 DEG TILT DISTANCE 36.1
C LONG -46.42 DEG
D LAT 24.36 DEG
D LONG -48.15 DEG

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MISSION/
FRAME NO.

5202 YR.NO.DY
HR.MI.SEC

TIME
670618
121029.31

S/C POSITION
ALT 134.44 KM
ALT RT 0.1911 KM/SEC
LAT 24.64 DEG
LONG -49.08 DEG

S/C ORIENTATION
TILT ANG 6.00 DEG
TILT AZIM 294.42 DEG
SWING ANG 199.08 DEG
N.DEV. 84.99 DEG

PHOTO ILLUMINATION
SUN AZIM 95.68 DEG
INCID ANG 74.62 DEG
EMISS ANG 6.47 DEG
PHASE ANG 68.50 DEG
ALPHA 6.11 DEG

PRINCIPAL POINT
LATITUDE 24.83 DEG
LONGITUDE -49.54 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.65 DEG AB 114.0 KM
A LONG -51.59 DEG BC 90.2 KM
B LAT 26.17 DEG CD 110.9 KM
B LONG -47.43 DEG DA 98.9 KM
C LAT 23.21 DEG TILT DISTANCE
C LONG -47.81 DEG 8.6
D LAT 23.40 DEG
D LONG -51.79 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.11 DEG AB 49.1 KM
A LONG -50.43 DEG BC 12.0 KM
B LAT 24.95 DEG CD 48.9 KM
B LONG -48.65 DEG DA 12.5 KM
C LAT 24.56 DEG TILT DISTANCE
C LONG -48.70 DEG 64.0
D LAT 24.70 DEG
D LONG -50.47 DEG

MISSION/
FRAME NO.

5203 YR.NO.DY
HR.MI.SEC

TIME
670818
121035.91

S/C POSITION
ALT 135.44 KM
ALT RT 0.1535 KM/SEC
LAT 25.00 DEG
LONG -49.04 DEG

S/C ORIENTATION
TILT ANG 6.13 DEG
TILT AZIM 297.67 DEG
SWING ANG 202.33 DEG
N.DEV. 85.02 DEG

PHOTO ILLUMINATION
SUN AZIM 95.61 DEG
INCID ANG 74.63 DEG
EMISS ANG 6.61 DEG
PHASE ANG 68.50 DEG
ALPHA 6.11 DEG

PRINCIPAL POINT
LATITUDE 25.22 DEG
LONGITUDE -49.51 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 27.07 DEG AB 115.2 KM
A LONG -51.59 DEG BC 91.0 KM
B LAT 26.57 DEG CD 111.5 KM
B LONG -47.56 DEG DA 99.7 KM
C LAT 23.59 DEG TILT DISTANCE
C LONG -47.75 DEG 8.7
D LAT 23.78 DEG
D LONG -51.77 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.50 DEG AB 49.5 KM
A LONG -50.41 DEG BC 12.1 KM
B LAT 25.35 DEG CD 49.3 KM
B LONG -48.61 DEG DA 12.6 KM
C LAT 24.95 DEG TILT DISTANCE
C LONG -48.65 DEG 65.3
D LAT 25.09 DEG
D LONG -50.44 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
5204

TIME
670618
YR.NO.DY
121042.41
HR.MI.SEC

S/C POSITION
ALT 136.45 KM
LAT RT 0.1558 KM/SEC
LAT 25.36 DEG
LONG -49.00 DEG

S/C ORIENTATION
TILT ANG 6.28 DEG
TILT AZIM 300.72 DEG
SWING ANG 205.39 DEG
N.DEV. 85.04 DEG

PHOTO ILLUMINATION
SUN AZIM 95.93 DEG
INCID ANG 74.63 DEG
EMISS ANG 6.77 DEG
PHASE ANG 68.50 DEG
ALPHA 6.11 DEG

PRINCIPAL POINT
LATITUDE 25.51 DEG
LONGITUDE -49.47 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 27.48 DEG AB 116.4 KM
A LONG -51.58 DEG BC 91.7 KM
B LAT 26.58 DEG CD 112.1 KM
B LONG -47.30 DEG DA 100.6 KM
C LAT 23.57 DEG TILT DISTANCE 8.9
C LONG -47.70 DEG
D LAT 24.16 DEG
D LONG -51.75 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.90 DEG AB 49.9 KM
A LONG -59.38 DEG BC 12.2 KM
B LAT 25.74 DEG CD 49.7 KM
B LONG -48.56 DEG DA 12.7 KM
C LAT 25.34 DEG TILT DISTANCE 66.9
C LONG -48.61 DEG
D LAT 25.48 DEG
D LONG -59.41 DEG

MISSION/
FRAME NO.
5205

TIME
670618
YR.NO.DY
121048.81
HR.MI.SEC

S/C POSITION
ALT 137.45 KM
LAT RT 0.1580 KM/SEC
LAT 25.71 DEG
LONG -48.96 DEG

S/C ORIENTATION
TILT ANG 6.43 DEG
TILT AZIM 303.59 DEG
SWING ANG 208.25 DEG
N.DEV. 85.07 DEG

PHOTO ILLUMINATION
SUN AZIM 96.05 DEG
INCID ANG 74.64 DEG
EMISS ANG 6.95 DEG
PHASE ANG 68.50 DEG
ALPHA 6.12 DEG

PRINCIPAL POINT
LATITUDE 25.99 DEG
LONGITUDE -49.44 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 27.88 DEG AB 117.6 KM
A LONG -51.57 DEG BC 92.5 KM
B LAT 27.37 DEG CD 112.7 KM
B LONG -47.23 DEG DA 101.4 KM
C LAT 24.34 DEG TILT DISTANCE 9.2
C LONG -47.65 DEG
D LAT 24.54 DEG
D LONG -51.73 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 26.28 DEG AB 50.3 KM
A LONG -50.36 DEG BC 12.3 KM
B LAT 26.12 DEG CD 50.0 KM
B LONG -48.52 DEG DA 12.8 KM
C LAT 25.72 DEG TILT DISTANCE 68.6
C LONG -48.56 DEG
D LAT 25.86 DEG
D LONG -50.39 DEG

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MISSION/
FRAME NO.

5206 YR.MO.DY
HR.MI.SEC

TIME
67CE18 1833 7.16

S/C POSITION
ALT 141.89 KM
ALT RT 0.1578 KM/SEC
LAT 27.20 DEG
LONG -52.29 DEG

S/C ORIENTATION
TILT ANG 5.89 DEG
TILT AZIM 295.63 DEG
SWING ANG 200.46 DEG
N.DEV. 85.19 DEG

PHOTO ILLUMINATION
SUN AZIM 96.38 DEG
INCID ANG 74.89 DEG
FMIS ANG 6.37 DEG
PHASE ANG 68.88 DEG
ALPHA 6.00 DEG

PRINCIPAL POINT
LATITUDE 27.40 DEG
LONGITUDE -52.78 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.22 DEG AB 120.4 KM
A LONG -55.01 DEG BC 95.4 KM
B LAT 28.82 DEG CD 117.2 KM
B LONG -50.49 DEG DA 104.3 KM
C LAT 25.69 DEG TILT DISTANCE 8.4
C LONG -50.50 DEG
D LAT 25.58 DEG
D LONG -55.19 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 27.69 DEG AB 51.8 KM
A LONG -53.74 DEG BC 12.7 KM
B LAT 27.54 DEG CD 51.6 KM
B LONG -51.82 DEG DA 13.2 KM
C LAT 27.12 DEG TILT DISTANCE 62.7
C LONG -51.87 DEG
D LAT 27.26 DEG
D LONG -53.77 DEG

MISSION/
FRAME NO.

5207 YR.MO.DY
HR.MI.SEC

TIME
67CE19 1833 12.08

S/C POSITION
ALT 142.87 KM
ALT RT 0.1698 KM/SEC
LAT 27.51 DEG
LONG -52.25 DEG

S/C ORIENTATION
TILT ANG 5.00 DEG
TILT AZIM 298.51 DEG
SWING ANG 203.34 DEG
N.DEV. 85.21 DEG

PHOTO ILLUMINATION
SUN AZIM 96.49 DEG
INCID ANG 74.90 DEG
EMISS ANG 6.50 DEG
PHASE ANG 68.88 DEG
ALPHA 6.00 DEG

PRINCIPAL POINT
LATITUDE 27.75 DEG
LONGITUDE -52.75 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 25.69 DEG AB 121.5 KM
A LONG -55.00 DEG BC 96.1 KM
B LAT 29.18 DEG CD 117.6 KM
B LONG -50.43 DEG DA 105.1 KM
C LAT 26.03 DEG TILT DISTANCE 8.5
C LONG -50.65 DEG
D LAT 26.22 DEG
D LONG -55.17 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 28.04 DEG AB 52.2 KM
A LONG -53.72 DEG BC 12.8 KM
B LAT 27.88 DEG CD 52.0 KM
B LONG -51.78 DEG DA 13.3 KM
C LAT 27.46 DEG TILT DISTANCE 64.0
C LONG -51.82 DEG
D LAT 27.61 DEG
D LONG -53.75 DEG

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MISSION/
FRAME NO.

5208
YR,MO,DY
PR,MI,SEC

TIME
670618
183319.45

S/C POSITION
ALT 143.97 KM
ALT RT 0.1721 KM/SEC
LAT 27.87 DEG
LONG -52.22 DEG

S/C ORIENTATION
TILT ANG 6.15 DEG
TILT AZIM 301.58 DEG
SWING ANG 206.40 DEG
N.DEV. 85.23 DEG

PHOTO ILLUMINATION
SUN AZIM 96.61 DEG
INCID ANG 74.91 DEG
EMISS ANG 6.66 DEG
PHASE ANG 68.88 DEG
ALPHA 6.01 DEG

PRINCIPAL POINT
LATITUDE 28.14 DEG
LONGITUDE -52.71 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 30.13 DEG AB 123.8 KM
A LONG -55.00 DEG BC 96.9 KM
B LAT 25.58 DEG CD 118.3 KM
B LONG -50.36 DEG DA 106.3 KM
C LAT 24.41 DEG TILT DISTANCE
C LONG -50.80 DEG 8.8
D LAT 26.60 DEG
D LONG -55.16 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 28.43 DEG AB 52.6 KM
A LONG -53.69 DEG BC 12.9 KM
B LAT 28.27 DEG CD 52.4 KM
B LONG -51.73 DEG DA 13.4 KM
C LAT 27.85 DEG TILT DISTANCE
C LONG -51.78 DEG 65.5
D LAT 27.99 DEG
D LONG -53.73 DEG

MISSION/
FRAME NO.

5209
YR,MO,DY
PR,MI,SEC

TIME
670819
183325.57

S/C POSITION
ALT 145.23 KM
ALT RT 0.1745 KM/SEC
LAT 28.26 DEG
LONG -52.17 DEG

S/C ORIENTATION
TILT ANG 6.33 DEG
TILT AZIM 304.78 DEG
SWING ANG 209.50 DEG
N.DEV. 85.25 DEG

PHOTO ILLUMINATION
SUN AZIM 96.75 DEG
INCID ANG 74.92 DEG
EMISS ANG 6.86 DEG
PHASE ANG 68.88 DEG
ALPHA 6.02 DEG

PRINCIPAL POINT
LATITUDE 28.56 DEG
LONGITUDE -52.67 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 30.54 DEG AB 124.3 KM
A LONG -54.55 DEG BC 97.9 KM
B LAT 30.02 DEG CD 119.0 KM
B LONG -50.28 DEG DA 107.1 KM
C LAT 26.82 DEG TILT DISTANCE
C LONG -50.74 DEG 9.0
D LAT 27.31 DEG
D LONG -55.14 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 28.86 DEG AB 53.1 KM
A LONG -53.66 DEG BC 13.0 KM
B LAT 28.69 DEG CD 52.8 KM
B LONG -51.67 DEG DA 13.5 KM
C LAT 28.27 DEG TILT DISTANCE
C LONG -51.72 DEG 67.5
D LAT 28.41 DEG
D LONG -53.70 DEG

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MISSION/
FRAME NO.

5210

YR.MO.DY

HR.MI.SEC

TIME
670618
213542.19

S/C POSITION
ALT 110.53 KM
LAT RT 0.0718 KM/SEC
LAT 12.61 DEG
LONG -55.49 DEG

S/C ORIENTATION
TILT ANG 9.57 DEG
TILT AZIM 275.59 DEG
SWING ANG 180.72 DEG
N.DEV. 85.36 DEG

PHOTO ILLUMINATION
SUN AZIM 91.84 DEG
INCID ANG 75.49 DEG
EMISS ANG 13.19 DEG
PHASE ANG 65.32 DEG
ALPHA 10.17 DEG

PRINCIPAL POINT
LATITUDE 12.67 DEG
LONGITUDE -56.11 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.20 DEG AB 94.7 KM
A LONG -57.74 DEG BC 72.6 KM
B LAT 13.75 DEG CD 94.5 KM
B LONG -54.55 DEG DA 84.5 KM
C LAT 11.36 DEG TILT DISTANCE 13.5
C LONG -54.77 DEG
D LAT 11.42 DEG
D LONG -57.95 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 12.90 DEG AB 41.1 KM
A LONG -56.82 DEG BC 9.8 KM
B LAT 12.77 DEG CD 41.1 KM
B LONG -55.43 DEG DA 10.5 KM
C LAT 12.45 DEG TILT DISTANCE 02.6
C LONG -55.46 DEG
D LAT 12.55 DEG
D LONG -56.84 DEG

MISSION/
FRAME NO.

5211

YR.MO.DY

HR.MI.SEC

TIME
670618
213547.24

S/C POSITION
ALT 110.89 KM
LAT RT 0.0738 KM/SEC
LAT 12.89 DEG
LONG -55.46 DEG

S/C ORIENTATION
TILT ANG 9.58 DEG
TILT AZIM 277.30 DEG
SWING ANG 182.45 DEG
N.DEV. 85.40 DEG

PHOTO ILLUMINATION
SUN AZIM 91.92 DEG
INCID ANG 75.47 DEG
EMISS ANG 10.29 DEG
PHASE ANG 65.32 DEG
ALPHA 10.15 DEG

PRINCIPAL POINT
LATITUDE 12.97 DEG
LONGITUDE -56.09 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.51 DEG AB 95.2 KM
A LONG -57.72 DEG BC 72.8 KM
B LAT 14.06 DEG CD 94.6 KM
B LONG -54.52 DEG DA 84.8 KM
C LAT 11.67 DEG TILT DISTANCE 13.6
C LONG -54.74 DEG
D LAT 11.72 DEG
D LONG -57.92 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.20 DEG AB 41.3 KM
A LONG -56.79 DEG BC 9.9 KM
B LAT 13.08 DEG CD 41.2 KM
B LONG -55.40 DEG DA 10.5 KM
C LAT 12.75 DEG TILT DISTANCE 02.7
C LONG -55.43 DEG
D LAT 12.86 DEG
D LONG -56.82 DEG

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MISSION/

FRAME NO.

5212

YR.NO.DY

HR.MI.SEC

TIME

670618

213552.32

S/C POSITION

ALT 111.27 KM

ALT RT 3.0757 KM/SEC

LAT 13.18 DEG

LONG -55.43 DEG

S/C ORIENTATION

TILT ANG 9.59 DEG

TILT AZIM 279.02 DEG

SWING ANG 184.19 DEG

N.DEV. 85.45 DEG

PHOTO ILLUMINATION

SUN AZIM 92.01 DEG

INCID ANG 75.46 DEG

EMISS ANG 10.22 DEG

PHASE ANG 65.32 DEG

ALPHA 10.13 DEG

PRINCIPAL POINT

LATITUDE 13.28 DEG

LONGITUDE -55.06 DEG

MEDIUM RESOLUTION

CORNER COORDINATE

SIDE LENGTH

A LAT 14.83 DEG

A LONG -57.71 DEG

B LAT 14.37 DEG

B LONG -54.48 DEG

C LAT 11.97 DEG

C LONG -54.71 DEG

D LAT 12.03 DEG

D LONG -57.90 DEG

HIGH RESOLUTION

CORNER COORDINATE

SIDE LENGTH

A LAT 13.51 DEG

A LONG -56.77 DEG

B LAT 13.39 DEG

B LONG -55.37 DEG

C LAT 13.06 DEG

C LONG -55.40 DEG

D LAT 13.16 DEG

D LONG -56.80 DEG

MISSION/

FRAME NO.

5213

YR.NO.DY

HR.MI.SEC

TIME

670618

213557.44

S/C POSITION

ALT 111.67 KM

ALT RT 0.0777 KM/SEC

LAT 13.47 DEG

LONG -55.41 DEG

S/C ORIENTATION

TILT ANG 9.62 DEG

TILT AZIM 280.74 DEG

SWING ANG 185.93 DEG

N.DEV. 85.50 DEG

PHOTO ILLUMINATION

SUN AZIM 92.09 DEG

INCID ANG 75.44 DEG

EMISS ANG 10.24 DEG

PHASE ANG 65.32 DEG

ALPHA 10.12 DEG

PRINCIPAL POINT

LATITUDE 13.59 DEG

LONGITUDE -56.04 DEG

MEDIUM RESOLUTION

CORNER COORDINATE

SIDE LENGTH

A LAT 15.15 DEG

A LONG -57.70 DEG

B LAT 14.69 DEG

B LONG -54.44 DEG

C LAT 12.28 DEG

C LONG -54.67 DEG

D LAT 12.34 DEG

D LONG -57.88 DEG

HIGH RESOLUTION

CORNER COORDINATE

SIDE LENGTH

A LAT 13.82 DEG

A LONG -56.75 DEG

B LAT 13.70 DEG

B LONG -55.34 DEG

C LAT 13.37 DEG

C LONG -55.37 DEG

D LAT 13.47 DEG

D LONG -56.78 DEG

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MISSION/
FRAME NO.
5214

TIME YR.MO.DY 670518
PR.MI.SEC 2140 7.76

S/C POSITION
ALT 112.07 KM
ALT RT 0.0797 KM/SEC
LAT 13.76 DEG
LONG -55.38 DEG

S/C ORIENTATION
TILT ANG 9.65 DEG
TILT AZIM 282.46 DEG
SWING ANG 187.67 DEG
NADEV. 85.55 DEG

PHOTO ILLUMINATION
SUN AZIM 92.18 DEG
INCID ANG 75.43 DEG
EMISS ANG 10.28 DEG
PHASE ANG 65.32 DEG
ALPHA 10.10 DEG

PRINCIPAL POINT
LATITUDE 13.90 DEG
LONGITUDE -56.01 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 15.47 DEG AB 96.9 KM
A LONG -57.69 DEG BC 73.5 KM
B LAT 15.00 DEG CD 95.1 KM
B LONG -54.41 DEG DA 85.7 KM
C LAT 12.58 DEG TILT DISTANCE 13.7
C LONG -54.64 DEG
D LAT 12.64 DEG
D LONG -57.86 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.13 DEG AB 41.7 KM
A LONG -56.73 DEG BC 10.0 KM
B LAT 14.01 DEG CD 41.6 KM
B LONG -55.32 DEG DA 10.6 KM
C LAT 13.68 DEG TILT DISTANCE 03.5
C LONG -55.35 DEG
D LAT 13.78 DEG
D LONG -56.76 DEG

MISSION/
FRAME NO.
5215

TIME YR.MO.DY 670518
PR.MI.SEC 2140 7.76

S/C POSITION
ALT 112.49 KM
ALT RT 0.0817 KM/SEC
LAT 14.06 DEG
LONG -55.35 DEG

S/C ORIENTATION
TILT ANG 9.69 DEG
TILT AZIM 284.18 DEG
SWING ANG 189.41 DEG
NADEV. 85.60 DEG

PHOTO ILLUMINATION
SUN AZIM 92.27 DEG
INCID ANG 75.42 DEG
EMISS ANG 10.33 DEG
PHASE ANG 65.32 DEG
ALPHA 10.08 DEG

PRINCIPAL POINT
LATITUDE 14.21 DEG
LONGITUDE -55.99 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 15.79 DEG AB 97.4 KM
A LONG -57.67 DEG BC 73.9 KM
B LAT 15.32 DEG CD 95.2 KM
B LONG -54.37 DEG DA 86.1 KM
C LAT 12.89 DEG TILT DISTANCE 13.8
C LONG -54.61 DEG
D LAT 12.95 DEG
D LONG -57.64 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.45 DEG AB 41.9 KM
A LONG -56.71 DEG BC 10.0 KM
B LAT 14.32 DEG CD 41.8 KM
B LONG -55.29 DEG DA 10.7 KM
C LAT 13.99 DEG TILT DISTANCE 03.9
C LONG -55.32 DEG
D LAT 14.09 DEG
D LONG -56.73 DEG

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MISSION/
FRAME NO.
5216

TIME 670818
YR.MO.DY 214012.96
PR.MI.SEC
S/C POSITION
ALT 112.92 KM
LAT RT 0.0837 KM/SEC
LAT 14.35 DEG
LONG -55.33 DEG
S/C ORIENTATION
TILT ANG 9.74 DEG
TILT AZIM 285.89 DEG
SWING ANG 191.13 DEG
N.DEV. 85.65 DEG
PHOTO ILLUMINATION
SUN AZIM 92.36 DEG
INCID ANG 75.40 DEG
EMISS ANG 10.38 DEG
PHASE ANG 65.32 DEG
ALPHA 10.07 DEG
PRINCIPAL POINT
LATITUDE 14.53 DEG
LONGITUDE -55.96 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 16.12 DEG AB 98.0 KM
A LONG -57.66 DEG BC 74.3 KM
B LAT 15.64 DEG CD 95.4 KM
B LONG -54.33 DEG DA 86.5 KM
C LAT 13.20 DEG TILT DISTANCE 13.9
C LONG -54.58 DEG
D LAT 13.27 DEG
D LONG -57.81 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 14.76 DEG AB 42.1 KM
A LONG -56.69 DEG BC 10.1 KM
B LAT 14.63 DEG CD 41.9 KM
B LONG -55.26 DEG DA 10.7 KM
C LAT 14.30 DEG TILT DISTANCE 04.5
C LONG -55.29 DEG
D LAT 14.41 DEG
D LONG -56.71 DEG

MISSION/
FRAME NO.
5217

TIME 670818
YR.MO.DY 214018.20
PR.MI.SEC
S/C POSITION
ALT 113.36 KM
LAT RT 0.0857 KM/SEC
LAT 14.65 DEG
LONG -55.30 DEG
S/C ORIENTATION
TILT ANG 9.80 DEG
TILT AZIM 287.59 DEG
SWING ANG 192.85 DEG
N.DEV. 85.69 DEG
PHOTO ILLUMINATION
SUN AZIM 92.45 DEG
INCID ANG 75.39 DEG
EMISS ANG 10.45 DEG
PHASE ANG 65.32 DEG
ALPHA 10.05 DEG
PRINCIPAL POINT
LATITUDE 14.84 DEG
LONGITUDE -55.94 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 16.44 DEG AB 98.6 KM
A LONG -57.65 DEG BC 74.6 KM
B LAT 15.57 DEG CD 95.6 KM
B LONG -54.30 DEG DA 86.9 KM
C LAT 13.52 DEG TILT DISTANCE 13.9
C LONG -54.55 DEG
D LAT 13.58 DEG
D LONG -57.79 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 15.08 DEG AB 42.3 KM
A LONG -56.67 DEG BC 10.1 KM
B LAT 14.95 DEG CD 42.1 KM
B LONG -55.23 DEG DA 10.8 KM
C LAT 14.62 DEG TILT DISTANCE 05.1
C LONG -55.26 DEG
D LAT 14.72 DEG
D LONG -56.69 DEG

APPENDIX B

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA
POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER 04/10/73

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LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	* * * CORNER COORDINATES * * *				- MEDIUM RESOLUTION * * *				* * * CORNER COORDINATES * * *				- HIGH RESOLUTION * * *			
	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
1060	-0.30	42.88	-1.88	42.53	-1.59	41.20	-0.02	41.54	-0.62	42.19	-1.32	42.03	-1.28	41.86	-0.58	42.01
1061	-0.34	43.63	-1.92	42.68	-1.62	41.35	-0.05	41.59	-0.65	42.34	-1.35	42.18	-1.31	42.01	-0.61	42.16
1062	-0.37	43.18	-1.95	42.83	-1.65	41.50	-0.08	41.69	-0.68	42.49	-1.38	42.34	-1.34	42.16	-0.65	42.31
1063	-0.40	43.24	-1.98	42.98	-1.69	41.65	-0.11	41.99	-0.71	42.64	-1.41	42.49	-1.38	42.31	-0.68	42.46
1064	-0.43	43.49	-2.02	43.14	-1.72	41.80	-0.14	42.14	-0.75	42.79	-1.45	42.64	-1.41	42.46	-0.71	42.62
1065	-0.46	43.64	-2.05	43.29	-1.75	41.96	-0.18	42.29	-0.78	42.94	-1.48	42.79	-1.44	42.62	-0.74	42.77
1066	-0.49	43.80	-2.09	43.44	-1.78	42.11	-0.21	42.45	-0.81	43.10	-1.51	42.94	-1.47	42.77	-0.77	42.92
1067	-0.52	43.95	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1068	-0.57	43.87	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1069	-0.58	43.84	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1070	-0.61	43.81	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1071	-0.64	43.78	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1072	-0.67	43.75	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1073	-0.70	43.72	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1074	-0.73	43.69	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1075	-0.76	43.66	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1076	-0.79	43.63	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1077	-0.82	43.60	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1078	-0.85	43.57	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1079	-0.88	43.54	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1080	-0.91	43.51	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1081	-0.94	43.48	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1082	-0.97	43.45	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1083	-1.00	43.42	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1084	-1.03	43.39	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1085	-1.06	43.36	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1086	-1.09	43.33	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1087	-1.12	43.30	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1088	-1.15	43.27	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1089	-1.18	43.24	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1090	-1.21	43.21	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1091	-1.24	43.18	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1092	-1.27	43.15	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1093	-1.30	43.12	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1094	-1.33	43.09	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1095	-1.36	43.06	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1096	-1.39	43.03	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1097	-1.42	43.00	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1098	-1.45	42.97	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1099	-1.48	42.94	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1100	-1.51	42.91	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1101	-1.54	42.88	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1102	-1.57	42.85	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1103	-1.60	42.82	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1104	-1.63	42.79	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1105	-1.66	42.76	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1106	-1.69	42.73	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1107	-1.72	42.70	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1108	-1.75	42.67	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1109	-1.78	42.64	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1110	-1.81	42.61	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1111	-1.84	42.58	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1112	-1.87	42.55	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1113	-1.90	42.52	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07
1114	-1.93	42.49	-2.12	43.60	-1.82	42.26	-0.24	42.60	-0.84	43.25	-1.55	43.10	-1.51	42.92	-0.81	43.07

LUNAR CRBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER 04/10/71

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MISSION/ FRAME NO.	* * * CORNER COORDINATES -				MEDIUM RESOLUTION * * *				* * * CORNER COORDINATES				- HIGH RESOLUTION * * *			
	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
1115	-15.44	125.29	32.87	122.27	-179.83	-23.83	160.99	-10.79	142.20	6.48	144.17	5.97	148.59	-11.29	146.32	154.86
1116	-18.40	134.20	35.45	131.32	-166.40	-23.91	172.82	-9.58	150.26	9.02	152.33	8.81	157.25	-10.06	154.86	154.86
1117	-43.38	105.49	23.09	119.80	14.50	139.25	132.57	-7.55	108.37	10.83	97.95	-0.00	-2.69	0.69	-2.57	95.04
1118	-1.64	-0.51	-2.12	-0.28	-3.28	1.10	-2.99	0.57	-2.41	-0.03	-2.54	-0.03	-2.55	0.57	-2.43	-2.43
1119	-0.90	-1.70	-0.54	-1.98	-0.31	-3.14	1.07	-2.85	0.54	-2.27	-0.06	-2.40	-0.06	-2.41	0.54	-2.28
1120	-0.77	-1.56	-0.57	-1.84	-0.34	-2.99	1.04	-2.70	0.51	-2.13	-0.09	-2.26	-0.09	-2.27	0.51	-2.15
1121	-0.74	-1.42	-0.60	-1.70	-0.37	-2.85	1.00	-2.56	0.48	-1.99	-0.12	-2.12	-0.09	-2.27	0.51	-2.15
1122	-0.71	-1.28	-0.62	-1.56	-0.40	-2.71	0.97	-2.42	0.45	-1.85	-0.15	-1.98	-0.15	-1.99	0.45	-1.87
1123	-0.68	-1.14	-0.65	-1.42	-0.43	-2.57	0.94	-2.28	0.42	-1.72	-0.18	-1.84	-0.15	-1.99	0.45	-1.87
1124	-0.65	-1.00	-0.68	-1.28	-0.46	-2.43	0.91	-2.14	0.39	-1.58	-0.21	-1.70	-0.18	-1.85	0.42	-1.73
1125	-0.62	-0.86	-0.71	-1.14	-0.49	-2.28	0.87	-2.00	0.35	-1.44	-0.24	-1.56	-0.21	-1.71	0.39	-1.59
1126	-0.59	-0.72	-0.74	-1.00	-0.51	-2.14	0.84	-1.86	0.32	-1.30	-0.27	-1.42	-0.24	-1.57	0.36	-1.45
1127	-0.56	-0.58	-0.77	-0.87	-0.54	-2.00	0.81	-1.72	0.29	-1.16	-0.30	-1.29	-0.27	-1.44	0.33	-1.31
1128	-0.53	-0.45	-0.80	-0.73	-0.57	-1.86	0.78	-1.58	0.26	-1.02	-0.33	-1.15	-0.30	-1.30	0.30	-1.17
1129	-0.50	-0.31	-0.83	-0.59	-0.60	-1.72	0.75	-1.44	0.23	-0.85	-0.36	-1.01	-0.33	-1.16	0.27	-1.03
1130	-0.47	-0.17	-0.86	-0.45	-0.63	-1.58	0.72	-1.30	0.20	-0.75	-0.39	-0.87	-0.36	-1.02	0.24	-0.90
1131	-0.44	-0.03	-0.89	-0.31	-0.66	-1.44	0.68	-1.16	0.17	-0.61	-0.42	-0.73	-0.38	-0.88	0.21	-0.76
1132	-0.41	0.10	-0.92	-0.18	-0.69	-1.31	0.65	-1.02	0.14	-0.47	-0.44	-0.60	-0.41	-0.75	0.18	-0.62
1133	-0.38	0.24	-0.95	-0.04	-0.71	-1.17	0.62	-0.89	0.11	-0.34	-0.47	-0.46	-0.44	-0.61	0.15	-0.48
1134	-0.35	0.41	-1.02	-0.12	-0.74	-1.04	0.59	-0.86	0.08	-0.21	-0.50	-0.51	-0.44	-0.61	0.15	-0.48
1135	-0.32	0.57	-1.05	-0.15	-0.77	-0.91	0.56	-0.83	0.05	-0.08	-0.49	-0.50	-0.44	-0.61	0.15	-0.48
1136	-0.29	0.72	-1.08	-0.18	-0.80	-0.84	0.53	-0.80	0.02	-0.24	-0.52	-0.53	-0.44	-0.61	0.15	-0.48
1137	-0.26	0.87	-1.11	-0.21	-0.83	-0.87	0.50	-0.77	0.00	-0.31	-0.55	-0.56	-0.44	-0.61	0.15	-0.48
1138	-0.23	1.02	-1.14	-0.24	-0.86	-0.90	0.47	-0.74	0.00	-0.34	-0.58	-0.59	-0.44	-0.61	0.15	-0.48
1139	-0.20	1.17	-1.17	-0.27	-0.89	-0.93	0.44	-0.71	0.00	-0.37	-0.61	-0.62	-0.44	-0.61	0.15	-0.48
1140	-0.17	1.32	-1.20	-0.30	-0.92	-0.96	0.41	-0.68	0.00	-0.40	-0.64	-0.65	-0.44	-0.61	0.15	-0.48
1141	-0.14	1.47	-1.23	-0.33	-0.95	-0.99	0.38	-0.65	0.00	-0.43	-0.67	-0.68	-0.44	-0.61	0.15	-0.48
1142	-0.11	1.62	-1.26	-0.36	-0.98	-1.02	0.35	-0.62	0.00	-0.46	-0.70	-0.71	-0.44	-0.61	0.15	-0.48
1143	-0.08	1.77	-1.29	-0.39	-1.01	-1.05	0.32	-0.59	0.00	-0.49	-0.73	-0.74	-0.44	-0.61	0.15	-0.48
1144	-0.05	1.92	-1.32	-0.42	-1.04	-1.08	0.29	-0.56	0.00	-0.52	-0.76	-0.77	-0.44	-0.61	0.15	-0.48
1145	-0.02	2.07	-1.35	-0.45	-1.07	-1.11	0.26	-0.53	0.00	-0.55	-0.79	-0.80	-0.44	-0.61	0.15	-0.48
1146	0.01	2.22	-1.38	-0.48	-1.10	-1.14	0.23	-0.50	0.00	-0.58	-0.82	-0.83	-0.44	-0.61	0.15	-0.48
1147	0.04	2.37	-1.41	-0.51	-1.13	-1.17	0.20	-0.47	0.00	-0.61	-0.85	-0.86	-0.44	-0.61	0.15	-0.48
1148	0.07	2.52	-1.44	-0.54	-1.16	-1.20	0.17	-0.44	0.00	-0.64	-0.88	-0.89	-0.44	-0.61	0.15	-0.48
1149	0.10	2.67	-1.47	-0.57	-1.19	-1.23	0.14	-0.41	0.00	-0.67	-0.91	-0.92	-0.44	-0.61	0.15	-0.48
1150	0.13	2.82	-1.50	-0.60	-1.22	-1.26	0.11	-0.38	0.00	-0.70	-0.94	-0.95	-0.44	-0.61	0.15	-0.48
1151	0.16	2.97	-1.53	-0.63	-1.25	-1.29	0.08	-0.35	0.00	-0.73	-0.97	-0.98	-0.44	-0.61	0.15	-0.48
1152	0.19	3.12	-1.56	-0.66	-1.24	-1.32	0.05	-0.32	0.00	-0.76	-1.00	-1.01	-0.44	-0.61	0.15	-0.48
1153	0.22	3.27	-1.59	-0.69	-1.23	-1.35	0.02	-0.29	0.00	-0.79	-1.03	-1.04	-0.44	-0.61	0.15	-0.48
1154	0.25	3.42	-1.62	-0.72	-1.22	-1.38	0.00	-0.26	0.00	-0.82	-1.06	-1.07	-0.44	-0.61	0.15	-0.48
1155	0.28	3.57	-1.65	-0.75	-1.21	-1.41	0.00	-0.23	0.00	-0.85	-1.09	-1.10	-0.44	-0.61	0.15	-0.48
1156	0.31	3.72	-1.68	-0.78	-1.20	-1.44	0.00	-0.20	0.00	-0.88	-1.12	-1.13	-0.44	-0.61	0.15	-0.48
1157	0.34	3.87	-1.71	-0.81	-1.19	-1.47	0.00	-0.17	0.00	-0.91	-1.15	-1.16	-0.44	-0.61	0.15	-0.48
1158	0.37	4.02	-1.74	-0.84	-1.18	-1.50	0.00	-0.14	0.00	-0.94	-1.18	-1.19	-0.44	-0.61	0.15	-0.48
1159	0.40	4.17	-1.77	-0.87	-1.17	-1.53	0.00	-0.11	0.00	-0.97	-1.21	-1.22	-0.44	-0.61	0.15	-0.48
1160	0.43	4.32	-1.80	-0.90	-1.16	-1.56	0.00	-0.08	0.00	-1.00	-1.24	-1.25	-0.44	-0.61	0.15	-0.48
1161	0.46	4.47	-1.83	-0.93	-1.15	-1.59	0.00	-0.05	0.00	-1.03	-1.27	-1.28	-0.44	-0.61	0.15	-0.48
1162	0.49	4.62	-1.86	-0.96	-1.14	-1.62	0.00	-0.02	0.00	-1.06	-1.30	-1.31	-0.44	-0.61	0.15	-0.48
1163	0.52	4.77	-1.89	-0.99	-1.13	-1.65	0.00	0.00	0.00	-1.09	-1.33	-1.34	-0.44	-0.61	0.15	-0.48
1164	0.55	4.92	-1.92	-1.02	-1.12	-1.68	0.00	0.00	0.00	-1.12	-1.36	-1.37	-0.44	-0.61	0.15	-0.48
1165	0.58	5.07	-1.95	-1.05	-1.11	-1.71	0.00	0.00	0.00	-1.15	-1.39	-1.40	-0.44	-0.61	0.15	-0.48
1166	0.61	5.22	-1.98	-1.08	-1.10	-1.74	0.00	0.00	0.00	-1.18	-1.42	-1.43	-0.44	-0.61	0.15	-0.48
1167	0.64	5.37	-2.01	-1.11	-1.09	-1.77	0.00	0.00	0.00	-1.21	-1.45	-1.46	-0.44	-0.61	0.15	-0.48
1168	0.67	5.52	-2.04	-1.14	-1.08	-1.80	0.00	0.00	0.00	-1.24	-1.48	-1.49	-0.44	-0.61	0.15	-0.48

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER 04/10/71

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MISSION/ FRAME NO.	* * * CORNER COORDINATES *				MEDIUM RESOLUTION * * *				* * * CORNER COORDINATES *				HIGH RESOLUTION * * *			
	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
1169	-2.84	-20.23	-4.25	-22.32	-2.60	-22.00	-3.11	-21.44	-3.72	-21.58	-3.69	-21.73	-3.08	-21.60	-3.08	-21.60
1170	-2.86	-20.13	-4.28	-22.08	-2.62	-21.86	-3.14	-21.30	-3.75	-21.54	-3.72	-21.58	-3.08	-21.60	-3.08	-21.60
1171	-2.89	-20.54	-4.31	-20.85	-4.02	-22.04	-2.65	-21.72	-3.78	-21.30	-3.75	-21.54	-3.08	-21.60	-3.08	-21.60
1172	-2.92	-20.36	-4.33	-20.85	-4.02	-22.04	-2.65	-21.72	-3.78	-21.30	-3.75	-21.54	-3.08	-21.60	-3.08	-21.60
1173	-2.95	-20.70	-4.05	-21.90	-3.77	-22.92	-2.68	-21.57	-3.81	-21.15	-3.78	-21.31	-3.16	-21.17	-3.16	-21.17
1174	-2.98	-21.63	-3.82	-21.46	-3.59	-22.92	-2.71	-21.57	-3.81	-21.15	-3.78	-21.31	-3.16	-21.17	-3.16	-21.17
1175	-2.97	-24.67	-4.44	-34.57	-4.13	-35.99	-3.01	-35.58	-2.40	-37.50	-3.43	-36.61	-2.78	-37.50	-3.43	-36.61
1176	-2.92	-25.16	-3.86	-36.61	-3.58	-37.74	-2.85	-37.44	-3.11	-35.22	-3.78	-35.24	-2.41	-35.82	-2.41	-35.82
1177	-2.95	-25.02	-3.90	-36.33	-3.61	-37.61	-2.88	-37.31	-3.11	-35.22	-3.78	-35.24	-2.41	-35.82	-2.41	-35.82
1178	-2.97	-25.29	-3.93	-36.33	-3.61	-37.61	-2.88	-37.31	-3.11	-35.22	-3.78	-35.24	-2.41	-35.82	-2.41	-35.82
1179	-2.97	-25.29	-3.93	-36.33	-3.61	-37.61	-2.88	-37.31	-3.11	-35.22	-3.78	-35.24	-2.41	-35.82	-2.41	-35.82
1180	-2.98	-25.75	-3.96	-36.05	-3.70	-37.19	-2.85	-36.89	-2.87	-36.34	-3.43	-36.61	-2.78	-37.50	-3.43	-36.61
1181	-2.92	-25.61	-3.99	-35.90	-3.73	-37.05	-2.88	-36.89	-2.87	-36.34	-3.43	-36.61	-2.78	-37.50	-3.43	-36.61
1182	-2.95	-25.46	-4.02	-35.76	-3.75	-37.05	-2.88	-36.89	-2.87	-36.34	-3.43	-36.61	-2.78	-37.50	-3.43	-36.61
1183	-2.98	-25.32	-4.05	-35.62	-3.78	-37.05	-2.88	-36.89	-2.87	-36.34	-3.43	-36.61	-2.78	-37.50	-3.43	-36.61
1184	-2.97	-25.16	-4.08	-35.48	-3.81	-36.78	-2.85	-36.78	-2.85	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1185	-2.95	-25.02	-4.11	-35.34	-3.84	-36.64	-2.88	-36.64	-2.88	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1186	-2.92	-24.87	-4.14	-35.20	-3.87	-36.50	-2.91	-36.50	-2.91	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1187	-2.90	-24.73	-4.17	-35.06	-3.90	-36.36	-2.94	-36.36	-2.94	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1188	-2.87	-24.59	-4.20	-34.92	-3.93	-36.22	-2.97	-36.22	-2.97	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1189	-2.84	-24.45	-4.23	-34.78	-3.96	-36.08	-3.00	-36.08	-3.00	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1190	-2.81	-24.31	-4.26	-34.64	-3.99	-35.94	-3.03	-35.94	-3.03	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1191	-2.78	-24.17	-4.29	-34.50	-4.02	-35.80	-3.06	-35.80	-3.06	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1192	-2.75	-24.03	-4.32	-34.36	-4.05	-35.66	-3.09	-35.66	-3.09	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1193	-2.72	-23.89	-4.35	-34.22	-4.08	-35.52	-3.12	-35.52	-3.12	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1194	-2.69	-23.75	-4.38	-34.08	-4.11	-35.38	-3.15	-35.38	-3.15	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1195	-2.66	-23.61	-4.41	-33.94	-4.14	-35.24	-3.18	-35.24	-3.18	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1196	-2.63	-23.47	-4.44	-33.80	-4.17	-35.10	-3.21	-35.10	-3.21	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1197	-2.60	-23.33	-4.47	-33.66	-4.20	-34.96	-3.24	-34.96	-3.24	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1198	-2.57	-23.19	-4.50	-33.52	-4.23	-34.82	-3.27	-34.82	-3.27	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1199	-2.54	-23.05	-4.53	-33.38	-4.26	-34.68	-3.30	-34.68	-3.30	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1200	-2.51	-22.91	-4.56	-33.24	-4.29	-34.54	-3.33	-34.54	-3.33	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1201	-2.48	-22.77	-4.59	-33.10	-4.32	-34.40	-3.36	-34.40	-3.36	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1202	-2.45	-22.63	-4.62	-32.96	-4.35	-34.26	-3.39	-34.26	-3.39	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1203	-2.42	-22.49	-4.65	-32.82	-4.38	-34.12	-3.42	-34.12	-3.42	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1204	-2.39	-22.35	-4.68	-32.68	-4.41	-33.98	-3.45	-33.98	-3.45	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1205	-2.36	-22.21	-4.71	-32.54	-4.44	-33.84	-3.48	-33.84	-3.48	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1206	-2.33	-22.07	-4.74	-32.40	-4.47	-33.70	-3.51	-33.70	-3.51	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1207	-2.30	-21.93	-4.77	-32.26	-4.50	-33.56	-3.54	-33.56	-3.54	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1208	-2.27	-21.79	-4.80	-32.12	-4.53	-33.42	-3.57	-33.42	-3.57	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1209	-2.24	-21.65	-4.83	-31.98	-4.56	-33.28	-3.60	-33.28	-3.60	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1210	-2.21	-21.51	-4.86	-31.84	-4.59	-33.14	-3.63	-33.14	-3.63	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1211	-2.18	-21.37	-4.89	-31.70	-4.62	-33.00	-3.66	-33.00	-3.66	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1212	-2.15	-21.23	-4.92	-31.56	-4.65	-32.86	-3.69	-32.86	-3.69	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1213	-2.12	-21.09	-4.95	-31.42	-4.68	-32.72	-3.72	-32.72	-3.72	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
1214	-2.09	-20.95	-4.98	-31.28	-4.71	-32.58	-3.75	-32.58	-3.75	-36.20	-3.52	-36.19	-2.85	-36.20	-3.52	-36.19
2005	4.62	36.72	3.45	36.44	3.67	35.27	5.07	35.54	4.54	36.13	3.93	36.00	3.96	35.85	4.57	35.97
2006	4.79	36.65	3.42	36.57	3.62	35.40	5.04	35.68	4.51	36.26	3.90	36.14	3.93	35.98	4.54	36.10
2007	4.77	36.52	3.40	36.70	3.60	35.53	5.01	35.81	4.48	36.39	3.88	36.27	3.91	36.11	4.51	36.34
2008	4.74	37.11	3.37	36.93	3.60	35.67	4.98	35.94	4.46	36.52	3.85	36.40	3.88	36.25	4.49	36.37
2009	4.71	37.24	3.35	36.96	3.57	35.80	4.95	36.08	4.43	36.65	3.83	36.53	3.86	36.38	4.46	36.53
2010	4.69	37.37	3.32	37.09	3.55	35.93	4.93	36.21	4.40	36.78	3.80	36.66	3.83	36.51	4.43	36.53

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MISSION/ FRAME NO.	*** CORNER COORDINATES ***				*** MEDIUM RESOLUTION ***				*** CORNER COORDINATES ***				*** HIGH RESOLUTION ***			
	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
2011	4.56	37.51	3.25	37.23	3.52	36.07	4.99	36.34	4.38	36.91	3.77	36.79	3.81	36.64	4.41	36.76
2012	4.63	37.64	3.27	37.36	3.50	36.20	4.87	36.47	4.35	37.04	3.75	36.92	3.78	36.77	4.38	36.89
2013	4.61	37.77	3.24	37.49	3.48	36.33	4.84	36.61	4.32	37.17	3.72	37.05	3.75	36.90	4.35	37.02
2014	4.58	37.50	3.22	37.62	3.45	36.47	4.81	36.74	4.30	37.30	3.70	37.18	3.73	37.03	4.33	37.15
2015	4.55	37.01	3.15	37.75	3.43	36.60	4.78	36.87	4.27	37.43	3.67	37.31	3.70	37.16	4.30	37.28
2016	4.52	38.16	3.17	37.88	3.40	36.73	4.76	37.00	4.24	37.56	3.65	37.44	3.68	37.29	4.27	37.41
2017	4.50	38.25	3.14	38.01	3.38	36.86	4.73	37.13	4.22	37.69	3.62	37.57	3.65	37.42	4.25	37.54
2018	4.47	38.42	3.12	38.14	3.35	36.99	4.70	37.27	4.19	37.82	3.60	37.70	3.63	37.55	4.22	37.67
2019	4.45	38.55	3.05	38.27	3.33	37.12	4.67	37.40	4.16	37.95	3.57	37.83	3.60	37.68	4.19	37.80
2020	4.42	38.68	3.06	38.40	3.30	37.26	4.65	37.53	4.14	38.08	3.54	37.96	3.57	37.81	4.17	37.93
2021	3.61	41.67	2.45	41.35	2.72	40.27	4.01	40.54	3.53	41.08	2.94	40.96	2.97	40.81	3.55	40.93
2022	3.79	41.81	2.42	41.52	2.69	40.40	3.99	40.67	3.50	41.21	2.91	41.09	2.95	40.94	3.53	41.06
2023	3.76	41.54	2.40	41.65	2.66	40.53	3.96	40.80	3.47	41.34	2.89	41.22	2.92	41.07	3.50	41.19
2024	3.73	42.07	2.37	41.78	2.64	40.66	3.93	40.93	3.45	41.47	2.86	41.35	2.89	41.20	3.47	41.32
2025	4.15	37.07	2.65	36.88	3.00	35.64	4.30	35.93	3.86	36.47	3.24	36.37	3.28	36.21	3.88	36.52
2026	4.12	37.22	2.63	37.02	2.97	35.79	4.27	36.08	3.83	36.61	3.21	36.51	3.25	36.35	3.85	36.46
2027	4.09	37.35	2.60	37.16	2.95	35.92	4.24	36.21	3.80	36.73	3.18	36.64	3.22	36.49	3.82	36.60
2028	4.07	37.50	2.57	37.30	2.92	36.07	4.21	36.36	3.77	36.89	3.16	36.79	3.19	36.63	3.80	36.74
2029	4.15	37.62	2.88	36.72	3.04	35.61	4.50	35.91	3.88	36.44	3.29	36.33	3.32	36.18	3.92	36.29
2030	4.13	37.13	2.86	36.84	3.01	35.73	4.48	35.93	3.86	36.56	3.27	36.45	3.29	36.30	3.90	36.41
2031	4.10	37.26	2.83	36.96	2.99	35.85	4.45	36.05	3.83	36.68	3.24	36.57	3.27	36.42	3.87	36.53
2032	4.08	37.38	2.81	37.09	2.96	35.98	4.42	36.18	3.81	36.81	3.22	36.70	3.24	36.55	3.84	36.66
2033	-32.48	145.02	14.72	155.06	12.26	-14.61	-34.95	-163.11	-18.96	171.22	-1.42	172.40	-1.67	176.78	-19.22	175.89
2034	-11.52	143.27	35.80	143.25	24.49	-14.78	-17.24	-173.11	-4.36	169.92	18.92	172.84	17.79	178.48	-5.08	174.20
2035	3.27	34.21	1.58	34.03	2.22	32.95	3.50	33.22	3.01	33.75	2.44	33.63	2.47	33.49	3.04	33.61
2036	3.24	34.43	1.96	34.16	2.19	33.07	3.47	33.35	2.98	34.07	2.39	33.87	2.45	33.61	3.01	33.73
2037	3.22	34.54	1.93	34.28	2.17	33.20	3.45	33.47	2.96	34.00	2.39	33.88	2.42	33.73	2.99	33.86
2038	3.19	34.68	1.90	34.41	2.14	33.32	3.42	33.59	2.93	34.12	2.37	34.00	2.40	33.86	2.96	33.98
2039	3.17	34.81	1.86	34.53	2.12	33.44	3.40	33.72	2.91	34.24	2.34	34.12	2.37	33.98	2.94	34.10
2040	3.15	34.93	1.85	34.65	2.09	33.57	3.37	33.84	2.88	34.37	2.32	34.24	2.35	34.10	2.91	34.22
2041	3.12	35.06	1.82	34.78	2.07	33.69	3.34	33.96	2.86	34.49	2.29	34.37	2.32	34.22	2.89	34.35
2042	3.10	35.18	1.80	34.90	2.04	33.81	3.32	34.08	2.83	34.61	2.26	34.49	2.30	34.35	2.86	34.47
2043	3.08	35.29	1.77	35.02	2.02	33.94	3.30	34.20	2.81	34.73	2.24	34.61	2.28	34.47	2.84	34.59
2044	3.06	35.41	1.75	35.14	2.00	34.07	3.28	34.32	2.79	34.85	2.22	34.73	2.26	34.59	2.82	34.71
2045	3.04	35.53	1.73	35.26	1.98	34.20	3.26	34.44	2.77	34.97	2.20	34.85	2.24	34.71	2.80	34.83
2046	3.02	35.65	1.71	35.38	1.96	34.32	3.24	34.56	2.75	35.09	2.18	34.97	2.22	34.83	2.78	34.95
2047	3.00	35.77	1.69	35.50	1.94	34.44	3.22	34.68	2.73	35.21	2.16	35.09	2.20	34.95	2.76	35.07
2048	2.98	35.89	1.67	35.62	1.92	34.56	3.20	34.80	2.71	35.33	2.14	35.21	2.18	35.07	2.74	35.19
2049	2.96	36.01	1.65	35.74	1.90	34.68	3.18	34.92	2.69	35.45	2.12	35.33	2.16	35.19	2.72	35.31
2050	2.94	36.13	1.63	35.86	1.88	34.80	3.16	35.04	2.67	35.57	2.10	35.45	2.14	35.31	2.70	35.43
2051	2.92	36.25	1.61	35.98	1.86	34.92	3.14	35.16	2.65	35.69	2.08	35.57	2.12	35.43	2.68	35.55
2052	2.90	36.37	1.59	36.10	1.84	35.04	3.12	35.28	2.63	35.81	2.06	35.69	2.10	35.55	2.66	35.67
2053	2.88	36.49	1.57	36.22	1.82	35.16	3.10	35.40	2.61	35.93	2.04	35.81	2.08	35.67	2.64	35.79
2054	2.86	36.61	1.55	36.34	1.80	35.28	3.08	35.52	2.59	36.05	2.02	35.93	2.06	35.79	2.62	35.91
2055	2.84	36.73	1.53	36.46	1.78	35.40	3.06	35.64	2.57	36.17	2.00	36.05	2.04	35.91	2.60	36.03
2056	2.82	36.85	1.51	36.58	1.76	35.52	3.04	35.76	2.55	36.29	1.98	36.17	2.02	36.03	2.58	36.15
2057	2.80	36.97	1.49	36.70	1.74	35.64	3.02	35.88	2.53	36.41	1.96	36.29	2.00	36.15	2.56	36.27
2058	2.78	37.09	1.47	36.82	1.72	35.76	3.00	36.00	2.51	36.53	1.94	36.41	1.98	36.27	2.54	36.39
2059	2.76	37.21	1.45	36.94	1.70	35.88	2.98	36.12	2.49	36.65	1.92	36.53	1.96	36.39	2.52	36.51
2060	2.74	37.33	1.43	37.06	1.68	36.00	2.96	36.24	2.47	36.77	1.90	36.65	1.94	36.51	2.50	36.63
2061	2.72	37.45	1.41	37.18	1.66	36.12	2.94	36.36	2.45	36.89	1.88	36.77	1.92	36.63	2.48	36.75
2062	2.70	37.57	1.39	37.30	1.64	36.24	2.92	36.48	2.43	37.01	1.86	36.89	1.90	36.75	2.46	36.87
2063	2.68	37.69	1.37	37.42	1.62	36.36	2.90	36.60	2.41	37.13	1.84	36.99	1.88	36.87	2.44	36.99

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MISSION/ FRAME NO.	* * * * * CORNER COORDINATES * * * * *				- MEDIUM RESOLUTION * * * * *				* * * * * CORNER COORDINATES * * * * *				- HIGH RESOLUTION * * * * *			
	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
2064	5.32	16.60	4.00	16.33	4.21	15.20	5.55	15.47	5.05	16.02	4.46	15.91	4.49	15.76	5.08	15.88
2065	5.29	16.73	3.97	16.46	4.19	15.34	5.52	15.60	5.02	16.16	4.44	16.04	4.46	15.89	5.05	16.01
2066	5.27	16.86	3.95	16.59	4.17	15.47	5.49	15.74	4.99	16.29	4.41	16.17	4.44	16.03	5.02	16.14
2067	5.26	16.94	3.95	16.76	4.27	15.77	5.48	16.00	4.98	16.40	4.40	16.33	4.47	16.26	5.03	16.37
2068	5.23	17.17	3.93	17.08	4.24	16.08	5.45	16.24	4.95	16.53	4.45	16.45	4.47	16.38	5.00	16.49
2069	5.21	17.29	3.90	17.22	4.21	16.33	5.43	16.42	4.93	16.77	4.42	16.63	4.45	16.50	5.00	16.61
2070	5.18	17.41	3.88	17.43	4.19	16.58	5.40	16.66	4.90	16.99	4.40	16.87	4.42	16.76	5.00	16.74
2071	5.16	17.54	3.85	17.66	4.17	16.83	5.38	16.89	4.88	17.12	4.38	17.01	4.40	16.99	5.00	16.86
2072	5.13	17.67	3.83	17.79	4.15	17.08	5.35	17.12	4.85	17.25	4.35	17.12	4.37	17.08	5.00	16.98
2073	5.11	17.80	3.81	17.92	4.13	17.33	5.33	17.33	4.83	17.38	4.33	17.25	4.35	17.25	5.00	17.10
2074	5.09	17.93	3.79	18.05	4.11	17.58	5.31	17.58	4.81	17.63	4.31	17.50	4.33	17.50	5.00	17.22
2075	5.07	18.06	3.77	18.18	4.09	17.83	5.29	17.83	4.79	17.88	4.29	17.75	4.31	17.75	5.00	17.34
2076	5.05	18.19	3.75	18.31	4.07	18.08	5.27	18.08	4.77	18.03	4.27	17.92	4.31	17.92	5.00	17.46
2077	5.03	18.32	3.73	18.44	4.05	18.33	5.25	18.33	4.75	18.28	4.25	18.09	4.31	18.09	5.00	17.58
2078	5.01	18.45	3.71	18.57	4.03	18.58	5.23	18.58	4.73	18.53	4.23	18.36	4.31	18.36	5.00	17.70
2079	4.99	18.58	3.69	18.70	4.01	18.83	5.21	18.83	4.71	18.78	4.21	18.61	4.31	18.61	5.00	17.82
2080	4.97	18.71	3.67	18.83	3.99	19.08	5.19	19.08	4.69	18.93	4.19	18.84	4.31	18.84	5.00	17.94
2081	4.95	18.84	3.65	19.01	3.97	19.33	5.17	19.33	4.67	19.18	4.17	19.05	4.31	19.05	5.00	18.06
2082	4.93	18.97	3.63	19.14	3.95	19.58	5.15	19.58	4.65	19.43	4.15	19.30	4.31	19.30	5.00	18.18
2083	4.91	19.10	3.61	19.27	3.93	19.83	5.13	19.83	4.63	19.68	4.13	19.55	4.31	19.55	5.00	18.30
2084	4.89	19.23	3.59	19.40	3.91	20.08	5.11	20.08	4.61	19.83	4.11	19.72	4.31	19.72	5.00	18.42
2085	4.87	19.36	3.57	19.53	3.89	20.33	5.09	20.33	4.59	20.08	4.09	20.00	4.31	20.00	5.00	18.54
2086	4.85	19.49	3.55	19.66	3.87	20.58	5.07	20.58	4.57	20.33	4.07	20.25	4.31	20.25	5.00	18.66
2087	4.83	19.62	3.53	19.79	3.85	20.83	5.05	20.83	4.55	20.58	4.05	20.50	4.31	20.50	5.00	18.78
2088	4.81	19.75	3.51	19.92	3.83	21.08	5.03	21.08	4.53	20.83	4.03	20.75	4.31	20.75	5.00	18.90
2089	4.79	19.88	3.49	20.05	3.81	21.33	5.01	21.33	4.51	21.08	4.01	21.00	4.31	21.00	5.00	19.02
2090	4.77	20.01	3.47	20.18	3.79	21.58	4.99	21.58	4.49	21.33	3.99	21.25	4.31	21.25	5.00	19.14
2091	4.75	20.14	3.45	20.31	3.77	21.83	4.97	21.83	4.47	21.58	3.97	21.50	4.31	21.50	5.00	19.26
2092	4.73	20.27	3.43	20.44	3.75	22.08	4.95	22.08	4.45	21.83	3.95	21.75	4.31	21.75	5.00	19.38
2093	4.71	20.40	3.41	20.57	3.73	22.33	4.93	22.33	4.43	22.08	3.93	22.00	4.31	22.00	5.00	19.50
2094	4.69	20.53	3.39	20.70	3.71	22.58	4.91	22.58	4.41	22.33	3.91	22.25	4.31	22.25	5.00	19.62
2095	4.67	20.66	3.37	20.83	3.69	22.83	4.89	22.83	4.39	22.58	3.89	22.50	4.31	22.50	5.00	19.74
2096	4.65	20.79	3.35	20.96	3.67	23.08	4.87	23.08	4.37	22.83	3.87	22.75	4.31	22.75	5.00	19.86
2097	4.63	20.92	3.33	21.09	3.65	23.33	4.85	23.33	4.35	23.08	3.85	23.00	4.31	23.00	5.00	19.98
2098	4.61	21.05	3.31	21.22	3.63	23.58	4.83	23.58	4.33	23.33	3.83	23.25	4.31	23.25	5.00	20.10
2099	4.59	21.18	3.29	21.35	3.61	23.83	4.81	23.83	4.31	23.58	3.81	23.50	4.31	23.50	5.00	20.22
2100	4.57	21.31	3.27	21.48	3.59	24.08	4.79	24.08	4.29	23.83	3.79	23.75	4.31	23.75	5.00	20.34
2101	4.55	21.44	3.25	21.61	3.57	24.33	4.77	24.33	4.27	24.08	3.77	24.00	4.31	24.00	5.00	20.46
2102	4.53	21.57	3.23	21.74	3.55	24.58	4.75	24.58	4.25	24.33	3.75	24.25	4.31	24.25	5.00	20.58
2103	4.51	21.70	3.21	21.87	3.53	24.83	4.73	24.83	4.23	24.58	3.73	24.50	4.31	24.50	5.00	20.70
2104	4.49	21.83	3.19	22.00	3.51	25.08	4.71	25.08	4.21	24.83	3.71	24.75	4.31	24.75	5.00	20.82
2105	4.47	21.96	3.17	22.13	3.49	25.33	4.69	25.33	4.19	25.08	3.69	25.00	4.31	25.00	5.00	20.94
2106	4.45	22.09	3.15	22.26	3.47	25.58	4.67	25.58	4.17	25.33	3.67	25.25	4.31	25.25	5.00	21.06
2107	4.43	22.22	3.13	22.39	3.45	25.83	4.65	25.83	4.15	25.58	3.65	25.50	4.31	25.50	5.00	21.18
2108	4.41	22.35	3.11	22.52	3.43	26.08	4.63	26.08	4.13	25.83	3.63	25.75	4.31	25.75	5.00	21.30
2109	4.39	22.48	3.09	22.65	3.41	26.33	4.61	26.33	4.11	26.08	3.61	26.00	4.31	26.00	5.00	21.42
2110	4.37	22.61	3.07	22.78	3.39	26.58	4.59	26.58	4.09	26.33	3.59	26.25	4.31	26.25	5.00	21.54
2111	4.35	22.74	3.05	22.91	3.37	26.83	4.57	26.83	4.07	26.58	3.57	26.50	4.31	26.50	5.00	21.66
2112	4.33	22.87	3.03	23.04	3.35	27.08	4.55	27.08	4.05	26.83	3.55	26.75	4.31	26.75	5.00	21.78
2113	4.31	23.00	3.01	23.17	3.33	27.33	4.53	27.33	4.03	27.08	3.53	27.00	4.31	27.00	5.00	21.90
2114	4.29	23.13	2.99	23.30	3.31	27.58	4.51	27.58	4.01	27.33	3.51	27.25	4.31	27.25	5.00	22.02
2115	4.27	23.26	2.97	23.43	3.29	27.83	4.49	27.83	3.99	27.58	3.49	27.50	4.31	27.50	5.00	22.14
2116	4.25	23.39	2.95	23.56	3.27	28.08	4.47	28.08	3.97	27.83	3.47	27.75	4.31	27.75	5.00	22.26

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
2117	1.10	-0.06	-0.16	-0.34	0.08	-1.39	1.32	-0.19	0.84	-0.81	0.59	-0.74	0.32	-0.87	0.87	-0.75
2118	1.07	0.07	-0.19	-0.21	0.05	-1.26	1.29	-0.19	0.82	-0.74	0.59	-0.74	0.32	-0.87	0.87	-0.75
2119	1.05	0.20	-0.23	-0.08	0.03	-1.14	1.27	-0.86	0.79	-0.86	0.24	-0.48	0.27	-0.61	0.85	-0.62
2120	1.02	0.34	-0.24	0.06	-0.00	-1.01	1.24	-0.73	0.76	-0.22	0.21	-0.35	0.24	-0.48	0.82	-0.49
2121	0.85	-0.70	-0.45	-0.99	-0.20	-2.08	1.08	-1.80	0.59	-1.27	0.02	-1.40	0.05	-1.54	0.79	-0.36
2122	0.82	-0.57	-0.49	-0.85	-0.23	-1.95	1.05	-1.67	0.56	-1.14	-0.01	-1.26	0.02	-1.41	0.59	-1.28
2123	0.80	-0.43	-0.52	-0.72	-0.26	-1.82	1.03	-1.53	0.53	-1.00	-0.04	-1.13	0.01	-1.27	0.56	-1.15
2124	0.77	-0.29	-0.55	-0.58	-0.30	-1.68	1.00	-1.40	0.50	-0.67	-0.07	-0.99	-0.04	-1.14	0.53	-1.01
2125	0.75	-0.15	-0.59	-0.44	-0.33	-1.55	0.98	-1.26	0.48	-0.73	-0.10	-0.86	0.07	-1.00	0.51	-0.88
2126	0.72	-0.01	-0.62	-0.30	-0.36	-1.42	0.95	-1.13	0.45	-0.59	-0.13	-0.72	0.10	-0.87	0.48	-0.74
2127	0.69	0.13	-0.65	-0.16	-0.39	-1.28	0.92	-0.99	0.42	-0.36	-0.16	-0.58	0.13	-0.73	0.45	-0.60
2128	0.67	0.28	-0.65	-0.02	-0.42	-1.15	0.90	-0.86	0.39	-0.32	-0.19	-0.45	0.16	-0.59	0.42	-0.46
2129	0.52	-0.29	-0.86	-1.19	-0.59	-2.34	0.76	-2.05	0.24	-1.49	-0.36	-1.62	-0.33	-1.77	0.27	-1.64
2130	0.49	-0.74	-0.89	-1.05	-0.62	-2.20	0.74	-1.91	0.21	-1.35	-0.39	-1.48	-0.36	-1.63	0.25	-1.50
2131	0.47	-0.59	-0.53	-0.90	-0.66	-2.06	0.71	-1.76	0.18	-1.20	-0.42	-1.34	-0.39	-1.49	0.22	-1.36
2132	0.44	-0.44	-0.56	-0.75	-0.69	-1.92	0.68	-1.62	0.16	-1.06	-0.46	-1.19	-0.42	-1.20	0.19	-1.21
2133	0.41	-0.29	-1.00	-0.60	-0.72	-1.78	0.65	-1.48	0.13	-0.91	-0.49	-1.05	-0.45	-1.20	0.16	-1.07
2134	0.38	-0.14	-1.04	-0.45	-0.76	-1.64	0.63	-1.33	0.10	-0.76	-0.52	-0.90	-0.49	-1.05	0.13	-0.92
2135	0.36	0.01	-1.07	-0.30	-0.79	-1.49	0.60	-1.19	0.07	-0.62	-0.55	-0.75	-0.52	-0.91	0.10	-0.77
2136	0.33	0.17	-1.11	-0.15	-0.82	-1.34	0.57	-1.04	0.04	-0.46	-0.59	-0.60	-0.55	-0.76	0.07	-0.62
2137	0.46	-0.50	4.12	-26.77	4.34	-27.92	5.70	-27.65	5.18	-27.08	4.59	-27.20	4.62	-27.35	5.21	-27.23
2138	1.73	-12.63	0.56	-12.89	0.78	-13.87	1.94	-13.63	1.49	-13.15	0.98	-13.26	1.01	-13.39	1.92	-13.28
2139	1.71	-12.51	0.52	-12.76	0.75	-13.75	1.91	-13.50	1.47	-13.02	0.95	-13.13	0.98	-13.26	1.49	-13.15
2140	1.68	-12.38	0.50	-12.64	0.72	-13.63	1.89	-13.38	1.44	-12.90	0.92	-13.01	0.95	-13.14	1.47	-13.03
2141	1.65	-12.26	0.47	-12.51	0.70	-13.50	1.86	-13.26	1.42	-12.78	0.90	-12.89	0.93	-13.02	1.44	-12.91
2142	1.64	-12.13	0.44	-12.39	0.67	-13.38	1.84	-13.14	1.39	-12.65	0.87	-12.76	0.90	-12.77	1.39	-12.66
2143	1.61	-12.00	0.42	-12.26	0.64	-13.26	1.81	-13.01	1.36	-12.53	0.84	-12.64	0.87	-12.77	1.39	-12.66
2144	1.59	-11.88	0.39	-12.14	0.61	-13.14	1.79	-12.89	1.34	-12.40	0.82	-12.52	0.85	-12.65	1.37	-12.54
2145	1.56	-11.75	0.36	-12.01	0.59	-13.01	1.76	-12.77	1.31	-12.28	0.79	-12.39	0.82	-12.52	1.34	-12.41
2146	4.26	-26.86	3.07	-27.11	3.28	-28.12	4.47	-27.87	4.02	-27.37	3.49	-27.48	3.52	-27.61	4.04	-27.51
2147	4.23	-26.74	3.05	-26.99	3.25	-27.99	4.45	-27.74	3.99	-27.25	3.47	-27.36	3.50	-27.49	4.02	-27.38
2148	4.21	-26.62	3.03	-26.86	3.23	-27.87	4.42	-27.62	3.97	-27.13	3.44	-27.24	3.47	-27.37	3.99	-27.26
2149	4.18	-26.50	3.00	-26.74	3.21	-27.74	4.39	-27.50	3.94	-27.01	3.42	-27.12	3.45	-27.25	3.97	-27.14
2150	4.15	-26.37	2.98	-26.62	3.18	-27.62	4.37	-27.37	3.92	-26.88	3.40	-26.99	3.42	-27.12	3.94	-27.02
2151	4.13	-26.25	2.96	-26.50	3.16	-27.49	4.34	-27.25	3.89	-26.76	3.37	-26.87	3.40	-27.00	3.92	-26.89
2152	4.10	-26.13	2.93	-26.38	3.14	-27.37	4.31	-27.13	3.86	-26.64	3.35	-26.75	3.38	-26.88	3.89	-26.77
2153	4.08	-26.01	2.91	-26.25	3.11	-27.25	4.29	-27.00	3.84	-26.52	3.32	-26.63	3.35	-26.76	3.87	-26.65
2154	3.85	-25.86	2.70	-27.10	2.90	-28.08	4.06	-27.84	3.62	-27.36	3.11	-27.47	3.13	-27.59	3.64	-27.49
2155	3.83	-25.74	2.67	-26.98	2.88	-27.96	4.04	-27.72	3.59	-27.24	3.08	-27.35	3.11	-27.48	3.62	-27.37
2156	3.80	-25.62	2.65	-26.86	2.85	-27.84	4.01	-27.60	3.57	-27.12	3.06	-27.23	3.09	-27.36	3.59	-27.25
2157	3.78	-25.50	2.63	-26.75	2.83	-27.72	3.98	-27.48	3.54	-26.98	3.04	-27.11	3.06	-27.24	3.57	-27.13
2158	3.75	-25.38	2.60	-26.63	2.81	-27.60	3.95	-27.36	3.52	-26.86	3.01	-26.99	3.04	-27.12	3.55	-27.01
2159	3.73	-25.26	2.58	-26.51	2.78	-27.48	3.93	-27.24	3.49	-26.76	2.99	-26.87	3.01	-27.00	3.52	-26.89
2160	3.70	-25.14	2.55	-26.38	2.76	-27.35	3.91	-27.11	3.47	-26.64	2.96	-26.75	2.99	-26.88	3.49	-26.77
2161	3.68	-25.02	2.53	-26.26	2.74	-27.23	3.88	-26.99	3.44	-26.52	2.94	-26.63	2.97	-26.75	3.47	-26.65
2162	10.38	-16.55	2.61	-19.32	2.71	-20.78	7.06	-22.16	13.03	-19.36	0.14	-20.09	0.11	-20.16	12.80	-20.45
2163	0.72	-19.37	-0.63	-19.66	-0.37	-20.80	0.96	-20.50	0.45	-19.93	-0.17	-19.85	-0.14	-20.09	0.48	-20.11
2164	0.70	-19.22	-0.66	-19.52	-0.40	-20.66	0.94	-20.37	0.42	-19.82	-0.17	-19.95	-0.14	-20.10	0.46	-20.11
2165	0.67	-19.08	-0.69	-19.38	-0.43	-20.52	0.91	-20.23	0.40	-19.68	-0.20	-19.81	-0.17	-19.96	0.43	-19.83
2166	0.65	-18.94	-0.73	-19.24	-0.46	-20.38	0.88	-20.09	0.37	-19.54	-0.23	-19.67	-0.20	-19.82	0.40	-19.63
2167	0.62	-18.79	-0.76	-19.09	-0.49	-20.24	0.85	-19.95	0.34	-19.41	-0.26	-19.52	-0.23	-19.67	0.37	-19.54
2168	0.59	-18.64	-0.80	-18.95	-0.52	-20.10	0.83	-19.81	0.31	-19.25	-0.29	-19.38	-0.26	-19.53	0.34	-19.40
2169	0.56	-18.49	-0.83	-18.80	-0.56	-19.96	0.80	-19.66	0.28	-19.10	-0.33	-19.24	-0.29	-19.53	0.31	-19.26

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	* * * CORNER COORDINATES * * *				- MEDIUM RESOLUTION * * *				* * * CORNER COORDINATES * * *				- HIGH RESOLUTION * * *			
	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
2170	0.54	-18.34	-0.87	-18.65	-0.59	-19.82	0.77	-19.52	0.25	-18.96	-0.36	-19.09	-0.32	-19.24	0.28	-19.11
2171	0.36	-19.33	-1.09	-19.64	-0.81	-20.85	0.60	-20.54	0.06	-19.96	-0.57	-19.54	-0.53	-20.25	0.09	-20.11
2172	0.33	-19.17	-1.13	-19.49	-0.84	-20.70	0.57	-20.39	0.03	-19.81	-0.60	-19.54	-0.56	-20.10	0.07	-19.97
2173	0.30	-19.02	-1.16	-19.34	-0.88	-20.55	0.55	-20.24	0.00	-19.66	-0.63	-19.79	-0.60	-19.95	0.03	-19.81
2174	0.27	-18.86	-1.20	-19.18	-0.91	-20.40	0.52	-20.09	-0.03	-19.50	-0.67	-19.64	-0.63	-19.80	0.00	-19.66
2175	0.24	-18.70	-1.24	-19.03	-0.94	-20.25	0.49	-19.94	-0.06	-19.35	-0.70	-19.59	-0.66	-19.65	-0.03	-19.51
2176	0.21	-18.54	-1.27	-18.87	-0.98	-20.10	0.46	-19.79	-0.09	-19.20	-0.73	-19.34	-0.70	-19.50	-0.06	-19.36
2177	0.19	-18.38	-1.31	-18.71	-1.01	-19.95	0.43	-19.64	-0.12	-19.04	-0.77	-19.18	-0.73	-19.35	-0.09	-19.21
2178	0.16	-18.22	-1.35	-18.55	-1.05	-19.80	0.40	-19.48	-0.15	-18.89	-0.80	-19.03	-0.77	-19.19	-0.12	-19.05
2179	0.13	-18.06	-1.39	-18.39	-1.09	-19.65	0.37	-19.33	2.64	-34.32	2.14	-34.43	2.17	-34.56	2.69	-34.45
2180	2.88	-33.67	1.69	-33.93	1.91	-34.94	3.09	-34.68	2.62	-34.07	2.09	-34.19	2.12	-34.32	2.64	-34.21
2181	2.86	-33.55	1.66	-33.81	1.88	-34.82	3.07	-34.56	2.59	-33.95	2.07	-34.07	2.09	-34.20	2.62	-34.09
2182	2.83	-33.43	1.64	-33.69	1.86	-34.69	3.04	-34.44	2.57	-33.83	2.04	-33.94	2.07	-34.08	2.59	-33.96
2183	2.81	-33.31	1.61	-33.57	1.83	-34.57	3.02	-34.32	2.54	-33.71	2.02	-33.82	2.04	-33.96	2.57	-33.84
2184	2.78	-33.19	1.58	-33.44	1.81	-34.45	2.99	-34.20	2.51	-33.59	1.99	-33.70	2.02	-33.83	2.54	-33.72
2185	2.76	-33.06	1.56	-33.32	1.78	-34.33	2.97	-34.08	2.49	-33.47	1.96	-33.58	1.99	-33.71	2.52	-33.60
2186	2.73	-32.94	1.53	-33.20	1.76	-34.21	2.94	-33.95	2.24	-33.24	1.71	-33.35	1.74	-33.48	2.27	-33.37
2187	2.49	-33.71	1.28	-33.97	1.51	-34.99	2.70	-34.73	2.22	-34.11	1.69	-34.23	1.72	-34.36	2.25	-34.25
2188	2.47	-33.58	1.25	-33.85	1.48	-34.86	2.68	-34.61	2.19	-33.99	1.66	-34.11	1.69	-34.24	2.22	-34.12
2189	2.44	-33.46	1.23	-33.72	1.46	-34.74	2.65	-34.48	2.17	-33.87	1.64	-33.98	1.67	-34.12	2.20	-34.00
2190	2.42	-33.34	1.20	-33.60	1.43	-34.62	2.63	-34.36	2.14	-33.75	1.61	-33.86	1.64	-34.00	2.17	-33.88
2191	2.39	-33.21	1.17	-33.48	1.40	-34.50	2.60	-34.24	2.12	-33.62	1.59	-33.74	1.61	-33.87	2.15	-33.76
2192	2.37	-33.09	1.14	-33.35	1.38	-34.37	2.58	-34.12	2.09	-33.50	1.56	-33.61	1.59	-33.75	2.12	-33.63
2193	2.34	-32.96	1.12	-33.23	1.35	-34.25	2.55	-33.99	2.07	-33.38	1.53	-33.49	1.56	-33.63	2.09	-33.51
2194	2.32	-32.84	1.09	-33.10	1.33	-34.13	2.52	-33.87	3.09	-42.58	2.54	-42.70	2.57	-42.84	3.12	-42.72
2195	3.35	-42.03	2.08	-42.30	2.32	-43.37	3.57	-43.10	-17.90	97.69	0.45	98.70	0.23	103.29	-18.13	102.52
2196	-32.35	73.54	17.76	73.69	15.56	123.48	-4.55	124.00	2.15	-42.04	0.50	-42.16	1.63	-42.30	2.18	-42.18
2197	2.41	-41.49	1.14	-41.76	1.38	-42.83	2.64	-42.56	2.13	-41.91	1.57	-42.03	1.60	-42.17	2.16	-42.05
2198	2.39	-41.36	1.12	-41.63	1.35	-42.70	2.61	-42.43	2.10	-41.78	1.54	-41.90	1.58	-42.04	2.13	-41.92
2199	2.36	-41.23	1.09	-41.50	1.33	-42.57	2.58	-42.30	2.08	-41.66	1.52	-41.78	1.55	-41.92	2.11	-41.80
2200	2.33	-41.10	1.06	-41.38	1.30	-42.45	2.56	-42.18	2.05	-41.53	1.49	-41.65	1.52	-41.79	2.08	-41.67
2201	2.31	-40.97	1.03	-41.25	1.27	-42.32	2.53	-42.05	2.02	-41.40	1.47	-41.52	1.50	-41.66	2.05	-41.54
2202	2.28	-40.84	1.01	-41.12	1.25	-42.19	2.50	-41.92	2.00	-41.28	1.44	-41.40	1.47	-41.54	2.03	-41.42
2203	2.26	-40.72	0.98	-40.99	1.22	-42.06	2.48	-41.79	1.97	-41.15	1.41	-41.27	1.44	-41.41	2.00	-41.29
2204	2.23	-40.59	0.95	-40.87	1.19	-41.94	2.45	-41.67	1.94	-41.03	1.38	-41.19	1.41	-41.27	1.97	-41.23
2205	2.01	-41.42	0.71	-41.70	0.95	-42.79	2.23	-42.52	1.74	-41.99	1.18	-42.11	1.21	-42.25	1.77	-42.13
2206	1.98	-41.29	0.68	-41.57	0.93	-42.66	2.21	-42.39	1.69	-41.87	1.15	-41.98	1.18	-42.12	1.75	-42.00
2207	1.96	-41.16	0.65	-41.44	0.90	-42.53	2.18	-42.26	1.59	-41.73	1.12	-41.85	1.15	-41.99	1.72	-41.87
2208	1.93	-41.03	0.63	-41.31	0.87	-42.40	2.16	-42.13	1.56	-41.60	1.09	-41.72	1.13	-41.86	1.69	-41.74
2209	1.90	-40.89	0.60	-41.18	0.85	-42.27	2.13	-42.00	1.54	-41.47	1.07	-41.59	1.10	-41.73	1.67	-41.61
2210	1.88	-40.76	0.57	-41.05	0.82	-42.14	2.10	-41.87	1.51	-41.34	1.04	-41.46	1.07	-41.60	1.64	-41.48
2211	1.85	-40.63	0.54	-40.92	0.79	-42.01	2.08	-41.74	1.51	-41.21	1.01	-41.33	1.04	-41.47	1.61	-41.35
2212	1.83	-40.50	0.51	-40.79	0.76	-41.88	2.05	-41.61	1.56	-41.08	0.98	-41.20	1.02	-41.34	1.59	-41.22
2213	1.80	-40.37	0.48	-40.66	0.73	-41.75	2.02	-41.48	1.50	-40.64	0.91	-41.07	1.00	-41.21	1.56	-41.09
2214	1.77	-40.24	0.45	-40.53	0.70	-41.62	1.99	-41.35	1.48	-40.51	0.89	-40.94	0.99	-41.00	1.54	-40.91
2215	1.74	-40.11	0.42	-40.40	0.67	-41.50	1.97	-41.22	1.46	-40.38	0.87	-40.82	0.97	-41.00	1.52	-40.78
2216	1.71	-40.00	0.40	-40.29	0.64	-41.37	1.95	-41.09	1.44	-40.25	0.85	-40.69	0.95	-40.97	1.50	-40.65
2217	1.68	-39.87	0.37	-40.18	0.61	-41.24	1.93	-40.96	1.42	-40.12	0.83	-40.56	0.93	-40.85	1.48	-40.52
2218	1.65	-39.74	0.34	-40.05	0.58	-41.11	1.91	-40.83	1.40	-40.00	0.81	-40.43	0.91	-40.72	1.46	-40.39
2219	1.62	-39.61	0.31	-39.92	0.55	-40.98	1.89	-40.70	1.38	-39.87	0.79	-40.30	0.89	-40.59	1.44	-40.26
2220	1.59	-39.48	0.28	-39.79	0.52	-40.77	1.87	-40.57	1.36	-39.74	0.77	-40.17	0.87	-40.46	1.42	-40.13
2221	1.56	-39.35	0.25	-39.66	0.49	-40.56	1.85	-40.46	1.34	-39.61	0.75	-40.06	0.85	-40.35	1.40	-40.00
2222	1.53	-39.22	0.22	-39.53	0.46	-40.35	1.83	-40.35	1.32	-39.48	0.73	-39.95	0.83	-40.24	1.38	-39.87
2223	1.50	-39.09	0.19	-39.42	0.43	-40.14	1.81	-40.24	1.30	-39.35	0.71	-39.84	0.81	-40.13	1.36	-39.74
2224	1.47	-38.96	0.16	-39.29	0.40	-39.93	1.79	-40.13	1.28	-39.22	0.69	-39.72	0.79	-40.02	1.34	-39.61
2225	1.44	-38.83	0.13	-39.16	0.37	-39.72	1.77	-40.02	1.26	-39.09	0.67	-39.59	0.77	-39.91	1.32	-39.48
2226	1.41	-38.70	0.10	-39.03	0.34	-39.51	1.75	-39.91	1.24	-38.96	0.65	-39.46	0.75	-39.80	1.30	-39.35
2227	1.38	-38.57	0.07	-38.90	0.31	-39.30	1.73	-39.80	1.22	-38.83	0.63	-39.33	0.73	-39.69	1.28	-39.22
2228	1.35	-38.44	0.04	-38.77	0.28	-39.09	1.71	-39.69	1.20	-38.70	0.61	-39.20	0.71	-39.56	1.26	-39.09
2229	1.32	-38.31	0.01	-38.64	0.25	-38.88	1.69	-39.58	1.18	-38.57	0.59	-39.07	0.69	-39.45	1.24	-38.96
2230	1.29	-38.18	-0.02	-38.51	0.22	-38.67	1.67	-39.47	1.16	-38.44	0.57	-38.94	0.67	-39.34	1.22	-38.83
2231	1.26	-38.05	-0.05	-38.34	0.19	-38.46	1.65	-39.36	1.14	-38.31	0.55	-38.81	0.65	-39.23	1.20	-38.70
2232	1.23	-37.92	-0.08	-38.17	0.16	-38.25	1.63	-39.25	1.12	-38.18	0.53	-38.70	0.63	-39.12	1.18	-38.57
2233	1.20	-37.79	-0.11	-37.98	0.13	-38.04	1.61	-39.14	1.10	-38.05	0.51	-38.59	0.61	-39.01	1.16	-38.44
2234	1.17	-37.66	-0.14	-37.79	0.10	-37.83	1.59	-39								

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MISSION/ FRAME NO.	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
3012	2.21	36.14	1.73	35.60	2.20	34.34	3.69	34.90	3.00	35.45	2.35	35.20	2.41	35.04	3.07	35.59
3013	3.16	36.30	1.68	35.74	2.15	34.48	3.64	35.05	2.95	35.59	2.30	35.35	2.31	35.18	3.01	35.43
3014	3.10	36.45	1.63	35.89	2.10	34.63	3.58	35.19	2.89	35.74	2.24	35.49	2.31	35.33	2.96	35.58
3015	3.05	36.59	1.57	36.03	2.04	34.78	3.52	35.34	2.84	35.88	2.19	35.63	2.25	35.47	2.90	35.72
3016	2.99	36.73	1.52	36.18	1.99	34.93	3.46	35.49	2.78	36.33	2.14	35.78	2.20	35.52	2.84	35.86
3017	2.93	36.87	1.47	36.32	1.94	35.07	3.40	35.63	2.73	36.17	2.08	35.92	2.14	35.76	2.79	36.01
3018	2.88	37.01	1.41	36.46	1.89	35.22	3.35	35.77	2.67	36.31	2.03	36.06	2.09	35.90	2.74	36.15
3019	2.82	37.16	1.36	36.60	1.83	35.37	3.29	35.92	2.62	36.45	1.98	36.21	2.04	36.05	2.68	36.29
3020	2.77	37.30	1.31	36.75	1.78	35.51	3.23	36.06	2.56	36.60	1.92	36.35	1.98	36.19	2.62	36.43
3021	1.29	48.13	-2.91	47.53	-2.31	46.26	-0.91	46.78	-1.54	47.33	-2.20	47.08	-2.13	46.91	-1.48	47.16
3022	-1.34	48.27	-2.97	47.67	-2.36	46.40	-0.96	46.92	-1.59	47.47	-2.25	47.22	-2.18	47.05	-1.53	47.30
3023	-1.39	48.42	-3.03	47.81	-2.41	46.54	-1.02	47.06	-1.64	47.61	-2.31	47.36	-2.24	47.19	-1.58	47.44
3024	-1.44	48.57	-3.09	47.96	-2.47	46.68	-1.07	47.20	-1.69	47.75	-2.35	47.50	-2.29	47.33	-1.64	47.58
3025	-0.33	42.54	-1.76	42.34	-1.30	41.10	0.11	41.67	-0.52	42.18	-1.15	41.95	-1.09	41.79	-0.46	42.03
3026	-0.38	42.91	-1.82	42.47	-1.35	41.23	0.06	41.80	-0.57	42.32	-1.20	42.08	-1.14	41.92	-0.51	42.16
3027	-0.43	43.11	-1.87	42.61	-1.40	41.37	0.01	41.94	-0.62	42.45	-1.25	42.22	-1.19	42.06	-0.56	42.30
3028	-0.48	43.25	-1.93	42.74	-1.45	41.51	-0.04	42.08	-0.67	42.59	-1.30	42.35	-1.24	42.20	-0.62	42.43
3029	-0.53	43.38	-1.98	42.88	-1.50	41.64	-0.09	42.20	-0.72	42.72	-1.35	42.48	-1.29	42.32	-0.66	42.56
3030	-0.58	43.52	-2.03	43.01	-1.56	41.77	-0.14	42.34	-0.78	42.85	-1.41	42.62	-1.34	42.46	-0.72	42.70
3031	-0.63	43.66	-2.09	43.15	-1.61	41.91	-0.19	42.48	-0.83	42.99	-1.46	42.76	-1.40	42.60	-0.77	42.83
3032	-0.68	43.79	-2.14	43.28	-1.66	42.04	-0.25	42.61	-0.88	43.13	-1.51	42.89	-1.45	42.73	-0.82	42.97
3033	-0.73	43.92	-2.19	43.41	-1.71	42.17	0.31	42.74	-0.93	43.26	-1.56	43.02	-1.49	42.86	-0.87	43.10
3034	-0.78	44.05	-2.24	43.54	-1.76	42.29	0.26	42.87	-0.98	43.39	-1.61	43.15	-1.53	42.99	-0.92	43.23
3035	-0.83	44.18	-2.29	43.67	-1.81	42.42	0.21	42.99	-1.03	43.52	-1.66	43.28	-1.58	43.12	-0.97	43.36
3036	-0.88	44.31	-2.34	43.80	-1.86	42.55	0.16	43.11	-1.08	43.65	-1.71	43.41	-1.61	43.25	-1.02	43.49
3037	-0.93	44.44	-2.39	43.93	-1.91	42.68	0.11	43.24	-1.13	43.78	-1.76	43.54	-1.66	43.38	-1.07	43.62
3038	-0.98	44.57	-2.44	44.06	-1.96	42.81	0.06	43.37	-1.18	43.91	-1.81	43.67	-1.71	43.53	-1.12	43.75
3039	-1.03	44.70	-2.49	44.19	-2.01	42.94	0.01	43.50	-1.23	44.04	-1.86	43.82	-1.76	43.68	-1.17	43.88
3040	-1.08	44.83	-2.54	44.32	-2.06	43.07	-0.04	43.63	-1.28	44.17	-1.91	43.97	-1.81	43.83	-1.22	44.01
3041	-1.13	44.96	-2.59	44.45	-2.11	43.20	0.01	43.76	-1.33	44.30	-1.96	44.12	-1.86	44.08	-1.27	44.14
3042	-1.18	45.09	-2.64	44.58	-2.16	43.33	0.06	43.89	-1.38	44.43	-2.01	44.25	-1.91	44.23	-1.32	44.27
3043	-1.23	45.22	-2.69	44.71	-2.21	43.46	0.11	44.02	-1.43	44.56	-2.06	44.38	-1.96	44.38	-1.37	44.40
3044	-1.28	45.35	-2.74	44.84	-2.26	43.59	0.16	44.15	-1.48	44.69	-2.11	44.51	-2.01	44.51	-1.42	44.53
3045	-1.33	45.48	-2.79	44.97	-2.31	43.72	0.21	44.28	-1.53	44.82	-2.16	44.64	-2.06	44.64	-1.47	44.66
3046	-1.38	45.61	-2.84	45.10	-2.36	43.85	0.26	44.41	-1.58	44.95	-2.21	44.79	-2.11	44.79	-1.52	44.79
3047	-1.43	45.74	-2.89	45.23	-2.41	43.98	0.31	44.54	-1.63	45.08	-2.26	44.92	-2.16	44.92	-1.57	44.92
3048	-1.48	45.87	-2.94	45.36	-2.46	44.11	0.36	44.67	-1.68	45.21	-2.31	45.07	-2.21	45.07	-1.62	45.07
3049	-1.53	45.99	-2.99	45.49	-2.51	44.24	0.41	44.80	-1.73	45.34	-2.36	45.20	-2.26	45.20	-1.67	45.20
3050	-1.58	46.12	-3.04	45.62	-2.56	44.37	0.46	44.93	-1.78	45.47	-2.41	45.33	-2.31	45.33	-1.72	45.33
3051	-1.63	46.25	-3.09	45.75	-2.61	44.50	0.51	45.06	-1.83	45.60	-2.46	45.48	-2.36	45.48	-1.77	45.48
3052	-1.68	46.38	-3.14	45.88	-2.66	44.63	0.56	45.19	-1.88	45.73	-2.51	45.61	-2.41	45.61	-1.82	45.61
3053	-1.73	46.51	-3.19	46.01	-2.71	44.76	0.61	45.32	-1.93	45.86	-2.56	45.74	-2.46	45.74	-1.87	45.74
3054	-1.78	46.64	-3.24	46.14	-2.76	44.89	0.66	45.45	-1.98	45.99	-2.61	45.87	-2.51	45.87	-1.92	45.87
3055	-1.83	46.77	-3.29	46.27	-2.81	45.02	0.71	45.58	-2.03	46.12	-2.66	45.99	-2.56	45.99	-1.97	45.99
3056	-1.88	46.90	-3.34	46.40	-2.86	45.15	0.76	45.71	-2.08	46.25	-2.71	46.12	-2.61	46.12	-2.02	46.12
3057	-1.93	47.03	-3.39	46.53	-2.91	45.28	0.81	45.84	-2.13	46.38	-2.76	46.25	-2.66	46.25	-2.07	46.25
3058	-1.98	47.16	-3.44	46.66	-2.96	45.41	0.86	45.97	-2.18	46.51	-2.81	46.38	-2.71	46.38	-2.12	46.38
3059	-2.03	47.29	-3.49	46.79	-3.01	45.54	0.91	46.10	-2.23	46.64	-2.86	46.51	-2.76	46.51	-2.17	46.51
3060	-2.08	47.42	-3.54	46.92	-3.06	45.67	0.96	46.23	-2.28	46.77	-2.91	46.64	-2.81	46.64	-2.22	46.64
3061	-2.13	47.55	-3.59	47.05	-3.11	45.80	1.01	46.36	-2.33	46.90	-2.96	46.77	-2.86	46.77	-2.27	46.77
3062	-2.18	47.68	-3.64	47.18	-3.16	45.93	1.06	46.49	-2.38	47.03	-3.01	46.90	-2.91	46.90	-2.32	46.90
3063	-2.23	47.81	-3.69	47.31	-3.21	46.06	1.11	46.62	-2.43	47.16	-3.06	47.03	-2.96	47.03	-2.37	47.03
3064	-2.28	47.94	-3.74	47.44	-3.26	46.19	1.16	46.75	-2.48	47.29	-3.11	47.16	-3.01	47.16	-2.42	47.16

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POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER										PAGE	
										11	
MISSION/ FRAME NO.	* * * * * CORNER COORDINATES -					* * * * * CORNER COORDINATES					
	A LAT	B LAT	C LAT	D LAT	D LONG	A LAT	B LAT	C LAT	D LAT	D LONG	
3118	-3.09	-4.33	-3.12	-4.19	-3.68	-3.25	-3.26	-3.78	-3.59	-3.39	
3119	-3.28	-2.19	-4.54	-2.61	-3.18	-3.44	-2.75	-3.98	-3.92	-3.39	
3120	-C.42	-17.67	-6.65	-26.69	-1.45	-0.33	-18.19	-2.17	-22.25	-2.35	
3121	-5C.03	20.48	-4.17	08.95	-3.53	-35.99	123.58	-15.13	128.59	-35.75	
3122	1.48	-21.20	0.06	-21.57	12.81	1.32	-21.74	0.73	-21.95	1.37	
3123	14.76	-22.67	4.65	-27.01	5.14	15.70	-26.51	5.85	-27.54	16.05	
3124	-0.24	-19.28	-1.39	-19.83	0.14	-0.39	-19.94	-0.90	-20.13	-0.34	
3125	-0.28	-19.27	-1.43	-19.71	-1.06	-0.44	-19.82	-0.95	-20.01	-0.39	
3126	-0.33	-19.15	-1.48	-19.59	-1.10	-0.49	-19.70	-0.99	-20.02	-0.44	
3127	-C.38	-19.63	-1.53	-19.47	-1.15	-0.53	-19.58	-1.04	-19.77	-0.49	
3128	-0.42	-18.91	-1.57	-19.35	-1.20	-0.58	-19.46	-1.09	-19.66	-0.58	
3129	-C.47	-18.79	-1.62	-19.23	-1.24	-0.63	-19.34	-1.13	-19.54	-0.63	
3130	-0.52	-18.67	-1.67	-19.11	-1.29	-0.72	-19.22	-1.18	-19.42	-0.67	
3131	-0.56	-18.55	-1.72	-18.99	-1.34	-0.73	-19.11	-1.23	-19.30	-0.67	
3132	-2.76	-17.24	-4.73	-17.60	-4.11	-2.93	-17.76	-3.69	-18.04	-3.62	
3133	-2.58	-16.65	-4.98	-17.02	-4.33	-3.16	-17.19	-3.92	-17.46	-3.85	
3134	-2.21	-16.66	-5.25	-16.43	-4.56	-3.39	-16.61	-4.16	-16.88	-4.09	
3135	-2.44	-15.47	-5.51	-15.84	-4.79	-3.52	-16.02	-4.40	-16.30	-4.33	
3136	-2.96	-20.50	-9.24	-28.64	-2.12	-2.81	-21.90	-4.54	-25.71	-4.24	
3137	-2.36	-22.65	-4.86	-23.63	-4.11	-2.56	-23.22	-3.49	-23.54	-3.41	
3138	-2.42	-22.49	-4.93	-22.87	-4.17	-2.62	-23.06	-3.55	-23.39	-3.47	
3139	-2.48	-22.33	-5.00	-22.71	-4.22	-2.75	-22.90	-3.61	-23.23	-3.53	
3140	-2.54	-22.18	-5.07	-22.55	-4.28	-2.81	-22.75	-3.67	-23.07	-3.59	
3141	-2.60	-22.02	-5.14	-22.40	-4.34	-2.87	-22.43	-3.80	-22.92	-3.66	
3142	-2.66	-21.86	-5.21	-22.24	-4.40	-2.93	-22.28	-3.86	-22.60	-3.72	
3143	-2.73	-21.70	-5.29	-22.08	-4.46	-2.99	-22.12	-3.92	-22.45	-3.78	
3144	-2.79	-21.54	-5.36	-21.92	-4.51	-3.02	-21.95	-4.02	-22.31	-3.84	
3145	-2.89	-22.38	-3.61	-22.60	-3.17	-3.05	-22.82	-3.07	-23.03	-3.01	
3146	-2.34	-22.12	-3.71	-22.55	-3.27	-2.50	-22.70	-3.12	-22.91	-2.45	
3147	-2.38	-22.12	-3.77	-22.42	-3.32	-2.55	-22.57	-3.17	-22.78	-2.50	
3148	-2.43	-21.59	-3.77	-22.42	-3.37	-2.65	-22.44	-3.22	-22.65	-2.59	
3149	-2.48	-21.67	-3.82	-22.29	-3.41	-2.69	-22.32	-3.27	-22.53	-2.64	
3150	-2.53	-21.74	-3.87	-22.16	-3.41	-2.74	-22.19	-3.32	-22.40	-2.69	
3151	-2.58	-21.61	-3.92	-22.03	-3.46	-2.79	-22.06	-3.37	-22.27	-2.74	
3152	-2.62	-21.48	-3.97	-21.91	-3.51	-2.81	-21.91	-3.37	-22.27	-2.74	
3153	-2.67	-21.35	-4.02	-21.78	-3.56	-2.87	-21.78	-3.43	-22.27	-2.74	
3154	-2.72	-21.22	-4.07	-21.65	-3.61	-2.90	-21.65	-3.48	-22.27	-2.74	
3155	-2.77	-21.09	-4.12	-21.52	-3.66	-2.95	-21.52	-3.53	-22.27	-2.74	
3156	-2.82	-20.96	-4.17	-21.39	-3.71	-3.00	-21.39	-3.58	-22.27	-2.74	
3157	-2.87	-20.83	-4.22	-21.26	-3.76	-3.05	-21.26	-3.63	-22.27	-2.74	
3158	-2.92	-20.70	-4.27	-21.13	-3.81	-3.10	-21.13	-3.68	-22.27	-2.74	
3159	-2.97	-20.57	-4.32	-21.00	-3.86	-3.15	-21.00	-3.73	-22.27	-2.74	
3160	-3.02	-20.44	-4.37	-20.87	-3.91	-3.20	-20.87	-3.78	-22.27	-2.74	
3161	-3.07	-20.31	-4.42	-20.74	-3.96	-3.25	-20.74	-3.83	-22.27	-2.74	
3162	-3.12	-20.18	-4.47	-20.61	-4.01	-3.30	-20.61	-3.88	-22.27	-2.74	
3163	-3.17	-20.05	-4.52	-20.48	-4.06	-3.35	-20.48	-3.93	-22.27	-2.74	
3164	-3.22	-19.92	-4.57	-20.35	-4.11	-3.40	-20.35	-3.98	-22.27	-2.74	
3165	-3.27	-19.79	-4.62	-20.22	-4.16	-3.45	-20.22	-4.03	-22.27	-2.74	
3166	-3.32	-19.66	-4.67	-20.09	-4.21	-3.50	-20.09	-4.08	-22.27	-2.74	
3167	-3.37	-19.53	-4.72	-19.96	-4.26	-3.55	-19.96	-4.13	-22.27	-2.74	
3168	-3.42	-19.40	-4.77	-19.83	-4.31	-3.60	-19.83	-4.18	-22.27	-2.74	
3169	-3.47	-19.27	-4.82	-19.70	-4.36	-3.65	-19.70	-4.23	-22.27	-2.74	
3170	-3.52	-19.14	-4.87	-19.57	-4.41	-3.70	-19.57	-4.28	-22.27	-2.74	

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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04/10/71

MISSION/ FRAME NO.	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	***	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	***
3171	-3.43	-34.61	-10.43	-42.93	-2.61	-46.24	-2.32	-35.68	***	-3.49	-35.70	-5.11	-39.15	-4.87	-40.30	-3.29	-35.92	***
3172	-2.02	-41.16	-9.70	-50.66	-0.66	-53.10	-0.51	-42.39	***	-1.92	-42.44	-3.08	-49.02	-4.87	-52.04	-1.69	-42.71	***
3173	-2.80	-36.46	-4.17	-36.94	-3.72	-38.11	-2.39	-37.57	***	-2.99	-37.08	-3.63	-37.17	-3.52	-37.46	-2.93	-37.23	***
3174	-2.85	-36.22	-4.22	-36.80	-3.78	-37.97	-2.44	-37.44	***	-3.04	-36.95	-3.63	-37.17	-3.58	-37.32	-2.98	-37.09	***
3175	-2.90	-36.16	-4.28	-36.66	-3.83	-37.83	-2.49	-37.30	***	-3.09	-36.81	-3.69	-37.03	-3.63	-37.18	-3.03	-36.96	***
3176	-2.95	-36.04	-4.33	-36.52	-3.88	-37.70	-2.54	-37.16	***	-3.14	-36.67	-3.74	-36.89	-3.68	-37.04	-3.08	-36.82	***
3177	-3.00	-35.89	-4.39	-36.38	-3.93	-37.56	-2.59	-37.02	***	-3.19	-36.53	-3.79	-36.75	-3.73	-36.91	-3.14	-36.68	***
3178	-3.05	-35.75	-4.44	-36.24	-3.99	-37.42	-2.64	-36.88	***	-3.24	-36.39	-3.84	-36.61	-3.79	-36.77	-3.19	-36.54	***
3179	-3.10	-35.61	-4.50	-36.10	-4.04	-37.28	-2.69	-36.74	***	-3.29	-36.25	-3.90	-36.48	-3.84	-36.63	-3.24	-36.40	***
3180	-3.16	-35.47	-4.55	-35.96	-4.09	-37.14	-2.75	-36.60	***	-3.35	-36.11	-3.95	-36.34	-3.89	-36.49	-3.29	-36.25	***
3181	-1.76	-42.71	-3.36	-43.12	-2.89	-44.54	-1.36	-43.77	***	-1.94	-43.30	-2.61	-43.85	-2.55	-43.71	-1.88	-43.45	***
3182	-1.81	-42.57	-3.44	-42.98	-2.90	-44.39	-1.42	-43.63	***	-1.99	-43.16	-2.66	-43.72	-2.60	-43.57	-1.93	-43.43	***
3183	-1.87	-42.43	-3.49	-42.83	-2.95	-44.25	-1.47	-43.49	***	-2.04	-43.02	-2.72	-43.12	-2.71	-43.29	-2.04	-43.03	***
3184	-1.92	-42.29	-3.56	-42.69	-3.00	-44.11	-1.52	-43.34	***	-2.10	-42.88	-2.77	-43.12	-2.71	-43.29	-2.04	-43.03	***
3185	-1.85	-43.88	-3.34	-44.31	-2.85	-45.63	-1.44	-44.96	***	-2.02	-44.48	-2.66	-44.72	-2.60	-44.58	-1.97	-44.43	***
3186	-1.90	-43.74	-3.39	-44.17	-2.90	-45.49	-1.49	-44.82	***	-2.08	-44.34	-2.71	-44.58	-2.65	-44.74	-2.02	-44.49	***
3187	-1.95	-43.60	-3.43	-44.03	-2.95	-45.34	-1.54	-44.68	***	-2.13	-44.20	-2.76	-44.83	-2.70	-44.60	-2.07	-44.35	***
3188	-2.01	-43.45	-3.50	-43.89	-3.00	-45.20	-1.60	-44.54	***	-2.18	-44.06	-2.82	-44.69	-2.76	-44.46	-2.13	-44.21	***
3189	-2.06	-43.31	-3.56	-43.75	-3.06	-45.06	-1.65	-44.40	***	-2.24	-43.92	-2.87	-44.55	-2.81	-44.31	-2.18	-44.07	***
3190	-2.11	-43.17	-3.61	-43.61	-3.11	-44.92	-1.70	-44.25	***	-2.29	-43.78	-2.92	-44.41	-2.86	-44.17	-2.23	-43.93	***
3191	-2.17	-43.03	-3.67	-43.47	-3.16	-44.78	-1.76	-44.11	***	-2.34	-43.64	-2.98	-44.27	-2.92	-44.03	-2.28	-43.79	***
3192	-2.22	-42.88	-3.72	-43.32	-3.21	-44.63	-1.81	-43.97	***	-2.39	-43.50	-3.03	-44.13	-2.97	-43.89	-2.34	-43.65	***
3193	-2.27	-42.74	-3.78	-43.18	-3.27	-44.49	-1.86	-43.83	***	-2.45	-43.36	-3.09	-44.00	-3.02	-43.75	-2.39	-43.51	***
3194	-2.32	-42.60	-3.84	-43.04	-3.32	-44.35	-1.92	-43.69	***	-2.50	-43.22	-3.14	-43.85	-3.08	-43.61	-2.44	-43.36	***
3195	-2.38	-42.46	-3.89	-42.90	-3.37	-44.21	-1.97	-43.55	***	-2.55	-43.07	-3.19	-43.71	-3.13	-43.47	-2.50	-43.22	***
3196	-2.43	-42.32	-3.95	-42.76	-3.43	-44.07	-2.02	-43.41	***	-2.61	-42.93	-3.25	-43.57	-3.18	-43.33	-2.55	-43.08	***
3197	-2.48	-42.17	-4.00	-42.61	-3.48	-43.93	-2.07	-43.27	***	-2.66	-42.79	-3.30	-43.43	-3.24	-43.19	-2.60	-42.94	***
3198	-2.53	-42.03	-4.06	-42.47	-3.53	-43.79	-2.13	-43.13	***	-2.71	-42.65	-3.35	-43.29	-3.29	-43.05	-2.66	-42.80	***
3199	-2.59	-41.85	-4.11	-42.33	-3.58	-43.65	-2.18	-42.98	***	-2.77	-42.51	-3.41	-43.15	-3.34	-42.91	-2.71	-42.66	***
3200	-2.64	-41.75	-4.17	-42.19	-3.64	-43.50	-2.23	-42.84	***	-2.82	-42.37	-3.46	-42.61	-3.40	-42.77	-2.76	-42.52	***
3201	-2.74	-42.63	-4.18	-43.12	-3.71	-44.36	-2.31	-43.79	***	-2.93	-43.28	-3.56	-43.51	-3.50	-43.67	-2.88	-43.43	***
3202	-2.79	-42.45	-4.23	-42.99	-3.76	-44.22	-2.36	-43.65	***	-2.98	-43.14	-3.61	-43.38	-3.55	-43.53	-2.93	-43.30	***
3203	-2.84	-42.35	-4.29	-42.84	-3.81	-44.08	-2.42	-43.51	***	-3.04	-43.00	-3.66	-43.24	-3.60	-43.39	-3.08	-43.16	***
3204	-2.90	-42.23	-4.35	-42.70	-3.87	-43.94	-2.47	-43.37	***	-3.09	-42.86	-3.72	-43.09	-3.66	-43.25	-3.03	-43.01	***
3205	-1.21	-43.35	-3.14	-44.52	-2.70	-45.64	-0.51	-45.22	***	-1.72	-44.50	-2.57	-44.85	-2.50	-45.02	-1.64	-44.71	***
3206	-1.26	-43.18	-3.20	-44.35	-2.77	-45.47	-0.57	-45.05	***	-1.78	-44.34	-2.63	-44.69	-2.56	-44.85	-1.70	-44.54	***
3207	-1.32	-43.00	-3.26	-44.18	-2.83	-45.31	-0.64	-44.88	***	-1.84	-44.17	-2.69	-44.52	-2.62	-44.69	-1.76	-44.38	***
3208	-1.37	-42.82	-3.32	-44.01	-2.89	-45.14	-0.70	-44.72	***	-1.90	-44.00	-2.75	-44.36	-2.58	-44.52	-1.82	-44.21	***
3209	-1.43	-42.66	-3.38	-43.85	-2.95	-44.98	-0.76	-44.55	***	-1.96	-43.83	-2.81	-44.19	-2.75	-44.35	-1.88	-44.04	***
3210	-1.48	-42.48	-3.46	-43.68	-3.01	-44.81	-0.82	-44.38	***	-2.02	-43.67	-2.87	-44.02	-2.81	-44.19	-1.94	-43.87	***
3211	-1.54	-42.30	-3.51	-43.50	-3.08	-44.64	-0.88	-44.21	***	-2.07	-43.50	-2.93	-43.85	-2.87	-44.02	-2.00	-43.70	***
3212	-1.59	-42.13	-3.57	-43.33	-3.14	-44.47	-0.94	-44.05	***	-2.13	-43.33	-2.99	-43.68	-2.93	-43.85	-2.06	-43.54	***
3213	-1.64	-41.95	-3.63	-43.16	-3.20	-44.30	-1.00	-43.88	***	-2.19	-43.16	-3.05	-43.51	-3.00	-44.02	-2.12	-43.85	***
3214	-1.69	-41.77	-3.69	-42.99	-3.26	-44.13	-1.06	-43.71	***	-2.25	-42.99	-3.11	-43.34	-3.06	-43.85	-2.18	-43.64	***
3215	-1.74	-41.60	-3.75	-42.82	-3.32	-43.96	-1.12	-43.54	***	-2.31	-42.82	-3.17	-43.17	-3.12	-43.99	-2.24	-43.47	***
3216	-1.79	-41.42	-3.81	-42.65	-3.38	-43.79	-1.18	-43.37	***	-2.37	-42.65	-3.23	-42.99	-3.18	-43.82	-2.30	-43.30	***
3217	-1.84	-41.24	-3.87	-42.48	-3.44	-43.62	-1.24	-43.20	***	-2.43	-42.48	-3.29	-42.82	-3.19	-43.65	-2.36	-43.13	***
3218	-1.89	-41.06	-3.93	-42.31	-3.50	-43.45	-1.30	-43.03	***	-2.49	-42.31	-3.35	-42.65	-3.20	-43.48	-2.42	-42.96	***
3219	-1.94	-40.88	-3.99	-42.14	-3.56	-43.28	-1.36	-42.86	***	-2.55	-42.14	-3.41	-42.48	-3.21	-43.31	-2.48	-42.79	***
3220	-1.99	-40.70	-4.05	-41.97	-3.62	-43.11	-1.42	-42.69	***	-2.61	-41.97	-3.47	-42.31	-3.22	-43.14	-2.54	-42.61	***
3221	-2.04	-40.52	-4.11	-41.80	-3.68	-42.94	-1.48	-42.52	***	-2.67	-41.80	-3.53	-42.14	-3.23	-42.97	-2.60	-42.43	***
3222	-2.09	-40.34	-4.17	-41.63	-3.74	-42.77	-1.54	-42.35	***	-2.73	-41.63	-3.59	-41.97	-3.24	-42.80	-2.66	-42.25	***
3223	-2.14	-40.16	-4.23	-41.46	-3.80	-42.60	-1.60	-42.18	***	-2.79	-41.46	-3.65	-41.80	-3.25	-42.63	-2.72	-42.07	***
3224	-2.19	-40.00	-4.29	-41.29	-3.86	-42.43	-1.66	-42.01	***	-2.85	-41.29	-3.71	-41.63	-3.26	-42.46	-2.78	-41.91	***
3225	-2.24	-39.82	-4.35	-41.12	-3.92	-42.26	-1.72	-41.84	***	-2.91	-41.12	-3.77	-41.46	-3.27	-42.29	-2.84	-41.74	***
3226	-2.29	-39.64	-4.41	-40.95	-3.98	-42.09	-1.78	-41.67	***	-2.97	-40.95	-3.83	-41.29	-3.28	-42.12	-2.90	-41.57	***
3227	-2.34	-39.46	-4.47	-40.78	-4.04	-41.92	-1.84	-41.50	***	-3.03	-40.78	-3.89	-41.12	-3.29	-41.95	-2.96	-41.40	***
3228	-2.39	-39.28	-4.53	-40.61	-4.10	-41.75	-1.90	-41.33	***	-3.09	-40.61	-3.95	-40.95	-3.30	-41.78	-3.02	-41.22	***
3229	-2.44	-39.10	-4.59	-40.44	-4.16	-41.58	-1.96	-41.16	***	-3.15	-40.44	-4.01	-40.78	-3.31	-41.61	-3.08	-41.05	***
3230	-2.49	-38.92	-4.65	-40.27	-4.22	-41.41	-2.02	-40.99	***	-3.21	-40.27	-4.07	-40.61	-3.32	-41.44	-3.14	-40.88	***
3231	-2.54	-38.74	-4.71	-40.10	-4.28	-41.24	-2.08	-40.82	***	-3.27	-40.10	-4.13	-40.44	-3.33	-41.27	-3.20	-40.70	***
3232	-2.59	-38.56	-4.77	-39.93	-4.34	-41.07	-2.14	-40.65	***	-3.33	-39.93	-4.19	-40.27	-3.34	-41.10	-3.26	-40.53	***
3233	-2.64	-38.38	-4.83	-39.76	-4.40	-40.90	-2.20	-40.48	***	-3.39	-39.76	-4.25	-40.10	-3.35	-40.93	-3.32	-40.35	***
3234	-2.69	-38.20	-4.89	-39.59	-4.46	-40.73	-2.26	-40.31	***	-3.45	-39.59	-4.31	-39.93	-3.36	-40.76	-3.38	-40.18	***
3235	-2.74	-38.02	-4.95	-39.42	-4.52	-40.56	-2.32	-40.14	***	-3.51	-39.42	-4.37	-39.76	-3.37	-40.60	-3.44	-40.00	***
3236	-2.79	-37.84	-5.01	-39.25	-4.58	-40.39	-2.38	-39.97	***	-3.57	-39.25	-4.43	-39.59	-3.38	-40.43	-3.50	-39.82	***
3237	-2.84	-37.66	-5.07	-39.08	-4.64	-40.22	-2.44	-39.80	***	-3.63	-39.08	-4.49	-39.42	-3.39	-40.26	-3.56	-39.64	***
3238	-2.89	-37.48	-5.13	-38.91	-4.70	-40.05	-2.50	-39.63	***	-3.69	-38.91</							

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER 04/10/71

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MISSION/ FRAME NO.	* * * CORNER COORDINATES - MEDIUM RESOLUTION * * *				* * * CORNER COORDINATES - HIGH RESOLUTION * * *			
	A LAT	A LONG	B LAT	B LONG	A LAT	A LONG	B LAT	B LONG
4013	20.54	135.09	-28.70	145.45	3.57	92.33	-30.22	96.27
4014	21.66	136.16	-28.30	144.88	4.01	92.37	-29.79	96.27
4015	22.61	137.47	-27.90	144.35	4.44	92.41	-29.36	96.27
4016	24.23	139.27	-27.50	143.84	4.88	92.45	-28.93	96.27
4017	34.33	159.26	-29.76	139.38	30.57	97.18	-29.98	92.83
4018	34.36	159.66	-29.64	139.26	31.01	97.25	-29.55	92.87
4019	25.84	143.81	-29.65	139.24	31.45	97.33	-29.12	92.90
4020	30.24	144.56	-29.65	139.25	31.89	97.41	-28.70	92.93
4021	17.18	151.52	-3.88	142.31	57.33	119.82	23.97	92.93
4022	17.44	152.20	-2.57	141.73	57.75	120.24	24.37	92.93
4023	17.70	152.49	-1.46	141.31	58.12	120.68	24.78	92.93
4024	17.55	152.79	-0.49	140.99	58.49	121.12	25.18	92.93
4025	0.	0.	0.	0.	58.86	121.56	25.58	92.93
4026	-43.57	39.26	-50.65	36.13	-48.50	84.39	37.92	-85.32
4027	26.91	123.26	-30.70	140.94	-23.88	87.43	-56.33	115.09
4028	38.86	123.85	-32.94	130.29	1.94	88.40	-31.82	89.36
4029	22.56	164.75	0.18	129.67	29.56	88.21	-4.03	84.31
4030	34.73	159.34	0.	0.	56.36	107.01	21.86	89.23
4031	-37.32	17.54	-41.17	-2.78	64.15	96.32	4.23	90.19
4032	-43.01	34.11	-50.08	31.47	-48.44	86.31	-82.54	-163.22
4033	18.30	140.45	-29.87	136.03	-22.78	81.22	-55.29	108.13
4034	35.34	147.07	-29.74	124.44	2.56	79.34	-31.21	83.30
4035	14.02	140.48	6.47	132.98	29.86	83.36	-3.70	79.06
4036	-43.95	26.96	-51.01	24.01	56.03	105.90	22.33	84.08
4037	17.55	112.55	-30.12	129.34	-23.78	74.65	-56.00	102.78
4038	35.04	137.27	-29.76	118.94	2.32	72.61	-31.42	72.63
4039	40.51	158.21	18.34	147.65	29.47	76.75	-4.11	72.63
4040	20.54	158.81	18.34	147.65	55.49	100.25	21.84	78.21
4041	-40.69	-4.66	-44.28	-15.80	80.80	177.68	46.95	86.05
4042	-41.86	21.53	-50.91	18.75	-23.51	68.71	-55.73	96.81
4043	17.83	107.10	-30.18	123.23	2.40	66.22	-31.33	70.04
4044	37.28	131.60	-33.79	111.86	29.45	68.93	-4.06	64.60
4045	15.25	139.58	7.67	117.88	55.79	90.92	21.75	70.28
4046	0.	0.	0.	0.	-27.97	-121.64	67.60	-127.61
4047	0.	0.	0.	0.	-29.37	-120.97	70.32	-128.60
4048	0.	0.	0.	0.	-30.56	-120.93	66.69	-127.01
4049	0.	0.	0.	0.	-24.13	60.72	-56.35	88.56
4050	0.	0.	0.	0.	2.41	59.40	-31.24	63.71
4051	-43.92	12.50	-50.99	9.36	29.86	63.13	-3.70	59.42
4052	18.26	100.03	-29.53	116.59	56.74	85.40	22.82	64.12
4053	35.84	123.58	-30.68	106.18	81.84	87.49	47.34	72.01
4054	16.18	119.73	-5.30	113.53	-18.54	61.10	-81.40	167.78
4055	16.18	119.73	-5.30	113.53	-22.73	52.46	-55.50	77.37
4056	21.89	160.06	24.13	133.02	3.86	51.21	-29.72	55.47
4057	-39.50	-17.54	-43.32	-28.84	30.57	55.85	-1.29	52.46
4058	-41.85	4.32	-48.96	1.48	57.12	79.17	23.20	57.81
4059	19.43	90.10	-33.89	117.64	-23.74	47.44	-55.91	74.86
4060	37.50	117.57	-30.24	98.46	2.28	45.87	-31.29	50.14
4061	14.25	-0.40	-50.78	-3.35	29.66	49.46	-3.81	45.49
4062	-43.71	85.20	-29.68	100.94	56.44	71.08	22.55	50.19
4063	17.42	112.18	-30.48	90.81	-23.74	47.44	-55.91	74.86
4064	36.76	112.18	-30.48	90.81	2.28	45.87	-31.29	50.14
4065	16.22	120.40	-6.23	98.47	29.66	49.46	-3.81	45.49
4066	16.22	120.40	-6.23	98.47	56.44	71.08	22.55	50.19
4067	22.55	149.04	27.08	119.49	-23.74	47.44	-55.91	74.86
4068	-43.75	-27.76	-46.86	-39.20	48.26	159.71	48.19	58.18
4069	23.52	42.45	-53.09	-8.08	-49.47	53.30	-78.92	140.96
4070	23.52	42.45	-53.09	-8.08	-25.11	42.84	-56.46	74.02
4071	23.52	42.45	-53.09	-8.08	-25.11	42.84	-56.46	74.02

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME-NO.	* * * CORNER COORDINATES - MEDIUM RESOLUTION * * *				* * * CORNER COORDINATES - HIGH RESOLUTION * * *			
	A LAT	B LAT	C LAT	D LAT	A LAT	B LAT	C LAT	D LAT
4072	81.08	29.16	105.18	-39.36	-14.20	22.78	-17.98	34.89
4073	32.63	105.34	-20.88	79.48	-15.55	41.94	-30.42	31.55
4074	12.93	98.57	4.26	93.31	0.41	-15.80	58.82	33.36
4075	0.	0.	0.	0.	0.	0.	0.	34.89
4076	-44.25	-51.32	-16.24	-64.24	4.09	-25.81	-12.57	34.89
4077	17.43	71.80	-29.51	87.64	-38.63	-22.80	19.63	0.47
4078	35.43	100.64	-30.07	79.41	-15.64	-25.42	33.66	32.27
4079	15.47	53.65	8.04	86.33	2.03	-20.31	-27.00	35.52
4080	38.49	-41.59	31.69	-31.23	30.95	-30.48	27.82	34.79
4082	-41.01	-41.47	-44.60	-52.64	-28.23	-91.86	1.91	-134.02
4083	-45.29	-18.82	-52.36	-21.07	-63.56	-106.82	-9.24	-134.02
4084	17.77	67.56	-29.72	88.42	-45.22	20.83	-30.35	-134.02
4085	34.87	91.77	-18.05	93.45	14.94	26.39	-30.39	-134.02
4086	17.27	59.22	-5.82	78.03	13.27	-25.76	57.54	-134.02
4088	-44.51	-26.32	-51.59	-29.41	-65.22	-105.14	3.05	-134.02
4089	16.81	57.52	-29.67	74.24	-38.92	-36.80	18.54	-134.02
4090	39.30	86.83	-31.58	63.56	-14.01	-41.53	35.43	-134.02
4091	16.30	80.32	9.07	72.72	0.82	-33.74	56.27	-134.02
4092	19.80	114.76	32.42	-44.73	16.05	-39.03	27.86	-134.02
4094	-41.01	-54.28	-44.72	-65.43	-28.23	-105.27	-9.55	-134.02
4095	-44.38	32.18	-51.46	-34.57	-68.29	-117.61	2.08	-134.02
4096	17.05	52.33	-29.73	70.28	-38.94	-41.87	20.10	-134.02
4097	37.01	79.02	-31.18	57.80	-14.70	-47.28	36.00	-134.02
4098	14.89	66.40	7.52	64.83	1.80	-40.43	59.50	-134.02
4099	0.	0.	0.	0.	0.	0.	0.	-134.02
4100	-44.68	-38.84	-51.76	-41.70	-63.54	-123.94	3.23	-134.02
4101	16.78	44.62	-29.58	61.93	-39.31	-59.50	19.82	-134.02
4102	36.62	70.26	-30.37	55.02	-10.32	-51.92	35.50	-134.02
4103	20.80	77.76	-3.08	55.14	1.95	-47.90	56.41	-134.02
4104	26.11	58.10	-16.66	87.73	14.62	-52.40	32.27	-134.02
4106	-41.59	-47.07	-45.65	-76.39	-29.64	-119.05	-12.75	-134.02
4107	-44.45	-44.13	-51.53	-45.80	-64.79	-128.55	21.56	-134.02
4108	19.64	41.45	-28.68	54.72	-44.49	-68.14	21.56	-134.02
4109	38.28	67.44	-30.63	43.26	-14.75	-59.82	57.92	-134.02
4110	25.72	65.10	4.33	42.44	14.43	-50.59	47.77	-134.02
4112	-44.32	-22.63	-51.43	-35.51	-61.92	-138.77	2.01	-134.02
4113	17.75	31.59	-20.05	46.04	-38.18	-61.39	19.22	-134.02
4114	39.39	53.80	-31.42	35.42	-13.83	-69.27	34.91	-134.02
4115	25.10	60.35	2.99	37.57	1.41	-62.11	58.35	-134.02
4116	29.20	84.54	23.24	73.36	14.95	-64.28	98.83	-134.02
4118	-40.08	-82.21	-43.61	-33.52	-26.19	-131.01	-7.88	-134.02
4119	-44.49	-58.76	-51.59	-61.74	-64.55	-139.63	1.26	-134.02
4120	19.57	28.29	-20.60	41.26	-44.61	-81.65	21.40	-134.02
4121	37.58	50.59	-31.39	30.20	-14.74	-73.01	37.26	-134.02
4122	24.62	52.75	2.35	30.77	0.81	-69.82	55.11	-134.02
4123	0.	0.	0.	0.	0.	0.	0.	-134.02
4124	-44.81	-65.81	-51.93	-68.90	-62.51	-150.81	2.86	-134.02
4125	26.14	29.20	-20.66	32.37	-38.44	-76.66	19.16	-134.02
4126	37.51	43.72	-32.15	26.90	-16.14	-79.25	35.38	-134.02
4127	14.60	54.17	-4.72	31.95	1.28	-72.32	59.28	-134.02
4128	24.07	82.88	25.01	56.58	31.67	-82.54	36.49	-134.02
4130	-27.79	-97.91	-35.35	-96.85	-34.55	-128.41	-26.82	-134.02
4131	-38.14	-70.07	-45.42	-70.92	-65.74	-159.69	3.80	-134.02

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	* * * * * CORNER COORDINATES - MEDIUM RESOLUTION * * * * *				* * * * * CORNER COORDINATES - HIGH RESOLUTION * * * * *			
	A LAT	A LONG	B LAT	B LONG	A LAT	A LONG	B LAT	B LONG
4132	15.51	12.10	-30.62	35.57	-47.16	-97.65	18.73	-85.19
4133	36.58	28.46	-30.38	16.01	-16.60	-84.24	32.27	-84.08
4134	18.62	41.30	6.68	23.33	-1.21	-77.85	60.07	-127.83
4136	-44.52	-78.89	-51.70	-81.83	-63.73	-162.55	1.53	-88.78
4137	17.93	7.80	-29.50	26.23	-44.96	-102.77	21.59	-91.07
4138	38.39	22.32	-32.04	11.81	-15.24	-92.06	36.68	-95.13
4139	23.90	34.36	2.08	11.89	2.12	-86.75	57.20	-140.49
4140	41.51	-100.74	37.72	-90.28	25.14	-81.32	40.71	-118.12
4142	-44.12	-53.57	-51.31	-86.57	-65.96	-167.18	3.23	-94.64
4143	21.79	7.62	-28.47	21.93	-46.57	-111.25	22.22	-96.13
4144	35.15	29.73	-30.01	6.25	-10.07	-88.05	37.57	-94.44
4145	17.85	34.43	-0.79	7.23	2.03	-92.77	57.16	-155.02
4146	0.	0.	0.	0.	0.	0.	0.	0.
4147	0.	0.	0.	0.	0.	0.	0.	0.
4148	-44.16	-93.33	-31.30	-96.56	-62.23	-174.62	1.59	-102.75
4149	17.26	-6.16	-29.94	11.26	-38.37	-100.29	21.00	-103.71
4150	37.22	18.64	-31.15	-1.39	-16.68	-106.64	35.43	-101.35
4151	16.49	26.93	-5.74	5.69	0.61	-98.98	59.78	-158.89
4152	20.47	49.63	36.94	-102.71	21.82	-94.82	28.18	-146.16
4154	-45.37	-115.68	-49.35	-126.76	-43.23	-165.88	-21.23	-96.65
4155	-43.27	-103.47	-50.42	-103.54	-63.29	-176.80	2.72	-110.94
4156	17.17	-14.05	-29.72	1.72	-38.27	-108.19	19.50	-110.75
4157	38.61	15.46	-32.46	-7.85	-15.17	-112.45	36.29	-113.37
4158	23.51	14.27	1.36	-7.77	2.56	-106.16	5.63	-164.93
4160	-44.02	-106.18	-51.15	-109.33	-61.84	-170.43	5.93	-116.74
4161	17.07	-19.14	-30.22	0.15	-38.37	-113.73	22.05	-118.07
4162	36.42	6.54	-30.82	-14.52	-13.43	-113.64	36.41	-114.78
4163	18.61	11.53	-6.15	-8.85	0.84	-12.77	59.74	-171.00
4164	45.72	-126.59	38.05	-116.37	24.22	-108.00	29.26	-159.86
4165	16.74	15.14	27.23	168.91	29.42	-156.40	-1.49	-154.61
4166	-36.74	-131.35	-42.79	-142.25	-28.43	-178.41	-5.45	-116.74
4167	-43.63	-111.34	-50.76	-114.10	-64.53	-166.33	2.64	-121.16
4168	18.48	-22.35	-29.33	-4.10	-45.35	-137.39	21.64	-121.87
4169	35.75	2.75	-30.84	-20.51	-11.75	-17.75	37.13	-121.02
4170	16.50	7.61	-5.70	-15.72	0.24	-120.15	59.88	-178.26
4171	0.	0.	0.	0.	0.	0.	0.	0.
4172	-43.91	-119.43	-51.03	-122.89	-63.01	-151.22	3.01	-129.22
4173	17.72	-22.04	-29.95	-18.00	-48.17	-147.15	20.32	-128.97
4174	37.33	-7.91	-32.01	-29.18	-14.28	-132.04	37.02	-132.81
4175	20.28	-3.47	6.08	-23.13	2.64	-125.23	58.35	-174.73
4176	42.01	-139.34	37.16	-129.24	21.96	-121.33	28.69	-172.00
4177	17.24	146.49	27.71	156.43	30.77	-172.23	-0.99	-141.99
4178	0.	0.	0.	0.	0.	0.	0.	0.
4179	-35.38	-140.73	-41.21	-150.87	-63.99	-173.75	-24.53	-131.03
4180	-42.17	-124.56	-49.32	-127.22	-63.97	-151.58	-6.43	-130.46
4181	23.80	-23.17	-27.52	-28.35	-44.82	-151.67	12.19	-127.98
4182	35.22	-13.66	-31.16	-32.82	-17.44	-136.71	19.74	-141.43
4183	15.52	-15.55	-4.76	-25.77	5.15	-127.54	58.86	-165.52
4184	-16.18	159.64	-3.98	-150.97	-2.55	-150.65	-16.98	-160.95
4185	-16.25	159.70	-4.09	150.92	-2.67	-150.65	-17.04	-161.02
4186	-43.41	-132.27	-50.53	-135.19	-63.76	-147.70	3.28	-142.45
4187	16.36	-47.24	30.50	-31.39	-37.86	-142.22	20.28	-143.50
4188	37.53	-19.58	-32.24	-41.75	-14.42	-145.20	36.92	-146.18

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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04/10/71

MISSION/ FRAME NO.	* * * CORNER COORDINATES -				MEDIUM RESOLUTION * * *				* * * CORNER COORDINATES				- HIGH RESOLUTION * * *			
	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG	A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
4189	20.47	-16.06	-2.83	-38.26	1.85	-139.51	59.29	165.43	55.73	-61.25	23.12	-81.62	25.76	-90.95	59.82	-76.08
4190	43.43	-17.50	38.76	-137.25	25.99	-128.38	30.47	165.55	81.80	-29.15	47.69	-59.38	48.76	-75.25	87.41	170.19
4191	17.99	132.49	28.61	142.41	32.12	175.60	-0.18	128.27	-6.28	40.10	53.43	-9.33	77.07	9.39	3.66	65.44
4192	17.90	132.49	28.61	142.41	32.12	175.60	-0.18	128.27	-6.28	40.10	53.43	-9.33	77.07	9.39	3.66	65.44
4193	-35.04	-147.45	-41.24	-156.17	-28.32	150.46	-21.32	-139.56	-37.95	-77.24	-81.89	-31.48	-83.58	-10.24	3.55	65.44
4194	-44.77	-137.63	-51.88	-140.88	-65.35	141.16	6.84	-150.08	-24.04	-89.94	-56.15	-60.00	-62.06	-75.82	-27.68	-99.59
4195	18.86	-48.91	-29.42	-28.68	-45.12	-160.95	23.34	-150.51	2.18	-91.85	-31.31	-87.80	-32.10	-97.60	1.39	-100.13
4196	35.03	-25.60	-29.84	-47.64	-13.01	-145.28	42.52	-163.08	28.53	-88.28	-4.21	-52.67	-3.37	-100.89	29.57	-97.52
4197	14.53	-22.73	6.75	-40.46	2.00	-144.08	59.78	151.82	54.66	-66.78	22.17	-87.56	25.06	-96.83	58.90	-81.12
4198	-11.47	141.36	4.46	137.64	6.63	138.10	-18.36	166.83	-59.97	5.03	11.31	35.78	18.00	59.27	-66.81	62.50
4199	17.48	-58.14	-30.19	-40.92	-44.01	-168.95	21.54	-155.72	-60.00	4.70	11.07	35.92	17.77	59.34	-66.91	62.42
4200	37.03	-24.79	-32.14	-54.98	-13.93	-156.97	37.46	-160.04	29.49	-95.90	-3.21	-100.10	-2.48	-108.30	30.52	-105.27
4201	14.26	120.28	25.51	128.69	30.55	160.80	-6.76	118.52	-13.10	25.30	52.95	-31.65	74.38	23.89	-0.51	52.89
4202	14.15	120.28	25.51	128.65	29.32	163.66	-6.95	118.42	-13.35	25.18	51.24	-36.42	74.29	24.36	-0.63	52.89
4203	52.00	29.29	4.22	-75.07	0.	0.	66.78	89.13	76.76	-110.82	43.52	-102.83	41.15	-115.51	73.13	-146.08
5006	52.12	39.05	3.76	-75.03	0.	0.	66.99	89.02	76.70	-110.61	43.43	-102.80	41.07	-115.47	73.10	-145.82
5007	52.24	38.82	3.29	-75.00	-2.14	-111.16	67.19	88.91	76.64	-110.41	43.34	-102.76	40.98	-115.43	73.08	-145.56
5008	52.36	38.59	2.79	-74.96	-2.14	-111.79	67.39	88.79	76.58	-110.21	43.25	-102.73	40.89	-115.39	73.05	-145.29
5009	52.47	38.36	2.27	-74.92	-1.97	-111.45	67.58	88.68	76.52	-110.01	43.16	-102.70	40.81	-115.36	73.02	-145.04
5010	52.58	38.13	1.73	-74.88	8.76	-102.04	67.77	88.57	76.45	-109.82	43.07	-102.66	40.72	-115.32	72.99	-144.78
5011	52.68	37.91	1.16	-74.84	8.44	-102.07	67.96	88.45	76.40	-109.62	42.99	-102.63	40.64	-115.28	72.97	-144.52
5012	52.78	37.68	0.55	-74.80	8.12	-102.10	68.15	88.34	76.33	-109.43	42.90	-102.60	40.55	-115.24	72.94	-144.27
5013	26.57	1.54	-25.41	-21.63	-2.91	-28.61	10.78	-24.59	56.12	-99.45	-25.85	-100.47	-26.76	-136.85	48.99	-153.51
5014	26.53	1.37	-25.51	-21.71	-2.97	-28.58	10.73	-24.58	56.04	-99.39	-25.92	-100.49	-26.90	-136.91	48.94	-152.41
5015	26.50	1.21	-25.61	-21.59	-3.02	-28.56	10.69	-24.58	55.97	-99.33	-25.99	-100.51	-27.03	-137.18	48.89	-151.53
5016	26.43	4.58	-25.71	-21.46	-3.07	-28.54	10.64	-24.57	55.89	-99.26	-26.06	-100.53	-27.21	-137.46	48.84	-150.78
5017	26.44	4.36	-25.82	-21.33	-3.13	-28.51	10.59	-24.57	55.82	-99.19	-26.14	-100.55	-27.37	-137.77	48.79	-150.12
5018	26.43	3.52	-25.92	-21.21	-3.18	-28.49	10.54	-24.56	55.74	-99.13	-26.21	-100.57	-27.54	-138.10	48.74	-149.52
5019	26.41	3.58	-26.02	-21.08	-3.23	-28.47	10.50	-24.55	55.67	-99.07	-26.28	-100.60	-27.72	-138.47	48.68	-148.97
5020	26.39	3.27	-26.12	-20.94	-3.29	-28.44	10.45	-24.55	55.59	-99.00	-26.38	-100.62	-27.91	-138.88	48.61	-148.51
5021	-27.95	-49.77	0.	0.	0.	0.	-15.32	-142.14	-82.45	-81.28	-75.75	96.14	-73.49	149.49	-62.50	-105.31
5022	38.73	-42.74	-43.97	-0.77	-20.75	-43.59	-9.68	-48.25	9.14	-108.52	-62.56	-114.07	-47.77	-170.94	7.49	-136.50
5024	35.82	-6.11	-40.25	-49.56	8.69	-57.86	19.55	-52.98	61.14	-116.75	-7.97	-116.62	-17.87	-151.58	53.92	175.99
5025	59.67	12.06	7.88	-94.39	0.	0.	0.	0.	75.48	-128.17	43.44	-121.32	41.15	-133.58	72.38	-160.31
5026	35.82	-56.82	-42.99	-6.37	-21.42	-56.26	-10.46	-61.05	7.43	-120.26	-63.23	-126.97	-49.13	174.43	12.78	-152.59
5027	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5028	38.74	-17.64	-35.05	-65.51	8.48	-70.72	19.41	-65.84	60.89	-129.42	-8.15	-129.55	-17.17	-161.95	58.11	164.94
5029	61.93	1.70	12.08	-109.30	0.	0.	69.59	65.19	75.62	-150.67	43.78	-137.14	40.86	-149.67	7.18	178.47
5030	38.80	-68.74	-44.44	-31.61	-20.44	-71.34	-9.33	-75.68	10.18	-135.27	-60.80	-139.82	-48.74	163.73	7.98	161.91
5031	44.92	-111.91	7.73	-119.57	0.69	-145.61	54.15	-150.57	37.06	-132.52	18.50	-139.42	17.76	-140.51	37.93	-140.91
5032	42.23	-114.58	4.04	-122.17	-2.24	-148.15	52.39	-152.55	34.11	-134.84	18.30	-135.96	14.62	-142.96	35.15	-143.02
5033	-24.19	58.61	-24.42	62.88	-27.90	62.75	-27.44	58.16	-25.67	59.61	-25.82	61.54	-26.26	61.51	-26.10	59.57
5034	-23.81	58.67	-24.03	62.90	-27.48	62.75	-27.02	58.24	-25.28	59.66	-25.42	61.56	-25.86	61.53	-25.71	59.62
5035	-23.43	58.72	-23.65	62.92	-27.07	62.76	-26.61	58.31	-24.59	59.71	-25.03	61.59	-25.47	61.56	-25.31	59.67
5036	-22.06	58.78	-23.28	62.94	-26.66	62.77	-26.21	58.38	-24.51	59.76	-24.65	61.62	-25.08	61.59	-24.93	59.72
5037	-17.32	55.48	-17.71	58.98	-20.50	58.76	-20.25	55.10	-18.69	56.37	-18.68	57.93	-19.20	57.90	-19.06	56.33
5038	5.00	25.25	0.37	52.93	-2.43	52.76	-5.09	43.96	-0.21	42.15	-0.74	51.41	-1.23	51.37	-1.48	41.63
5039	58.44	-132.02	20.94	-139.62	0.	0.	0.	0.	47.97	-156.71	29.81	-155.52	27.73	-164.74	28.05	-169.02
5040	-29.34	49.70	-29.40	54.95	-33.59	54.86	-32.88	49.22	-30.96	50.85	-31.11	53.20	-31.63	53.17	-31.44	50.80
5041	5.00	35.06	-0.99	49.86	-3.58	49.62	-6.76	35.04	-1.39	43.84	-1.98	48.58	-2.40	48.54	-2.18	43.73
5042	4.74	32.22	0.19	46.65	-2.32	46.50	-5.57	34.96	-0.60	41.64	-0.82	45.51	-1.23	45.48	-1.29	41.51
5043	-20.28	-136.14	-60.13	-121.25	-44.05	136.62	-13.33	-178.42	-39.61	-149.22	-55.22	-147.44	-55.92	-156.39	-39.16	-155.82

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MISSION/ FRAME NO.	* * * A LAT	* * * A LONG	* * * B LAT	* * * B LONG	* * * C LAT	* * * C LONG	* * * D LAT	* * * D LONG	* * * A LAT	* * * A LONG	* * * B LAT	* * * B LONG	* * * C LAT	* * * C LONG	* * * D LAT	* * * D LONG
5044	0.09	41.55	-0.23	44.32	-2.49	44.13	-2.34	41.33	-1.04	42.29	-1.53	43.51	-1.45	43.48	-1.35	42.26
5045	0.37	41.57	0.05	44.34	-2.21	44.16	-2.06	41.36	-0.76	42.31	-0.97	43.53	-1.17	43.50	-1.07	42.28
5046	0.65	41.59	0.33	44.37	-1.93	44.18	-1.78	41.38	-0.49	42.34	-0.60	43.55	-0.90	43.53	-0.80	42.31
5047	0.92	41.61	0.60	44.39	-1.66	44.20	-1.51	41.41	-0.22	42.36	-0.33	43.58	-0.63	43.55	-0.53	42.33
5048	-0.07	41.65	0.19	45.26	-3.08	45.05	-2.22	41.48	-1.05	42.31	-1.15	43.82	-1.52	43.79	-1.36	42.28
5049	-0.22	41.68	0.49	45.29	-2.78	45.06	-1.93	41.51	-0.76	42.31	-0.85	43.84	-1.22	43.82	-1.07	42.31
5050	0.53	41.71	0.79	45.33	-2.47	45.08	-1.62	41.53	-0.46	42.36	-0.55	43.87	-0.92	43.84	-0.77	42.33
5051	0.82	41.73	1.09	45.36	-2.17	45.09	-1.32	41.56	-0.16	42.38	-0.26	43.89	-0.63	43.86	-0.47	42.36
5052	8.55	23.45	4.05	38.14	1.62	38.03	-1.76	26.42	3.29	33.53	3.08	37.01	2.68	36.99	2.59	32.94
5053	68.29	-145.57	33.43	-153.90	16.77	162.64	74.29	156.39	58.13	-176.97	41.04	-169.93	39.91	-177.51	57.83	168.15
5054	-23.38	27.40	-25.43	32.81	-41.83	24.99	0.	0.	-26.73	25.59	-27.41	30.16	-28.71	29.29	-28.48	23.19
5055	2.58	22.79	3.20	35.56	1.02	35.39	1.10	32.58	2.42	33.57	2.31	34.79	2.02	34.76	2.11	33.55
5056	3.85	22.81	3.47	35.59	1.30	35.41	1.37	32.61	2.60	33.59	2.58	34.81	2.29	34.79	2.38	33.57
5057	4.13	22.83	3.75	35.61	1.57	35.43	1.64	32.63	2.96	33.62	2.85	34.83	2.56	34.81	2.65	33.59
5058	4.40	22.85	4.02	35.64	1.84	35.46	1.92	32.66	3.23	33.64	3.12	34.86	2.83	34.83	2.92	33.61
5059	3.35	33.03	3.54	36.41	0.48	36.18	1.24	32.86	2.38	33.66	2.29	35.09	1.93	35.06	2.08	33.64
5060	3.64	33.06	3.83	36.44	0.77	36.20	1.53	32.88	2.67	33.69	2.58	35.11	2.22	35.09	2.37	33.66
5061	3.54	33.08	4.13	36.48	1.07	36.22	1.83	32.91	2.96	33.71	2.87	35.14	2.52	35.11	2.66	33.69
5062	4.24	33.11	4.43	36.52	1.37	36.24	2.13	32.93	3.26	33.74	3.17	35.17	2.81	35.14	2.96	33.71
5063	0.81	21.45	1.19	35.41	-2.33	35.13	-1.30	31.28	-0.10	32.11	-0.26	33.72	-0.64	33.69	-0.47	32.408
5064	6.68	12.21	1.85	27.53	-0.55	27.40	-3.50	16.87	1.10	22.68	0.88	26.43	0.49	26.40	0.43	22.58
5065	-31.31	-152.47	-62.49	-137.09	-70.41	145.46	-22.50	171.52	-41.10	-165.83	-56.79	-165.29	-57.43	-174.81	-40.71	-172.29
5066	23.09	27.55	22.80	31.20	20.20	30.88	20.26	27.37	21.77	28.50	21.65	30.07	21.28	30.03	21.40	28.47
5067	23.46	27.57	23.16	31.26	20.34	30.93	20.60	27.39	22.12	28.52	21.99	30.11	21.63	30.07	21.75	28.50
5068	23.82	27.58	23.52	31.31	20.68	30.97	20.95	27.41	22.47	28.55	22.34	30.15	21.97	30.11	22.09	28.52
5069	24.18	27.59	23.88	31.37	21.02	31.02	21.29	27.43	22.82	28.57	22.69	30.15	22.32	30.15	22.44	28.55
5070	18.93	24.51	18.42	27.97	15.99	27.74	15.99	24.39	17.53	25.57	17.41	27.05	17.08	27.02	17.17	25.55
5071	1.66	22.53	1.40	25.19	-0.79	25.03	-0.65	22.35	0.59	23.24	0.49	24.41	0.20	24.39	0.29	23.22
5072	1.93	22.55	1.67	25.22	-0.52	25.05	-0.38	22.37	0.86	23.26	0.76	24.43	0.47	24.41	0.56	23.24
5073	2.20	22.57	1.94	25.24	-0.26	25.07	-0.11	22.40	1.12	23.28	1.03	24.45	0.74	24.43	0.83	23.26
5074	2.47	22.59	2.20	25.26	0.01	25.09	0.16	22.42	1.39	23.30	1.30	24.47	1.01	24.45	1.09	23.28
5075	1.54	22.56	1.84	26.13	-1.38	25.92	-0.53	22.43	0.59	23.20	0.51	24.69	0.15	24.66	0.30	23.18
5076	1.84	22.58	2.14	26.16	-1.08	25.93	-0.24	22.43	0.89	23.22	0.80	24.71	0.44	24.68	0.59	23.20
5077	2.13	22.61	2.44	26.20	-0.78	25.94	0.06	22.45	1.18	23.25	1.10	24.73	0.74	24.70	0.89	23.22
5078	2.44	22.63	2.74	26.24	-0.47	25.96	0.37	22.47	1.49	23.27	1.41	24.76	1.04	24.73	1.19	23.25
5079	55.52	-166.42	21.31	-173.04	8.51	157.01	61.47	134.97	47.71	169.99	30.00	171.43	28.09	163.01	47.68	158.87
5080	3.51	16.77	3.52	19.65	0.93	19.45	1.41	16.60	2.54	17.39	2.45	18.63	2.14	18.31	2.26	17.36
5081	2.78	16.79	3.80	19.68	1.20	19.47	1.69	16.62	2.82	17.41	2.73	18.65	2.41	18.43	2.53	17.38
5082	4.06	16.81	4.07	19.71	1.48	19.49	1.96	16.65	3.09	17.43	3.00	18.68	2.68	18.65	2.80	17.41
5083	4.33	16.84	4.35	19.74	1.76	19.51	2.24	16.67	3.36	17.45	3.27	18.70	2.96	18.67	3.08	17.43
5084	-13.49	12.42	-13.77	15.57	-16.38	15.41	-16.15	12.13	-14.72	13.22	-14.83	14.63	-15.17	14.60	-15.06	13.19
5085	58.43	-175.34	21.55	178.29	9.23	148.97	61.40	125.89	47.76	161.18	30.13	162.77	28.22	154.42	47.70	150.10
5086	40.35	10.46	39.84	16.93	35.76	16.12	36.21	10.25	38.38	12.14	38.17	14.84	37.64	14.76	37.85	12.09
5087	40.88	10.46	40.35	17.08	36.23	15.22	36.69	10.27	38.88	12.18	38.66	14.93	38.13	14.84	38.34	12.13
5088	41.41	10.45	40.88	17.23	36.71	15.33	37.17	10.28	39.88	12.22	39.16	15.02	38.62	14.93	38.84	12.17
5089	41.56	10.45	41.17	17.39	37.19	16.43	37.66	10.30	39.89	12.26	39.67	15.12	39.12	15.02	39.34	12.21
5090	21.98	7.36	21.51	10.98	18.92	10.73	18.98	7.20	20.57	8.43	20.44	9.98	20.09	9.95	20.19	8.40
5091	22.32	7.37	21.85	11.03	19.25	10.76	19.30	7.21	21.90	8.44	20.77	10.01	20.42	9.98	20.52	8.42
5092	22.67	7.37	22.20	11.07	19.58	10.80	19.63	7.23	20.92	8.46	21.11	10.04	20.76	10.01	20.86	8.44
5093	23.03	7.37	22.55	11.11	19.91	10.84	19.97	7.24	21.58	8.48	21.45	10.08	21.10	10.04	21.20	8.45
5094	8.94	4.14	8.32	7.30	6.21	7.13	6.07	3.94	7.58	5.19	7.46	7.16	6.52	7.24	5.16	5.18
5095	9.23	4.15	8.61	7.32	6.50	7.16	6.36	3.97	7.87	5.20	7.75	6.56	7.45	6.54	7.53	5.18
5096	9.53	4.16	8.90	7.35	6.79	7.18	6.64	3.99	8.16	5.22	8.03	6.58	7.74	6.56	7.82	5.20

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POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	*** CORNER COORDINATES - MEDIUM RESOLUTION ***				*** CORNER COORDINATES - HIGH RESOLUTION ***			
	A LAT	A LONG	B LAT	B LONG	A LAT	A LONG	B LAT	B LONG
5097	9.83	4.17	9.19	7.37	8.45	5.24	8.32	6.80
5098	3.70	2.68	3.99	5.41	-4.81	3.42	-4.90	4.62
5099	-3.42	2.70	-3.71	5.43	-4.53	3.44	-4.63	4.65
5100	-3.15	2.75	-3.44	5.45	-4.26	3.47	-4.35	4.67
5101	-2.88	2.75	-3.17	5.47	-3.99	3.49	-4.08	4.69
5102	46.00	17.01	52.68	4.10	47.93	8.31	36.06	-6.23
5103	55.59	176.18	21.64	170.00	10.70	142.33	61.29	120.95
5104	25.18	0.54	24.78	4.78	21.96	4.48	22.13	0.73
5105	26.83	0.57	26.41	5.03	23.50	4.68	23.68	0.80
5106	28.39	0.59	27.95	5.27	24.95	4.98	25.14	0.86
5107	30.01	0.52	29.54	5.53	26.43	5.07	26.63	0.90
5108	1.29	-2.48	0.90	0.23	-1.20	0.07	-1.17	-2.70
5109	1.57	-2.46	1.18	0.25	-0.92	0.10	-0.89	-2.67
5110	1.84	-2.45	1.45	0.28	-0.65	0.12	-0.61	-2.64
5111	2.12	-2.43	1.72	0.30	-0.37	0.14	-0.34	-2.62
5112	0.99	-2.34	1.14	0.76	-1.69	0.60	-1.07	-2.49
5113	1.27	-2.31	1.43	0.79	-1.40	0.61	-0.78	-2.44
5114	1.56	-2.29	1.72	0.82	-1.11	0.62	-0.89	-2.47
5115	1.85	-2.27	2.01	0.85	-0.81	0.64	-0.80	-2.42
5116	-13.06	-5.61	-12.99	-2.17	-16.08	-2.24	-15.52	-5.81
5117	-12.74	-5.58	-12.66	-2.15	-15.74	-2.24	-15.19	-5.77
5118	-12.42	-5.55	-12.34	-2.14	-15.40	-2.23	-14.85	-5.74
5119	-12.11	-5.52	-12.03	-2.12	-15.06	-2.23	-14.52	-5.71
5120	13.67	-5.23	13.42	-2.17	10.90	-2.47	11.39	-5.52
5121	13.97	-5.21	13.93	-2.12	11.19	-2.44	11.69	-5.50
5122	14.27	-5.25	14.23	-2.08	11.48	-2.37	12.28	-5.47
5123	14.58	-5.26	14.54	-2.03	11.78	-2.37	12.28	-5.45
5124	56.08	127.80	22.14	162.01	12.76	136.12	61.57	111.33
5125	-39.51	-15.01	-40.12	-7.53	-45.84	-7.65	-45.12	-16.59
5126	-38.95	-14.80	-39.65	-7.53	-45.20	-7.68	-44.50	-16.36
5127	-38.38	-14.72	-38.97	-7.52	-44.55	-7.70	-43.87	-16.13
5128	51.70	-7.21	50.96	3.34	45.39	1.19	46.50	-7.78
5129	52.41	-7.29	51.63	3.73	45.98	1.42	47.12	-7.75
5130	53.12	-7.27	52.32	4.15	46.58	1.66	47.75	-7.72
5131	53.84	-7.26	53.01	4.59	47.20	1.91	48.38	-7.69
5132	12.94	-12.31	12.51	-9.32	10.29	-9.50	10.29	-12.51
5133	14.14	-12.27	13.78	-9.20	11.45	-9.39	11.45	-12.43
5134	15.39	-12.23	14.94	-9.07	12.65	-9.27	12.65	-12.35
5135	16.71	-12.21	16.24	-8.94	13.91	-9.16	13.92	-12.29
5136	6.05	-16.30	7.57	-13.58	5.46	-13.55	5.43	-16.46
5137	-6.19	-18.14	-6.40	-15.34	-8.79	-15.49	-8.56	-18.36
5138	-5.90	-18.11	-6.11	-15.31	-8.49	-15.47	-8.26	-18.32
5139	-5.61	-18.08	-5.82	-15.29	-8.19	-15.46	-7.96	-18.29
5140	-5.32	-18.06	-5.53	-15.27	-7.90	-15.44	-7.67	-18.26
5141	-5.03	-17.72	-5.24	-14.70	-11.22	-14.94	-11.65	-17.93
5142	-4.74	-17.64	-4.94	-14.53	-12.39	-14.82	-12.82	-17.84
5143	-4.45	-17.56	-4.66	-14.35	-13.59	-14.68	-14.03	-17.75
5144	-4.16	-17.48	-4.37	-14.17	-14.81	-14.55	-15.25	-17.67
5145	-3.87	-17.40	-4.08	-13.99	-16.06	-16.69	-16.46	-17.58
5146	-3.58	-17.32	-3.79	-13.81	-17.31	-17.94	-17.69	-17.49
5147	-3.29	-17.24	-3.50	-13.63	-18.56	-18.67	-18.65	-17.40
5148	-3.00	-17.16	-3.21	-13.45	-19.81	-19.49	-19.47	-17.31
5149	-2.71	-17.08	-2.92	-13.27	-21.06	-21.17	-21.15	-17.22

A LAT	A LONG	B LAT	B LONG	C LAT	C LONG	D LAT	D LONG
8.45	5.24	8.32	6.80	8.03	6.58	8.11	5.22
-4.81	3.42	-4.90	4.62	-5.20	4.60	-5.12	3.40
-4.53	3.44	-4.63	4.65	-4.92	4.62	-4.84	3.42
-4.26	3.47	-4.35	4.67	-4.65	4.65	-4.56	3.45
-3.99	3.49	-4.08	4.69	-4.37	4.67	-4.29	3.47
48.99	2.93	49.69	3.41	48.99	4.06	48.08	-2.00
47.65	153.07	30.21	154.68	28.41	146.63	47.60	142.40
23.76	1.99	23.63	3.65	23.25	3.62	23.37	1.96
25.35	2.09	25.21	3.82	24.83	3.78	24.95	2.06
26.84	2.17	26.70	3.99	26.30	3.95	26.43	2.15
28.38	2.26	28.23	4.17	27.82	4.12	27.95	2.24
0.15	-1.70	0.04	-0.51	-0.24	-0.53	-0.16	-1.73
0.42	-1.68	0.32	-0.49	0.03	-0.51	0.11	-1.71
0.69	-1.66	0.59	-0.47	0.30	-0.49	0.39	-1.68
0.97	-1.64	0.86	-0.44	0.58	-0.47	0.66	-1.66
0.85	-1.72	-0.03	-0.39	0.36	-0.42	-0.24	-1.74
0.34	-1.70	0.26	-0.37	0.07	-0.39	0.05	-1.72
0.62	-1.67	0.59	-0.35	0.21	-0.37	0.33	-1.70
0.91	-1.65	0.83	-0.33	0.50	-0.35	0.62	-1.67
-14.17	-4.86	-14.25	-3.35	-14.63	-3.36	-14.51	-4.88
-13.84	-4.83	-13.93	-3.33	-14.30	-3.35	-14.18	-4.86
-13.52	-4.81	-13.60	-3.31	-13.97	-3.33	-13.86	-4.83
-13.20	-4.78	-13.28	-3.30	-13.65	-3.32	-13.53	-4.81
12.61	-4.65	12.80	-3.29	12.16	-3.33	12.30	-4.67
12.90	-4.62	12.80	-3.26	12.46	-3.30	12.59	-4.65
13.20	-4.60	13.09	-3.23	12.76	-3.26	12.89	-4.62
13.50	-4.57	13.40	-3.20	13.06	-3.23	13.19	-4.60
42.42	-13.41	-42.70	-9.88	-43.37	-9.94	-43.07	-13.42
-41.84	-13.29	-42.12	-9.83	-42.77	-9.89	-42.49	-13.42
-41.25	-13.17	-41.53	-9.79	-42.17	-9.85	-41.89	-13.42
-40.66	-13.04	-40.93	-9.74	-41.56	-9.80	-41.29	-13.42
49.20	-4.90	48.81	-0.64	48.10	-0.85	48.51	-5.02
49.85	-4.80	49.44	-0.42	48.73	-0.64	49.15	-4.92
50.51	-4.70	50.09	-0.19	49.36	-0.42	49.80	-4.83
51.18	-4.60	50.75	0.05	50.01	-0.20	50.46	-4.73
11.71	-11.43	11.60	-10.12	11.30	-10.15	11.38	-11.45
15.88	-11.35	12.77	-10.02	12.46	-10.05	12.58	-11.38
16.10	-11.28	13.99	-9.92	13.68	-9.95	13.76	-11.30
15.38	-11.20	15.24	-9.81	14.94	-9.84	15.03	-11.22
6.81	-15.40	6.70	-14.14	6.41	-14.16	6.49	-15.42
-7.28	-17.33	-7.38	-16.19	-7.69	-16.22	-7.59	-17.46
-6.99	-17.41	-7.09	-16.17	-7.40	-16.19	-7.30	-17.43
-6.70	-17.38	-6.80	-16.15	-7.10	-16.17	-7.01	-17.41
-6.41	-17.35	-6.51	-16.13	-6.81	-16.15	-6.72	-17.38
12.88	-17.04	12.77	-15.72	12.45	-15.75	12.57	-17.07
14.07	-16.94	13.95	-15.60	13.62	-15.63	13.75	-16.97
15.28	-16.84	15.17	-15.47	15.03	-15.50	14.96	-16.87
16.53	-16.74	16.41	-15.33	16.06	-15.37	16.20	-16.77
10.53	-16.74	6.54	-17.57	6.21	-17.60	6.33	-16.90
6.63	-18.88	6.54	-17.54	6.51	-17.57	6.63	-18.88
6.92	-18.85	6.84	-17.51	6.79	-17.54	6.91	-18.85
7.21	-18.83	7.12	-17.49	7.06	-17.52	7.18	-18.83
7.48	-18.81	7.39	-17.49	7.06	-17.52	7.18	-18.83

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

POSITION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER 04/10/71

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MISSION/ FRAME NO.	* * * A LAT	* * * A LONG	* * * B LAT	* * * B LONG	* * * C LAT	* * * C LONG	* * * D LAT	* * * D LONG	* * * A LAT	* * * A LONG	* * * B LAT	* * * B LONG	* * * C LAT	* * * C LONG	* * * D LAT	* * * D LONG
5150	10.43	-21.69	10.30	-18.83	7.85	-19.05	8.19	-21.89	9.40	-21.01	9.30	-19.77	8.99	-19.79	9.10	-21.04
5151	10.75	-21.67	10.68	-18.80	8.14	-19.03	8.48	-21.86	9.69	-20.99	9.59	-19.74	9.28	-19.77	9.39	-21.01
5152	11.05	-21.65	10.69	-18.76	8.43	-19.00	8.77	-21.84	9.99	-20.97	9.88	-19.71	9.57	-19.74	9.68	-20.99
5153	11.35	-21.63	11.19	-18.73	8.72	-18.97	9.06	-21.82	10.28	-20.94	10.17	-19.68	9.86	-19.71	9.97	-20.97
5154	11.64	-21.61	11.48	-18.69	9.01	-18.95	9.34	-21.79	10.57	-20.92	10.46	-19.66	10.15	-19.69	10.26	-20.95
5155	11.94	-21.59	11.78	-18.66	9.29	-18.92	9.63	-21.77	10.86	-20.90	10.75	-19.63	10.43	-19.66	10.55	-20.92
5156	12.23	-21.57	12.07	-18.62	9.58	-18.89	9.92	-21.75	11.15	-20.87	11.04	-19.60	10.72	-19.63	10.84	-20.90
5157	12.52	-21.55	12.36	-18.59	9.87	-18.86	10.21	-21.73	11.43	-20.85	11.33	-19.57	11.01	-19.61	11.13	-20.88
5158	12.82	-21.53	12.66	-18.56	10.16	-18.83	10.46	-21.70	11.72	-20.82	11.62	-19.54	11.22	-19.58	11.34	-20.85
5159	13.12	-21.51	12.96	-18.53	10.45	-18.80	10.75	-21.67	12.01	-20.79	11.91	-19.51	11.49	-19.55	11.61	-20.82
5160	13.42	-21.49	13.26	-18.50	10.74	-18.77	11.04	-21.64	12.30	-20.76	12.20	-19.48	11.78	-19.52	11.90	-20.79
5161	13.72	-21.47	13.56	-18.47	11.03	-18.74	11.33	-21.61	12.59	-20.73	12.49	-19.45	12.07	-19.49	12.19	-20.76
5162	14.02	-21.45	13.86	-18.44	11.32	-18.71	11.62	-21.58	12.88	-20.70	12.78	-19.42	12.36	-19.46	12.46	-20.73
5163	14.32	-21.43	14.16	-18.41	11.61	-18.68	11.91	-21.55	13.17	-20.67	13.07	-19.39	12.65	-19.43	12.75	-20.70
5164	14.62	-21.41	14.46	-18.38	11.90	-18.65	12.20	-21.52	13.46	-20.64	13.36	-19.36	12.94	-19.40	13.04	-20.67
5165	14.92	-21.39	14.76	-18.35	12.19	-18.62	12.49	-21.49	13.75	-20.61	13.65	-19.33	13.23	-19.37	13.33	-20.64
5166	15.22	-21.37	15.06	-18.32	12.48	-18.59	12.78	-21.46	14.04	-20.58	13.94	-19.30	13.52	-19.34	13.62	-20.61
5167	15.52	-21.35	15.36	-18.29	12.77	-18.56	13.07	-21.43	14.33	-20.55	14.23	-19.27	13.81	-19.31	13.91	-20.58
5168	15.82	-21.33	15.66	-18.26	13.06	-18.53	13.36	-21.40	14.62	-20.52	14.52	-19.24	14.10	-19.28	14.20	-20.55
5169	16.12	-21.31	15.96	-18.23	13.35	-18.50	13.65	-21.37	14.91	-20.49	14.81	-19.21	14.39	-19.25	14.49	-20.52
5170	16.42	-21.29	16.26	-18.20	13.64	-18.47	13.94	-21.34	15.20	-20.46	15.10	-19.18	14.68	-19.22	14.78	-20.49
5171	16.72	-21.27	16.56	-18.17	13.93	-18.44	14.23	-21.31	15.49	-20.43	15.39	-19.15	14.97	-19.19	15.07	-20.46
5172	17.02	-21.25	16.86	-18.14	14.22	-18.41	14.52	-21.28	15.78	-20.40	15.68	-19.12	15.26	-19.16	15.36	-20.43
5173	17.32	-21.23	17.16	-18.11	14.51	-18.38	14.81	-21.25	16.07	-20.37	15.97	-19.09	15.55	-19.13	15.65	-20.40
5174	17.62	-21.21	17.46	-18.08	14.80	-18.35	15.10	-21.22	16.36	-20.34	16.26	-19.06	15.84	-19.10	15.94	-20.37
5175	17.92	-21.19	17.76	-18.05	15.09	-18.32	15.39	-21.19	16.65	-20.31	16.55	-19.03	16.13	-19.07	16.23	-20.34
5176	18.22	-21.17	18.06	-18.02	15.38	-18.29	15.68	-21.16	16.94	-20.28	16.84	-19.00	16.42	-19.04	16.52	-20.31
5177	18.52	-21.15	18.36	-17.99	15.67	-18.26	15.97	-21.13	17.23	-20.25	17.13	-18.97	16.71	-19.01	16.81	-20.28
5178	18.82	-21.13	18.66	-17.96	15.96	-18.23	16.26	-21.10	17.52	-20.22	17.42	-18.94	17.00	-18.98	17.10	-20.25
5179	19.12	-21.11	18.96	-17.93	16.25	-18.20	16.55	-21.07	17.81	-20.19	17.71	-18.91	17.29	-18.95	17.39	-20.22
5180	19.42	-21.09	19.26	-17.90	16.54	-18.17	16.84	-21.04	18.10	-20.16	18.00	-18.88	17.58	-18.92	17.68	-20.19
5181	19.72	-21.07	19.56	-17.87	16.83	-18.14	17.13	-21.01	18.39	-20.13	18.29	-18.85	17.87	-18.89	17.97	-20.16
5182	20.02	-21.05	19.86	-17.84	17.12	-18.11	17.42	-20.98	18.68	-20.10	18.58	-18.82	18.16	-18.86	18.26	-20.13
5183	20.32	-21.03	20.16	-17.81	17.41	-18.08	17.71	-20.95	18.97	-20.07	18.87	-18.79	18.45	-18.83	18.55	-20.10
5184	20.62	-21.01	20.46	-17.78	17.70	-18.05	18.00	-20.92	19.26	-20.04	19.16	-18.76	18.74	-18.80	18.84	-20.07
5185	20.92	-20.99	20.76	-17.75	17.99	-18.02	18.29	-20.89	19.55	-20.01	19.45	-18.73	19.03	-18.77	19.13	-20.04
5186	21.22	-20.97	21.06	-17.72	18.28	-17.99	18.58	-20.86	19.84	-19.98	19.74	-18.70	19.32	-18.74	19.42	-20.01
5187	21.52	-20.95	21.36	-17.69	18.57	-17.96	18.87	-20.83	20.13	-19.95	20.03	-18.67	19.61	-18.71	19.71	-19.98
5188	21.82	-20.93	21.66	-17.66	18.86	-17.93	19.16	-20.80	20.42	-19.92	20.32	-18.64	19.90	-18.68	20.00	-19.95
5189	22.12	-20.91	21.96	-17.63	19.15	-17.90	19.45	-20.77	20.71	-19.89	20.61	-18.61	20.19	-18.65	20.29	-19.92
5190	22.42	-20.89	22.30	-17.60	19.44	-17.87	19.74	-20.74	21.00	-19.86	20.90	-18.58	20.48	-18.62	20.58	-19.89
5191	22.72	-20.87	22.60	-17.57	19.73	-17.84	20.03	-20.71	21.29	-19.83	21.19	-18.55	20.77	-18.59	20.87	-19.86
5192	23.02	-20.85	22.90	-17.54	20.02	-17.81	20.32	-20.68	21.58	-19.80	21.48	-18.52	21.06	-18.56	21.16	-19.83
5193	23.32	-20.83	23.20	-17.51	20.31	-17.78	20.61	-20.65	21.87	-19.77	21.77	-18.49	21.35	-18.53	21.45	-19.80
5194	23.62	-20.81	23.50	-17.48	20.60	-17.75	20.90	-20.62	22.16	-19.74	22.06	-18.46	21.64	-18.50	21.74	-19.77
5195	23.92	-20.79	23.80	-17.45	20.89	-17.72	21.19	-20.59	22.45	-19.71	22.35	-18.43	21.93	-18.47	22.03	-19.74
5196	24.22	-20.77	24.10	-17.42	21.18	-17.69	21.48	-20.56	22.74	-19.68	22.64	-18.40	22.22	-18.44	22.32	-19.71
5197	24.52	-20.75	24.40	-17.39	21.47	-17.66	21.77	-20.53	23.03	-19.65	22.93	-18.37	22.51	-18.41	22.61	-19.68
5198	24.82	-20.73	24.70	-17.36	21.76	-17.63	22.06	-20.50	23.32	-19.62	23.22	-18.34	22.80	-18.38	22.90	-19.65
5199	25.12	-20.71	25.00	-17.33	22.05	-17.60	22.35	-20.47	23.61	-19.59	23.51	-18.31	23.09	-18.35	23.19	-19.62
5200	25.42	-20.69	25.30	-17.30	22.34	-17.57	22.64	-20.44	23.90	-19.56	23.80	-18.28	23.38	-18.32	23.48	-19.59
5201	25.72	-20.67	25.60	-17.27	22.63	-17.54	22.93	-20.41	24.19	-19.53	24.09	-18.25	23.67	-18.29	23.77	-19.56
5202	26.02	-20.65	25.90	-17.24	22.92	-17.51	23.22	-20.38	24.48	-19.50	24.38	-18.22	23.96	-18.26	24.06	-19.53

APPENDIX C

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA
ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LONG	AZIMUTH					
1005	218.30	1.63	84.62	1.88	84.00	89.15	68.41	6.03	62.88	5.51	
1006	217.53	1.52	85.12	1.76	84.57	89.11	67.84	5.45	62.88	4.94	
1007	216.79	1.41	85.64	1.63	85.15	89.07	67.27	4.87	62.88	4.37	
1008	216.08	1.30	86.15	1.51	85.72	89.03	66.69	4.30	62.88	3.80	
1009	215.42	1.19	86.66	1.38	86.29	88.99	66.12	3.74	62.88	3.23	
1010	214.79	1.08	87.17	1.26	86.87	88.94	65.55	3.18	62.88	2.66	
1011	214.20	0.97	87.67	1.14	87.44	88.89	64.98	2.63	62.88	2.09	
1012	213.65	0.86	88.16	1.01	88.01	88.84	64.41	2.10	62.88	1.52	
1013	213.13	0.75	88.65	0.89	88.58	88.78	63.84	1.62	62.88	0.95	
1014	212.65	0.64	89.20	0.77	89.15	88.72	63.27	1.23	62.88	0.38	
1015	212.21	0.53	89.70	0.65	89.72	88.66	62.70	1.05	62.88	-0.18	
1016	211.80	0.42	90.21	0.52	90.29	88.60	62.14	1.16	62.88	-0.75	
1017	211.43	0.31	90.72	0.40	90.86	88.53	61.57	1.51	62.88	-1.31	
1018	211.10	0.20	91.22	0.28	91.42	88.45	61.00	1.97	62.88	-1.88	
1019	210.80	0.09	91.73	0.15	91.99	88.38	60.44	2.49	62.88	-2.44	
1020	210.55	-0.01	92.23	0.03	92.56	88.30	59.88	3.02	62.88	-3.01	
1021	209.84	-0.57	96.67	-1.04	97.54	87.45	54.93	8.01	62.88	-7.96	
1022	209.94	-1.09	97.15	-1.17	98.12	87.33	54.34	8.61	62.88	-8.54	
1023	210.08	-1.20	97.72	-1.30	98.72	87.21	53.75	9.21	62.88	-9.13	
1024	210.26	-1.31	98.25	-1.42	99.31	87.08	53.17	9.81	62.88	-9.72	
1025	210.81	2.49	76.42	1.23	76.16	88.83	72.58	11.08	70.41	1.83	
1026	210.93	2.51	72.13	1.62	71.77	88.94	73.26	8.17	70.26	2.84	
1027	210.11	2.50	70.12	1.84	69.77	89.00	73.41	6.44	70.41	2.91	
1028	1304.34	-5.39	-152.52	-10.23	-153.79	275.84	67.89	2.80	69.70	-1.82	
1029	230.81	2.52	61.88	1.58	61.41	88.90	74.36	8.66	70.41	3.81	
1030	1298.72	-5.41	-101.15	-10.27	-162.71	276.20	66.40	4.05	69.70	-3.32	
1031	232.57	3.44	49.23	2.54	47.96	88.92	80.43	12.55	70.18	8.17	
1032	237.71	3.09	50.54	2.15	49.94	88.92	78.46	11.25	70.18	8.17	
1033	223.95	1.80	56.59	0.77	56.83	88.69	71.59	9.10	70.18	1.16	
1034	221.68	1.53	56.22	0.47	56.29	88.58	70.13	9.28	70.18	-0.33	
1035	1339.41	-9.03	-162.51	-8.72	-162.60	274.81	70.00	0.74	70.27	-0.27	
1036	1333.73	-6.59	-162.23	-8.65	-162.11	274.69	70.48	0.82	70.27	0.21	
1037	1330.94	-5.63	-159.62	-7.98	-157.76	273.75	74.74	4.81	70.27	4.46	
1038	1451.41	-8.59	-159.54	-7.90	-157.27	273.65	75.23	5.31	70.27	4.94	
1039	1451.41	-7.89	-155.17	-6.49	-149.05	272.27	83.32	13.57	70.27	13.03	
1040	1453.87	-7.86	-155.01	-6.44	-148.74	272.23	82.64	13.89	70.27	13.35	
1041	256.43	4.29	41.17	3.30	39.15	88.76	85.53	16.95	70.27	15.27	
1042	282.27	4.82	34.44	4.36	31.86	88.57	89.10	19.07	70.27	18.83	
1043	67.25	1.46	46.15	1.18	46.12	88.82	71.26	7.50	70.27	0.82	
1046	85.87	2.65	31.60	3.19	31.20	88.91	82.60	15.55	70.27	12.27	
1047	84.82	3.57	32.15	3.12	31.62	88.92	82.19	15.27	70.27	11.89	
1048	71.66	2.35	34.14	2.04	33.90	88.96	76.37	9.81	70.28	5.96	
1049	70.28	2.19	34.51	1.88	34.70	88.94	75.37	9.46	70.28	5.14	
1050	60.10	-0.19	42.14	-0.61	42.34	88.05	64.43	13.52	70.29	-6.47	
1051	60.05	-0.28	42.54	-0.70	42.75	87.99	64.02	13.78	70.29	-6.90	
1052	59.45	-0.72	40.65	-0.69	40.83	87.95	62.39	1.07	61.54	0.74	
1053	59.47	-0.75	41.02	-0.73	40.98	87.92	62.24	0.95	61.54	0.59	
1054	59.51	-0.78	41.14	-0.76	41.13	87.90	62.09	0.83	61.54	0.44	
1055	59.54	-0.81	41.29	-0.79	41.27	87.88	61.94	0.73	61.54	0.30	
1056	59.58	-0.84	41.43	-0.82	41.42	87.84	61.79	0.64	61.54	0.15	
1057	59.62	-0.87	41.57	-0.85	41.57	87.84	61.65	0.59	61.54	0.00	
1058	59.66	-0.89	41.72	-0.89	41.72	87.81	61.50	0.57	61.54	-0.15	
1059	59.71	-0.92	41.87	-0.92	41.87	87.79	61.35	0.59	61.54	-0.30	

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	ALT	LAT	LONG	LAT	LONG						
1050	59.76	-0.97	42.01	-0.95	42.02		87.77	61.29	0.65	61.29	-0.45
1051	59.81	-1.00	42.15	-0.98	42.17		87.74	61.05	0.74	61.05	-0.60
1052	59.87	-1.03	42.30	-1.01	42.32		87.72	60.90	0.84	61.04	-0.74
1053	59.92	-1.06	42.45	-1.05	42.48		87.70	60.75	0.95	61.04	-0.90
1054	59.99	-1.09	42.59	-1.08	42.63		87.67	60.60	1.09	61.04	-1.05
1055	60.05	-1.12	42.74	-1.11	42.78		87.65	60.45	1.23	61.04	-1.20
1056	60.12	-1.15	42.89	-1.14	42.93		87.62	60.30	1.37	61.04	-1.35
1057	60.19	-1.19	43.03	-1.18	43.08		87.60	60.15	1.51	61.04	-1.50
1058	58.69	0.24	34.49	0.25	34.54		88.48	66.98	1.50	65.57	1.41
1059	58.63	0.21	34.63	0.22	34.74		88.46	66.83	1.35	65.57	1.26
1070	58.57	0.18	34.77	0.19	34.84		88.45	66.69	1.20	65.57	1.11
1071	58.51	0.15	34.92	0.16	35.03		88.43	66.54	1.06	65.57	0.97
1072	58.45	0.12	35.06	0.13	35.18		88.42	66.39	0.91	65.57	0.82
1073	58.40	0.08	35.20	0.10	35.33		88.40	66.24	0.76	65.57	0.67
1074	58.35	0.05	35.34	0.06	35.47		88.39	66.10	0.61	65.57	0.52
1075	58.30	0.02	35.49	0.03	35.62		88.37	65.95	0.47	65.57	0.38
1076	58.26	-0.01	35.63	-0.00	35.77		88.36	65.80	0.34	65.57	0.23
1077	58.22	-0.04	35.77	-0.03	35.92		88.34	65.65	0.22	65.57	0.08
1078	58.18	-0.07	35.92	-0.06	36.07		88.32	65.51	0.18	65.57	-0.06
1079	58.14	-0.10	36.06	-0.10	36.21		88.31	65.36	0.25	65.57	-0.21
1080	58.11	-0.13	36.20	-0.13	36.35		88.29	65.21	0.37	65.57	-0.36
1081	58.08	-0.16	36.35	-0.16	36.50		88.27	65.07	0.51	65.57	-0.51
1082	58.05	-0.19	36.49	-0.19	36.64		88.26	64.92	0.65	65.57	-0.65
1083	58.03	-0.22	36.63	-0.22	36.78		88.24	64.77	0.80	65.57	-0.80
1084	80.05	3.45	15.21	3.00	14.62		88.84	83.22	1.16	70.34	12.77
1085	56.90	0.53	25.06	0.54	25.06		88.60	83.26	0.43	69.36	-0.09
1086	56.79	0.49	25.21	0.51	25.21		88.58	83.11	0.45	69.36	-0.24
1087	56.69	0.46	25.35	0.47	25.37		88.57	83.06	0.52	69.36	-0.40
1088	56.58	0.43	25.50	0.44	25.52		88.56	83.01	0.63	69.36	-0.55
1089	56.49	0.40	25.64	0.41	25.67		88.55	83.00	0.75	69.36	-0.70
1090	56.39	0.37	25.79	0.37	25.82		88.53	83.01	0.88	69.36	-0.85
1091	56.30	0.33	25.94	0.34	25.97		88.52	83.06	1.01	69.36	-1.00
1092	56.21	0.30	26.08	0.31	26.12		88.51	83.11	1.16	69.36	-1.14
1093	56.12	0.27	26.23	0.28	26.27		88.49	83.16	1.30	69.36	-1.29
1094	56.04	0.24	26.37	0.24	26.42		88.48	83.21	1.45	69.36	-1.44
1095	55.96	0.21	26.52	0.21	26.57		88.46	83.26	1.59	69.36	-1.59
1096	55.88	0.18	26.66	0.18	26.72		88.45	83.31	1.74	69.36	-1.74
1097	55.81	0.14	26.81	0.15	26.87		88.43	83.36	1.89	69.36	-1.89
1098	55.73	0.11	26.95	0.11	27.02		88.42	83.41	2.04	69.36	-2.04
1099	55.67	0.08	27.10	0.08	27.17		88.40	83.46	2.19	69.36	-2.19
1100	55.60	0.05	27.24	0.05	27.32		88.39	83.51	2.34	69.36	-2.34
1101	55.53	-0.02	27.37	-0.02	27.45		88.37	83.56	2.49	69.36	-2.49
1102	55.46	-0.05	27.50	-0.05	27.58		88.35	83.61	2.64	69.36	-2.64
1103	55.39	-0.08	27.63	-0.08	27.71		88.33	83.66	2.79	69.36	-2.79
1104	55.32	-0.11	27.76	-0.11	27.84		88.31	83.71	2.94	69.36	-2.94
1105	55.25	-0.14	27.89	-0.14	27.97		88.29	83.76	3.09	69.36	-3.09
1106	55.18	-0.17	28.02	-0.17	28.10		88.27	83.81	3.24	69.36	-3.24
1107	55.11	-0.20	28.15	-0.20	28.23		88.25	83.86	3.39	69.36	-3.39
1108	55.04	-0.23	28.28	-0.23	28.36		88.23	83.91	3.54	69.36	-3.54
1109	54.97	-0.26	28.41	-0.26	28.49		88.21	83.96	3.69	69.36	-3.69
1110	54.90	-0.29	28.54	-0.29	28.62		88.19	84.01	3.84	69.36	-3.84
1111	54.83	-0.32	28.67	-0.32	28.75		88.17	84.06	3.99	69.36	-3.99
1112	54.76	-0.35	28.80	-0.35	28.88		88.15	84.11	4.14	69.36	-4.14
1113	54.69	-0.38	28.93	-0.38	29.01		88.13	84.16	4.29	69.36	-4.29
1114	54.62	-0.41	29.06	-0.41	29.14		88.11	84.21	4.44	69.36	-4.44

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	ALT	LAT	LONG	LAT	LONG						
1115	1381.13	-8.27	144.22	-2.92	145.25		272.60	12.23	12.23	59.75	0.83
1116	1456.29	-7.54	148.42	-1.14	153.40		271.76	79.13	17.26	69.75	9.00
1117	1581.24	-6.07	152.44	-5.22	95.31		284.66	25.49	90.09	115.01	-90.00
1118	21.80	0.27	-2.42	0.29	-2.55		88.49	70.31	2.61	67.80	2.50
1119	51.70	0.24	-2.24	0.25	-2.41		88.48	70.17	2.47	67.80	2.36
1120	51.61	0.21	-2.21	0.22	-2.27		88.47	70.03	2.33	67.80	2.22
1121	51.52	0.18	-2.07	0.19	-2.13		88.46	69.89	2.18	67.80	2.08
1122	51.42	0.15	-1.94	0.16	-1.99		88.45	69.75	2.04	67.80	1.94
1123	51.34	0.12	-1.80	0.13	-1.85		88.43	69.61	1.90	67.80	1.81
1124	51.25	0.09	-1.67	0.10	-1.71		88.42	69.47	1.75	67.80	1.67
1125	51.17	0.06	-1.53	0.07	-1.57		88.41	69.33	1.61	67.80	1.53
1126	51.09	0.03	-1.40	0.04	-1.44		88.40	69.19	1.47	67.80	1.39
1127	51.02	0.00	-1.26	0.01	-1.30		88.38	69.04	1.33	67.80	1.25
1128	50.94	-0.03	-1.13	-0.02	-1.16		88.37	68.92	1.19	67.80	1.12
1129	50.87	-0.06	-0.99	-0.05	-1.02		88.36	68.78	1.05	67.80	0.98
1130	50.81	-0.08	-0.86	-0.08	-0.93		88.34	68.64	0.91	67.80	0.84
1131	50.74	-0.11	-0.73	-0.11	-0.75		88.33	68.51	0.77	67.80	0.70
1132	50.68	-0.14	-0.59	-0.13	-0.61		88.32	68.37	0.63	67.80	0.57
1133	50.62	-0.17	-0.46	-0.16	-0.47		88.30	68.24	0.50	67.80	0.43
1134	50.51	-2.13	-14.65	1.91	-15.14		88.82	79.35	11.40	70.27	9.00
1135	54.17	1.86	-15.42	1.52	-15.73		88.77	78.20	13.79	70.27	7.68
1136	52.59	1.60	-15.14	-5.40	129.33		273.67	69.34	6.23	69.91	-0.69
1137	48.15	0.57	-17.17	0.75	-17.59		88.70	78.82	45.09	34.16	44.35
1138	46.39	0.59	-19.20	0.27	-19.28		88.49	73.03	9.12	70.22	4.15
1139	45.58	0.38	-20.15	0.10	-20.20		88.44	72.21	12.46	70.24	2.38
1140	43.13	-2.40	-4.22	-3.39	-4.21		85.72	54.53	11.01	70.22	1.65
1141	49.91	-3.81	-3.70	-3.50	-3.68		85.58	54.10	0.54	54.90	-0.27
1142	50.73	-3.62	-3.17	-3.61	-3.13		85.43	53.57	0.85	54.90	-0.79
1143	51.60	-3.73	-2.64	-3.72	-2.58		85.28	53.03	1.33	54.90	-1.32
1144	52.53	-3.84	-2.09	-3.84	-2.02		85.12	52.48	1.86	54.90	-1.86
1145	53.53	-3.95	-1.54	-3.95	-1.45		84.95	51.92	2.42	54.90	-2.41
1147	54.59	-4.06	-0.97	-4.07	-0.86		84.78	51.35	2.99	54.90	-2.97
1148	55.72	-4.18	-0.39	-4.19	-0.26		84.59	50.76	3.58	54.90	-3.55
1149	56.52	-4.44	-24.21	0.19	-24.28		88.47	72.80	4.19	54.90	-4.13
1150	54.54	1.44	-30.75	1.07	-30.47		88.68	77.23	9.72	70.12	2.44
1151	43.93	-0.49	-23.66	-0.10	-23.65		88.33	68.68	15.10	86.22	-9.28
1153	52.10	0.79	-3.55	0.72	-37.09		88.51	75.13	15.30	70.27	-2.40
1154	51.31	0.58	-3.63	0.58	-36.48		88.58	74.51	4.87	70.29	4.84
1155	50.57	0.45	-35.76	0.45	-35.87		88.54	73.90	4.25	70.29	4.22
1156	49.88	0.32	-35.17	0.32	-35.25		88.50	73.29	3.63	70.29	3.62
1157	50.69	-3.01	-23.25	-3.06	-23.23		86.27	57.90	3.00	70.29	3.00
1158	50.83	-3.04	-23.12	-3.09	-23.10		86.24	57.77	1.74	58.53	-0.64
1159	50.98	-3.07	-23.99	-3.12	-22.96		86.21	57.64	1.82	58.53	-0.77
1160	51.13	-3.10	-22.86	-3.14	-22.83		86.18	57.51	1.91	58.53	-0.90
1161	51.28	-3.12	-22.73	-3.17	-22.69		86.15	57.37	2.01	58.53	-1.04
1162	51.44	-3.15	-22.60	-3.20	-22.56		86.12	57.24	2.11	58.53	-1.17
1163	51.60	-3.18	-22.46	-3.23	-22.42		86.09	57.11	2.21	58.53	-1.30
1164	51.76	-3.20	-22.33	-3.26	-22.28		86.06	56.97	2.32	58.53	-1.44
1165	51.93	-3.23	-22.20	-3.28	-22.15		86.02	56.84	2.44	58.53	-1.58
1166	52.10	-3.26	-22.06	-3.31	-22.01		85.99	56.70	2.55	58.53	-1.71
1167	52.27	-3.29	-21.52	-3.34	-21.87		85.96	56.56	2.67	58.53	-1.85
1168	52.45	-3.31	-21.75	-3.37	-21.73		85.92	56.43	2.79	58.53	-1.99

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	ALT	LAT	LONG	LAT	LONG	AZIMUTH	ANGLE	ANGLE	ANGLE
1169	52.63	-3.34	-21.56	-3.40	-21.59	85.89	56.29	3.04	-2.26
1170	52.81	-3.37	-21.52	-3.43	-21.45	85.89	56.15	3.17	-2.40
1171	52.99	-3.40	-21.52	-3.46	-21.31	85.86	56.01	3.30	-2.54
1172	53.18	-3.43	-21.25	-3.49	-21.16	85.79	55.87	3.43	-2.68
1173	54.74	-3.51	-22.52	-4.53	-23.39	84.76	53.70	25.11	-18.59
1174	72.12	2.41	-57.12	1.96	-57.73	88.63	85.28	18.43	14.80
1175	50.14	-2.51	-35.62	-3.41	-35.31	86.21	59.53	20.38	-12.32
1176	50.78	-2.01	-37.05	-3.03	-37.04	86.44	59.49	0.82	-0.39
1177	50.91	-2.04	-36.51	-3.06	-36.90	86.41	59.35	0.92	-0.52
1178	51.05	-2.07	-36.78	-3.09	-36.76	86.38	59.22	1.03	-0.66
1179	51.18	-2.10	-36.65	-3.12	-36.62	86.35	59.08	1.15	-0.80
1180	51.32	-2.12	-36.51	-3.15	-36.48	86.32	58.94	1.27	-0.93
1181	51.47	-2.15	-36.38	-3.18	-36.34	86.29	58.80	1.40	-1.07
1182	51.62	-2.18	-36.24	-3.20	-36.20	86.26	58.67	1.53	-1.21
1183	51.77	-2.21	-36.10	-3.23	-36.06	86.23	58.53	1.65	-1.35
1184	48.76	-1.51	-44.28	-1.89	-44.40	87.44	65.05	1.01	0.84
1185	48.78	-1.53	-44.25	-1.92	-44.27	87.42	64.92	0.88	0.72
1186	48.81	-1.56	-44.13	-1.95	-44.14	87.40	64.79	0.76	0.59
1187	48.84	-1.99	-44.00	-1.97	-44.01	87.38	64.66	0.64	0.46
1188	48.88	-2.01	-43.87	-2.00	-43.88	87.36	64.53	0.53	0.33
1189	48.91	-2.04	-43.75	-2.03	-43.75	87.34	64.41	0.43	0.20
1190	48.95	-2.06	-43.62	-2.05	-43.63	87.32	64.28	0.35	0.08
1191	48.99	-2.09	-43.50	-2.08	-43.50	87.30	64.15	0.32	-0.05
1192	49.03	-2.12	-43.37	-2.11	-43.37	87.27	64.02	0.33	-0.18
1193	49.08	-2.14	-43.24	-2.14	-43.24	87.25	63.89	0.43	-0.31
1194	49.13	-2.17	-43.12	-2.16	-43.11	87.23	63.76	0.49	-0.44
1195	49.18	-2.19	-42.55	-2.19	-42.98	87.21	63.63	0.60	-0.57
1196	49.23	-2.22	-42.66	-2.22	-42.85	87.19	63.51	0.71	-0.70
1197	49.28	-2.25	-42.74	-2.24	-42.71	87.17	63.38	0.83	-0.83
1198	49.34	-2.27	-42.61	-2.27	-42.58	87.15	63.25	0.96	-0.95
1199	49.40	-2.30	-42.48	-2.30	-42.45	87.12	63.12	1.09	-1.08
1200	49.58	-2.31	-42.35	-2.33	-42.27	87.11	63.00	0.52	0.35
1201	49.64	-2.34	-42.26	-2.36	-42.14	87.09	62.87	0.41	0.22
1202	49.70	-2.36	-42.13	-2.38	-42.00	87.07	62.74	0.33	0.09
1203	49.77	-2.39	-41.87	-2.41	-41.87	87.04	62.61	0.28	-0.04
1204	49.84	-2.42	-41.74	-2.44	-41.67	87.02	62.48	0.30	-0.17
1205	49.91	-2.44	-41.61	-2.46	-41.61	87.00	62.35	0.37	-0.30
1206	49.98	-2.47	-41.48	-2.46	-41.48	86.97	62.22	0.47	-0.43
1207	50.05	-2.50	-41.35	-2.49	-41.35	86.95	62.09	0.58	-0.56
1208	50.13	-2.52	-41.22	-2.52	-41.34	86.93	61.92	0.70	-0.70
1209	50.21	-2.55	-41.09	-2.55	-41.21	86.90	61.79	0.83	-0.83
1210	50.30	-2.58	-40.96	-2.57	-40.97	86.88	61.66	0.96	-0.96
1211	50.38	-2.60	-40.83	-2.60	-40.94	86.88	61.53	1.09	-1.09
1212	50.47	-2.63	-40.70	-2.63	-40.81	86.85	61.40	1.22	-1.22
1213	50.56	-2.66	-40.57	-2.66	-40.67	86.83	61.27	1.36	-1.36
1214	50.65	-2.68	-40.44	-2.68	-40.52	86.80	61.14	1.49	-1.49
1215	50.75	-2.71	-40.31	-2.71	-40.40	86.78	61.01	1.62	-1.62
2004	52.25	4.24	36.62	4.25	35.99	91.47	74.47	1.26	73.25
2006	52.15	4.21	36.15	4.22	36.12	91.48	74.34	1.13	73.25
2007	52.05	4.19	36.28	4.20	36.25	91.48	74.20	1.00	73.25
2008	51.95	4.16	36.41	4.17	36.38	91.48	74.07	0.86	73.25
2009	51.86	4.14	36.53	4.14	36.51	91.49	73.94	0.73	73.25
2010	51.77	4.11	36.66	4.12	36.65	91.49	73.81	0.60	73.25

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MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LONG	LAT					
2011	51.69	4.08	36.75	4.09	36.78	4.09	91.49	73.68	0.47	73.25	0.43
2012	51.60	4.05	36.52	4.06	36.51	4.06	91.49	73.68	0.34	73.25	0.29
2013	51.52	4.03	37.04	4.04	37.04	4.04	91.50	73.41	0.22	73.25	0.16
2014	51.44	4.01	37.17	4.01	37.17	4.01	91.50	73.28	0.13	73.25	0.03
2015	51.36	3.99	37.30	3.99	37.30	3.99	91.50	73.15	0.15	73.25	-0.10
2016	51.28	3.96	37.42	3.96	37.42	3.96	91.50	73.02	0.24	73.25	-0.23
2017	51.21	3.93	37.55	3.93	37.55	3.93	91.51	72.89	0.37	73.25	-0.36
2018	51.14	3.91	37.67	3.91	37.67	3.91	91.51	72.76	0.49	73.25	-0.49
2019	51.07	3.88	37.80	3.88	37.82	3.88	91.51	72.63	0.62	73.25	-0.62
2020	51.00	3.86	37.93	3.86	37.95	3.86	91.51	72.50	0.75	73.25	-0.75
2021	50.93	3.84	38.06	3.84	38.08	3.84	91.52	69.49	3.88	73.33	-5.85
2022	50.86	3.82	38.19	3.82	38.21	3.82	91.52	69.36	4.01	73.33	-3.98
2023	50.79	3.80	38.32	3.80	38.34	3.80	91.51	69.22	4.15	73.33	-4.11
2024	50.72	3.78	38.45	3.78	38.47	3.78	91.51	69.09	4.28	73.33	-4.24
2025	50.65	3.76	38.58	3.76	38.60	3.76	91.51	69.00	4.41	73.33	-4.41
2026	50.58	3.74	38.71	3.74	38.73	3.74	91.51	69.00	4.54	73.33	-4.54
2027	50.51	3.72	38.84	3.72	38.86	3.72	91.51	69.00	4.67	73.33	-4.67
2028	50.44	3.70	38.97	3.70	39.00	3.70	91.51	69.00	4.80	73.33	-4.80
2029	50.37	3.68	39.10	3.68	39.12	3.68	91.51	69.00	4.93	73.33	-4.93
2030	50.30	3.66	39.23	3.66	39.25	3.66	91.51	69.00	5.06	73.33	-5.06
2031	50.23	3.64	39.36	3.64	39.38	3.64	91.51	69.00	5.19	73.33	-5.19
2032	50.16	3.62	39.49	3.62	39.51	3.62	91.51	69.00	5.32	73.33	-5.32
2033	50.09	3.60	39.62	3.60	39.64	3.60	91.51	69.00	5.45	73.33	-5.45
2034	50.02	3.58	39.75	3.58	39.77	3.58	91.51	69.00	5.58	73.33	-5.58
2035	49.95	3.56	39.88	3.56	39.90	3.56	91.51	69.00	5.71	73.33	-5.71
2036	49.88	3.54	40.01	3.54	40.03	3.54	91.51	69.00	5.84	73.33	-5.84
2037	49.81	3.52	40.14	3.52	40.16	3.52	91.51	69.00	5.97	73.33	-5.97
2038	49.74	3.50	40.27	3.50	40.29	3.50	91.51	69.00	6.10	73.33	-6.10
2039	49.67	3.48	40.40	3.48	40.42	3.48	91.51	69.00	6.23	73.33	-6.23
2040	49.60	3.46	40.53	3.46	40.55	3.46	91.51	69.00	6.36	73.33	-6.36
2041	49.53	3.44	40.66	3.44	40.68	3.44	91.51	69.00	6.49	73.33	-6.49
2042	49.46	3.42	40.79	3.42	40.81	3.42	91.51	69.00	6.62	73.33	-6.62
2043	49.39	3.40	40.92	3.40	40.94	3.40	91.51	69.00	6.75	73.33	-6.75
2044	49.32	3.38	41.05	3.38	41.07	3.38	91.51	69.00	6.88	73.33	-6.88
2045	49.25	3.36	41.18	3.36	41.20	3.36	91.51	69.00	7.01	73.33	-7.01
2046	49.18	3.34	41.31	3.34	41.33	3.34	91.51	69.00	7.14	73.33	-7.14
2047	49.11	3.32	41.44	3.32	41.46	3.32	91.51	69.00	7.27	73.33	-7.27
2048	49.04	3.30	41.57	3.30	41.59	3.30	91.51	69.00	7.40	73.33	-7.40
2049	48.97	3.28	41.70	3.28	41.72	3.28	91.51	69.00	7.53	73.33	-7.53
2050	48.90	3.26	41.83	3.26	41.85	3.26	91.51	69.00	7.66	73.33	-7.66
2051	48.83	3.24	41.96	3.24	41.98	3.24	91.51	69.00	7.79	73.33	-7.79
2052	48.76	3.22	42.09	3.22	42.11	3.22	91.51	69.00	7.92	73.33	-7.92
2053	48.69	3.20	42.22	3.20	42.24	3.20	91.51	69.00	8.05	73.33	-8.05
2054	48.62	3.18	42.35	3.18	42.37	3.18	91.51	69.00	8.18	73.33	-8.18
2055	48.55	3.16	42.48	3.16	42.50	3.16	91.51	69.00	8.31	73.33	-8.31
2056	48.48	3.14	42.61	3.14	42.63	3.14	91.51	69.00	8.44	73.33	-8.44
2057	48.41	3.12	42.74	3.12	42.76	3.12	91.51	69.00	8.57	73.33	-8.57
2058	48.34	3.10	42.87	3.10	42.89	3.10	91.51	69.00	8.70	73.33	-8.70
2059	48.27	3.08	43.00	3.08	43.02	3.08	91.51	69.00	8.83	73.33	-8.83
2060	48.20	3.06	43.13	3.06	43.15	3.06	91.51	69.00	8.96	73.33	-8.96
2061	48.13	3.04	43.26	3.04	43.28	3.04	91.51	69.00	9.09	73.33	-9.09
2062	48.06	3.02	43.39	3.02	43.41	3.02	91.51	69.00	9.22	73.33	-9.22
2063	47.99	3.00	43.52	3.00	43.54	3.00	91.51	69.00	9.35	73.33	-9.35

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ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT		EMISSION		PHASE		ALPHA
	ALT	LAT	LONG	LAT	LONG	LONG		ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	
2064	50.11	4.76	15.51	4.77	15.89	15.89	91.27	78.70	0.82	77.94	0.76	77.94	0.76	
2065	50.15	4.73	16.64	4.74	16.03	16.03	91.27	78.57	0.69	77.94	0.63	77.94	0.63	
2066	49.99	4.71	16.17	4.72	16.16	16.16	91.28	78.44	0.56	77.94	0.49	77.94	0.49	
2067	45.52	2.66	24.25	2.75	24.38	24.38	91.42	68.41	0.56	69.37	-1.00	69.37	-1.00	
2068	45.55	2.64	24.47	2.72	24.50	24.50	91.42	68.28	3.51	69.37	-1.13	69.37	-1.13	
2069	45.57	2.61	24.59	2.70	24.62	24.62	91.42	68.16	3.53	69.37	-1.25	69.37	-1.25	
2070	45.60	2.59	24.71	2.67	24.75	24.75	91.41	67.91	3.55	69.37	-1.37	69.37	-1.37	
2071	45.63	2.56	24.83	2.65	24.87	24.87	91.41	67.91	3.58	69.37	-1.50	69.37	-1.50	
2072	45.67	2.54	24.55	2.62	24.99	24.99	91.41	67.79	3.61	69.37	-1.62	69.37	-1.62	
2073	45.70	2.51	25.07	2.60	25.11	25.11	91.40	67.54	3.65	69.37	-1.74	69.37	-1.74	
2074	45.74	2.49	25.19	2.57	25.24	25.24	91.40	67.54	3.68	69.37	-1.87	69.37	-1.87	
2075	14.68-65	-9.74	158.42	-21.10	158.01	158.01	277.43	70.65	24.19	70.20	-1.50	70.20	-1.50	
2076	49.16	1.20	23.71	1.19	23.74	23.74	91.00	61.94	0.89	62.82	-0.87	62.82	-0.87	
2077	49.31	1.17	23.84	1.17	23.87	23.87	90.99	61.83	1.03	62.82	-1.00	62.82	-1.00	
2078	49.46	1.15	23.96	1.14	24.00	24.00	90.98	61.70	1.16	62.82	-1.13	62.82	-1.13	
2079	49.62	1.12	24.09	1.11	24.13	24.13	90.97	61.56	1.29	62.82	-1.26	62.82	-1.26	
2080	49.78	1.09	24.22	1.08	24.26	24.26	90.96	61.43	1.43	62.82	-1.39	62.82	-1.39	
2081	49.94	1.07	24.35	1.06	24.39	24.39	90.94	61.30	1.57	62.82	-1.53	62.82	-1.53	
2082	50.11	1.04	24.48	1.03	24.53	24.53	90.93	61.16	1.70	62.82	-1.67	62.82	-1.67	
2083	50.28	1.01	24.61	1.00	24.66	24.66	90.92	61.02	1.84	62.82	-1.80	62.82	-1.80	
2084	51.18	0.82	23.58	0.82	23.61	23.61	90.84	60.83	1.10	61.41	-1.10	61.41	-1.10	
2085	51.37	0.80	23.71	0.79	23.75	23.75	90.83	60.17	1.24	61.41	-1.24	61.41	-1.24	
2086	51.56	0.77	23.85	0.76	23.89	23.89	90.81	60.03	1.38	61.41	-1.37	61.41	-1.37	
2087	51.76	0.74	23.98	0.73	24.02	24.02	90.80	59.90	1.52	61.41	-1.51	61.41	-1.51	
2088	51.96	0.71	24.11	0.70	24.16	24.16	90.79	59.76	1.66	61.41	-1.65	61.41	-1.65	
2089	52.16	0.68	24.25	0.68	24.30	24.30	90.77	59.62	1.80	61.41	-1.79	61.41	-1.79	
2090	52.37	0.65	24.39	0.65	24.44	24.44	90.76	59.48	1.95	61.41	-1.93	61.41	-1.93	
2091	52.58	0.62	24.52	0.62	24.58	24.58	90.74	59.33	2.09	61.41	-2.07	61.41	-2.07	
2092	44.03	3.54	4.50	4.28	4.58	4.58	91.42	75.91	13.87	78.85	-3.35	78.85	-3.35	
2093	44.19	4.15	-0.31	0.21	-1.10	-1.10	90.39	78.00	72.31	78.23	-24.68	78.23	-24.68	
2094	49.23	0.60	12.77	0.58	12.81	12.81	90.72	60.54	1.45	61.93	-1.39	61.93	-1.39	
2095	40.84	2.42	0.42	2.42	0.44	0.44	91.28	69.44	0.73	70.15	-0.71	70.15	-0.71	
2096	40.79	2.51	-2.08	2.51	-2.08	-2.08	91.28	70.20	0.29	70.45	-0.25	70.45	-0.25	
2097	40.80	2.49	-1.52	2.49	-1.97	-1.97	91.28	70.08	0.40	70.45	-0.36	70.45	-0.36	
2098	40.82	2.47	-1.86	2.46	-1.86	-1.86	91.27	69.97	0.51	70.45	-0.47	70.45	-0.47	
2099	40.83	2.45	-1.76	2.44	-1.75	-1.75	91.27	69.86	0.62	70.45	-0.58	70.45	-0.58	
2100	40.85	2.42	-1.65	2.42	-1.63	-1.63	91.27	69.75	0.73	70.45	-0.70	70.45	-0.70	
2101	40.87	2.40	-1.54	2.39	-1.52	-1.52	91.26	69.64	0.85	70.45	-0.81	70.45	-0.81	
2102	40.89	2.38	-1.43	2.37	-1.41	-1.41	91.26	69.52	0.96	70.45	-0.92	70.45	-0.92	
2103	40.92	2.35	-1.32	2.35	-1.29	-1.29	91.26	69.41	1.08	70.45	-1.04	70.45	-1.04	
2104	41.14	2.16	-2.28	2.16	-2.27	-2.27	91.23	68.61	0.65	69.26	-0.65	69.26	-0.65	
2105	41.18	2.13	-2.17	2.13	-2.15	-2.15	91.22	68.50	0.77	69.26	-0.77	69.26	-0.77	
2106	41.23	2.11	-2.04	2.11	-2.04	-2.04	91.22	68.38	0.88	69.26	-0.88	69.26	-0.88	
2107	41.27	2.09	-1.95	2.08	-1.92	-1.92	91.21	68.27	1.00	69.26	-1.00	69.26	-1.00	
2108	41.31	2.06	-1.84	2.06	-1.81	-1.81	91.21	68.16	1.12	69.26	-1.11	69.26	-1.11	
2109	41.36	2.04	-1.73	2.04	-1.70	-1.70	91.20	68.04	1.23	69.26	-1.22	69.26	-1.22	
2110	41.41	2.02	-1.62	2.01	-1.58	-1.58	91.20	67.93	1.35	69.26	-1.34	69.26	-1.34	
2111	41.46	1.99	-1.50	1.99	-1.47	-1.47	91.19	67.81	1.46	69.26	-1.45	69.26	-1.45	
2112	41.59	1.97	-1.48	1.98	-1.47	-1.47	91.19	67.68	0.19	74.61	-0.07	74.61	-0.07	
2113	46.70	0.70	-1.28	3.26	-1.25	-1.25	90.78	62.28	1.22	63.44	-1.16	63.44	-1.16	
2114	46.86	0.68	-1.16	0.69	-1.25	-1.25	90.76	62.15	1.35	63.44	-1.29	63.44	-1.29	
2115	47.03	0.65	-1.04	0.64	-1.00	-1.00	90.75	62.03	1.48	63.44	-1.42	63.44	-1.42	
2116	47.15	0.62	-0.91	0.61	-0.87	-0.87	90.74	61.90	1.61	63.44	-1.55	63.44	-1.55	

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ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG.	LAT	LONG						
2117	47.36	0.60	-0.75	0.58	-0.74		90.73	61.77	1.74	63.44	-1.68
2118	47.53	0.57	-0.66	0.56	-0.61		90.71	61.64	1.88	63.44	-1.81
2119	47.71	0.54	-0.54	0.53	-0.48		90.70	61.51	2.01	63.44	-1.94
2120	47.88	0.52	-0.41	0.50	-0.35		90.69	61.38	2.14	63.44	-2.07
2121	49.16	0.33	-1.44	0.32	-1.41		90.60	60.67	1.28	61.89	-1.22
2122	49.36	0.30	-1.31	0.29	-1.27		90.59	60.53	1.41	61.89	-1.36
2123	49.56	0.27	-1.18	0.24	-1.14		90.57	60.40	1.55	61.89	-1.49
2124	49.77	0.24	-1.05	0.23	-1.00		90.56	60.26	1.69	61.89	-1.63
2125	49.98	0.22	-0.92	0.20	-0.87		90.54	60.12	1.83	61.89	-1.77
2126	50.19	0.19	-0.78	0.17	-0.73		90.53	59.99	1.97	61.89	-1.90
2127	50.41	0.16	-0.65	0.14	-0.59		90.51	59.85	2.11	61.89	-2.04
2128	50.63	0.13	-0.52	0.12	-0.46		90.49	59.71	2.25	61.89	-2.18
2129	51.92	-0.03	-1.67	-0.04	-1.63		90.41	59.12	1.42	60.50	-1.38
2130	52.16	-0.06	-1.53	-0.07	-1.49		90.39	58.98	1.56	60.50	-1.52
2131	52.41	-0.09	-1.35	-0.10	-1.35		90.37	58.84	1.71	60.50	-1.66
2132	52.66	-0.12	-1.25	-0.13	-1.20		90.35	58.69	1.86	60.50	-1.81
2133	52.92	-0.15	-1.11	-0.16	-1.06		90.33	58.55	2.01	60.50	-1.95
2134	53.19	-0.18	-0.97	-0.20	-0.91		90.32	58.40	2.16	60.50	-2.10
2135	53.45	-0.21	-0.83	-0.23	-0.76		90.30	58.25	2.31	60.50	-2.25
2136	53.72	-0.24	-0.68	-0.26	-0.61		90.28	58.10	2.46	60.50	-2.40
2137	51.10	4.89	-27.18	4.90	-27.21		90.98	83.06	1.35	81.74	1.32
2138	44.33	1.25	-13.29	1.25	-13.27		90.99	85.51	1.15	86.65	-1.15
2139	44.44	1.22	-13.12	1.22	-13.14		90.98	85.39	1.27	86.65	-1.27
2140	44.55	1.19	-13.06	1.20	-13.02		90.97	85.26	1.39	86.65	-1.39
2141	44.66	1.17	-12.94	1.17	-12.90		90.96	85.14	1.52	86.65	-1.52
2142	44.77	1.14	-12.82	1.14	-12.77		90.95	85.01	1.64	86.65	-1.64
2143	44.89	1.12	-12.65	1.12	-12.65		90.95	84.89	1.76	86.65	-1.76
2144	45.00	1.09	-12.57	1.09	-12.53		90.94	84.76	1.89	86.65	-1.89
2145	45.12	1.07	-12.45	1.06	-12.40		90.93	84.64	2.01	86.65	-2.01
2146	45.10	3.77	-27.47	3.77	-27.49		91.19	78.04	0.95	77.09	0.95
2147	45.00	3.74	-27.35	3.74	-27.37		91.20	77.92	0.83	77.09	0.83
2148	44.89	3.72	-27.23	3.72	-27.25		91.20	77.80	0.70	77.09	0.70
2149	44.79	3.69	-27.11	3.69	-27.13		91.20	77.67	0.58	77.09	0.58
2150	44.70	3.67	-26.99	3.67	-27.00		91.21	77.55	0.46	77.09	0.46
2151	44.60	3.65	-26.87	3.64	-26.88		91.21	77.43	0.34	77.09	0.34
2152	44.51	3.62	-26.75	3.62	-26.76		91.21	77.30	0.22	77.09	0.21
2153	44.41	3.60	-26.64	3.60	-26.64		91.21	77.18	0.10	77.09	0.09
2154	43.92	3.37	-27.46	3.38	-27.44		91.23	76.26	0.60	75.66	0.59
2155	43.85	3.35	-27.35	3.35	-27.36		91.23	76.14	0.48	75.66	0.47
2156	43.78	3.33	-27.23	3.33	-27.24		91.23	76.02	0.36	75.66	0.36
2157	43.72	3.30	-27.12	3.30	-27.12		91.23	75.90	0.24	75.66	0.24
2158	43.65	3.28	-27.00	3.28	-27.00		91.23	75.78	0.12	75.66	0.12
2159	43.59	3.25	-26.88	3.25	-26.88		91.23	75.66	0.0	75.66	-0.01
2160	43.52	3.23	-26.76	3.23	-26.76		91.24	75.54	0.13	75.66	-0.13
2161	43.44	3.21	-26.64	3.20	-26.64		91.24	75.41	0.25	75.66	-0.25
2162	45.91	0.98	-20.01	5.48	-20.00		92.96	65.35	73.90	80.91	-53.75
2163	50.91	0.19	-20.13	0.17	-20.10		90.55	61.76	1.37	63.06	-1.30
2164	51.11	0.16	-20.00	0.14	-19.96		90.54	61.62	1.51	63.06	-1.44
2165	51.32	0.13	-19.86	0.11	-19.82		90.52	61.48	1.65	63.06	-1.58
2166	51.53	0.10	-19.73	0.08	-19.68		90.50	61.34	1.80	63.06	-1.72
2167	51.75	0.07	-19.59	0.05	-19.53		90.49	61.19	1.94	63.06	-1.87
2168	51.97	0.04	-19.45	0.02	-19.39		90.47	61.05	2.09	63.06	-2.01
2169	52.19	0.01	-19.31	-0.01	-19.25		90.46	60.91	2.23	63.06	-2.15

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		ALT	LAT	LONG	LAT	LONG		AZIMUTH	ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	ANGLE		
2170	52.42	-0.02	-19.17	-0.04	-19.10		90.44	60.76	2.38			63.06			-2.30	
2171	54.18	-0.22	-20.16	-0.24	-20.10		90.33	60.30	2.01			61.95			-1.95	
2172	54.44	-0.25	-20.02	-0.27	-19.96		90.31	59.85	2.16			61.95			-2.10	
2173	54.70	-0.28	-19.87	-0.30	-19.80		90.30	59.70	2.31			61.95			-2.25	
2174	54.96	-0.31	-19.73	-0.33	-19.65		90.28	59.55	2.47			61.95			-2.40	
2175	55.23	-0.34	-19.58	-0.36	-19.50		90.26	59.40	2.63			61.95			-2.56	
2176	55.51	-0.37	-19.43	-0.39	-19.35		90.24	59.24	2.78			61.95			-2.71	
2177	55.79	-0.41	-19.28	-0.43	-19.19		90.22	59.09	2.94			61.95			-2.87	
2178	56.07	-0.44	-19.13	-0.46	-19.04		90.20	58.93	3.10			61.95			-3.02	
2179	45.20	2.42	-34.45	2.42	-34.44		91.19	72.64	0.60			73.22			-0.58	
2180	45.15	2.40	-34.34	2.39	-34.32		91.18	72.52	0.72			73.22			-0.70	
2181	45.15	2.37	-34.22	2.37	-34.20		91.18	72.40	0.85			73.22			-0.82	
2182	45.15	2.35	-34.10	2.34	-34.08		91.18	72.28	0.97			73.22			-0.94	
2183	45.20	2.32	-33.58	2.32	-33.55		91.18	72.15	1.09			73.22			-1.07	
2184	45.20	2.30	-33.56	2.29	-33.53		91.17	72.03	1.22			73.22			-1.19	
2185	45.21	2.27	-33.74	2.27	-33.71		91.17	71.91	1.34			73.22			-1.31	
2186	45.22	2.25	-33.63	2.24	-33.59		91.17	71.79	1.47			73.22			-1.43	
2187	45.70	2.00	-34.25	1.99	-34.36		91.13	70.79	1.06			71.84			-1.05	
2188	45.73	1.97	-34.27	1.97	-34.24		91.13	70.67	1.19			71.84			-1.17	
2189	45.77	1.95	-34.15	1.94	-34.12		91.13	70.55	1.31			71.84			-1.29	
2190	45.80	1.92	-34.03	1.92	-34.03		91.12	70.42	1.44			71.84			-1.41	
2191	45.84	1.90	-33.51	1.89	-33.87		91.12	70.30	1.56			71.84			-1.54	
2192	45.88	1.87	-33.79	1.87	-33.75		91.11	70.18	1.69			71.84			-1.66	
2193	45.92	1.85	-33.67	1.84	-33.62		91.11	70.05	1.81			71.84			-1.78	
2194	45.96	1.82	-33.55	1.81	-33.50		91.10	69.93	1.94			71.84			-1.91	
2195	47.73	2.83	-42.74	2.83	-42.71		91.16	76.65	1.05			76.70			-1.04	
2196	1519.00	-6.77	100.68	-8.84	100.66		272.76	70.16	0.28			70.35			-0.23	
2197	47.90	1.90	-42.18	1.89	-42.17		91.08	71.57	0.61			72.14			-0.57	
2198	47.92	1.87	-42.06	1.86	-42.04		91.08	71.44	0.74			72.14			-0.70	
2199	47.95	1.85	-41.54	1.84	-41.91		91.07	71.31	0.86			72.14			-0.83	
2200	47.98	1.82	-41.51	1.81	-41.79		91.07	71.18	0.99			72.14			-0.95	
2201	48.02	1.79	-41.65	1.79	-41.66		91.07	71.05	1.12			72.14			-1.08	
2202	48.05	1.77	-41.57	1.76	-41.53		91.06	70.93	1.25			72.14			-1.21	
2203	48.09	1.74	-41.44	1.73	-41.41		91.06	70.80	1.38			72.14			-1.34	
2204	48.13	1.72	-41.32	1.71	-41.28		91.05	70.67	1.51			72.14			-1.46	
2205	48.15	1.68	-42.15	1.48	-42.12		91.01	69.75	1.11			70.86			-1.11	
2206	48.91	1.45	-42.02	1.45	-41.99		91.00	69.62	1.25			70.86			-1.24	
2207	48.97	1.43	-41.50	1.42	-41.86		90.99	69.49	1.38			70.86			-1.37	
2208	49.04	1.40	-41.77	1.39	-41.73		90.99	69.36	1.51			70.86			-1.50	
2209	49.10	1.37	-41.65	1.37	-41.60		90.98	69.23	1.64			70.86			-1.63	
2210	49.17	1.35	-41.52	1.34	-41.47		90.97	69.10	1.78			70.86			-1.76	
2211	49.25	1.32	-41.29	1.31	-41.34		90.97	68.96	1.91			70.86			-1.89	
2212	49.32	1.29	-41.27	1.29	-41.21		90.96	68.83	2.04			70.86			-2.03	
2213	50.86	2.30	-53.75	2.29	-53.75		92.03	78.82	0.58			73.26			-38.01	
2214	49.59	2.67	-53.62	2.66	-53.61		91.07	77.76	0.58			73.26			95.97	
2215	52.68	3.49	-58.73	3.49	-58.73		91.07	76.67	0.58			73.26			95.97	
3005	59.90	2.09	34.27	2.09	34.21		91.64	80.47	1.73			75.03			1.69	
3006	59.72	2.03	34.42	2.03	34.37		92.28	76.73	1.56			75.03			1.54	
3007	59.55	2.98	34.56	2.99	34.57		92.27	76.57	1.41			75.03			1.39	
3008	59.39	2.92	34.70	2.93	34.66		92.26	76.42	1.25			75.03			1.24	
3009	59.23	2.87	34.84	2.88	34.80		92.26	76.13	1.10			75.03			1.10	
3010	59.07	2.82	34.95	2.82	34.95		92.25	75.98	0.95			75.03			0.95	
3011	58.91	2.76	35.12	2.77	35.10		92.25	75.83	0.80			75.03			0.80	

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	ALT	LAT	LONG	LAT	LONG						
3012	58.76	2.71	35.27	2.71	35.25		92.24	75.68	0.65	75.02	0.65
3013	58.62	2.66	35.40	2.66	35.39		92.24	75.68	0.65	75.02	0.65
3014	58.47	2.60	35.53	2.60	35.53		92.23	75.67	0.65	75.02	0.65
3015	58.33	2.55	35.66	2.55	35.68		92.23	75.67	0.65	75.02	0.65
3016	58.19	2.50	35.79	2.49	35.82		92.22	75.66	0.65	75.02	0.65
3017	58.06	2.45	35.92	2.44	35.96		92.21	75.65	0.65	75.02	0.65
3018	57.92	2.39	36.05	2.38	36.11		92.20	75.64	0.65	75.02	0.65
3019	57.79	2.34	36.18	2.33	36.25		92.20	75.64	0.65	75.02	0.65
3020	57.67	2.29	36.31	2.27	36.39		92.19	75.63	0.65	75.02	0.65
3021	57.54	2.24	36.44	2.23	36.52		92.18	75.62	0.65	75.02	0.65
3022	57.42	2.19	36.57	2.18	36.65		92.17	75.61	0.65	75.02	0.65
3023	57.30	2.14	36.70	2.13	36.78		92.16	75.60	0.65	75.02	0.65
3024	57.18	2.09	36.83	2.08	36.86		92.15	75.59	0.65	75.02	0.65
3025	57.06	2.04	36.96	2.03	36.99		92.14	75.58	0.65	75.02	0.65
3026	56.94	1.99	37.09	1.98	37.12		92.13	75.57	0.65	75.02	0.65
3027	56.82	1.94	37.22	1.93	37.25		92.12	75.56	0.65	75.02	0.65
3028	56.70	1.89	37.35	1.88	37.38		92.11	75.55	0.65	75.02	0.65
3029	56.58	1.84	37.48	1.83	37.51		92.10	75.54	0.65	75.02	0.65
3030	56.46	1.79	37.61	1.78	37.64		92.09	75.53	0.65	75.02	0.65
3031	56.34	1.74	37.74	1.73	37.77		92.08	75.52	0.65	75.02	0.65
3032	56.22	1.69	37.87	1.68	37.90		92.07	75.51	0.65	75.02	0.65
3033	56.10	1.64	38.00	1.63	38.03		92.06	75.50	0.65	75.02	0.65
3034	55.98	1.59	38.13	1.58	38.16		92.05	75.49	0.65	75.02	0.65
3035	55.86	1.54	38.26	1.53	38.29		92.04	75.48	0.65	75.02	0.65
3036	55.74	1.49	38.39	1.48	38.42		92.03	75.47	0.65	75.02	0.65
3037	55.62	1.44	38.52	1.43	38.55		92.02	75.46	0.65	75.02	0.65
3038	55.50	1.39	38.65	1.38	38.68		92.01	75.45	0.65	75.02	0.65
3039	55.38	1.34	38.78	1.33	38.81		92.00	75.44	0.65	75.02	0.65
3040	55.26	1.29	38.91	1.28	38.94		91.99	75.43	0.65	75.02	0.65
3041	55.14	1.24	39.04	1.23	39.07		91.98	75.42	0.65	75.02	0.65
3042	55.02	1.19	39.17	1.18	39.20		91.97	75.41	0.65	75.02	0.65
3043	54.90	1.14	39.30	1.13	39.33		91.96	75.40	0.65	75.02	0.65
3044	54.78	1.09	39.43	1.08	39.46		91.95	75.39	0.65	75.02	0.65
3045	54.66	1.04	39.56	1.03	39.59		91.94	75.38	0.65	75.02	0.65
3046	54.54	0.99	39.69	0.98	39.72		91.93	75.37	0.65	75.02	0.65
3047	54.42	0.94	39.82	0.93	39.85		91.92	75.36	0.65	75.02	0.65
3048	54.30	0.89	39.95	0.88	39.98		91.91	75.35	0.65	75.02	0.65
3049	54.18	0.84	40.08	0.83	40.11		91.90	75.34	0.65	75.02	0.65
3050	54.06	0.79	40.21	0.78	40.24		91.89	75.33	0.65	75.02	0.65
3051	53.94	0.74	40.34	0.73	40.37		91.88	75.32	0.65	75.02	0.65
3052	53.82	0.69	40.47	0.68	40.50		91.87	75.31	0.65	75.02	0.65
3053	53.70	0.64	40.60	0.63	40.63		91.86	75.30	0.65	75.02	0.65
3054	53.58	0.59	40.73	0.58	40.76		91.85	75.29	0.65	75.02	0.65
3055	53.46	0.54	40.86	0.53	40.89		91.84	75.28	0.65	75.02	0.65
3056	53.34	0.49	40.99	0.48	41.02		91.83	75.27	0.65	75.02	0.65
3057	53.22	0.44	41.12	0.43	41.15		91.82	75.26	0.65	75.02	0.65
3058	53.10	0.39	41.25	0.38	41.28		91.81	75.25	0.65	75.02	0.65
3059	52.98	0.34	41.38	0.33	41.41		91.80	75.24	0.65	75.02	0.65
3060	52.86	0.29	41.51	0.28	41.54		91.79	75.23	0.65	75.02	0.65
3061	52.74	0.24	41.64	0.23	41.67		91.78	75.22	0.65	75.02	0.65
3062	52.62	0.19	41.77	0.18	41.80		91.77	75.21	0.65	75.02	0.65
3063	52.50	0.14	41.90	0.13	41.93		91.76	75.20	0.65	75.02	0.65
3064	52.38	0.09	42.03	0.08	42.06		91.75	75.19	0.65	75.02	0.65

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MISSION/ FRAME NO.	SPACECRAFT POSITION				PRINCIPAL PT.			SUN AZIMUTH	INCIDENT		EMISSION		PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LONG	LAT	LONG		ANGLE	ANGLE	ANGLE	ANGLE		
3065	50.20	-0.04	24.73	0.26	24.86	0.26	24.86	91.68	70.10	11.32	74.53	-4.77		
3066	50.20	-0.09	24.86	0.21	24.99	0.21	24.99	91.66	69.97	11.33	74.53	-4.90		
3067	50.19	-0.14	24.55	0.15	25.12	0.15	25.12	91.64	69.83	11.33	74.53	-5.03		
3068	49.60	0.49	21.08	0.30	20.99	0.30	20.99	91.66	72.21	7.50	69.58	2.49		
3069	49.45	0.30	21.56	0.10	21.49	0.10	21.49	91.60	71.70	7.50	69.58	1.98		
3070	49.33	0.11	22.05	-0.10	22.00	-0.10	22.00	91.54	71.19	7.54	69.58	1.45		
3071	49.26	-0.08	22.54	-0.29	22.50	-0.29	22.50	91.47	70.69	7.61	69.58	0.94		
3072	49.86	-1.46	24.07	-0.83	24.32	-0.83	24.32	91.26	67.08	22.92	76.51	-11.03		
3073	52.79	4.59	5.60	7.59	6.60	7.59	6.60	92.40	83.35	55.19	101.30	-22.13		
3074	57.51	4.03	6.19	4.03	6.17	4.03	6.17	92.08	81.88	0.62	81.27	0.61		
3075	56.48	3.50	6.77	3.79	6.77	3.79	6.77	92.09	81.27	0.29	81.27	0.01		
3076	55.53	3.58	7.33	3.57	7.35	3.57	7.35	92.09	80.68	0.76	81.27	-0.58		
3077	54.64	3.37	7.50	3.34	7.93	3.34	7.93	92.09	80.10	1.36	81.27	-1.17		
3078	56.80	-4.74	26.53	-10.29	26.51	-10.29	26.51	85.69	59.84	74.44	78.46	-59.45		
3079	48.44	-2.00	17.58	-1.81	17.65	-1.81	17.65	90.83	66.68	7.56	69.41	-2.91		
3080	46.71	-1.64	12.89	-1.43	12.94	-1.43	12.94	91.01	67.88	4.49	69.82	-2.00		
3081	46.92	-1.72	13.24	-1.61	13.40	-1.61	13.40	90.93	67.41	4.56	69.82	-2.46		
3082	47.16	-1.89	13.80	-1.80	13.87	-1.80	13.87	90.84	66.94	4.68	69.82	-2.93		
3083	47.44	-2.08	14.26	-1.98	14.35	-1.98	14.35	90.75	66.45	4.85	69.82	-3.41		
3084	46.75	1.61	2.52	0.80	-1.04	0.80	-1.04	91.64	80.17	71.44	15.55	57.86		
3085	49.07	2.52	-1.30	4.94	-0.34	4.94	-0.34	92.58	77.86	59.74	95.76	-30.76		
3086	46.94	1.83	-1.23	1.21	-1.60	1.21	-1.60	91.78	77.22	24.28	69.71	6.33		
3087	46.70	1.73	-1.20	1.16	-1.46	1.16	-1.46	91.78	77.08	24.28	69.71	6.18		
3088	46.58	1.68	-0.54	1.11	-1.33	1.11	-1.33	91.77	76.94	24.27	69.71	6.02		
3089	46.44	1.63	-0.61	1.06	-1.19	1.06	-1.19	91.76	76.80	24.26	69.71	5.87		
3090	46.35	1.58	-0.68	1.01	-1.06	1.01	-1.06	91.75	76.67	24.26	69.71	5.72		
3091	46.25	1.53	-0.56	0.96	-0.93	0.96	-0.93	91.74	76.53	24.26	69.71	5.57		
3092	46.14	1.48	-0.43	0.91	-0.80	0.91	-0.80	91.74	76.40	24.26	69.71	5.42		
3093	45.42	1.16	-1.52	0.86	-0.67	0.86	-0.67	91.73	76.27	24.25	69.71	5.27		
3094	45.34	1.12	-1.41	0.87	-1.51	0.87	-1.51	91.76	75.48	10.42	71.76	3.49		
3095	45.26	1.08	-1.29	0.83	-1.39	0.83	-1.39	91.75	75.36	10.42	71.76	3.37		
3096	45.18	1.03	-1.17	0.78	-1.27	0.78	-1.27	91.73	75.23	10.41	71.76	3.24		
3097	45.11	0.99	-1.06	0.74	-1.15	0.74	-1.15	91.72	75.11	10.41	71.76	3.12		
3098	45.04	0.94	-0.94	0.69	-1.03	0.69	-1.03	91.71	74.99	10.41	71.76	2.99		
3099	44.97	0.90	-0.82	0.65	-0.91	0.65	-0.91	91.70	74.87	10.41	71.76	2.87		
3100	44.90	0.85	-0.71	0.60	-0.79	0.60	-0.79	91.69	74.75	10.41	71.76	2.74		
3101	44.88	0.82	-0.68	0.56	-0.67	0.56	-0.67	91.69	74.63	10.41	71.76	2.62		
3102	51.88	3.32	-9.48	4.84	-9.07	4.84	-9.07	92.24	81.29	42.76	82.42	-4.29		
3103	45.89	1.41	-5.55	0.93	-6.21	0.93	-6.21	91.73	76.54	19.50	69.73	6.05		
3104	45.50	1.22	-5.21	0.75	-5.71	0.75	-5.71	91.70	76.03	19.47	69.73	5.50		
3105	45.16	1.03	-5.02	0.56	-5.21	0.56	-5.21	91.66	75.52	19.45	69.73	4.95		
3106	44.85	0.84	-4.43	0.37	-4.71	0.37	-4.71	91.62	75.01	19.43	69.73	4.40		
3107	43.90	-0.24	-5.56	-0.37	-5.60	-0.37	-5.60	91.42	72.36	5.31	70.90	1.38		
3108	51.01	-4.38	3.25	-4.38	3.28	-4.38	3.28	89.30	61.67	0.79	62.46	-0.79		
3109	51.00	-4.57	3.76	-4.58	3.80	-4.58	3.80	89.15	61.15	1.34	62.46	-1.31		
3110	52.64	-4.77	4.22	-4.78	4.34	-4.78	4.34	88.99	60.62	1.91	62.46	-1.84		
3111	53.53	-4.97	4.61	-4.99	4.88	-4.99	4.88	88.82	60.08	2.48	62.46	-2.39		
3112	43.95	-0.87	-7.82	-1.83	-8.20	-1.83	-8.20	90.93	71.41	36.39	62.86	3.49		
3113	43.95	-0.92	-7.68	-1.88	-8.06	-1.88	-8.06	90.90	71.26	36.39	62.86	3.49		
3114	43.97	-0.97	-7.41	-1.94	-7.92	-1.94	-7.92	90.88	71.12	36.39	62.86	3.49		
3115	43.98	-1.03	-7.41	-1.99	-7.78	-1.99	-7.78	90.86	70.98	36.39	62.86	3.49		
3116	46.54	-2.04	-4.34	-3.11	-4.39	-3.11	-4.39	90.21	65.82	6.53	64.11	1.35		
3117	46.57	-3.12	-3.68	-3.29	-3.91	-3.29	-3.91	90.09	65.33	6.59	64.11	1.05		

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	ALT	LAT	LONG	LAT	LCNG						
3118	47.45	-3.31	-3.40	-3.48	-3.42		89.98	64.84	6.69		1.55
3119	47.97	-3.49	-2.51	-3.67	-2.92		89.86	64.74	6.83	64.11	1.03
3120	48.33	-3.63	-15.52	-0.73	-19.51		91.33	77.46	69.93	14.87	52.52
3121	48.33-15	-12.52	127.05	-3.15	126.59		277.46	70.43	23.98	70.15	-1.68
3122	48.22	1.54	-21.79	1.27	-21.91		91.71	78.15	18.09	72.46	5.12
3123	53.72	3.68	-27.55	7.67	-27.57		92.52	82.30	71.46	85.40	-18.93
3124	48.72	-0.62	-20.05	-0.52	-20.10		91.73	72.77	9.26	72.59	0.19
3125	48.71	-0.66	-15.62	-0.67	-15.68		91.31	72.65	0.24	72.58	0.06
3126	48.70	-0.71	-15.66	-0.72	-15.66		91.30	72.53	0.29	72.56	-0.06
3127	48.55	-0.75	-15.75	-0.76	-15.74		91.28	72.41	0.35	72.55	-0.19
3128	48.48	-0.80	-15.63	-0.81	-15.62		91.26	72.29	0.47	72.55	-0.30
3129	48.67	-0.85	-15.51	-0.86	-15.50		91.25	72.17	0.58	72.56	-0.42
3130	48.67	-0.89	-15.40	-0.90	-15.39		91.23	72.05	0.70	72.55	-0.54
3131	48.67	-0.94	-15.28	-0.95	-15.27		91.22	71.93	0.82	72.59	-0.66
3132	48.37	-2.39	-17.25	-3.23	-17.27		90.30	68.83	24.10	60.57	3.63
3133	46.70	-2.52	-17.03	-3.46	-17.39		90.18	68.35	34.10	60.57	3.89
3134	47.08	-2.74	-16.46	-3.69	-16.81		90.05	67.67	34.11	60.57	2.13
3135	47.52	-2.96	-15.86	-3.93	-16.22		89.91	67.07	34.11	60.57	1.39
3136	48.99	-2.18	-15.45	-3.16	-23.07		90.50	72.17	67.22	17.07	29.38
3137	48.70	-1.74	-22.52	-2.92	-23.44		90.51	70.79	39.21	62.20	2.79
3138	48.75	-1.60	-22.62	-2.98	-23.29		90.49	70.64	39.21	62.20	2.49
3139	48.80	-1.56	-22.62	-3.05	-23.13		90.45	70.48	39.21	62.20	2.27
3140	48.85	-1.52	-22.53	-3.11	-22.97		90.43	70.32	39.21	62.20	2.05
3141	48.90	-1.58	-22.27	-3.17	-22.82		90.39	70.16	39.21	62.20	1.84
3142	48.56	-2.24	-22.23	-3.23	-22.66		90.36	70.03	39.22	62.20	1.62
3143	49.02	-2.09	-22.07	-3.29	-22.50		90.33	69.85	39.22	62.20	1.41
3144	49.06	-2.15	-21.52	-3.35	-22.36		90.30	69.59	39.23	62.20	1.19
3145	49.82	-2.46	-22.05	-3.70	-23.12		90.50	68.72	39.23	62.20	1.88
3146	49.85	-2.51	-22.52	-3.75	-23.00		90.47	68.59	39.23	62.20	1.75
3147	49.97	-2.55	-22.81	-3.80	-22.87		90.45	68.46	39.23	62.20	1.62
3148	50.04	-2.60	-22.68	-3.85	-22.74		90.42	68.33	39.23	62.20	1.48
3149	50.12	-2.65	-22.56	-3.90	-22.62		90.40	68.21	39.23	62.20	1.35
3150	50.21	-2.70	-22.44	-3.95	-22.49		90.37	68.08	39.23	62.20	1.22
3151	50.28	-2.74	-22.31	-4.00	-22.36		90.35	67.95	39.23	62.20	1.09
3152	50.37	-2.79	-22.15	-4.04	-22.24		90.32	67.82	39.23	62.20	0.96
3153	51.11	-3.01	-22.55	-4.27	-23.51		90.32	67.69	39.23	62.20	0.83
3154	51.21	-3.06	-22.42	-4.32	-23.38		90.30	67.57	39.23	62.20	0.70
3155	51.31	-3.11	-22.30	-4.37	-23.25		90.27	67.44	39.23	62.20	0.57
3156	51.42	-3.16	-22.17	-4.42	-23.12		90.24	67.31	39.23	62.20	0.44
3157	51.53	-3.20	-22.05	-4.47	-22.99		90.21	67.18	39.23	62.20	0.31
3158	51.63	-3.25	-22.52	-4.52	-22.86		90.19	67.05	39.23	62.20	0.18
3159	51.74	-3.30	-22.60	-4.57	-22.73		90.16	66.92	39.23	62.20	0.05
3160	51.86	-3.35	-22.67	-4.62	-22.60		90.13	66.79	39.23	62.20	-0.08
3161	54.39	1.63	-37.51	1.58	-42.32		91.61	84.21	58.81	68.76	-2.35
3162	54.75	1.74	-40.11	1.69	-42.19		92.86	84.21	58.81	68.76	-2.35
3163	54.80	1.74	-40.11	1.70	-42.19		92.86	84.21	58.81	68.76	-2.35
3164	54.83	1.74	-40.11	1.71	-42.19		92.86	84.21	58.81	68.76	-2.35
3165	54.86	1.74	-40.11	1.72	-42.19		92.86	84.21	58.81	68.76	-2.35
3166	54.89	1.74	-40.11	1.73	-42.19		92.86	84.21	58.81	68.76	-2.35
3167	54.92	1.74	-40.11	1.74	-42.19		92.86	84.21	58.81	68.76	-2.35
3168	54.95	1.74	-40.11	1.75	-42.19		92.86	84.21	58.81	68.76	-2.35
3169	54.98	1.74	-40.11	1.76	-42.19		92.86	84.21	58.81	68.76	-2.35
3170	55.01	1.74	-40.11	1.77	-42.19		92.86	84.21	58.81	68.76	-2.35

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MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LONG	LONG					
3171	52.23	-2.58	-33.42	-3.86	-35.90	90.25	71.93	66.05	14.82	38.35	
3172	52.26	-1.29	-35.85	-2.42	-44.37	90.92	71.93	66.05	14.82	38.35	
3173	52.25	-3.15	-37.82	-3.25	-47.27	90.27	71.93	66.05	14.82	38.35	
3174	53.34	-3.25	-37.12	-3.30	-37.13	90.24	68.65	3.68	68.25	0.42	
3175	53.44	-3.25	-36.58	-3.36	-36.99	90.21	68.65	3.68	68.25	0.35	
3176	53.52	-3.33	-36.65	-3.41	-36.85	90.19	68.37	3.75	68.25	0.21	
3177	53.64	-3.35	-36.71	-3.46	-36.72	90.16	68.24	3.84	68.25	0.07	
3178	53.74	-2.40	-36.55	-3.51	-36.58	90.13	68.10	3.85	68.25	-0.21	
3179	53.84	-2.45	-36.45	-3.56	-36.44	90.10	67.96	3.91	68.25	-0.21	
3180	53.95	-2.50	-36.31	-3.62	-36.30	90.07	67.82	3.98	68.25	-0.21	
3181	53.99	-1.65	-42.52	-2.22	-43.50	90.82	73.27	19.57	67.77	4.50	
3182	53.39	-1.70	-43.15	-2.28	-43.35	90.80	73.13	19.57	67.77	4.34	
3183	53.40	-1.76	-43.01	-2.33	-43.21	90.78	72.99	19.58	67.77	4.19	
3184	53.41	-1.81	-42.87	-2.38	-43.07	90.74	72.85	19.58	67.77	4.03	
3185	54.00	-1.53	-44.52	-2.32	-44.67	90.78	72.89	19.58	67.77	4.03	
3186	54.02	-1.48	-44.55	-2.33	-44.53	90.75	72.85	19.58	67.77	4.03	
3187	54.04	-2.03	-44.25	-2.40	-44.39	90.73	72.41	13.08	68.44	3.67	
3188	54.06	-2.08	-44.11	-2.46	-44.25	90.71	72.27	13.08	68.44	3.52	
3189	54.09	-2.13	-43.98	-2.51	-44.11	90.69	72.12	13.09	68.44	3.37	
3190	54.12	-2.18	-43.84	-2.56	-43.97	90.66	71.98	13.09	68.44	3.22	
3191	54.15	-2.23	-43.70	-2.62	-43.83	90.64	71.84	13.10	68.44	3.07	
3192	54.19	-2.28	-43.57	-2.67	-43.69	90.62	71.70	13.11	68.44	2.92	
3193	54.22	-2.34	-43.43	-2.72	-43.55	90.59	71.56	13.12	68.44	2.77	
3194	54.27	-2.39	-43.35	-2.78	-43.41	90.57	71.42	13.13	68.44	2.63	
3195	54.31	-2.44	-43.16	-2.83	-43.26	90.54	71.28	13.14	68.44	2.48	
3196	54.36	-2.49	-43.03	-2.88	-43.12	90.52	71.13	13.16	68.44	2.33	
3197	54.41	-2.54	-42.88	-2.94	-42.98	90.49	70.99	13.17	68.44	2.18	
3198	54.47	-2.59	-42.75	-2.99	-42.84	90.47	70.85	13.19	68.44	2.03	
3199	54.52	-2.64	-42.61	-3.04	-42.70	90.44	70.71	13.21	68.44	1.88	
3200	54.58	-2.69	-42.48	-3.10	-42.56	90.42	70.57	13.23	68.44	1.73	
3201	55.51	-3.07	-43.49	-3.21	-43.47	90.33	69.72	4.73	68.92	1.58	
3202	55.65	-3.12	-43.31	-3.26	-43.34	90.30	69.59	4.76	68.92	1.58	
3203	55.77	-3.17	-43.16	-3.31	-43.20	90.28	69.44	4.79	68.92	1.58	
3204	55.86	-3.22	-43.04	-3.37	-43.05	90.25	69.30	4.83	68.92	1.58	
3205	56.25	-3.15	-45.15	-2.16	-44.79	90.70	69.29	30.92	82.57	-15.92	
3206	56.38	-3.21	-45.03	-2.22	-44.62	90.67	69.12	30.91	82.57	-13.09	
3207	56.45	-3.27	-44.87	-2.28	-44.46	90.65	68.96	30.92	82.57	-16.26	
3208	56.56	-3.33	-44.71	-2.34	-44.29	90.62	68.79	30.93	82.57	-16.43	
3209	56.67	-3.39	-44.55	-2.40	-44.12	90.59	68.62	30.94	82.57	-16.60	
3210	56.79	-3.46	-44.35	-2.46	-43.95	90.56	68.45	30.95	82.57	-16.77	
3211	56.91	-3.51	-44.22	-2.52	-43.79	90.53	68.28	30.96	82.57	-16.95	
3212	57.03	-3.57	-44.06	-2.58	-43.62	90.49	68.11	30.97	82.57	-17.12	
3213	58.98	1.31	-58.50	-3.33	-59.78	90.99	82.51	71.45	68.76	-2.92	
3214	63.45	1.50	-64.41	7.05	-64.39	90.19	83.91	70.89	86.18	-14.40	
3215	64.60	2.01	-66.66	2.02	-66.70	91.62	84.30	1.16	83.14	1.16	
3512.53	-71.23	76.27	-71.50	91.31	61.85	81.38	7.17	87.93	-6.56		
3510.05	-71.13	76.26	-71.17	91.33	61.88	81.22	7.20	87.93	-6.72		
3507.55	-71.02	76.45	-70.83	91.34	61.91	81.06	7.25	87.93	-6.88		
3505.08	-70.61	76.54	-70.49	91.35	61.94	80.89	7.32	87.93	-7.04		
3503.15	-42.02	86.28	-41.79	96.20	65.08	85.23	11.43	76.22	-11.04		
3501.37	-41.88	86.33	-41.42	96.19	65.25	85.07	11.07	76.22	-11.19		
3500.60	-41.74	86.32	-41.04	96.19	65.41	84.92	11.71	76.22	-11.33		
3503.85	-41.51	86.34	-40.67	96.18	65.57	84.77	11.77	76.22	-11.48		

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	ALT	LAT	LONG	LAT	LONG						
4013	2748.23	-14.02	89.21	-13.87	89.63	82.29	42.72	1.13	63.50	-0.78	
4014	2747.54	-14.27	89.22	-13.48	89.65	82.48	62.64	1.46	63.50	-3.87	
4015	2746.87	-14.11	89.22	-13.09	89.69	82.67	62.53	1.82	63.50	-0.96	
4016	2746.20	-13.56	89.25	-12.70	89.73	82.86	62.47	2.20	63.50	-1.04	
4017	2739.11	-13.29	91.45	14.24	90.44	97.50	61.55	1.73	59.89	1.63	
4018	2739.70	14.34	91.46	14.63	90.47	97.72	61.57	1.84	59.89	1.68	
4019	2743.30	14.15	91.47	15.03	90.56	97.95	61.59	2.05	59.89	1.70	
4020	2740.91	14.24	91.45	15.42	90.54	98.17	61.51	2.31	59.89	1.71	
4021	2579.20	42.68	94.25	42.97	98.82	117.80	62.96	4.94	67.34	-4.40	
4022	2560.55	42.02	94.58	43.34	98.91	118.04	63.08	5.22	67.34	-4.30	
4023	2382.72	42.10	94.46	43.71	99.03	118.28	63.19	5.13	67.34	-4.19	
4024	2594.47	42.39	94.62	44.08	99.09	118.53	63.31	5.26	67.34	-4.08	
4025	2109.47	-0.11	-02.54	-3.32	-73.12	267.60	133.65	19.28	114.77	18.98	
4026	2464.14	-11.56	75.66	-42.74	93.38	64.43	65.43	12.54	76.66	-11.34	
4027	2747.19	-14.35	82.59	-15.22	82.67	81.87	62.71	1.43	53.64	0.06	
4028	2739.56	12.54	84.87	13.34	81.88	95.30	63.78	4.78	59.25	4.51	
4029	2581.39	42.89	87.54	41.32	89.17	114.13	64.58	2.87	66.90	-2.34	
4030	3305.41	43.17	93.00	43.97	85.39	112.34	68.03	29.42	76.68	-11.57	
4031	3504.93	-11.24	63.02	-71.40	77.79	53.09	81.72	7.05	88.26	-6.55	
4032	2964.56	-42.02	73.64	-41.54	84.13	64.90	65.15	12.98	77.40	-12.32	
4033	2746.23	-14.41	75.57	-14.71	76.59	92.09	63.60	1.09	64.50	-0.91	
4034	2740.01	12.88	78.20	13.63	76.71	96.71	62.89	2.41	60.55	2.30	
4035	2482.45	42.82	81.30	41.65	85.89	116.60	62.79	5.68	68.44	-5.65	
4036	2981.59	-42.02	66.45	-42.64	77.77	54.75	65.65	13.21	77.66	-12.12	
4037	2744.56	-14.39	65.36	-14.90	69.88	82.17	64.19	1.17	64.90	-0.71	
4038	2739.65	12.50	71.57	13.28	70.20	95.40	63.23	2.41	61.18	2.04	
4039	2683.60	42.85	74.64	41.26	80.11	116.70	62.37	6.88	69.22	-5.87	
4040	2452.71	71.40	84.75	70.99	84.08	130.13	76.47	2.28	77.69	-1.23	
4041	2457.58	-71.27	50.66	-72.12	69.36	59.57	81.12	8.97	88.92	-7.86	
4042	2579.07	-42.04	55.82	-42.42	71.80	64.71	65.46	13.91	78.25	-12.93	
4043	2742.56	-14.40	62.75	-14.81	63.41	82.31	64.52	1.23	65.46	-0.95	
4044	2728.48	12.88	64.93	13.32	62.36	95.93	64.89	4.18	60.94	3.94	
4045	2983.35	42.84	67.55	41.21	71.77	114.84	63.85	5.17	68.98	-5.14	
4046	6113.90	0.18	-119.47	9.35	-112.19	277.31	123.43	15.83	114.82	9.56	
4047	6113.97	-0.37	-119.46	9.35	-112.14	276.56	123.63	14.95	114.82	9.59	
4048	2736.44	-42.05	53.23	-42.91	63.81	63.03	66.93	12.25	77.97	-11.14	
4049	2740.22	-14.41	56.14	-14.82	55.82	82.44	64.97	1.26	65.94	-0.97	
4050	2716.67	12.89	58.25	13.55	56.70	95.17	64.47	2.57	62.02	2.45	
4051	2982.13	42.84	61.25	42.97	65.57	115.15	64.25	5.18	69.36	-5.11	
4052	2454.66	71.63	71.06	70.25	63.44	125.81	77.51	2.30	77.59	-0.19	
4053	2493.64	-71.36	37.31	-71.58	54.40	61.98	81.53	8.10	89.04	-7.52	
4054	2574.56	-42.11	46.75	-41.75	55.05	58.54	68.28	9.73	77.68	-9.42	
4055	2737.75	-14.43	49.24	-13.58	49.49	83.55	66.55	1.83	65.64	1.01	
4056	2575.36	42.81	54.52	42.37	50.14	94.15	65.37	3.10	62.27	3.10	
4057	2724.04	12.87	51.63	14.14	49.69	113.03	64.55	5.44	69.80	-3.25	
4058	2572.87	-42.14	40.27	-42.56	50.55	66.95	67.49	12.70	78.62	-11.20	
4059	2715.08	-14.44	42.55	-14.90	43.30	92.78	66.21	0.93	66.67	-0.47	
4060	2710.75	12.87	44.52	13.47	41.04	95.69	65.82	3.15	62.82	3.00	
4061	2575.58	42.81	47.75	41.80	51.64	113.64	65.27	4.77	70.03	-4.77	
4062	2487.77	71.63	57.12	70.93	51.66	124.40	78.51	1.95	77.78	0.72	
4063	2456.53	-71.56	24.62	-72.65	49.06	55.08	83.31	11.25	89.95	-9.69	
4064	2972.20	-42.22	33.74	-43.65	46.67	64.69	66.44	15.07	79.72	-13.44	

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ILLUMINATION PARAMETERS COVERED BY MISSION AND FRAME NUMBER

MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	'EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LONG						
4372	2722.95	-14.57	35.35	-15.77	17.86		82.16	65.67	3.15	67.72	-2.13
4373	2722.50	33.82	38.33	12.53	37.59		95.43	65.67	2.41	54.12	0.93
4374	2965.84	45.75	41.56	40.70	45.57		113.20	64.78	4.25	70.94	-0.14
4375	6124.75	0.36	-145.56	4.29	-145.86		-272.48	64.78	5.43	114.82	0.13
4376	2571.56	-45.21	37.23	-42.77	37.87		47.25	67.89	-2.44	79.35	-11.53
4377	2722.56	-14.45	26.77	-14.92	17.15		83.02	67.89	0.98	67.50	-0.92
4378	2722.09	15.86	31.68	13.37	17.21		95.43	66.36	2.51	64.13	2.22
4379	2533.81	45.79	34.23	41.83	39.05		113.75	65.50	5.73	71.20	-5.70
4380	2479.67	11.89	43.34	7.45	43.09		128.92	76.95	2.53	79.33	-2.37
4381	3502.94	-71.42	12.54	-72.37	32.47		59.38	81.29	9.44	89.67	-8.41
4382	2971.86	-42.23	20.71	-42.95	31.02		63.27	57.24	1.40	80.18	-13.04
4383	2722.81	-14.45	23.12	-15.19	14.28		82.82	66.88	2.12	68.47	-1.59
4384	2715.92	15.88	25.64	12.99	23.84		95.24	66.48	2.23	64.88	1.59
4385	2976.11	42.20	27.41	41.52	31.25		111.67	66.34	5.23	71.32	-5.02
4386	2973.24	-42.26	14.12	-42.70	24.94		57.75	68.34	12.53	80.04	-11.76
4387	2734.42	-14.45	16.55	-15.38	14.92		83.23	68.08	1.16	68.44	-0.39
4388	2711.25	15.89	16.40	13.75	15.97		95.02	68.43	4.03	64.44	3.95
4389	2947.25	42.50	20.52	42.03	25.73		112.55	66.30	5.78	72.01	-5.72
4390	3437.20	11.92	25.48	71.14	32.23		127.43	77.79	1.73	79.51	-1.72
4391	3516.92	-71.70	-0.67	-72.11	20.19		59.44	81.19	9.62	89.98	-8.81
4392	2975.52	-42.27	7.64	-42.54	18.70		57.90	58.30	12.87	80.50	-12.14
4393	2722.28	-14.45	5.55	-15.18	13.67		83.22	68.45	3.69	65.25	3.19
4394	2735.31	15.43	13.76	12.97	15.66		94.67	68.64	5.89	72.44	-5.81
4395	2937.53	42.81	14.21	40.97	18.52		111.26	66.64	10.77	115.34	-9.89
4396	6142.22	0.11	-172.22	3.51	179.92		271.47	105.12	13.37	80.89	-12.30
4397	2978.20	-42.26	1.05	-42.72	12.29		58.05	68.65	1.41	69.44	-0.57
4398	2723.45	-14.45	3.72	-15.19	3.83		83.42	68.90	2.85	66.05	2.35
4399	2959.16	15.88	5.14	12.96	3.53		94.67	68.35	4.62	72.35	-4.52
4400	2926.59	42.76	7.27	41.81	11.28		110.71	67.72	2.53	79.95	-2.19
4401	3427.69	11.87	15.82	70.35	18.10		57.96	82.85	10.49	90.39	-9.57
4402	3534.50	-71.71	-13.27	-72.16	9.44		87.93	68.36	13.89	81.46	-13.16
4403	2981.85	-42.26	-5.42	-42.41	5.45		88.78	58.87	1.32	70.18	-1.31
4404	2719.32	-14.45	-3.17	-14.24	-2.35		109.58	59.24	2.93	66.16	3.32
4405	2682.06	12.69	-1.42	13.79	-3.58		94.69	68.47	4.59	72.10	-2.26
4406	5515.84	42.77	5.65	42.55	3.75		69.16	69.58	12.50	81.41	-11.84
4407	2718.03	-14.45	-5.82	-14.64	-0.51		83.92	69.90	0.54	70.34	-0.43
4408	2687.23	12.89	-8.09	13.46	-0.97		94.22	70.68	4.65	56.16	4.53
4409	2525.18	42.76	-5.70	42.27	-2.67		109.53	69.35	3.65	72.68	-3.23
4410	3397.00	11.89	2.48	70.80	4.49		124.13	78.38	1.90	80.09	-1.71
4411	3534.56	-71.67	-24.85	-72.45	-4.99		42.01	83.16	9.14	90.37	-8.74
4412	2992.55	-42.26	-18.74	-42.75	-7.44		69.65	69.65	13.12	81.99	-12.39
4413	2717.53	-14.46	-16.42	-14.29	-13.64		94.03	69.89	1.28	71.16	-1.27
4414	2681.82	12.87	-14.65	13.81	-13.80		94.40	70.42	3.37	47.07	3.35
4415	2895.03	42.76	-12.27	42.77	-3.24		109.10	69.29	3.74	73.03	-3.74
4416	6141.33	-0.27	121.26	1.13	162.38		271.07	112.35	2.04	110.62	1.42
4417	2994.47	-42.26	-25.42	-43.70	-1.38		49.38	70.10	13.18	92.36	-12.33
4418	2714.37	-14.45	-25.42	-14.85	-2.37		94.15	71.12	0.82	71.17	-0.36
4419	2677.25	12.51	-21.27	12.35	-3.35		94.02	70.48	3.35	67.78	2.68
4420	2729.22	12.89	-18.75	11.23	-14.29		119.57	48.24	5.93	74.12	-5.89
4421	2574.83	-71.43	-40.44	-65.12	-25.85		123.30	78.35	3.02	80.31	-1.97
4422	2699.02	-42.26	-22.12	-76.51	-23.47		66.34	81.31	12.62	91.50	-10.27
4423							73.97	70.47	13.79	82.84	-12.48

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LCNG						
4132	2717.38	-14.42	-25.69	-9.14	-29.59	86.21	71.14	8.63	72.05	-1.17	
4133	2673.44	13.91	-27.66	18.73	-29.59	95.86	71.49	8.45	67.95	3.37	
4134	2878.49	45.80	-25.20	46.31	-18.14	113.25	68.57	9.99	74.42	-6.04	
4136	3032.96	-45.16	-36.64	-42.65	-27.43	73.32	70.76	13.29	83.36	-12.65	
4137	2718.01	-14.40	-36.23	-14.98	-35.28	84.12	71.23	1.91	72.80	-1.57	
4138	2670.65	13.92	-34.43	13.70	-36.45	93.97	71.58	3.26	58.48	3.20	
4139	2872.43	45.81	-31.75	42.16	-28.25	108.58	69.76	4.32	74.07	-4.31	
4140	3355.16	12.21	-22.53	71.05	-16.31	127.74	77.50	3.45	80.94	-3.44	
4142	3066.60	-42.14	-45.58	-42.04	-33.37	70.41	70.47	1.42	84.24	-13.80	
4143	2719.10	-14.41	-42.52	-14.30	-41.41	84.33	71.19	2.50	73.55	-2.50	
4144	2668.98	12.90	-41.01	14.03	-41.76	94.27	70.93	1.23	69.71	1.22	
4145	2868.11	42.81	-38.27	42.33	-33.70	109.12	69.35	5.45	74.72	-5.38	
4146	6147.89	0.16	134.66	2.79	135.09	271.70	110.12	3.73	198.60	1.56	
4147	6148.74	0.00	134.67	2.99	135.14	271.45	110.19	3.14	198.63	1.62	
4148	3035.38	-42.11	-52.23	-42.95	-41.38	71.55	72.12	12.73	84.07	-12.00	
4149	2720.27	-14.40	-49.64	-15.05	-48.76	84.42	72.46	1.75	73.75	-1.29	
4150	2668.38	13.91	-47.55	12.70	-49.29	93.45	72.21	3.39	69.63	2.57	
4151	2865.88	42.84	-44.74	40.88	-29.61	108.28	69.15	6.26	75.28	-5.13	
4152	3344.90	72.22	-34.75	69.78	-29.61	126.43	76.99	4.51	81.19	-4.21	
4153	2613.43	-72.08	-65.24	-71.70	-31.51	52.20	79.22	16.12	94.45	-15.31	
4155	3011.09	-42.07	-59.07	-42.41	-48.89	72.75	72.95	11.84	84.33	-11.41	
4156	2721.54	-14.39	-56.29	-14.88	-55.80	84.73	73.36	1.19	74.95	-0.70	
4157	2668.78	13.91	-54.17	13.36	-56.27	93.42	73.11	3.49	69.80	3.30	
4158	2665.52	42.85	-51.82	41.99	-47.66	107.65	70.45	4.44	74.88	-4.43	
4160	3012.07	-42.03	-65.80	-42.79	-54.52	72.28	72.74	13.12	85.18	-12.48	
4161	2722.66	-14.36	-62.54	-15.13	-61.98	84.66	73.46	1.97	74.86	-1.40	
4162	2669.91	13.93	-60.75	13.22	-62.17	93.41	72.91	2.56	70.71	2.20	
4163	2866.65	42.87	-57.71	41.21	-53.38	107.65	69.93	5.81	75.63	-5.71	
4164	3345.72	72.26	-47.11	70.19	-41.50	126.80	77.12	4.16	81.15	-4.03	
4165	5486.51	22.56	112.70	38.84	81.13	259.41	76.08	33.33	108.75	-32.76	
4166	3592.60	-71.19	-82.44	-71.31	-60.23	66.38	83.00	10.51	93.20	-10.20	
4167	3009.05	-41.82	-72.48	-42.01	-60.70	72.56	72.58	13.75	85.90	-13.35	
4168	2722.14	-14.14	-69.56	-14.45	-68.18	84.87	73.50	2.26	75.65	-2.15	
4169	2672.02	14.14	-67.33	13.69	-68.49	93.49	73.14	1.99	71.34	1.80	
4170	2870.52	42.00	-64.22	41.77	-59.60	107.74	70.18	5.81	75.98	-5.80	
4171	5800.00	-34.03	110.74	-21.34	94.79	259.11	94.21	137.86	114.05	-29.02	
4172	3010.72	-41.58	-75.20	-42.94	-67.94	73.13	73.67	13.12	86.04	-12.44	
4173	2724.03	-14.37	-76.23	-14.77	-75.41	85.08	74.63	1.45	75.87	-1.24	
4174	2673.04	13.91	-73.55	13.37	-75.41	93.02	74.69	3.49	71.27	3.22	
4175	2871.66	42.86	-76.79	41.29	-66.78	106.76	70.80	5.49	76.07	-5.28	
4176	3353.82	72.28	-59.77	69.97	-54.78	125.68	77.25	4.28	81.23	-3.98	
4177	5491.85	22.56	99.33	38.81	67.86	259.73	75.23	33.23	107.72	-32.60	
4178	5756.24	-33.98	104.14	-33.87	82.21	251.05	88.54	23.42	111.88	-23.34	
4179	3591.83	-71.28	-96.22	-69.52	-74.07	68.15	82.85	12.65	94.08	-11.23	
4180	3009.00	-42.00	-85.66	-40.83	-75.22	74.57	73.95	12.65	86.58	-12.63	
4181	2723.92	-14.40	-82.66	-13.09	-82.18	85.69	75.16	2.39	76.40	-1.25	
4182	2674.32	12.88	-80.57	15.26	-81.41	93.72	73.34	2.64	72.46	1.47	
4183	2874.45	42.84	-77.35	43.53	-71.02	108.91	70.16	7.52	77.00	-6.86	
4184	5790.16	-34.03	97.22	-35.18	69.32	275.83	83.06	29.73	112.72	-29.72	
4185	5789.66	-24.05	97.52	-35.27	69.30	275.86	83.05	29.73	112.72	-29.73	
4186	3005.60	-41.94	-92.48	-42.27	-81.34	74.18	74.36	12.99	86.97	-12.63	
4187	2722.78	-14.36	-86.48	-14.97	-89.06	85.40	76.06	1.20	76.66	-0.40	
4188	2675.39	12.92	-87.15	13.38	-89.22	92.74	75.49	3.37	72.25	3.19	

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER 20/10/71 PAGE 16

MISSION/ FRAME NO.	SPACECRAFT POSITION				PRINCIPAL PT.				SUN AZIMUTH	INCIDENT		EMISSION		PHASE		ALPHA
	LAT	LAT	LONG	LONG	LAT	LONG	LAT	LONG		ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	
4189	2877.75	42.88	-84.00	-84.00	41.71	-79.99	41.71	-79.99	106.12	71.63	5.11	76.70	76.70	76.70	76.70	-5.07
4190	3373.20	72.71	-72.45	-72.45	70.34	-63.47	70.34	-63.47	129.20	74.50	5.60	82.08	82.08	82.08	82.08	-5.58
4191	5523.39	31.95	86.05	86.05	38.30	53.79	38.30	53.79	257.65	73.58	33.98	106.97	106.97	106.97	106.97	-33.40
4192	5563.98	13.93	86.05	86.05	38.22	53.84	38.22	53.84	257.70	73.58	33.94	106.97	106.97	106.97	106.97	-33.38
4193	3319.21	-66.87	-107.44	-107.44	-63.89	-85.97	-63.89	-85.97	68.60	80.69	14.66	94.63	94.63	94.63	94.63	-13.97
4194	3002.79	-42.01	-95.05	-95.05	-42.97	-86.50	-42.97	-86.50	73.29	73.91	14.63	87.83	87.83	87.83	87.83	-13.97
4195	2721.39	-14.40	-96.11	-96.11	-14.91	-94.60	-14.91	-94.60	85.25	75.53	2.52	77.84	77.84	77.84	77.84	-2.31
4196	2679.44	13.88	-92.82	-92.82	12.86	-94.86	12.86	-94.86	92.70	75.02	2.37	73.44	73.44	73.44	73.44	1.57
4197	2879.23	42.84	-90.66	-90.66	40.93	-85.86	40.93	-85.86	105.17	71.59	6.70	77.63	77.63	77.63	77.63	-6.55
4198	5781.45	-24.03	84.20	84.20	-29.05	56.71	-29.05	56.71	275.29	82.13	30.64	111.87	111.87	111.87	111.87	-29.81
4199	5780.97	-24.05	84.20	84.20	-29.14	56.70	-29.14	56.70	275.31	82.13	30.62	111.87	111.87	111.87	111.87	-29.81
4200	2718.95	-14.39	-102.71	-102.71	-14.90	-121.72	-14.90	-121.72	85.52	76.51	1.78	78.02	78.02	78.02	78.02	-1.51
4201	2674.74	13.50	-102.42	-102.42	13.68	-102.35	13.68	-102.35	92.55	76.41	3.06	73.40	73.40	73.40	73.40	3.01
4202	5515.29	22.57	72.66	72.66	35.53	42.88	35.53	42.88	259.28	74.11	31.84	105.81	105.81	105.81	105.81	-31.72
4203	5515.91	22.95	72.66	72.66	35.45	42.92	35.45	42.92	259.33	74.13	31.82	105.81	105.81	105.81	105.81	-31.70
5035	2548.57	58.57	-81.16	-81.16	59.59	-111.74	59.59	-111.74	259.55	82.23	25.18	107.41	107.41	107.41	107.41	-25.18
5036	2648.37	58.54	-81.15	-81.15	59.53	-111.66	59.53	-111.66	259.62	82.26	25.13	107.41	107.41	107.41	107.41	-25.15
5037	2650.15	58.51	-81.14	-81.14	59.56	-111.58	59.56	-111.58	259.70	82.29	25.13	107.41	107.41	107.41	107.41	-25.12
5008	2651.93	56.68	-81.12	-81.12	59.49	-111.50	59.49	-111.50	259.78	82.31	25.10	107.41	107.41	107.41	107.41	-25.10
5009	2653.70	58.85	-81.12	-81.12	59.43	-111.43	59.43	-111.43	259.85	82.34	25.07	107.41	107.41	107.41	107.41	-25.07
5010	2653.46	58.82	-81.11	-81.11	59.37	-111.35	59.37	-111.35	259.93	82.37	25.05	107.41	107.41	107.41	107.41	-25.04
5011	2657.22	58.79	-81.10	-81.10	59.30	-111.28	59.30	-111.28	259.90	82.39	25.02	107.41	107.41	107.41	107.41	-25.02
5012	2658.97	58.76	-81.09	-81.09	59.24	-111.20	59.24	-111.20	260.08	82.42	25.00	107.41	107.41	107.41	107.41	-25.00
5013	5755.32	11.15	-74.61	-74.61	14.32	-102.40	14.32	-102.40	270.83	87.26	34.89	122.11	122.11	122.11	122.11	-34.89
5014	5755.77	11.14	-74.61	-74.61	14.27	-102.39	14.27	-102.39	270.84	87.27	34.88	122.11	122.11	122.11	122.11	-34.88
5015	5756.22	11.13	-74.61	-74.61	14.23	-102.38	14.23	-102.38	270.84	87.28	34.87	122.11	122.11	122.11	122.11	-34.84
5016	5756.66	11.12	-74.60	-74.60	14.18	-102.37	14.18	-102.37	270.85	87.29	34.85	122.11	122.11	122.11	122.11	-34.83
5017	5757.11	11.11	-74.60	-74.60	14.13	-102.36	14.13	-102.36	270.85	87.30	34.84	122.11	122.11	122.11	122.11	-34.82
5018	5757.55	11.10	-74.60	-74.60	14.09	-102.35	14.09	-102.35	270.86	87.30	34.83	122.11	122.11	122.11	122.11	-34.81
5019	5757.99	11.09	-74.60	-74.60	14.04	-102.34	14.04	-102.34	270.86	87.31	34.82	122.11	122.11	122.11	122.11	-34.80
5020	5758.42	11.08	-74.60	-74.60	14.00	-102.33	14.00	-102.33	270.87	87.32	34.81	122.11	122.11	122.11	122.11	-34.79
5021	3341.53	-50.72	-69.07	-69.07	-85.19	-175.38	-85.19	-175.38	343.51	86.87	57.64	119.51	119.51	119.51	119.51	-34.78
5022	5106.27	-25.65	-77.04	-77.04	-26.96	-112.55	-26.96	-112.55	274.50	84.46	41.42	125.87	125.87	125.87	125.87	-41.40
5024	5098.71	24.01	-89.39	-89.39	26.54	-120.17	26.54	-120.17	267.82	82.34	36.78	119.12	119.12	119.12	119.12	-36.78
5025	2651.47	58.75	-99.61	-99.61	59.08	-123.77	59.08	-123.77	250.80	81.66	25.31	106.96	106.96	106.96	106.96	-25.31
5026	5609.02	-22.62	-90.55	-90.55	-27.65	-123.06	-27.65	-123.06	274.41	84.79	39.98	124.76	124.76	124.76	124.76	-39.98
5027	5672.85	-11.23	-96.46	-96.46	-11.64	-91.87	-11.64	-91.87	264.93	119.93	90.03	31.36	31.36	31.36	31.36	90.03
5028	5012.44	24.16	-103.16	-103.16	26.39	-133.19	26.39	-133.19	267.72	82.11	35.84	117.96	117.96	117.96	117.96	-35.84
5029	2568.18	55.08	-111.56	-111.56	59.12	-147.18	59.12	-147.18	254.71	79.35	28.08	107.42	107.42	107.42	107.42	-28.07
5030	5668.60	-25.33	-104.74	-104.74	-25.79	-139.29	-25.79	-139.29	274.89	83.32	40.65	123.95	123.95	123.95	123.95	-40.63
5031	1363.52	26.13	-113.59	-113.59	27.92	-135.74	27.92	-135.74	270.77	88.33	41.64	129.97	129.97	129.97	129.97	-41.64
5032	1356.62	22.61	-116.73	-116.73	24.81	-138.12	24.81	-138.12	271.23	89.19	41.02	130.20	130.20	130.20	130.20	-41.02
5033	145.32	-22.64	60.19	60.19	-25.97	61.54	-25.97	61.54	79.10	71.89	5.88	75.20	75.20	75.20	75.20	-5.88
5034	144.11	-25.26	60.23	60.23	-25.57	61.58	-25.57	61.58	79.21	71.78	5.63	75.20	75.20	75.20	75.20	-5.63
5035	142.93	-24.52	60.27	60.27	-25.18	60.82	-25.18	60.82	79.32	71.67	5.40	75.20	75.20	75.20	75.20	-5.40
5036	141.79	-24.56	60.30	60.30	-24.79	61.66	-24.79	61.66	79.42	71.57	5.20	75.20	75.20	75.20	75.20	-5.20
5037	124.63	-16.85	57.39	57.39	-18.95	57.14	-18.95	57.14	81.50	70.83	3.88	47.08	47.08	47.08	47.08	-3.88
5038	103.08	-0.52	55.52	55.52	-0.95	49.14	-0.95	49.14	88.21	73.88	65.76	8.25	8.25	8.25	8.25	65.76
5039	122.42	37.14	-128.64	-128.64	36.71	-159.46	36.71	-159.46	253.63	79.81	50.85	130.66	130.66	130.66	130.66	-50.85
5040	163.74	-30.94	50.67	50.67	-31.29	51.96	-31.29	51.96	77.73	73.37	11.46	83.12	83.12	83.12	83.12	-11.46
5041	103.27	-2.41	51.67	51.67	-2.06	46.97	-2.06	46.97	87.84	72.85	58.42	15.53	15.53	15.53	15.53	58.42
5042	102.35	-0.69	48.48	48.48	-0.99	44.10	-0.99	44.10	88.16	72.43	55.31	17.13	17.13	17.13	17.13	-55.31
5043	1190.57	-44.89	-125.44	-125.44	-47.53	-151.45	-47.53	-151.45	207.43	94.32	35.60	129.91	129.91	129.91	129.91	-35.60

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	ALT	LAT	LONG	LAT	LONG	LAT	LONG		ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	
5044	102.07	-1.24	43.17	-1.25	42.89	-1.25	42.89	87.96	68.75	68.75	4.98	63.80	4.98	4.98	
5045	102.00	-0.57	43.19	-0.97	42.92	-0.97	42.92	88.07	68.74	68.74	4.95	63.80	4.95	4.94	
5046	101.94	-0.71	43.22	-0.70	42.94	-0.70	42.94	88.17	68.71	68.71	4.93	63.80	4.93	4.91	
5047	101.88	-0.46	43.24	-0.43	42.96	-0.43	42.96	88.28	68.68	68.68	4.94	63.80	4.94	4.88	
5048	101.90	-1.09	41.42	-1.26	42.98	-1.26	42.98	87.89	67.07	67.07	26.36	93.18	26.36	26.15	
5049	101.83	-0.82	41.45	-0.97	43.00	-0.97	43.00	88.01	67.04	67.04	26.36	93.18	26.36	26.18	
5050	101.77	-0.53	41.47	-0.67	43.03	-0.67	43.03	88.14	67.00	67.00	26.35	93.18	26.35	26.21	
5051	101.72	-0.25	41.49	-0.38	43.05	-0.38	43.05	88.27	66.97	66.97	26.35	93.18	26.35	26.24	
5052	100.67	2.95	40.00	2.91	35.59	2.91	35.59	89.39	72.74	72.74	55.99	16.75	55.99	55.99	
5053	1190.50	42.56	-146.99	48.85	-176.10	48.85	-176.10	261.58	80.80	80.80	46.71	125.83	46.71	45.27	
5054	132.77	-22.62	34.24	-27.74	27.72	-27.74	27.72	82.80	79.52	79.52	65.63	33.65	65.63	35.54	
5055	100.14	2.19	34.67	2.21	34.19	2.21	34.19	89.29	69.28	69.28	8.81	60.47	8.81	8.78	
5056	100.18	2.45	34.65	2.48	34.21	2.48	34.21	89.39	69.26	69.26	8.81	60.47	8.81	8.75	
5057	100.23	2.71	34.71	2.75	34.23	2.75	34.23	89.50	69.23	69.23	8.81	60.47	8.81	8.73	
5058	100.28	2.56	34.73	3.03	34.25	3.03	34.25	89.60	69.21	69.21	8.82	60.47	8.82	8.73	
5059	100.02	2.32	32.53	2.17	34.30	2.17	34.30	89.33	67.54	67.54	23.94	91.33	23.94	23.81	
5060	100.06	2.60	32.55	2.47	34.33	2.47	34.33	89.46	67.52	67.52	23.93	91.33	23.93	23.83	
5061	100.12	2.88	32.58	2.76	34.35	2.76	34.35	89.58	67.49	67.49	23.93	91.33	23.93	23.85	
5062	100.18	2.16	33.00	3.06	34.38	3.06	34.38	89.70	67.46	67.46	23.93	91.33	23.93	23.88	
5063	99.44	-0.20	30.57	-0.37	32.81	-0.37	32.81	88.28	67.48	67.48	30.95	98.22	30.95	30.79	
5064	98.27	0.78	29.30	0.72	25.07	0.72	25.07	88.71	73.56	73.56	55.41	18.15	55.41	55.40	
5065	1191.99	-44.71	-147.27	-48.87	-168.65	-48.87	-168.65	268.06	68.77	68.77	1.58	28.36	1.58	28.36	
5066	122.86	21.42	29.29	21.53	29.27	21.53	29.27	97.13	68.78	68.78	1.92	68.36	1.92	68.36	
5067	123.67	21.75	29.32	21.87	29.30	21.87	29.30	97.28	68.80	68.80	2.26	68.36	2.26	68.36	
5068	124.49	22.07	29.35	22.22	29.33	22.22	29.33	97.43	68.81	68.81	2.61	68.36	2.61	68.36	
5069	125.33	22.39	29.38	22.57	29.37	22.57	29.37	97.57	68.81	68.81	12.74	56.99	12.74	56.99	
5070	113.14	17.11	27.13	17.30	26.33	17.30	26.33	95.04	69.57	69.57	3.62	66.34	3.62	66.34	
5071	98.27	0.40	24.02	0.39	23.82	0.39	23.82	88.61	69.96	69.96	3.60	66.34	3.60	66.34	
5072	98.25	0.65	24.04	0.64	23.84	0.64	23.84	88.71	69.93	69.93	3.61	66.34	3.61	66.34	
5073	98.23	0.91	24.06	0.93	23.86	0.93	23.86	88.80	69.90	69.90	3.60	66.34	3.60	66.34	
5074	98.23	1.16	24.08	1.20	23.88	1.20	23.88	88.90	69.87	69.87	3.61	66.34	3.61	66.34	
5075	98.33	0.54	22.28	0.39	23.86	0.39	23.86	88.90	68.30	68.30	27.46	95.59	27.46	95.59	
5076	98.30	0.82	22.30	0.69	23.88	0.69	23.88	88.72	68.27	68.27	27.46	95.59	27.46	95.59	
5077	98.29	1.10	22.32	0.98	23.90	0.98	23.90	88.84	68.24	68.24	27.46	95.59	27.46	95.59	
5078	98.29	1.39	22.35	1.29	23.93	1.29	23.93	88.96	68.21	68.21	27.46	95.59	27.46	95.59	
5079	1244.88	37.73	-163.64	38.66	167.55	38.66	167.55	263.28	79.39	79.39	14.52	83.71	14.52	83.71	
5080	98.31	2.44	17.18	2.35	17.97	2.35	17.97	89.35	69.29	69.29	14.52	83.71	14.52	83.71	
5081	98.35	2.70	17.20	2.62	17.99	2.62	17.99	89.45	69.26	69.26	14.52	83.71	14.52	83.71	
5082	98.39	2.96	17.22	2.90	18.01	2.90	18.01	89.56	69.24	69.24	14.52	83.71	14.52	83.71	
5083	98.44	3.22	17.24	3.17	18.03	3.17	18.03	89.66	69.21	69.21	14.52	83.71	14.52	83.71	
5084	114.82	-14.82	14.02	-14.95	13.91	-14.95	13.91	83.70	72.83	72.83	2.60	70.94	2.60	70.94	
5085	1239.43	37.81	-172.42	38.73	158.84	38.73	158.84	262.87	76.93	76.93	48.32	127.25	48.32	127.25	
5086	178.15	27.70	13.43	38.02	13.46	38.02	13.46	103.32	71.34	71.34	3.45	70.83	3.45	70.83	
5087	180.14	28.14	13.49	38.51	13.52	38.51	13.52	103.52	71.41	71.41	3.95	70.83	3.95	70.83	
5088	182.17	28.59	13.55	39.01	13.59	39.01	13.59	103.73	71.48	71.48	4.45	70.83	4.45	70.83	
5089	184.25	29.04	13.60	39.51	13.66	39.51	13.66	103.94	71.55	71.55	4.95	70.83	4.95	70.83	
5090	119.51	20.19	9.68	20.32	9.22	20.32	9.22	95.81	70.71	70.71	9.76	61.01	9.76	61.01	
5091	120.21	20.50	9.90	20.65	9.24	20.65	9.24	95.94	70.72	70.72	9.81	61.01	9.81	61.01	
5092	120.94	20.81	9.93	20.99	9.26	20.99	9.26	96.07	70.73	70.73	9.88	61.01	9.88	61.01	
5093	121.68	21.13	9.96	21.33	9.29	21.33	9.29	96.19	70.74	70.74	9.95	61.01	9.95	61.01	
5094	99.76	7.26	7.05	7.36	5.90	7.36	5.90	90.93	71.63	71.63	20.25	51.43	20.25	51.43	
5095	99.94	7.54	7.07	7.65	5.92	7.65	5.92	91.03	71.62	71.62	20.25	51.43	20.25	51.43	
5096	100.13	7.61	7.09	7.93	5.94	7.93	5.94	91.13	71.60	71.60	20.26	51.43	20.26	51.43	

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MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT		EMISSION		PHASE		ALPHA
	ALT	LAT	LONG	LAT	LONG			ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	ANGLE	
5097	100.33	5.08	7.11	8.22	5.96		91.23	71.59	20.28	51.43	20.14	51.43	20.14	
5098	100.50	-4.97	4.32	-5.01	4.02		86.87	72.16	5.50	56.67	5.49	56.67	5.49	
5099	100.29	-4.71	4.34	-4.73	4.04		86.95	72.12	5.45	66.67	5.45	66.67	5.45	
5100	100.08	-4.45	4.36	-4.46	4.07		87.04	72.08	5.42	66.67	5.41	66.67	5.41	
5101	59.89	-4.19	4.38	-4.18	4.09		87.13	72.05	5.40	66.67	5.38	66.67	5.38	
5102	250.34	51.29	8.27	48.22	1.08		101.79	77.76	39.77	53.72	21.40	53.72	21.40	
5103	1230.54	37.85	178.75	38.72	150.81		262.91	78.98	47.26	126.24	-47.26	126.24	-47.26	
5104	127.44	22.46	3.18	23.50	2.82		96.95	70.98	4.87	66.11	4.87	66.11	4.87	
5105	131.45	24.93	3.22	25.09	2.95		97.35	71.06	5.21	66.11	4.93	66.11	4.93	
5106	135.44	26.30	3.45	26.57	3.08		98.12	71.14	5.91	66.11	5.00	66.11	5.00	
5107	139.77	27.70	3.59	28.10	3.21		98.70	71.24	6.90	66.11	5.07	66.11	5.07	
5108	57.46	-0.05	-0.52	-0.05	-1.13		88.48	72.21	10.73	61.48	10.73	61.48	10.73	
5109	57.40	0.20	-0.50	0.22	-1.07		88.56	72.18	10.71	61.48	10.70	61.48	10.70	
5110	57.35	0.46	-0.48	0.49	-1.03		88.65	72.15	10.70	61.48	10.67	61.48	10.67	
5111	57.31	0.72	-0.46	0.76	-1.03		88.74	72.12	10.69	61.48	10.64	61.48	10.64	
5112	57.57	-0.01	-2.27	-0.14	-1.11		88.43	72.06	10.61	61.48	10.61	61.48	10.61	
5113	57.51	0.26	-2.25	0.15	-1.09		88.53	72.03	10.58	61.48	10.58	61.48	10.58	
5114	57.46	0.54	-2.23	0.43	-1.07		88.63	72.03	10.55	61.48	10.55	61.48	10.55	
5115	57.41	0.81	-2.20	0.72	-1.03		88.73	72.02	10.52	61.48	10.52	61.48	10.52	
5116	115.22	-14.15	-5.14	-14.39	-4.15		83.95	73.01	15.49	87.63	-14.68	87.63	-14.68	
5117	114.62	-13.25	-5.11	-14.06	-4.13		84.04	72.96	15.43	87.63	-14.73	87.63	-14.73	
5118	114.04	-12.54	-5.09	-13.74	-4.11		84.14	72.90	15.38	87.63	-14.78	87.63	-14.78	
5119	113.48	-11.84	-5.06	-13.41	-4.09		84.23	72.85	15.34	87.63	-14.82	87.63	-14.82	
5120	106.09	12.41	-4.77	-12.40	-4.01		92.93	70.39	12.70	83.08	-12.70	83.08	-12.70	
5121	106.45	12.69	-4.75	-12.69	-3.99		93.04	70.37	12.72	83.08	-12.71	83.08	-12.71	
5122	106.83	12.97	-4.73	-12.99	-3.96		93.16	70.36	12.75	83.08	-12.72	83.08	-12.72	
5123	107.21	13.26	-4.70	-13.29	-3.93		93.27	70.36	12.79	83.08	-12.74	83.08	-12.74	
5124	1230.58	37.85	178.75	38.97	142.78		262.90	79.06	46.34	125.39	-46.34	125.39	-46.34	
5125	220.06	-42.21	-11.60	-42.90	-11.70		79.62	81.10	6.16	79.44	1.61	79.44	1.61	
5126	217.25	-41.70	-11.52	-42.32	-11.61		79.65	80.93	5.57	79.44	1.45	79.44	1.45	
5127	214.41	-41.18	-11.46	-41.72	-11.53		79.69	80.76	4.98	79.44	1.29	79.44	1.29	
5128	211.56	-40.64	-11.38	-41.12	-11.44		79.72	80.59	4.37	79.44	1.12	79.44	1.12	
5129	232.74	48.30	-4.15	48.68	-2.89		107.73	73.16	7.93	79.44	1.12	79.44	1.12	
5130	236.01	48.86	-4.09	49.31	-2.74		108.04	73.26	8.29	79.44	1.12	79.44	1.12	
5131	239.37	49.42	-3.95	49.96	-2.58		108.36	73.37	8.69	79.44	1.12	79.44	1.12	
5132	242.82	50.00	-3.82	50.62	-2.41		108.69	73.47	9.13	79.44	1.12	79.44	1.12	
5133	103.34	11.47	-10.07	11.50	-10.76		92.21	72.20	11.68	60.32	11.88	60.32	11.88	
5134	104.69	12.57	-9.98	12.66	-10.57		92.60	72.16	11.68	60.32	11.88	60.32	11.88	
5135	106.25	13.72	-9.88	13.88	-10.58		93.02	72.13	12.01	60.32	11.80	60.32	11.80	
5136	108.05	14.91	-9.78	15.15	-10.49		93.45	72.11	12.27	60.32	11.75	60.32	11.75	
5137	99.50	6.50	-13.97	6.60	-14.75		90.54	72.84	14.18	58.78	14.05	58.78	14.05	
5138	104.04	-7.40	-16.66	-7.48	-16.83		86.30	73.73	1.54	74.15	-0.47	74.15	-0.47	
5139	103.72	-7.13	-16.64	-7.19	-16.80		86.38	73.68	1.28	74.15	-0.51	74.15	-0.51	
5140	103.42	-6.85	-16.61	-6.90	-16.78		86.46	73.64	1.05	74.15	-0.55	74.15	-0.55	
5141	103.13	-6.58	-16.75	-6.61	-16.75		86.54	73.60	0.84	74.15	-0.59	74.15	-0.59	
5142	105.77	12.76	-16.54	12.67	-16.41		92.78	71.45	9.01	80.40	-8.95	80.40	-8.95	
5143	107.29	13.87	-16.45	13.85	-16.30		93.20	71.40	9.00	80.40	-8.99	80.40	-8.99	
5144	109.02	15.01	-16.75	15.06	-16.19		93.64	71.36	9.15	80.40	-9.04	80.40	-9.04	
5145	110.94	16.17	-16.65	16.30	-16.07		94.09	71.33	9.47	80.40	-9.09	80.40	-9.09	
5146	100.78	6.50	-19.20	6.43	-18.27		90.64	71.51	16.41	87.59	-16.38	87.59	-16.38	
5147	100.94	6.78	-19.12	6.73	-18.25		90.74	71.49	16.42	87.59	-16.40	87.59	-16.40	
5148	101.09	7.05	-19.15	7.01	-18.22		90.84	71.47	16.43	87.59	-16.42	87.59	-16.42	
5149	101.25	7.31	-19.13	7.28	-18.20		90.94	71.45	16.44	87.59	-16.44	87.59	-16.44	

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ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER

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MISSION/ FRAME NO.	SPACECRAFT POSITION				PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LONG	LAT						
5150	102.91	9.25	-26.72	9.20	-20.41	9.20	-20.41	91.48	72.08	5.50	77.53	-5.45
5151	103.15	5.32	-26.70	9.49	-20.39	9.49	-20.39	91.58	72.06	5.49	77.53	-5.47
5152	103.40	5.80	-20.68	9.78	-20.36	9.78	-20.36	91.68	72.04	5.49	77.53	-5.49
5153	103.66	10.07	-20.65	10.07	-20.34	10.07	-20.34	91.78	72.03	5.50	77.53	-5.50
5154	103.93	10.35	-20.63	10.36	-20.31	10.36	-20.31	91.87	72.01	5.54	77.53	-5.52
5155	104.21	10.62	-20.61	10.65	-20.29	10.65	-20.29	91.97	72.00	5.58	77.53	-5.54
5156	104.49	10.89	-20.59	10.94	-20.26	10.94	-20.26	92.07	71.98	5.64	77.53	-5.55
5157	104.79	11.16	-20.56	11.23	-20.24	11.23	-20.24	92.17	71.97	5.72	77.53	-5.57
5158	123.98	27.69	152.57	37.83	126.77	37.83	126.77	283.23	79.06	44.55	123.60	-44.54
5159	155.03	31.62	-22.20	31.82	-22.16	31.82	-22.16	99.31	72.76	2.49	72.86	-0.11
5160	156.45	32.01	-22.16	32.25	-22.11	32.25	-22.11	99.47	72.79	2.91	72.86	-0.09
5161	157.55	32.42	-22.12	32.69	-22.06	32.69	-22.06	99.64	72.83	3.36	72.86	-0.07
5162	159.53	32.64	-22.07	33.16	-22.01	33.16	-22.01	99.81	72.86	3.82	72.86	-0.04
5163	1230.74	37.62	147.15	38.04	131.22	38.04	131.22	282.74	78.54	44.80	123.734	-44.80
5164	105.19	12.53	-30.55	12.56	-30.97	12.56	-30.97	92.37	73.02	0.67	72.79	0.23
5165	109.54	12.81	-30.53	12.86	-30.94	12.86	-30.94	92.47	73.01	0.95	72.79	0.21
5166	109.85	13.09	-30.50	13.16	-30.91	13.16	-30.91	92.57	72.99	1.24	72.79	0.20
5167	110.26	13.37	-30.48	13.46	-30.89	13.46	-30.89	92.67	72.98	1.53	72.79	0.18
5168	165.19	-20.30	-36.51	-30.54	-37.60	-30.54	-37.60	82.62	80.46	10.78	69.75	10.70
5169	165.27	-2.94	-35.63	-3.97	-36.30	-3.97	-36.30	87.47	75.21	8.34	66.87	8.33
5170	105.06	-2.66	-35.80	-3.68	-36.28	-3.68	-36.28	87.55	75.17	8.30	66.87	8.30
5171	104.86	-2.38	-35.78	-3.39	-36.25	-3.39	-36.25	87.62	75.13	8.24	66.87	8.22
5172	104.66	-2.11	-35.76	-3.10	-36.23	-3.10	-36.23	87.70	75.09	8.24	66.87	8.22
5173	105.17	-2.70	-37.56	-3.85	-36.44	-3.85	-36.44	87.39	73.73	19.10	92.54	-18.84
5174	104.56	-2.42	-37.54	-3.55	-36.42	-3.55	-36.42	87.47	73.69	19.08	92.54	-18.87
5175	104.76	-2.13	-37.51	-3.25	-36.40	-3.25	-36.40	87.56	73.65	19.07	92.54	-18.90
5176	104.57	-2.85	-37.49	-3.95	-36.37	-3.95	-36.37	87.65	73.62	19.07	92.54	-18.93
5177	133.79	-16.69	-40.61	-19.03	-40.19	-19.03	-40.19	83.89	77.03	7.36	82.08	-5.11
5178	127.45	-17.36	-40.45	-17.60	-40.08	-17.60	-40.08	84.19	76.77	6.60	82.08	-5.34
5179	124.41	-16.07	-40.37	-16.21	-39.97	-16.21	-39.97	84.48	76.52	6.11	82.08	-5.57
5180	121.62	-14.60	-40.26	-14.84	-39.86	-14.84	-39.86	84.77	76.29	5.91	82.08	-5.80
5181	1181.29	41.61	134.27	41.85	109.39	41.85	109.39	231.61	78.65	41.94	120.93	-41.93
5182	167.46	24.67	-40.56	34.96	-41.50	34.96	-41.50	99.31	74.56	6.07	68.98	5.56
5183	169.14	25.09	-40.50	35.43	-41.45	35.43	-41.45	99.47	74.59	6.30	68.98	5.59
5184	170.82	25.51	-40.54	35.89	-41.40	35.89	-41.40	99.62	74.63	6.55	68.98	5.62
5185	172.57	25.93	-40.79	36.36	-41.35	36.36	-41.35	99.78	74.67	6.83	68.98	5.65
5186	136.76	25.67	-43.72	25.76	-43.74	25.76	-43.74	95.38	73.85	1.23	73.51	0.34
5187	137.76	26.02	-43.68	26.13	-43.70	26.13	-43.70	96.50	73.86	1.59	73.51	0.34
5188	138.77	26.27	-43.65	26.51	-43.66	26.51	-43.66	96.63	73.87	1.96	73.51	0.35
5189	139.80	26.72	-43.61	26.89	-43.62	26.89	-43.62	96.76	73.87	2.34	73.51	0.35
5190	140.86	27.07	-43.57	27.27	-43.58	27.27	-43.58	96.89	73.88	2.72	73.51	0.35
5191	141.94	27.42	-43.53	27.66	-43.54	27.66	-43.54	97.02	73.89	3.11	73.51	0.36
5192	143.03	27.78	-43.49	28.04	-43.49	28.04	-43.49	97.15	73.90	3.49	73.51	0.36
5193	144.15	28.14	-43.46	28.43	-43.45	28.43	-43.45	97.29	73.91	3.88	73.51	0.36
5194	127.39	21.55	-47.60	22.01	-47.52	22.01	-47.52	95.06	73.99	1.41	74.95	-0.96
5195	128.17	22.27	-47.57	22.36	-47.49	22.36	-47.49	95.18	73.99	1.69	74.95	-0.96
5196	128.96	22.60	-47.54	22.71	-47.45	22.71	-47.45	95.29	73.99	1.99	74.95	-0.97
5197	129.78	22.92	-47.50	23.06	-47.42	23.06	-47.42	95.41	73.99	2.30	74.95	-0.97
5198	130.61	23.25	-47.47	23.41	-47.38	23.41	-47.38	95.52	73.99	2.63	74.95	-0.98
5199	131.45	23.58	-47.44	23.77	-47.34	23.77	-47.34	95.64	73.99	2.97	74.95	-0.98
5200	132.32	23.51	-47.40	24.12	-47.30	24.12	-47.30	95.76	73.99	3.31	74.95	-0.99
5201	133.20	24.24	-47.37	24.48	-47.27	24.48	-47.27	95.88	73.99	3.64	74.95	-0.99
5202	134.44	24.64	-49.68	24.83	-49.54	24.83	-49.54	95.68	74.62	6.47	68.50	6.11

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ILLUMINATION PARAMETERS ORDERED BY MISSION AND FRAME NUMBER 00/10/71 PAGE 20

MISSION/ FRAME NO.	SPACECRAFT POSITION			PRINCIPAL PT.			SUN AZIMUTH	INCIDENT ANGLE	EMISSION ANGLE	PHASE ANGLE	ALPHA
	ALT	LAT	LONG	LAT	LONG						
5207	135.49	25.07	-49.54	25.22	-49.51		95.81	74.53	6.61	68.50	6.11
5208	136.45	25.36	-49.52	25.61	-49.47		95.93	74.52	6.77	68.50	6.11
5209	137.45	25.71	-48.55	25.99	-49.44		96.05	74.64	6.95	68.57	6.12
5210	141.89	27.20	-52.35	27.40	-52.78		96.38	74.89	6.37	68.88	6.00
5211	142.87	27.51	-52.23	27.75	-52.75		96.49	74.90	6.50	68.88	6.00
5212	143.97	27.87	-52.22	28.14	-52.71		96.51	74.91	6.65	68.88	6.01
5213	145.21	28.26	-52.17	28.56	-52.67		96.75	74.92	6.86	68.88	5.02
5214	149.53	32.61	-55.45	32.67	-55.11		91.84	75.49	10.19	65.32	10.17
5215	140.55	32.89	-55.44	32.57	-55.09		91.92	75.47	10.20	65.32	10.15
5216	141.27	33.18	-55.43	33.28	-55.05		92.01	75.46	10.22	65.32	10.13
5217	141.57	33.47	-55.41	33.59	-55.04		92.09	75.44	10.24	65.32	10.12
5218	142.67	33.76	-55.38	33.90	-55.01		92.18	75.43	10.28	65.32	10.10
5219	142.89	34.06	-55.35	34.21	-55.09		92.27	75.42	10.33	65.32	10.08
5220	142.92	34.35	-55.33	34.53	-55.02		92.36	75.40	10.38	65.32	10.07
5221	143.35	34.65	-55.30	34.84	-55.04		92.45	75.39	10.45	65.32	10.05