

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
 FRAME NO.
 2007

YR,MO,DY
 661118

HR,MI,SEC
 152457.15

TIME

S/C POSITION
 ALT 52.05 KM
 ALT RT -0.0454 KM/SEC
 LAT 4.19 DEG
 LONG 36.28 DEG

S/C ORIENTATION
 TILT ANG 0.97 DEG
 TILT AZIM 288.31 DEG
 SWING ANG 96.92 DEG
 N.DEV. 348.61 DEG

PHOTO ILLUMINATION
 SUN AZIM 91.48 DEG
 INCID ANG 74.20 DEG
 EMISS ANG 1.00 DEG
 PHASE ANG 73.25 DEG
 ALPHA 0.95 DEG

CORNER COORDINATE
 A LAT 4.77 DEG
 A LONG 36.58 DEG
 B LAT 3.40 DEG
 B LONG 36.70 DEG
 C LAT 3.62 DEG
 C LONG 35.53 DEG
 D LAT 5.01 DEG
 D LONG 35.81 DEG

SIDE LENGTH
 AB 42.3 KM
 BC 35.9 KM
 CD 42.8 KM
 DA 36.1 KM
 TILT DISTANCE 1.3

HIGH RESOLUTION
 CORNER COORDINATE
 A LAT 4.48 DEG
 A LONG 36.39 DEG
 B LAT 3.88 DEG
 B LONG 36.27 DEG
 C LAT 3.91 DEG
 C LONG 36.11 DEG
 D LAT 4.51 DEG
 D LONG 36.24 DEG

SIDE LENGTH
 AB 18.7 KM
 BC 4.7 KM
 CD 18.7 KM
 DA 4.7 KM
 TILT DISTANCE 10.2

PRINCIPAL POINT
 LATITUDE 4.20 DEG
 LONGITUDE 36.25 DEG

MISSION/
 FRAME NO.
 2008

YR,MO,DY
 661118

HR,MI,SEC
 152459.27

TIME

S/C POSITION
 ALT 51.96 KM
 ALT RT -0.0443 KM/SEC
 LAT 4.15 DEG
 LONG 36.41 DEG

S/C ORIENTATION
 TILT ANG 0.84 DEG
 TILT AZIM 289.41 DEG
 SWING ANG 98.01 DEG
 N.DEV. 348.60 DEG

PHOTO ILLUMINATION
 SUN AZIM 91.48 DEG
 INCID ANG 74.07 DEG
 EMISS ANG 0.86 DEG
 PHASE ANG 73.25 DEG
 ALPHA 0.82 DEG

CORNER COORDINATE
 A LAT 4.74 DEG
 A LONG 37.11 DEG
 B LAT 3.37 DEG
 B LONG 36.83 DEG
 C LAT 3.60 DEG
 C LONG 35.67 DEG
 D LAT 4.98 DEG
 D LONG 35.94 DEG

SIDE LENGTH
 AB 42.3 KM
 BC 35.9 KM
 CD 42.7 KM
 DA 36.0 KM
 TILT DISTANCE 1.1

HIGH RESOLUTION
 CORNER COORDINATE
 A LAT 4.46 DEG
 A LONG 36.52 DEG
 B LAT 3.85 DEG
 B LONG 36.40 DEG
 C LAT 3.88 DEG
 C LONG 36.25 DEG
 D LAT 4.49 DEG
 D LONG 36.37 DEG

SIDE LENGTH
 AB 18.7 KM
 BC 4.7 KM
 CD 18.7 KM
 DA 4.7 KM
 TILT DISTANCE 8.9

PRINCIPAL POINT
 LATITUDE 4.17 DEG
 LONGITUDE 36.38 DEG

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MISSION/
FRAME NO.
2009

TIME 661118
YR,MO,DY 661118
PR,MI,SEC 1525 1.38

S/C POSITION
ALT 51.86 KM
ALT RT -0.0432 KM/SEC
LAT 4.14 DEG
LONG 36.53 DEG

S/C ORIENTATION
TILT ANG 0.71 DEG
TILT AZIM 290.90 DEG
SWING ANG 99.49 DEG
N.DEV. 348.59 DEG

PHOTO ILLUMINATION
SUN AZIM 91.49 DEG
INCID ANG 73.94 DEG
EMISS ANG 0.73 DEG
PHASE ANG 73.25 DEG
ALPHA 0.59 DEG

PRINCIPAL POINT
LATITUDE 4.14 DEG
LONGITUDE 36.51 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.71 DEG AB 42.2 KM
A LONG 37.24 DEG BC 35.8 KM
B LAT 3.35 DEG CD 42.6 KM
B LONG 36.96 DEG DA 35.9 KM
C LAT 3.57 DEG TILT DISTANCE
C LONG 35.80 DEG 0.9
D LAT 4.55 DEG
D LONG 36.08 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.43 DEG AB 18.6 KM
A LONG 36.65 DEG BC 4.7 KM
B LAT 3.83 DEG CD 18.7 KM
B LONG 36.55 DEG DA 4.7 KM
C LAT 3.86 DEG TILT DISTANCE
C LONG 36.38 DEG 7.5
D LAT 4.46 DEG
D LONG 36.50 DEG

MISSION/
FRAME NO.
2010

TIME 661118
YR,MO,DY 661118
PR,MI,SEC 1525 3.45

S/C POSITION
ALT 51.77 KM
ALT RT -0.0421 KM/SEC
LAT 4.11 DEG
LONG 36.66 DEG

S/C ORIENTATION
TILT ANG 0.58 DEG
TILT AZIM 293.03 DEG
SWING ANG 101.61 DEG
N.DEV. 348.58 DEG

PHOTO ILLUMINATION
SUN AZIM 91.49 DEG
INCID ANG 73.81 DEG
EMISS ANG 0.60 DEG
PHASE ANG 73.25 DEG
ALPHA 0.56 DEG

PRINCIPAL POINT
LATITUDE 4.12 DEG
LONGITUDE 36.65 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.69 DEG AB 42.2 KM
A LONG 37.37 DEG BC 35.7 KM
B LAT 3.32 DEG CD 42.5 KM
B LONG 37.09 DEG DA 35.9 KM
C LAT 3.55 DEG TILT DISTANCE
C LONG 35.93 DEG 0.8
D LAT 4.53 DEG
D LONG 36.21 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.40 DEG AB 18.6 KM
A LONG 36.78 DEG BC 4.7 KM
B LAT 3.80 DEG CD 18.6 KM
B LONG 36.66 DEG DA 4.7 KM
C LAT 3.83 DEG TILT DISTANCE
C LONG 36.51 DEG 6.1
D LAT 4.43 DEG
D LONG 36.63 DEG

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MISSION/
FRAME NO.
2011

YR,MO,DY 661118
HR,MI,SEC 1525 5.60

S/C POSITION
ALT 51.69 KM
ALT RT -0.0410 KM/SEC
LAT 4.08 DEG
LONG 36.79 DEG

S/C ORIENTATION
TILT ANG 0.46 DEG
TILT AZIM 295.36 DEG
SWING ANG 104.93 DEG
N.DEV. 348.57 DEG

PHOTO ILLUMINATION
SUN AZIM 91.49 DEG
INCID ANG 73.68 DEG
EMISS ANG 0.47 DEG
PHASE ANG 73.25 DEG
ALPHA 0.43 DEG

PRINCIPAL POINT
LATITUDE 4.09 DEG
LONGITUDE 36.78 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.65 DEG AB 42.1 KM
A LONG 37.51 DEG BC 35.7 KM
B LAT 3.29 DEG CD 42.3 KM
B LONG 37.23 DEG DA 35.8 KM
C LAT 3.52 DEG TILT DISTANCE 0.6
C LONG 36.87 DEG
D LAT 4.50 DEG
D LONG 36.34 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.38 DEG AB 18.6 KM
A LONG 36.91 DEG BC 4.7 KM
B LAT 3.77 DEG CD 18.6 KM
B LONG 36.79 DEG DA 4.7 KM
C LAT 3.81 DEG TILT DISTANCE 4.8
C LONG 36.64 DEG
D LAT 4.41 DEG
D LONG 36.76 DEG

MISSION/
FRAME NO.
2012

YR,MO,DY 661118
HR,MI,SEC 1525 7.71

S/C POSITION
ALT 51.60 KM
ALT RT -0.0399 KM/SEC
LAT 4.06 DEG
LONG 36.92 DEG

S/C ORIENTATION
TILT ANG 0.33 DEG
TILT AZIM 302.18 DEG
SWING ANG 110.74 DEG
N.DEV. 348.56 DEG

PHOTO ILLUMINATION
SUN AZIM 91.49 DEG
INCID ANG 73.55 DEG
EMISS ANG 0.34 DEG
PHASE ANG 73.25 DEG
ALPHA 0.29 DEG

PRINCIPAL POINT
LATITUDE 4.06 DEG
LONGITUDE 36.91 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.63 DEG AB 42.1 KM
A LONG 37.64 DEG BC 35.5 KM
B LAT 3.27 DEG CD 42.2 KM
B LONG 37.36 DEG DA 35.7 KM
C LAT 3.50 DEG TILT DISTANCE 0.5
C LONG 36.20 DEG
D LAT 4.87 DEG
D LONG 36.47 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.35 DEG AB 18.5 KM
A LONG 37.04 DEG BC 4.7 KM
B LAT 3.75 DEG CD 18.6 KM
B LONG 36.92 DEG DA 4.7 KM
C LAT 3.78 DEG TILT DISTANCE 3.5
C LONG 36.77 DEG
D LAT 4.38 DEG
D LONG 36.89 DEG

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MISSION/
FRAME NO.

2013
YR.NO.DY 661118
HR.MI.SEC 1525 9.82

S/C POSITION
ALT 51.52 KM
ALT RT -0.0388 KM/SEC
LAT 4.03 DEG
LONG 37.04 DEG

S/C ORIENTATION
TILT ANG 0.22 DEG
TILT AZIM 314.51 DEG
SWING ANG 123.07 DEG
N.DEV. 348.55 DEG

PHOTO ILLUMINATION
SUN AZIM 91.50 DEG
INCID ANG 73.41 DEG
EMISS ANG 0.22 DEG
PHASE ANG 73.25 DEG
ALPHA 0.16 DEG

PRINCIPAL POINT
LATITUDE 4.04 DEG
LONGITUDE 37.04 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.61 DEG AB 42.1 KM
A LONG 37.77 DEG BC 35.6 KM
B LAT 3.24 DEG CD 42.1 KM
B LONG 37.49 DEG DA 35.7 KM
C LAT 3.48 DEG TILT DISTANCE
C LONG 36.33 DEG 0.3
D LAT 4.64 DEG
D LONG 36.61 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.32 DEG AB 18.5 KM
A LONG 37.17 DEG BC 4.7 KM
B LAT 3.72 DEG CD 18.5 KM
B LONG 37.05 DEG DA 4.7 KM
C LAT 3.75 DEG TILT DISTANCE
C LONG 36.90 DEG 2.3
D LAT 4.35 DEG
D LONG 37.02 DEG

MISSION/
FRAME NO.

2014
YR.NO.DY 661118
HR.MI.SEC 152511.92

S/C POSITION
ALT 51.44 KM
ALT RT -0.0378 KM/SEC
LAT 4.01 DEG
LONG 37.17 DEG

S/C ORIENTATION
TILT ANG 0.13 DEG
TILT AZIM 347.65 DEG
SWING ANG 156.20 DEG
N.DEV. 348.54 DEG

PHOTO ILLUMINATION
SUN AZIM 91.50 DEG
INCID ANG 73.28 DEG
EMISS ANG 0.13 DEG
PHASE ANG 73.25 DEG
ALPHA 0.03 DEG

PRINCIPAL POINT
LATITUDE 4.01 DEG
LONGITUDE 37.17 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.58 DEG AB 42.0 KM
A LONG 37.90 DEG BC 35.5 KM
B LAT 3.22 DEG CD 42.0 KM
B LONG 37.62 DEG DA 35.6 KM
C LAT 3.45 DEG TILT DISTANCE
C LONG 36.47 DEG 0.3
D LAT 4.81 DEG
D LONG 36.74 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.30 DEG AB 18.5 KM
A LONG 37.30 DEG BC 4.6 KM
B LAT 3.70 DEG CD 18.5 KM
B LONG 37.18 DEG DA 4.7 KM
C LAT 3.73 DEG TILT DISTANCE
C LONG 37.03 DEG 1.3
D LAT 4.33 DEG
D LONG 37.15 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/ 2015
 FRAME NO. 661118
 YR.MO.DY 152514.02
 HR.MI.SEC 37.30 DEG
 S/C POSITION ALT 51.36 KH
 TILT ANG 0.14 DEG
 TILT AZIM 44.46 DEG
 SWING ANG 213.00 DEG
 N.DEV. 348.54 DEG
 PHOTO ILLUMINATION SUN AZIM 91.50 DEG
 INCID ANG 73.15 DEG
 EMISS ANG 0.15 DEG
 PHASE ANG 73.25 DEG
 ALPHA -0.10 DEG
 PRINCIPAL POINT LATITUDE 37.30 DEG
 LONGITUDE 37.30 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.55 DEG AB 42.0 KM
 A LONG 38.03 DEG BC 35.4 KM
 B LAT 3.19 DEG CD 41.9 KM
 B LONG 37.75 DEG DA 35.6 KM
 C LAT 3.43 DEG TILT DISTANCE 0.3
 C LONG 36.60 DEG
 D LAT 4.78 DEG
 D LONG 36.87 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.27 DEG AB 18.5 KM
 A LONG 37.43 DEG BC 4.6 KM
 B LAT 3.67 DEG CD 18.5 KM
 B LONG 37.31 DEG DA 4.6 KM
 C LAT 3.70 DEG TILT DISTANCE 1.5
 C LONG 37.16 DEG
 D LAT 4.30 DEG
 D LONG 37.28 DEG

MISSION/ 2016
 FRAME NO. 661118
 YR.MO.DY 152516.12
 HR.MI.SEC 37.42 DEG
 S/C POSITION ALT 51.28 KH
 TILT ANG 0.24 DEG
 TILT AZIM 71.51 DEG
 SWING ANG 240.04 DEG
 N.DEV. 348.53 DEG
 PHOTO ILLUMINATION SUN AZIM 91.50 DEG
 INCID ANG 73.02 DEG
 EMISS ANG 0.24 DEG
 PHASE ANG 73.25 DEG
 ALPHA -0.23 DEG
 PRINCIPAL POINT LATITUDE 37.43 DEG
 LONGITUDE 37.43 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.53 DEG AB 42.0 KM
 A LONG 38.16 DEG BC 35.4 KM
 B LAT 3.17 DEG CD 41.8 KM
 B LONG 37.88 DEG DA 35.5 KM
 C LAT 3.40 DEG TILT DISTANCE 0.4
 C LONG 36.73 DEG
 D LAT 4.76 DEG
 D LONG 37.00 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.24 DEG AB 18.4 KM
 A LONG 37.56 DEG BC 4.6 KM
 B LAT 3.65 DEG CD 18.4 KM
 B LONG 37.44 DEG DA 4.6 KM
 C LAT 3.68 DEG TILT DISTANCE 2.5
 C LONG 37.29 DEG
 D LAT 4.27 DEG
 D LONG 37.41 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2017

YR.NO.DY 661118
FR.MI.SEC 152518.22

S/C POSITION
ALT 51.21 KM
ALT RT -0.0345 KM/SEC
LAT 3.93 DEG
LONG 37.55 DEG

S/C ORIENTATION
TILT ANG 0.36 DEG
TILT AZIM 81.93 DEG
SWING ANG 250.45 DEG
N.DEV. 348.52 DEG

PHOTO ILLUMINATION
SUN AZIM 91.51 DEG
INCID ANG 72.89 DEG
EMISS ANG 0.37 DEG
PHASE ANG 73.25 DEG
ALPHA -0.36 DEG

PRINCIPAL POINT
LATITUDE 3.93 DEG
LONGITUDE 37.56 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.53 DEG AB 41.9 KM
A LONG 38.29 DEG BC 35.3 KM
B LAT 3.14 DEG CD 41.8 KM
B LONG 38.01 DEG DA 35.5 KM
C LAT 3.38 DEG TILT DISTANCE
C LONG 36.86 DEG 0.5
D LAT 4.73 DEG
D LONG 37.13 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.22 DEG AB 18.4 KM
A LONG 37.49 DEG BC 4.6 KM
B LAT 3.62 DEG CD 18.4 KM
B LONG 37.57 DEG DA 4.6 KM
C LAT 3.65 DEG TILT DISTANCE
C LONG 37.42 DEG 3.7
D LAT 4.25 DEG
D LONG 37.54 DEG

MISSION/
FRAME NO.
2018

YR.NO.DY 661118
FR.MI.SEC 152520.31

S/C POSITION
ALT 51.14 KM
ALT RT -0.0334 KM/SEC
LAT 3.91 DEG
LONG 37.67 DEG

S/C ORIENTATION
TILT ANG 0.48 DEG
TILT AZIM 87.06 DEG
SWING ANG 255.57 DEG
N.DEV. 348.51 DEG

PHOTO ILLUMINATION
SUN AZIM 91.51 DEG
INCID ANG 72.76 DEG
EMISS ANG 0.49 DEG
PHASE ANG 73.25 DEG
ALPHA -0.49 DEG

PRINCIPAL POINT
LATITUDE 3.91 DEG
LONGITUDE 37.69 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.47 DEG AB 41.9 KM
A LONG 38.42 DEG BC 35.3 KM
B LAT 3.12 DEG CD 41.7 KM
B LONG 38.14 DEG DA 35.4 KM
C LAT 3.35 DEG TILT DISTANCE
C LONG 36.59 DEG 0.7
D LAT 4.70 DEG
D LONG 37.27 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.19 DEG AB 18.4 KM
A LONG 37.82 DEG BC 4.6 KM
B LAT 3.60 DEG CD 18.4 KM
B LONG 37.70 DEG DA 4.6 KM
C LAT 3.63 DEG TILT DISTANCE
C LONG 37.55 DEG 5.0
D LAT 4.22 DEG
D LONG 37.67 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

PAGE 11:

04/10/77

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2019
YR.MO.DY 661118
PR.MI.SEC 152522.40
TIME
S/C POSITION ALT 51.07 KM
ALT RT -0.0323 KM/SEC
LAT 3.88 DEG
LONG 37.80 DEG
S/C ORIENTATION TILT ANG 0.69 DEG
TILT AZIM 90.09 DEG
SWING ANG 258.59 DEG
N.DEV. 348.50 DEG
PHOTO ILLUMINATION SUN AZIM 91.51 DEG
INCID ANG 72.63 DEG
EMISS ANG 0.62 DEG
PHASE ANG 73.25 DEG
ALPHA -0.62 DEG
PRINCIPAL POINT LATITUDE 3.88 DEG
LONGITUDE 37.82 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.45 DEG AB 41.9 KM
A LONG 38.55 DEG BC 35.3 KM
B LAT 3.09 DEG CD 41.6 KM
B LONG 38.27 DEG DA 35.4 KM
C LAT 3.33 DEG TILT DISTANCE 0.9
C LONG 37.12 DEG
D LAT 4.67 DEG
D LONG 37.40 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.15 DEG AB 18.4 KM
A LONG 37.95 DEG BC 4.6 KM
B LAT 3.57 DEG CD 18.3 KM
B LONG 37.83 DEG DA 4.6 KM
C LAT 3.60 DEG TILT DISTANCE 6.4
C LONG 37.68 DEG
D LAT 4.19 DEG
D LONG 37.80 DEG

MISSION/
FRAME NO.

2020
YR.MO.DY 661118
PR.MI.SEC 152524.49
TIME
S/C POSITION ALT 51.00 KM
ALT RT -0.0313 KM/SEC
LAT 3.86 DEG
LONG 37.93 DEG
S/C ORIENTATION TILT ANG 0.73 DEG
TILT AZIM 92.07 DEG
SWING ANG 260.56 DEG
N.DEV. 348.49 DEG
PHOTO ILLUMINATION SUN AZIM 91.51 DEG
INCID ANG 72.50 DEG
EMISS ANG 0.75 DEG
PHASE ANG 73.25 DEG
ALPHA -0.75 DEG
PRINCIPAL POINT LATITUDE 3.86 DEG
LONGITUDE 37.95 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.42 DEG AB 41.9 KM
A LONG 38.68 DEG BC 35.2 KM
B LAT 3.06 DEG CD 41.5 KM
B LONG 38.40 DEG DA 35.3 KM
C LAT 3.30 DEG TILT DISTANCE 1.1
C LONG 37.26 DEG
D LAT 4.65 DEG
D LONG 37.53 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.14 DEG AB 18.3 KM
A LONG 38.08 DEG BC 4.6 KM
B LAT 3.54 DEG CD 18.3 KM
B LONG 37.96 DEG DA 4.6 KM
C LAT 3.57 DEG TILT DISTANCE 7.7
C LONG 37.81 DEG
D LAT 4.17 DEG
D LONG 37.93 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/19/71 PAGE 112

MISSION/
FRAME NO.
2021

YR.HO.DY 661118
HR.MI.SEC 152612.81

S/C POSITION
ALT 55.10 KM
ALT RT -0.0062 KM/SEC.
LAT 3.27 DEG
LONG 40.84 DEG

S/C ORIENTATION
TILT ANG 3.77 DEG
TILT AZIM 99.35 DEG
SWING ANG 267.73 DEG
N.DEV. 348.39 DEG

PHOTO ILLUMINATION
SUN AZIM 91.52 DEG
INCID ANG 69.49 DEG
EMISS ANG 3.88 DEG
PHASE ANG 73.33 DEG
ALPHA -3.85 DEG

PRINCIPAL POINT
LATITUDE 3.25 DEG
LONGITUDE 40.95 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.81 DEG AB 42.0 KM
A LONG 41.67 DEG BC 34.8 KM
B LAT 2.45 DEG CD 40.1 KM
B LONG 41.39 DEG DA 34.9 KM
C LAT -2.72 DEG TILT DISTANCE
C LONG 40.27 DEG 5.3
D LAT 4.01 DEG
D LONG 40.54 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.53 DEG AB 18.1 KM
A LONG 41.08 DEG BC 4.5 KM
B LAT 2.94 DEG CD 18.0 KM
B LONG 40.96 DEG DA 4.6 KM
C LAT 2.97 DEG TILT DISTANCE
C LONG 40.81 DEG 40.2
D LAT 3.55 DEG
D LONG 40.93 DEG

MISSION/
FRAME NO.
2022

YR.HO.DY 661118
HR.MI.SEC 152614.91

S/C POSITION
ALT 50.09 KM
ALT RT -0.0052 KM/SEC
LAT 3.24 DEG
LONG 40.96 DEG

S/C ORIENTATION
TILT ANG 3.90 DEG
TILT AZIM 99.43 DEG
SWING ANG 267.80 DEG
N.DEV. 348.38 DEG

PHOTO ILLUMINATION
SUN AZIM 91.51 DEG
INCID ANG 69.36 DEG
EMISS ANG 4.01 DEG
PHASE ANG 73.33 DEG
ALPHA -3.98 DEG

PRINCIPAL POINT
LATITUDE 3.22 DEG
LONGITUDE 41.08 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.79 DEG AB 42.1 KM
A LONG 41.81 DEG BC 34.8 KM
B LAT 2.42 DEG CD 40.0 KM
B LONG 41.52 DEG DA 34.9 KM
C LAT 2.69 DEG TILT DISTANCE
C LONG 40.40 DEG 5.5
D LAT 3.59 DEG
D LONG 40.67 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.50 DEG AB 18.1 KM
A LONG 41.21 DEG BC 4.5 KM
B LAT 2.91 DEG CD 18.0 KM
B LONG 41.09 DEG DA 4.6 KM
C LAT 2.95 DEG TILT DISTANCE
C LONG 40.94 DEG 41.5
D LAT 3.53 DEG
D LONG 41.06 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2023

YR.MO.DY 661116
HR.MI.SEC 152617.01

S/C POSITION
ALT 50.08 KM
ALT RT -0.0041 KM/SEC
LAT 3.21 DEG
LONG 41.09 DEG

S/C ORIENTATION
TILT ANG 4.03 DEG
TILT AZIM 99.51 DEG
SWING ANG 267.87 DEG
N.DEV. 348.38 DEG

PHOTO ILLUMINATION
SUN AZIM 91.51 DEG
INCID ANG 69.22 DEG
EMISS ANG 4.15 DEG
PHASE ANG 73.33 DEG
ALPHA -4.11 DEG

PRINCIPAL POINT
LATITUDE 3.19 DEG
LONGITUDE 41.21 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.76 DEG AB 42.1 KM
A LONG 41.54 DEG BC 34.8 KM
B LAT 2.40 DEG CD 40.0 KM
B LONG 41.65 DEG DA 34.9 KM
C LAT 2.66 DEG TILT DISTANCE 5.5
C LONG 40.53 DEG
D LAT 3.56 DEG
D LONG 40.80 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.47 DEG AB 18.1 KM
A LONG 41.34 DEG BC 4.5 KM
B LAT 2.89 DEG CD 18.0 KM
B LONG 41.22 DEG DA 4.6 KM
C LAT 2.92 DEG TILT DISTANCE 42.9
C LONG 41.07 DEG
D LAT 3.50 DEG
D LONG 41.19 DEG

MISSION/
FRAME NO.
2024

YR.MO.DY 661118
HR.MI.SEC 152619.11

S/C POSITION
ALT 50.07 KM
ALT RT -0.0030 KM/SEC
LAT 3.19 DEG
LONG 41.22 DEG

S/C ORIENTATION
TILT ANG 4.16 DEG
TILT AZIM 99.58 DEG
SWING ANG 267.93 DEG
N.DEV. 348.37 DEG

PHOTO ILLUMINATION
SUN AZIM 91.51 DEG
INCID ANG 69.09 DEG
EMISS ANG 4.28 DEG
PHASE ANG 73.33 DEG
ALPHA -4.24 DEG

PRINCIPAL POINT
LATITUDE 3.17 DEG
LONGITUDE 41.34 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.73 DEG AB 42.1 KM
A LONG 42.07 DEG BC 34.8 KM
B LAT 2.37 DEG CD 40.0 KM
B LONG 41.78 DEG DA 34.9 KM
C LAT 2.64 DEG TILT DISTANCE 5.8
C LONG 40.65 DEG
D LAT 3.53 DEG
D LONG 40.53 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.45 DEG AB 18.1 KM
A LONG 41.47 DEG BC 4.5 KM
B LAT 2.86 DEG CD 18.0 KM
B LONG 41.35 DEG DA 4.6 KM
C LAT 2.89 DEG TILT DISTANCE 44.3
C LONG 41.20 DEG
D LAT 3.47 DEG
D LONG 41.32 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2025
YR.MO.DY 661118
HR.MI.SEC 185359.81

S/C POSITION
ALT 50.64 KM
ALT RT -0.0309 KM/SEC
LAT 3.83 DEG
LONG 36.10 DEG

S/C ORIENTATION
TILT ANG 11.90 DEG
TILT AZIM 137.19 DEG
SWING ANG 306.43 DEG
N.DEV. 349.89 DEG

PHOTO ILLUMINATION
SUN AZIM 91.44 DEG
INCID ANG 72.34 DEG
EMISS ANG 12.26 DEG
PHASE ANG 81.06 DEG
ALPHA -8.92 DEG

PRINCIPAL POINT
LATITUDE 3.57 DEG
LONGITUDE 36.34 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.15 DEG AB 45.7 KM
A LONG 37.07 DEG BC 38.7 KM
B LAT 2.65 DEG CD 40.3 KM
B LONG 36.88 DEG DA 34.7 KM
C LAT 3.00 DEG TILT DISTANCE 16.7
C LONG 35.64 DEG
D LAT 4.30 DEG
D LONG 35.93 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.86 DEG AB 18.9 KM
A LONG 36.47 DEG BC 4.9 KM
B LAT 3.24 DEG CD 18.6 KM
B LONG 36.37 DEG DA 4.6 KM
C LAT 3.28 DEG TILT DISTANCE 28.4
C LONG 36.21 DEG
D LAT 3.88 DEG
D LONG 36.32 DEG

MISSION/
FRAME NO.

2026
YR.MO.DY 661118
HR.MI.SEC 1854 2.11

S/C POSITION
ALT 50.57 KM
ALT RT -0.0297 KM/SEC
LAT 3.80 DEG
LONG 36.24 DEG

S/C ORIENTATION
TILT ANG 12.02 DEG
TILT AZIM 136.81 DEG
SWING ANG 306.04 DEG
N.DEV. 349.89 DEG

PHOTO ILLUMINATION
SUN AZIM 91.44 DEG
INCID ANG 72.19 DEG
EMISS ANG 12.37 DEG
PHASE ANG 81.06 DEG
ALPHA -9.07 DEG

PRINCIPAL POINT
LATITUDE 3.54 DEG
LONGITUDE 36.48 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.12 DEG AB 45.7 KM
A LONG 37.22 DEG BC 38.7 KM
B LAT 2.63 DEG CD 40.2 KM
B LONG 37.02 DEG DA 34.7 KM
C LAT 2.57 DEG TILT DISTANCE 16.9
C LONG 35.79 DEG
D LAT 4.27 DEG
D LONG 36.08 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.83 DEG AB 18.9 KM
A LONG 36.61 DEG BC 4.9 KM
B LAT 3.21 DEG CD 18.6 KM
B LONG 36.51 DEG DA 4.6 KM
C LAT 3.25 DEG TILT DISTANCE 29.7
C LONG 36.35 DEG
D LAT 3.85 DEG
D LONG 36.46 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2027

TIME
661118
1854 4.31

S/C POSITION
ALT 50.51 KM
LAT -0.0256 KM/SEC
LONG 36.37 DEG

S/C ORIENTATION
TILT ANG 12.13 DEG
TILT AZIM 136.45 DEG
SWING ANG 305.88 DEG
N.DEV. 349.88 DEG

PHOTO ILLUMINATION
SUN AZIM 91.44 DEG
INCID ANG 72.06 DEG
EMISS ANG 12.49 DEG
PHASE ANG 81.06 DEG
ALPHA -9.21 DEG

PRINCIPAL POINT
LATITUDE 3.51 DEG
LONGITUDE 36.62 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.09 DEG AB 45.7 KM
A LONG 37.35 DEG BC 38.7 KM
B LAT 2.60 DEG CD 40.2 KM
B LONG 37.16 DEG DA 34.7 KM
C LAT 2.55 DEG TILT DISTANCE 17.1
C LONG 35.52 DEG
D LAT 4.24 DEG
D LONG 36.21 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.80 DEG AB 18.9 KM
A LONG 36.75 DEG BC 4.9 KM
B LAT 3.18 DEG CD 18.6 KM
B LONG 36.54 DEG DA 4.6 KM
C LAT 3.22 DEG TILT DISTANCE 31.0
C LONG 36.49 DEG
D LAT 3.82 DEG
D LONG 36.60 DEG

MISSION/
FRAME NO.
2028

TIME
661118
1854 6.61

S/C POSITION
ALT 50.45 KM
LAT -0.0274 KM/SEC
LONG 36.51 DEG

S/C ORIENTATION
TILT ANG 12.24 DEG
TILT AZIM 136.09 DEG
SWING ANG 305.28 DEG
N.DEV. 349.88 DEG

PHOTO ILLUMINATION
SUN AZIM 91.44 DEG
INCID ANG 71.91 DEG
EMISS ANG 12.61 DEG
PHASE ANG 81.06 DEG
ALPHA -9.35 DEG

PRINCIPAL POINT
LATITUDE 3.49 DEG
LONGITUDE 36.75 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.07 DEG AB 45.7 KM
A LONG 37.50 DEG BC 38.7 KM
B LAT 2.57 DEG CD 40.1 KM
B LONG 37.30 DEG DA 34.7 KM
C LAT 2.52 DEG TILT DISTANCE 17.2
C LONG 36.07 DEG
D LAT 4.21 DEG
D LONG 36.36 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.77 DEG AB 18.9 KM
A LONG 36.89 DEG BC 4.9 KM
B LAT 3.16 DEG CD 18.6 KM
B LONG 36.79 DEG DA 4.6 KM
C LAT 3.19 DEG TILT DISTANCE 32.2
C LONG 36.63 DEG
D LAT 3.80 DEG
D LONG 36.74 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2029

YR.MO.DY 661118
FR.MI.SEC 22212.71

S/C POSITION
ALT 49.49 KM
ALT RT -0.0111 KM/SEC
LAT 3.34 DEG
LONG 36.55 DEG

S/C ORIENTATION
TILT ANG 12.06 DEG
TILT AZIM 217.43 DEG
SWING ANG 126.23 DEG
N.DEV. 349.49 DEG

PHOTO ILLUMINATION
SUN AZIM 91.57 DEG
INCID ANG 70.50 DEG
EMISS ANG 12.40 DEG
PHASE ANG 62.26 DEG
ALPHA 8.07 DEG

PRINCIPAL POINT
LATITUDE 1.61 DEG
LONGITUDE 36.31 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.15 DEG AB 39.4 KM
A LONG 37.02 DEG BC 33.9 KM
B LAT 2.88 DEG CD 44.3 KM
B LONG 36.72 DEG DA 38.0 KM
C LAT 3.04 DEG TILT DISTANCE 17.1
C LONG 35.61 DEG
D LAT 4.50 DEG
D LONG 35.81 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.88 DEG AB 18.2 KM
A LONG 36.44 DEG BC 4.5 KM
B LAT 3.29 DEG CD 18.5 KM
B LONG 36.33 DEG DA 4.8 KM
C LAT 3.32 DEG TILT DISTANCE 30.1
C LONG 36.18 DEG
D LAT 3.92 DEG
D LONG 36.29 DEG

MISSION/
FRAME NO.
2030

YR.MO.DY 661118
FR.MI.SEC 22214.62

S/C POSITION
ALT 49.47 KM
ALT RT -0.0101 KM/SEC
LAT 3.32 DEG
LONG 36.60 DEG

S/C ORIENTATION
TILT ANG 11.96 DEG
TILT AZIM 317.77 DEG
SWING ANG 126.56 DEG
N.DEV. 349.47 DEG

PHOTO ILLUMINATION
SUN AZIM 91.57 DEG
INCID ANG 70.48 DEG
EMISS ANG 12.31 DEG
PHASE ANG 62.26 DEG
ALPHA 7.95 DEG

PRINCIPAL POINT
LATITUDE 3.57 DEG
LONGITUDE 36.43 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.13 DEG AB 39.4 KM
A LONG 37.13 DEG BC 33.8 KM
B LAT 2.86 DEG CD 44.7 KM
B LONG 36.84 DEG DA 37.9 KM
C LAT 3.01 DEG TILT DISTANCE 16.9
C LONG 35.73 DEG
D LAT 4.48 DEG
D LONG 35.93 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.86 DEG AB 18.2 KM
A LONG 36.56 DEG BC 4.5 KM
B LAT 3.27 DEG CD 18.5 KM
B LONG 36.45 DEG DA 4.8 KM
C LAT 3.29 DEG TILT DISTANCE 29.1
C LONG 36.30 DEG
D LAT 3.90 DEG
D LONG 36.41 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2031
YR.MO.DY 661118
HR.MI.SEC 22218.60

S/C POSITION
ALT 49.45 KM
ALT RT -0.0091 KM/SEC
LAT 3.29 DEG
LONG 36.78 DEG

S/C ORIENTATION
TILT ANG 11.86 DEG
TILT AZIM 318.11 DEG
SWING ANG 126.91 DEG
N.DEV. 349.46 DEG

PHOTO ILLUMINATION
SUN AZIM 91.57 DEG
INCID ANG 70.36 DEG
EMISS ANG 12.21 DEG
PHASE ANG 62.26 DEG
ALPHA 7.82 DEG

PRINCIPAL POINT
LATITUDE 3.55 DEG
LONGITUDE 36.55 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.13 DEG AB 39.4 KM
A LONG 37.26 DEG BC 33.8 KM
B LAT 2.83 DEG CD 44.6 KM
B LONG 34.56 DEG DA 37.3 KM
C LAT 2.59 DEG TILT DISTANCE 16.8
C LONG 35.85 DEG
D LAT 4.45 DEG
D LONG 36.05 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.83 DEG AB 18.2 KM
A LONG 36.68 DEG BC 4.5 KM
B LAT 3.24 DEG CD 18.5 KM
B LONG 36.57 DEG DA 4.8 KM
C LAT 3.27 DEG TILT DISTANCE 28.0
C LONG 36.42 DEG
D LAT 3.87 DEG
D LONG 36.53 DEG

MISSION/
FRAME NO.

2032
YR.MO.DY 661118
HR.MI.SEC 22218.61

S/C POSITION
ALT 49.43 KM
ALT RT -0.0080 KM/SEC
LAT 3.27 DEG
LONG 36.90 DEG

S/C ORIENTATION
TILT ANG 11.76 DEG
TILT AZIM 318.48 DEG
SWING ANG 127.27 DEG
N.DEV. 349.45 DEG

PHOTO ILLUMINATION
SUN AZIM 91.57 DEG
INCID ANG 70.23 DEG
EMISS ANG 12.10 DEG
PHASE ANG 62.26 DEG
ALPHA 7.70 DEG

PRINCIPAL POINT
LATITUDE 3.52 DEG
LONGITUDE 36.68 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.08 DEG AB 39.4 KM
A LONG 37.38 DEG BC 33.8 KM
B LAT 2.81 DEG CD 44.5 KM
B LONG 37.09 DEG DA 37.8 KM
C LAT 2.56 DEG TILT DISTANCE 16.6
C LONG 35.58 DEG
D LAT 4.42 DEG
D LONG 36.18 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.81 DEG AB 18.2 KM
A LONG 36.81 DEG BC 4.5 KM
B LAT 3.22 DEG CD 18.5 KM
B LONG 36.70 DEG DA 4.7 KM
C LAT 3.24 DEG TILT DISTANCE 26.9
C LONG 36.55 DEG
D LAT 3.84 DEG
D LONG 36.66 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2033
YR.MO.DY 661119
HR.MI.SEC 025426.21

S/C POSITION
ALT 1454.65 KM
ALT RT 0.3194 KM/SEC
LAT -9.93 DEG
LONG 174.29 DEG

S/C ORIENTATION
TILT ANG 0.49 DEG
TILT AZIM 207.50 DEG
SWING ANG 204.25 DEG
N.DEV. 176.72 DEG

PHOTO ILLUMINATION
SUN AZIM 273.51 DEG
INCID ANG 69.82 DEG
EMISS ANG 0.91 DEG
PHASE ANG 70.19 DEG
ALPHA -0.37 DEG

PRINCIPAL POINT
LATITUDE -10.29 DEG
LONGITUDE 174.09 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -32.48 DEG AB 403.2 KM
A LONG 148.02 DEG BC 166.0 KM
B LAT 14.72 DEG CD 390.7 KM
B LONG 155.05 DEG DA 196.5 KM
C LAT 12.26 DEG TILT DISTANCE 0.8
C LONG -164.61 DEG
D LAT -34.95 DEG
D LONG -163.11 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -18.96 DEG AB 530.6 KM
A LONG 171.22 DEG BC 133.0 KM
B LAT -1.42 DEG CD 530.3 KM
B LONG 172.40 DEG DA 133.7 KM
C LAT -1.67 DEG TILT DISTANCE 5.2
C LONG 176.78 DEG
D LAT -19.22 DEG
D LONG 175.89 DEG

MISSION/
FRAME NO.

2034
YR.MO.DY 661119
HR.MI.SEC 062253.51

S/C POSITION
ALT 1452.54 KM
ALT RT 0.3203 KM/SEC
LAT -9.94 DEG
LONG 172.29 DEG

S/C ORIENTATION
TILT ANG 16.27 DEG
TILT AZIM 4.94 DEG
SWING ANG 355.47 DEG
N.DEV. 169.78 DEG

PHOTO ILLUMINATION
SUN AZIM 268.05 DEG
INCID ANG 70.84 DEG
EMISS ANG 30.97 DEG
PHASE ANG 70.17 DEG
ALPHA -2.65 DEG

PRINCIPAL POINT
LATITUDE 4.71 DEG
LONGITUDE 173.55 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -11.92 DEG AB 643.0 KM
A LONG 153.27 DEG BC 566.3 KM
B LAT 35.80 DEG CD 102.7 KM
B LONG 143.25 DEG DA 584.1 KM
C LAT 24.49 DEG TILT DISTANCE 23.1
C LONG -153.78 DEG
D LAT -17.24 DEG
D LONG -173.11 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT -4.36 DEG AB 705.7 KM
A LONG 169.92 DEG BC 165.7 KM
B LAT 18.92 DEG CD 699.7 KM
B LONG 172.84 DEG DA 130.8 KM
C LAT 17.79 DEG TILT DISTANCE 77.9
C LONG 178.48 DEG
D LAT -5.08 DEG
D LONG 174.20 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2035

YR. MO. DY 661119
PH. MI. SEC 084542.01

S/C POSITION ALT 48.57 KM
ALT RT 0.2118 KM/SEC
LAT 2.75 DEG
LONG 33.61 DEG

S/C ORIENTATION TILT ANG 0.43 DEG
TILT AZIM 111.56 DEG
SWING ANG 279.50 DEG
N.DEV. 347.93 DEG

PHOTO ILLUMINATION SUN AZIM 91.43 DEG
INCID ANG 67.98 DEG
EMISS ANG 0.45 DEG
PHASE ANG 68.40 DEG
ALPHA -0.42 DEG

PRINCIPAL POINT LATITUDE 2.74 DEG
LONGITUDE 33.62 DEG

MEDIUM RESOLUTION.

CORNER COORDINATE SIDE LENGTH
A LAT 3.27 DEG AB 39.8 KM
A LONG 34.31 DEG BC 33.5 KM
B LAT 1.58 DEG CD 39.5 KM
B LONG 24.63 DEG DA 33.5 KM
C LAT 2.22 DEG TILT DISTANCE 0.5
C LONG 32.55 DEG
D LAT 3.50 DEG
D LONG 33.22 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.01 DEG AB 17.5 KM
A LONG 33.75 DEG BC 4.4 KM
B LAT 2.44 DEG CD 17.5 KM
B LONG 33.63 DEG DA 4.4 KM
C LAT 2.47 DEG TILT DISTANCE 4.6
C LONG 33.49 DEG
D LAT 3.04 DEG
D LONG 33.61 DEG

MISSION/
FRAME NO.
2036

YR. MO. DY 661119
PH. MI. SEC 084542.01

S/C POSITION ALT 48.60 KM
ALT RT 0.0129 KM/SEC
LAT 2.72 DEG
LONG 33.73 DEG

S/C ORIENTATION TILT ANG 0.56 DEG
TILT AZIM 109.39 DEG
SWING ANG 277.32 DEG
N.DEV. 347.93 DEG

PHOTO ILLUMINATION SUN AZIM 91.42 DEG
INCID ANG 67.86 DEG
EMISS ANG 0.57 DEG
PHASE ANG 68.40 DEG
ALPHA -0.54 DEG

PRINCIPAL POINT LATITUDE 2.72 DEG
LONGITUDE 33.74 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.24 DEG AB 39.9 KM
A LONG 34.43 DEG BC 33.5 KM
B LAT 1.96 DEG CD 39.5 KM
B LONG 24.16 DEG DA 33.5 KM
C LAT 2.19 DEG TILT DISTANCE 0.8
C LONG 32.07 DEG
D LAT 3.47 DEG
D LONG 33.35 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.98 DEG AB 17.5 KM
A LONG 33.87 DEG BC 4.4 KM
B LAT 2.42 DEG CD 17.5 KM
B LONG 33.75 DEG DA 4.4 KM
C LAT 2.45 DEG TILT DISTANCE 5.9
C LONG 33.61 DEG
D LAT 3.01 DEG
D LONG 33.73 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2037

YR.MO.DY 661119
HR.MI.SEC 084945.01

S/C POSITION
ALT 48.62 KM
ALT RT 0.0139 KM/SEC
LAT 2.70 DEG
LONG 33.85 DEG

S/C ORIENTATION
TILT ANG 0.68 DEG
TILT AZIM 108.00 DEG
SWING ANG 275.92 DEG
N.DEV. 347.92 DEG

PHOTO ILLUMINATION
SUN AZIM 91.42 DEG
INCLD ANG 67.73 DEG
EMISS ANG 0.70 DEG
PHASE ANG 68.44 DEG
ALPHA -0.67 DEG

PRINCIPAL POINT
LATITUDE 2.59 DEG
LONGITUDE 33.87 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.22 DEG AB 39.9 KM
A LONG 34.56 DEG BC 33.5 KM
B LAT 1.93 DEG CD 39.5 KM
B LONG 34.28 DEG DA 33.6 KM
C LAT 2.17 DEG TILT DISTANCE 0.9
C LONG 33.20 DEG
D LAT 3.45 DEG
D LONG 33.47 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.96 DEG AB 17.5 KM
A LONG 34.00 DEG BC 4.4 KM
B LAT 2.39 DEG CD 37.5 KM
B LONG 33.88 DEG DA 4.4 KM
C LAT 2.42 DEG TILT DISTANCE 7.2
C LONG 33.73 DEG
D LAT 2.99 DEG
D LONG 33.86 DEG

MISSION/
FRAME NO.
2038

YR.MO.DY 661119
HR.MI.SEC 084547.00

S/C POSITION
ALT 48.65 KM
ALT RT 0.0149 KM/SEC
LAT 2.67 DEG
LONG 33.97 DEG

S/C ORIENTATION
TILT ANG 0.80 DEG
TILT AZIM 107.04 DEG
SWING ANG 274.95 DEG
N.DEV. 347.92 DEG

PHOTO ILLUMINATION
SUN AZIM 91.42 DEG
INCLD ANG 67.61 DEG
EMISS ANG 0.82 DEG
PHASE ANG 68.40 DEG
ALPHA -0.79 DEG

PRINCIPAL POINT
LATITUDE 2.66 DEG
LONGITUDE 33.99 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.19 DEG AB 40.0 KM
A LONG 34.68 DEG BC 33.5 KM
B LAT 1.90 DEG CD 39.5 KM
B LONG 34.41 DEG DA 33.7 KM
C LAT 2.14 DEG TILT DISTANCE 1.1
C LONG 33.32 DEG
D LAT 3.42 DEG
D LONG 33.59 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.93 DEG AB 17.5 KM
A LONG 34.12 DEG BC 4.4 KM
B LAT 2.37 DEG CD 37.5 KM
B LONG 34.00 DEG DA 4.4 KM
C LAT 2.40 DEG TILT DISTANCE 8.5
C LONG 33.85 DEG
D LAT 2.96 DEG
D LONG 33.98 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2039

YR. MO. DY
HR. MI. SEC
084548.98

S/C POSITION
ALT 48.68 KM
ALT RT 0.0160 KM/SEC
LAT 2.65 DEG
LONG 34.09 DEG

S/C ORIENTATION
TILT ANG 0.92 DEG
TILT AZIM 106.34 DEG
SWING ANG 274.25 DEG
N.DEV. 347.91 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 67.48 DEG
EMISS ANG 0.95 DEG
PHASE ANG 68.40 DEG
ALPHA -0.92 DEG

PRINCIPAL POINT
LATITUDE 2.64 DEG
LONGITUDE 34.11 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.17 DEG AB 40.9 KM
A LONG 34.81 DEG BC 33.7 KM
B LAT 1.88 DEG CD 39.5 KM
B LONG 34.53 DEG DA 33.7 KM
C LAT 2.12 DEG TILT DISTANCE 1.3
C LONG 33.44 DEG
D LAT 3.40 DEG
D LONG 33.72 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.91 DEG AB 17.5 KM
A LONG 34.24 DEG BC 4.4 KM
B LAT 2.34 DEG CD 17.5 KM
B LONG 34.12 DEG DA 4.4 KM
C LAT 2.37 DEG TILT DISTANCE 9.8
C LONG 33.98 DEG
D LAT 2.94 DEG
D LONG 34.10 DEG

MISSION/
FRAME NO.
2040

YR. MO. DY
HR. MI. SEC
084550.95

S/C POSITION
ALT 48.72 KM
ALT RT 0.0170 KM/SEC
LAT 2.62 DEG
LONG 34.21 DEG

S/C ORIENTATION
TILT ANG 1.04 DEG
TILT AZIM 125.81 DEG
SWING ANG 273.71 DEG
N.DEV. 347.91 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 67.36 DEG
EMISS ANG 1.07 DEG
PHASE ANG 68.40 DEG
ALPHA -1.04 DEG

PRINCIPAL POINT
LATITUDE 2.61 DEG
LONGITUDE 34.23 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.15 DEG AB 40.1 KM
A LONG 34.93 DEG BC 33.7 KM
B LAT 1.85 DEG CD 39.5 KM
B LONG 34.65 DEG DA 33.7 KM
C LAT 2.09 DEG TILT DISTANCE 1.5
C LONG 33.57 DEG
D LAT 3.37 DEG
D LONG 33.84 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.88 DEG AB 17.5 KM
A LONG 34.37 DEG BC 4.4 KM
B LAT 2.32 DEG CD 17.5 KM
B LONG 34.24 DEG DA 4.4 KM
C LAT 2.35 DEG TILT DISTANCE 11.0
C LONG 34.10 DEG
D LAT 2.91 DEG
D LONG 34.22 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 122

MISSION/
FRAME NO.

2041 YR.MO.DY
HP.MI.SEC

TIME
661115
084552.92

S/C POSITION
ALT 48.75 KM
ALT RT 0.0180 KM/SEC
LAT 2.60 DEG
LONG 34.32 DEG

S/C ORIENTATION
TILT ANG 1.16 DEG
TILT AZIM 105.38 DEG
SWING ANG 273.28 DEG
N.DEV. 347.90 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 67.24 DEG
EMISS ANG 1.20 DEG
PHASE ANG 68.40 DEG
ALPHA -1.16 DEG

PRINCIPAL POINT
LATITUDE 2.59 DEG
LONGITUDE 34.36 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.12 DEG AB 40.1 KM
A LONG 35.06 DEG BC 33.7 KM
B LAT 1.82 DEG CD 39.5 KM
B LONG 34.78 DEG DA 33.7 KM
C LAT 2.07 DEG TILT DISTANCE
C LONG 33.69 DEG 1.6
D LAT 3.34 DEG
D LONG 33.56 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.86 DEG AB 17.5 KM
A LONG 34.49 DEG BC 4.4 KM
B LAT 2.29 DEG CD 17.5 KM
B LONG 34.37 DEG DA 4.4 KM
C LAT 2.32 DEG TILT DISTANCE
C LONG 34.22 DEG 12.3
D LAT 2.89 DEG
D LONG 34.35 DEG

MISSION/
FRAME NO.

2042 YR.MO.DY
PR.MI.SEC

TIME
661119
084554.89

S/C POSITION
ALT 48.79 KM
ALT RT 0.0190 KM/SEC
LAT 2.57 DEG
LONG 34.44 DEG

S/C ORIENTATION
TILT ANG 1.28 DEG
TILT AZIM 105.04 DEG
SWING ANG 272.94 DEG
N.DEV. 347.90 DEG

PHOTO ILLUMINATION
SUN AZIM 91.40 DEG
INCID ANG 67.12 DEG
EMISS ANG 1.32 DEG
PHASE ANG 68.40 DEG
ALPHA -1.28 DEG

PRINCIPAL POINT
LATITUDE 2.56 DEG
LONGITUDE 34.48 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.10 DEG AB 40.2 KM
A LONG 35.18 DEG BC 33.7 KM
B LAT 1.80 DEG CD 39.5 KM
B LONG 34.90 DEG DA 33.8 KM
C LAT 2.04 DEG TILT DISTANCE
C LONG 33.81 DEG 1.8
D LAT 3.32 DEG
D LONG 34.68 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.83 DEG AB 17.6 KM
A LONG 34.61 DEG BC 4.4 KM
B LAT 2.26 DEG CD 17.5 KM
B LONG 34.49 DEG DA 4.4 KM
C LAT 2.30 DEG TILT DISTANCE
C LONG 34.35 DEG 13.6
D LAT 2.86 DEG
D LONG 34.47 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/ FRAME NO. 2043	MISSION/ FRAME NO. 2044
YR.MO.DY FR.MI.SEC 154423.20	YR.MO.DY FR.MI.SEC 154424.34
TIME 061119	TIME 061115
S/C POSITION ALT 49.88 KM ALT RT -0.6652 KM/SEC LAT 4.53 DEG LONG 20.93 DEG	S/C POSITION ALT 49.74 KM ALT RT -0.6641 KM/SEC LAT 4.50 DEG LONG 21.03 DEG
S/C ORIENTATION TILT ANG 1.41 DEG TILT AZIM 285.52 DEG SWING ANG 94.17 DEG N.DEV. 348.56 DEG	S/C ORIENTATION TILT ANG 1.28 DEG TILT AZIM 285.97 DEG SWING ANG 94.51 DEG N.DEV. 348.55 DEG
PHOTO ILLUMINATION SUN AZIM 91.34 DEG INCID ANG 77.22 DEG EMISS ANG 1.46 DEG PHASE ANG 75.81 DEG ALPHA 1.41 DEG	PHOTO ILLUMINATION SUN AZIM 91.35 DEG INCID ANG 77.09 DEG EMISS ANG 1.32 DEG PHASE ANG 75.81 DEG ALPHA 1.28 DEG
PRINCIPAL POINT LATITUDE 4.54 DEG LONGITUDE 20.89 DEG	PRINCIPAL POINT LATITUDE 4.51 DEG LONGITUDE 21.03 DEG
MEDIUM RESOLUTION CORNER COORDINATE SIDE LENGTH A LAT 5.08 DEG AB 40.4 KM A LONG 21.59 DEG RC 34.4 KM B LAT 3.77 DEG CD 41.1 KM B LONG 21.32 DEG DA 34.6 KM C LAT 3.59 DEG TILT DISTANCE 1.9 C LONG 20.23 DEG D LAT 5.32 DEG D LONG 20.47 DEG	HIGH RESOLUTION CORNER COORDINATE SIDE LENGTH A LAT 4.81 DEG AB 17.9 KM A LONG 21.03 DEG RC 4.5 KM B LAT 4.23 DEG CD 18.0 KM B LONG 20.91 DEG DA 4.5 KM C LAT 4.26 DEG TILT DISTANCE 15.0 C LONG 20.76 DEG D LAT 4.84 DEG D LONG 20.88 DEG

MISSION/ FRAME NO. 2044	MISSION/ FRAME NO. 2044
YR.MO.DY FR.MI.SEC 154424.34	YR.MO.DY FR.MI.SEC 154424.34
TIME 061115	TIME 061115
S/C POSITION ALT 49.74 KM ALT RT -0.6641 KM/SEC LAT 4.50 DEG LONG 21.03 DEG	S/C POSITION ALT 49.74 KM ALT RT -0.6641 KM/SEC LAT 4.50 DEG LONG 21.03 DEG
S/C ORIENTATION TILT ANG 1.28 DEG TILT AZIM 285.97 DEG SWING ANG 94.51 DEG N.DEV. 348.55 DEG	S/C ORIENTATION TILT ANG 1.28 DEG TILT AZIM 285.97 DEG SWING ANG 94.51 DEG N.DEV. 348.55 DEG
PHOTO ILLUMINATION SUN AZIM 91.35 DEG INCID ANG 77.09 DEG EMISS ANG 1.32 DEG PHASE ANG 75.81 DEG ALPHA 1.28 DEG	PHOTO ILLUMINATION SUN AZIM 91.35 DEG INCID ANG 77.09 DEG EMISS ANG 1.32 DEG PHASE ANG 75.81 DEG ALPHA 1.28 DEG
PRINCIPAL POINT LATITUDE 4.51 DEG LONGITUDE 21.03 DEG	PRINCIPAL POINT LATITUDE 4.51 DEG LONGITUDE 21.03 DEG
MEDIUM RESOLUTION CORNER COORDINATE SIDE LENGTH A LAT 5.05 DEG AB 40.3 KM A LONG 21.72 DEG BC 34.3 KM B LAT 3.75 DEG CD 41.1 KM B LONG 21.46 DEG DA 34.5 KM C LAT 3.56 DEG TILT DISTANCE 1.7 C LONG 20.34 DEG D LAT 5.29 DEG D LONG 20.61 DEG	HIGH RESOLUTION CORNER COORDINATE SIDE LENGTH A LAT 4.79 DEG AB 17.9 KM A LONG 21.16 DEG BC 4.5 KM B LAT 4.21 DEG CD 17.9 KM B LONG 21.04 DEG DA 4.5 KM C LAT 4.24 DEG TILT DISTANCE 13.6 C LONG 20.89 DEG D LAT 4.82 DEG D LONG 21.01 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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06/17/71

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2045

TIME 661119
YR,MO,DY 661119
PR,MI,SEC 154226.48

S/C POSITION
ALT 49.63 KM
ALT RT -0.0630 KM/SEC
LAT 4.48 DEG
LONG 21.19 DEG

S/C ORIENTATION
TILT ANG 1.15 DEG
TILT AZIM 286.53 DEG
SWING ANG 95.03 DEG
N-DEV. 348.54 DEG

PHOTO ILLUMINATION
SUN AZIM 91.35 DEG
INCID ANG 73.96 DEG
EMISS ANG 1.19 DEG
PHASE ANG 75.81 DEG
ALPHA 1.14 DEG

PRINCIPAL POINT
LATITUDE 4.49 DEG
LONGITUDE 21.16 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.33 DEG AB 40.3 KM
A LONG 21.85 DEG BC 34.3 KM
B LAT 2.73 DEG CD 40.8 KM
B LONG 21.29 DEG DA 36.4 KM
C LAT 3.54 DEG TILT DISTANCE 1.5
C LONG 21.48 DEG
D LAT 5.26 DEG
D LONG 20.74 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.76 DEG AB 17.8 KM
A LONG 21.29 DEG BC 4.5 KM
B LAT 4.18 DEG CD 17.9 KM
B LONG 21.17 DEG DA 4.5 KM
C LAT 4.21 DEG TILT DISTANCE 12.2
C LONG 21.03 DEG
D LAT 4.79 DEG
D LONG 21.15 DEG

MISSION/
FRAME NO.
2046

TIME 661119
YR,MO,DY 661119
PR,MI,SEC 154226.62

S/C POSITION
ALT 49.48 KM
ALT RT -0.0619 KM/SEC
LAT 4.45 DEG
LONG 21.32 DEG

S/C ORIENTATION
TILT ANG 1.02 DEG
TILT AZIM 287.22 DEG
SWING ANG 95.74 DEG
N-DEV. 348.53 DEG

PHOTO ILLUMINATION
SUN AZIM 91.36 DEG
INCID ANG 76.82 DEG
EMISS ANG 1.05 DEG
PHASE ANG 75.81 DEG
ALPHA 1.01 DEG

PRINCIPAL POINT
LATITUDE 4.46 DEG
LONGITUDE 21.29 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.00 DEG AB 40.2 KM
A LONG 21.59 DEG BC 34.2 KM
B LAT 3.70 DEG CD 40.7 KM
B LONG 21.72 DEG DA 34.3 KM
C LAT 3.52 DEG TILT DISTANCE 1.4
C LONG 20.61 DEG
D LAT 5.23 DEG
D LONG 20.88 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.73 DEG AB 17.8 KM
A LONG 21.42 DEG BC 4.5 KM
B LAT 4.16 DEG CD 17.8 KM
B LONG 21.31 DEG DA 4.5 KM
C LAT 4.19 DEG TILT DISTANCE 10.8
C LONG 21.16 DEG
D LAT 4.76 DEG
D LONG 21.28 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2047

YR.NO.DY 661115
HR.MI.SEC 154430.75

TIME 661115 154430.75

S/C POSITION ALT 49.34 KM
ALT RT -0.0608 KM/SEC
LAT 4.43 DEG
LONG 21.45 DEG

S/C ORIENTATION TILT ANG 0.89 DEG
TILT AZIM 288.11 DEG
SWING ANG 96.62 DEG
N.DEV. 348.51 DEG

PHOTO ILLUMINATION SUN AZIM 91.36 DEG
INCID ANG 76.59 DEG
EMISS ANG 0.92 DEG
PHASE ANG 75.81 DEG
ALPHA 0.88 DEG

PRINCIPAL POINT LATITUDE 4.43 DEG
LONGITUDE 21.42 DEG

MEDIUM RESOLUTION CORNER COORDINATE SIDE LENGTH
A LAT 4.97 DEG AB 40.1 KM
A LONG 22.12 DEG BC 34.1 KM
B LAT 3.68 DEG CD 40.5 KM
B LONG 21.85 DEG DA 34.2 KM
C LAT 3.89 DEG TILT DISTANCE 1.2
C LONG 20.75 DEG
D LAT 5.20 DEG
D LONG 21.01 DEG

HIGH RESOLUTION CORNER COORDINATE SIDE LENGTH
A LAT 4.71 DEG AB 17.7 KM
A LONG 21.56 DEG BC 4.5 KM
B LAT 4.13 DEG CD 17.8 KM
B LONG 21.44 DEG DA 4.5 KM
C LAT 4.16 DEG TILT DISTANCE 9.4
C LONG 21.29 DEG
D LAT 4.73 DEG
D LONG 21.41 DEG

MISSION/
FRAME NO.
2048

YR.NO.DY 661119
HR.MI.SEC 154432.82

TIME 661119 154432.82

S/C POSITION ALT 49.22 KM
ALT RT -0.0597 KM/SEC
LAT 4.40 DEG
LONG 21.58 DEG

S/C ORIENTATION TILT ANG 0.76 DEG
TILT AZIM 289.30 DEG
SWING ANG 97.80 DEG
N.DEV. 348.50 DEG

PHOTO ILLUMINATION SUN AZIM 91.37 DEG
INCID ANG 76.56 DEG
EMISS ANG 0.78 DEG
PHASE ANG 75.81 DEG
ALPHA 0.75 DEG

PRINCIPAL POINT LATITUDE 4.41 DEG
LONGITUDE 21.56 DEG

MEDIUM RESOLUTION CORNER COORDINATE SIDE LENGTH
A LAT 4.54 DEG AB 40.0 KM
A LONG 22.25 DEG BC 34.0 KM
B LAT 3.65 DEG CD 40.4 KM
B LONG 21.58 DEG DA 34.1 KM
C LAT 3.87 DEG TILT DISTANCE 1.2
C LONG 20.88 DEG
D LAT 5.18 DEG
D LONG 21.14 DEG

HIGH RESOLUTION CORNER COORDINATE SIDE LENGTH
A LAT 4.68 DEG AB 17.7 KM
A LONG 21.69 DEG BC 4.4 KM
B LAT 4.11 DEG CD 17.7 KM
B LONG 21.57 DEG DA 4.5 KM
C LAT 4.14 DEG TILT DISTANCE 8.1
C LONG 21.43 DEG
D LAT 4.71 DEG
D LONG 21.54 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 125

MISSION/
FRAME NO.

2049.
YR.MO.DY 661119
HR.MI.SEC 154435.00

S/C POSITION
ALT 49.09 KM
ALT RT -0.0586 KM/SEC
LAT 4.37 DEG
LONG 21.70 DEG

S/C ORIENTATION
TILT ANG 0.63 DEG
TILT AZIM 290.97 DEG
SWING ANG 99.46 DEG
N.DEV. 348.49 DEG

PHOTO ILLUMINATION
SUN AZIM 91.37 DEG
INCID ANG 76.43 DEG
EMISS ANG 0.65 DEG
PHASE ANG 75.81 DEG
ALPHA 0.61 DEG

PRINCIPAL POINT
LATITUDE 4.38 DEG
LONGITUDE 21.69 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.52 DEG AB 40.3 KM
A LONG 22.38 DEG BC 33.9 KM
B LAT 3.63 DEG CD 40.3 KM
B LONG 22.11 DEG DA 34.3 KM
C LAT 3.84 DEG TILT DISTANCE
C LONG 21.01 DEG 0.8
D LAT 5.15 DEG
D LONG 21.28 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.65 DEG AB 17.6 KM
A LONG 21.82 DEG BC 4.4 KM
B LAT 4.08 DEG CD 17.7 KM
B LONG 21.70 DEG DA 4.4 KM
C LAT 4.11 DEG TILT DISTANCE
C LONG 21.56 DEG 6.7
D LAT 4.68 DEG
D LONG 21.67 DEG

MISSION/
FRAME NO.

2050.
YR.MO.DY 661119
HR.MI.SEC 154437.12

S/C POSITION
ALT 48.97 KM
ALT RT -0.0575 KM/SEC
LAT 4.35 DEG
LONG 21.83 DEG

S/C ORIENTATION
TILT ANG 0.51 DEG
TILT AZIM 293.48 DEG
SWING ANG 101.96 DEG
N.DEV. 348.48 DEG

PHOTO ILLUMINATION
SUN AZIM 91.37 DEG
INCID ANG 76.29 DEG
EMISS ANG 0.52 DEG
PHASE ANG 75.81 DEG
ALPHA 0.48 DEG

PRINCIPAL POINT
LATITUDE 4.35 DEG
LONGITUDE 21.82 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.89 DEG AB 39.9 KM
A LONG 22.51 DEG BC 33.8 KM
B LAT 3.60 DEG CD 40.1 KM
B LONG 22.24 DEG DA 33.9 KM
C LAT 3.82 DEG TILT DISTANCE
C LONG 21.15 DEG 0.7
D LAT 5.12 DEG
D LONG 21.41 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.62 DEG AB 17.6 KM
A LONG 21.95 DEG BC 4.4 KM
B LAT 4.05 DEG CD 17.6 KM
B LONG 21.83 DEG DA 4.4 KM
C LAT 4.08 DEG TILT DISTANCE
C LONG 21.69 DEG 5.3
D LAT 4.65 DEG
D LONG 21.81 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/ FRAME NO. 2051
 YR,MO,DY 661119
 PR,MI,SEC 191324.69
 TIME 661119
 S/C POSITION ALT 47.96 KM
 ALT RT -0.0510 KM/SEC
 LAT 4.18 DEG
 LONG 20.75 DEG
 S/C ORIENTATION TILT ANG 0.91 DEG
 TILT AZIM 297.63 DEG
 SWING ANG 106.12 DEG
 N.DEV. 348.50 DEG
 PHOTO ILLUMINATION SUN AZIM 91.39 DEG
 INCID ANG 75.52 DEG
 EMISS ANG 0.94 DEG
 PHASE ANG 74.78 DEG
 ALPHA 0.84 DEG
 PRINCIPAL POINT LATITUDE 4.19 DEG
 LONGITUDE 20.72 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.46 DEG AB 17.2 KM
 A LONG 20.85 DEG BC 4.3 KM
 B LAT 3.90 DEG CD 17.3 KM
 B LONG 20.74 DEG DA 4.3 KM
 C LAT 3.93 DEG TILT DISTANCE 9.7
 C LONG 20.60 DEG
 D LAT 4.49 DEG
 D LONG 20.71 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.72 DEG AB 39.0 KM
 A LONG 21.40 DEG BC 33.1 KM
 B LAT 3.46 DEG CD 39.4 KM
 B LONG 21.14 DEG DA 33.2 KM
 C LAT 3.67 DEG TILT DISTANCE 1.2
 C LONG 20.06 DEG
 D LAT 4.54 DEG
 D LONG 20.32 DEG

MISSION/ FRAME NO. 2052
 YR,MO,DY 661119
 PR,MI,SEC 191326.74
 TIME 661119
 S/C POSITION ALT 47.86 KM
 ALT RT -0.0499 KM/SEC
 LAT 4.16 DEG
 LONG 20.87 DEG
 S/C ORIENTATION TILT ANG 0.79 DEG
 TILT AZIM 300.20 DEG
 SWING ANG 108.69 DEG
 N.DEV. 348.49 DEG
 PHOTO ILLUMINATION SUN AZIM 91.39 DEG
 INCID ANG 75.50 DEG
 EMISS ANG 0.81 DEG
 PHASE ANG 74.78 DEG
 ALPHA 0.71 DEG
 PRINCIPAL POINT LATITUDE 4.17 DEG
 LONGITUDE 20.85 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.43 DEG AB 17.2 KM
 A LONG 20.98 DEG BC 4.3 KM
 B LAT 3.85 DEG CD 17.2 KM
 B LONG 20.86 DEG DA 4.3 KM
 C LAT 3.90 DEG TILT DISTANCE 8.4
 C LONG 20.72 DEG
 D LAT 4.46 DEG
 D LONG 20.84 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.69 DEG AB 38.9 KM
 A LONG 21.52 DEG BC 33.0 KM
 B LAT 3.43 DEG CD 39.3 KM
 B LONG 21.26 DEG DA 33.2 KM
 C LAT 3.65 DEG TILT DISTANCE 1.1
 C LONG 20.19 DEG
 D LAT 4.92 DEG
 D LONG 20.45 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
 FRAME NO.
 2053

YR.MO.DY 561119
 PR.MI.SEC 191330.84

TIME 191330.84

S/C POSITION ALT 47.76 KM
 ALT RT -0.0489 KM/SEC
 LAT 4.13 DEG
 LONG 20.99 DEG

S/C ORIENTATION TILT ANG 0.67 DEG
 TILT AZIM 303.68 DEG
 SWING ANG 112.15 DEG
 N.DEV. 348.48 DEG

PHOTO ILLUMINATION SUN AZIM 91.40 DEG
 INCID ANG 75.37 DEG
 EMISS ANG 0.69 DEG
 PHASE ANG 74.78 DEG
 ALPHA 0.58 DEG

PRINCIPAL POINT LATITUDE 4.14 DEG
 LONGITUDE 20.98 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 4.67 DEG AB 38.9 KM
 A LONG 21.65 DEG BC 32.9 KM
 B LAT 3.41 DEG CD 39.2 KM
 B LONG 21.39 DEG DA 33.1 KM
 C LAT 3.62 DEG TILT DISTANCE 0.9
 C LONG 20.32 DEG
 D LAT 4.89 DEG
 D LONG 20.58 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 4.41 DEG AB 17.2 KM
 A LONG 21.10 DEG BC 4.3 KM
 B LAT 3.85 DEG CD 17.2 KM
 B LONG 20.99 DEG DA 4.3 KM
 C LAT 3.88 DEG TILT DISTANCE 7.1
 C LONG 20.85 DEG
 D LAT 4.44 DEG
 D LONG 20.96 DEG

MISSION/
 FRAME NO.
 2054

YR.MO.DY 661119
 PR.MI.SEC 191330.84

TIME 191330.84

S/C POSITION ALT 47.66 KM
 ALT RT -0.0478 KM/SEC
 LAT 4.11 DEG
 LONG 21.12 DEG

S/C ORIENTATION TILT ANG 0.56 DEG
 TILT AZIM 308.61 DEG
 SWING ANG 117.08 DEG
 N.DEV. 348.47 DEG

PHOTO ILLUMINATION SUN AZIM 91.40 DEG
 INCID ANG 75.24 DEG
 EMISS ANG 0.57 DEG
 PHASE ANG 74.78 DEG
 ALPHA 0.46 DEG

PRINCIPAL POINT LATITUDE 4.12 DEG
 LONGITUDE 21.11 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 4.64 DEG AB 38.8 KM
 A LONG 21.78 DEG BC 32.9 KM
 B LAT 3.38 DEG CD 39.0 KM
 B LONG 21.52 DEG DA 33.0 KM
 C LAT 3.60 DEG TILT DISTANCE 0.8
 C LONG 20.45 DEG
 D LAT 4.86 DEG
 D LONG 20.71 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 4.38 DEG AB 17.1 KM
 A LONG 21.23 DEG BC 4.3 KM
 B LAT 3.83 DEG CD 17.1 KM
 B LONG 21.12 DEG DA 4.3 KM
 C LAT 3.86 DEG TILT DISTANCE 5.9
 C LONG 20.98 DEG
 D LAT 4.41 DEG
 D LONG 21.09 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2055
YR. MO. DY 661119
HR. MI. SEC 191332.90
TIME
S/C POSITION
ALT 47.56 KM
ALT RT -0.0467 KM/SEC
LAT -4.08 DEG
LONG 21.24 DEG
S/C ORIENTATION
TILT ANG 0.45 DEG
TILT AZIM 316.04 DEG
SWING ANG 124.50 DEG
N.DEV. 348.46 DEG
PHOTO ILLUMINATION
SUN AZIM 91.40 DEG
INCID ANG 75.11 DEG
EMISS ANG 0.46 DEG
PHASE ANG 74.78 DEG
ALPHA 0.33 DEG
PRINCIPAL POINT
LATITUDE 4.09 DEG
LONGITUDE 21.23 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.61 DEG AB 38.8 KM
A LONG 21.90 DEG BC 32.8 KM
B LAT 3.36 DEG CD 38.9 KM
B LONG 21.64 DEG DA 33.0 KM
C LAT 3.57 DEG TILT DISTANCE
C LONG 20.58 DEG
D LAT 4.83 DEG
D LONG 20.84 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.35 DEG AB 17.1 KM
A LONG 21.36 DEG BC 4.3 KM
B LAT 3.80 DEG CD 17.1 KM
B LONG 21.25 DEG DA 4.3 KM
C LAT 3.83 DEG TILT DISTANCE
C LONG 21.11 DEG
D LAT 4.38 DEG
D LONG 21.22 DEG

MISSION/
FRAME NO.

2056
YR. MO. DY 661119
HR. MI. SEC 191334.97
TIME
S/C POSITION
ALT 47.47 KM
ALT RT -0.0457 KM/SEC
LAT 4.06 DEG
LONG 21.37 DEG
S/C ORIENTATION
TILT ANG 0.35 DEG
TILT AZIM 327.91 DEG
SWING ANG 136.37 DEG
N.DEV. 348.45 DEG
PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 74.98 DEG
EMISS ANG 0.36 DEG
PHASE ANG 74.78 DEG
ALPHA 0.20 DEG
PRINCIPAL POINT
LATITUDE 4.07 DEG
LONGITUDE 21.36 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.59 DEG AB 38.7 KM
A LONG 22.03 DEG BC 32.7 KM
B LAT 3.34 DEG CD 38.8 KM
B LONG 21.77 DEG DA 32.9 KM
C LAT 3.55 DEG TILT DISTANCE
C LONG 20.71 DEG
D LAT 4.81 DEG
D LONG 20.97 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.33 DEG AB 17.1 KM
A LONG 21.49 DEG BC 4.3 KM
B LAT 3.78 DEG CD 17.1 KM
B LONG 21.37 DEG DA 4.3 KM
C LAT 3.80 DEG TILT DISTANCE
C LONG 21.24 DEG
D LAT 4.36 DEG
D LONG 21.35 DEG

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MISSION/
FRAME NO.

2057 YR.MO.DY
661119
HR.MI.SEC 151337.04

S/C POSITION
ALT 47.37 KN
ALT RT -0.0446 KM/SEC
LAT 4.03 DEG
LONG 21.49 DEG

S/C ORIENTATION
TILT ANG 0.28 DEG
TILT AZIM 347.17 DEG
SWING ANG 155.61 DEG
N.DEV. 348.44 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 74.86 DEG
EMISS ANG 0.29 DEG
PHASE ANG 74.78 DEG
ALPHA 0.07 DEG

PRINCIPAL POINT
LATITUDE 4.04 DEG
LONGITUDE 21.49 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.56 DEG AB 38.7 KM
A LONG 22.16 DEG BC 32.6 KM
B LAT 3.31 DEG CD 38.7 KM
B LONG 21.50 DEG DA 32.8 KM
C LAT 3.53 DEG TILT DISTANCE 0.5
C LONG 20.84 DEG
D LAT 4.78 DEG
D LONG 21.10 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.30 DEG AB 17.0 KM
A LONG 21.62 DEG BC 4.3 KM
B LAT 3.75 DEG CD 17.0 KM
B LONG 21.50 DEG DA 4.3 KM
C LAT 3.78 DEG TILT DISTANCE 2.9
C LONG 21.36 DEG
D LAT 4.33 DEG
D LONG 21.48 DEG

MISSION/
FRAME NO.

2058 YR.MO.DY
661115
HR.MI.SEC 191339.11

S/C POSITION
ALT 47.28 KN
ALT RT -0.0435 KM/SEC
LAT 4.01 DEG
LONG 21.62 DEG

S/C ORIENTATION
TILT ANG 0.26 DEG
TILT AZIM 14.15 DEG
SWING ANG 192.59 DEG
N.DEV. 348.43 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 74.73 DEG
EMISS ANG 0.26 DEG
PHASE ANG 74.78 DEG
ALPHA -0.06 DEG

PRINCIPAL POINT
LATITUDE 4.01 DEG
LONGITUDE 21.62 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.53 DEG AB 38.6 KM
A LONG 22.29 DEG BC 32.6 KM
B LAT 3.29 DEG CD 38.6 KM
B LONG 22.03 DEG DA 32.8 KM
C LAT 3.50 DEG TILT DISTANCE 0.5
C LONG 20.57 DEG
D LAT 4.75 DEG
D LONG 21.23 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.28 DEG AB 17.0 KM
A LONG 21.74 DEG BC 4.3 KM
B LAT 3.73 DEG CD 17.0 KM
B LONG 21.63 DEG DA 4.3 KM
C LAT 3.75 DEG TILT DISTANCE 2.7
C LONG 21.49 DEG
D LAT 4.30 DEG
D LONG 21.61 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
 FRAME NO.
 2059

YR. NO. DY
 661119

HR. MI. SEC
 224659.33

TIME
 661119 224659.33

S/C POSITION
 ALT 51.16 KM
 ALT RT -0.0819 KM/SEC
 LAT 4.89 DEG
 LONG 15.26 DEG

S/C ORIENTATION
 TILT ANG 1.45 DEG
 TILT AZIM 287.93 DEG
 SWING ANG 96.77 DEG
 N.DEV. 348.85 DEG

PHOTO ILLUMINATION
 SUN AZIM 91.23 DEG
 INCID ANG 79.37 DEG
 EMISS ANG 1.49 DEG
 PHASE ANG 77.94 DEG
 ALPHA 1.43 DEG

PRINCIPAL POINT
 LATITUDE 4.90 DEG
 LONGITUDE 15.22 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 5.18 DEG AB 18.4 KM
 A LONG 15.36 DEG BC 4.6 KM
 B LAT 4.59 DEG CD 18.4 KM
 B LONG 15.24 DEG DA 4.6 KM
 C LAT 4.52 DEG TILT DISTANCE
 C LONG 15.09 DEG 15.4
 D LAT 5.21 DEG
 D LONG 15.21 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 5.46 DEG AB 41.5 KM
 A LONG 15.54 DEG BC 35.3 KM
 B LAT 4.12 DEG CD 42.2 KM
 B LONG 15.67 DEG DA 35.5 KM
 C LAT 4.33 DEG TILT DISTANCE
 C LONG 14.52 DEG 2.0
 D LAT 5.70 DEG
 D LONG 14.78 DEG

MISSION/
 FRAME NO.
 2060

YR. NO. DY
 661119

HR. MI. SEC
 22411.51

TIME
 661119 22411.51

S/C POSITION
 ALT 50.99 KM
 ALT RT -0.0808 KM/SEC
 LAT 4.86 DEG
 LONG 15.40 DEG

S/C ORIENTATION
 TILT ANG 1.32 DEG
 TILT AZIM 288.63 DEG
 SWING ANG 97.47 DEG
 N.DEV. 348.84 DEG

PHOTO ILLUMINATION
 SUN AZIM 91.24 DEG
 INCID ANG 79.24 DEG
 EMISS ANG 1.36 DEG
 PHASE ANG 77.94 DEG
 ALPHA 1.29 DEG

PRINCIPAL POINT
 LATITUDE 4.87 DEG
 LONGITUDE 15.36 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 5.15 DEG AB 18.3 KM
 A LONG 15.49 DEG BC 4.6 KM
 B LAT 4.56 DEG CD 18.4 KM
 B LONG 15.37 DEG DA 4.6 KM
 C LAT 4.59 DEG TILT DISTANCE
 C LONG 15.22 DEG 14.0
 D LAT 5.18 DEG
 D LONG 15.34 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH

A LAT 5.43 DEG AB 41.3 KM
 A LONG 16.07 DEG BC 35.2 KM
 B LAT 4.09 DEG CD 42.0 KM
 B LONG 15.80 DEG DA 35.3 KM
 C LAT 4.31 DEG TILT DISTANCE
 C LONG 14.66 DEG 1.8
 D LAT 5.67 DEG
 D LONG 14.92 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

2061
YR. MO. DY 641119
HR. MI. SEC 2241 3.67

S/C POSITION
ALT 50.81 KM
ALT RT -0.0797 KM/SEC
LAT 4.83 DEG
LONG 15.53 DEG

S/C ORIENTATION
TILT ANG 1.19 DEG
TILT AZIN 289.48 DEG
SWING ANG 98.31 DEG
N.DEV. 348.83 DEG

PHOTO ILLUMINATION
SUN AZIM 91.25 DEG
INCID ANG 79.10 DEG
EMISS ANG 1.22 DEG
PHASE ANG 77.94 DEG
ALPHA 1.16 DEG

PRINCIPAL POINT
LATITUDE 4.85 DEG
LONGITUDE 15.49 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.40 DEG AB 41.2 KM
A LONG 16.20 DEG BC 35.1 KM
B LAT 4.07 DEG CD 41.8 KM
B LONG 15.93 DEG DA 35.2 KM
C LAT 4.29 DEG TILT DISTANCE 1.6
C LONG 14.79 DEG
D LAT 5.64 DEG
D LONG 15.06 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.13 DEG AB 18.3 KM
A LONG 15.63 DEG BC 4.6 KM
B LAT 4.54 DEG CD 18.3 KM
B LONG 15.51 DEG DA 4.6 KM
C LAT 4.57 DEG TILT DISTANCE 12.6
C LONG 15.36 DEG
D LAT 5.16 DEG
D LONG 15.48 DEG

MISSION/
FRAME NO.

2062
YR. MO. DY 641119
HR. MI. SEC 2241 5.83

S/C POSITION
ALT 50.64 KM
ALT RT -0.0786 KM/SEC
LAT 4.81 DEG
LONG 15.66 DEG

S/C ORIENTATION
TILT ANG 1.06 DEG
TILT AZIN 290.54 DEG
SWING ANG 99.36 DEG
N.DEV. 348.82 DEG

PHOTO ILLUMINATION
SUN AZIM 91.26 DEG
INCID ANG 78.97 DEG
EMISS ANG 1.09 DEG
PHASE ANG 77.94 DEG
ALPHA 1.03 DEG

PRINCIPAL POINT
LATITUDE 4.82 DEG
LONGITUDE 15.63 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.38 DEG AB 41.1 KM
A LONG 16.33 DEG BC 34.9 KM
B LAT 4.05 DEG CD 41.6 KM
B LONG 16.07 DEG DA 35.1 KM
C LAT 4.26 DEG TILT DISTANCE 1.4
C LONG 14.93 DEG
D LAT 5.61 DEG
D LONG 15.20 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.10 DEG AB 18.2 KM
A LONG 15.76 DEG BC 4.6 KM
B LAT 4.61 DEG CD 18.2 KM
B LONG 15.64 DEG DA 4.6 KM
C LAT 4.54 DEG TILT DISTANCE 11.2
C LONG 15.49 DEG
D LAT 5.13 DEG
D LONG 15.61 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/ FRAME NO. 2063
 YR. NO. DY 661119
 HR. MI. SEC 22417.98
 TIME 661119

S/C POSITION	S/C ORIENTATION	PHOTO ILLUMINATION	PRINCIPAL POINT
ALT 50.48 KM	TILT ANG 0.93 DEG	SUN AZIM 91.26 DEG	LATITUDE 4.79 DEG
ALT RT -0.0775 KM/SEC	TILT AZIM 291.89 DEG	INCID ANG 78.84 DEG	LONGITUDE 15.74 DEG
LAT 4.78 DEG	SWING ANG 100.59 DEG	EMISS ANG 0.95 DEG	
LONG 15.78 DEG	N.DEV. 348.81 DEG	PHASE ANG 77.94 DEG	
		ALPHA 0.89 DEG	

MEDIUM RESOLUTION

CORNER COORDINATE	SIDE LENGTH
A LAT 5.35 DEG	AB 41.0 KM
A LONG 16.47 DEG	BC 34.8 KM
B LAT 4.02 DEG	CD 41.5 KM
B LONG 16.20 DEG	DA 35.0 KM
C LAT 4.24 DEG	TILT DISTANCE 1.2
C LONG 12.07 DEG	
D LAT 5.58 DEG	
D LONG 15.33 DEG	

HIGH RESOLUTION

CORNER COORDINATE	SIDE LENGTH
A LAT 5.07 DEG	AB 18.1 KM
A LONG 15.89 DEG	BC 4.6 KM
B LAT 4.49 DEG	CD 18.2 KM
B LONG 15.78 DEG	DA 4.6 KM
C LAT 4.51 DEG	TILT DISTANCE 9.8
C LONG 15.63 DEG	
D LAT 5.10 DEG	
D LONG 15.74 DEG	

MISSION/ FRAME NO. 2064
 YR. NO. DY 661115
 HR. MI. SEC 224110.12
 TIME 661115

S/C POSITION	S/C ORIENTATION	PHOTO ILLUMINATION	PRINCIPAL POINT
ALT 50.31 KM	TILT ANG 0.80 DEG	SUN AZIM 91.27 DEG	LATITUDE 4.77 DEG
ALT RT -0.0764 KM/SEC	TILT AZIM 293.66 DEG	INCID ANG 78.70 DEG	LONGITUDE 15.89 DEG
LAT 4.76 DEG	SWING ANG 102.46 DEG	EMISS ANG 0.82 DEG	
LONG 15.91 DEG	N.DEV. 348.80 DEG	PHASE ANG 77.94 DEG	
		ALPHA 0.76 DEG	

MEDIUM RESOLUTION

CORNER COORDINATE	SIDE LENGTH
A LAT 5.32 DEG	AB 40.9 KM
A LONG 16.60 DEG	BC 34.7 KM
B LAT 4.00 DEG	CD 41.3 KM
B LONG 16.33 DEG	DA 34.9 KM
C LAT 4.21 DEG	TILT DISTANCE 1.1
C LONG 15.20 DEG	
D LAT 5.55 DEG	
D LONG 15.47 DEG	

HIGH RESOLUTION

CORNER COORDINATE	SIDE LENGTH
A LAT 5.05 DEG	AB 18.1 KM
A LONG 16.02 DEG	BC 4.5 KM
B LAT 4.46 DEG	CD 18.1 KM
B LONG 15.91 DEG	DA 4.6 KM
C LAT 4.49 DEG	TILT DISTANCE 8.4
C LONG 15.76 DEG	
D LAT 5.08 DEG	
D LONG 15.88 DEG	

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MISSION/
FRAME NO.
2055

YR.MO.DY 661115
PR.MI.SEC 224112.26

S/C POSITION
ALT 50.15 KM
ALT RT -0.0753 KM/SEC
LAT 4.73 DEG
LONG 16.04 DEG

S/C ORIENTATION
TILT ANG 0.67 DEG
TILT AZIM 296.11 DEG
SWING ANG 104.89 DEG
N.DEV. 348.78 DEG

PHOTO ILLUMINATION
SUN AZIM 91.27 DEG
INCID ANG 78.57 DEG
EMISS ANG 0.69 DEG
PHASE ANG 77.94 DEG
ALPHA 0.63 DEG

PRINCIPAL POINT
LATITUDE 4.74 DEG
LONGITUDE 16.03 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 5.29 DEG AB 40.8 KM
A LONG 16.73 DEG BC 34.6 KM
B LAT 3.57 DEG CD 41.1 KM
B LONG 16.46 DEG DA 34.7 KM
C LAT 4.19 DEG TILT DISTANCE 0.9
C LONG 15.24 DEG
D LAT 5.52 DEG
D LONG 15.60 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 5.02 DEG AB 18.0 KM
A LONG 16.16 DEG BC 4.5 KM
B LAT 4.44 DEG CD 18.0 KM
B LONG 16.04 DEG DA 4.5 KM
C LAT 4.46 DEG TILT DISTANCE 7.1
C LONG 15.89 DEG
D LAT 5.05 DEG
D LONG 16.01 DEG

MISSION/
FRAME NO.
2056

YR.MO.DY 661119
PR.MI.SEC 224114.38

S/C POSITION
ALT 49.99 KM
ALT RT -0.0742 KM/SEC
LAT 4.71 DEG
LONG 16.17 DEG

S/C ORIENTATION
TILT ANG 0.55 DEG
TILT AZIM 299.65 DEG
SWING ANG 108.42 DEG
N.DEV. 348.77 DEG

PHOTO ILLUMINATION
SUN AZIM 91.28 DEG
INCID ANG 78.44 DEG
EMISS ANG 0.56 DEG
PHASE ANG 77.94 DEG
ALPHA 0.49 DEG

PRINCIPAL POINT
LATITUDE 4.72 DEG
LONGITUDE 16.16 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 5.27 DEG AB 40.7 KM
A LONG 16.26 DEG BC 34.5 KM
B LAT 3.55 DEG CD 41.0 KM
B LONG 16.59 DEG DA 34.6 KM
C LAT 4.17 DEG TILT DISTANCE 0.7
C LONG 15.47 DEG
D LAT 5.49 DEG
D LONG 15.74 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.99 DEG AB 18.0 KM
A LONG 16.29 DEG BC 4.5 KM
B LAT 4.41 DEG CD 18.0 KM
B LONG 16.17 DEG DA 4.5 KM
C LAT 4.44 DEG TILT DISTANCE 5.8
C LONG 16.03 DEG
D LAT 5.02 DEG
D LONG 16.14 DEG

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MISSION/
FRAME NO. 2057

YR. MO. DY 661120
FR. MI. SEC 021237.58

TIME 021237.58

S/C POSITION
ALT 45.52 KM
ALT RT. 0.0121 KM/SEC
LAT 2.66 DEG
LONG 24.35 DEG

S/C ORIENTATION
TILT ANG 3.41 DEG
TILT AZIM 16.78 DEG
SWING ANG 184.73 DEG
N.DEV. 347.92 DEG

PHOTO ILLUMINATION
SUN AZIM 91.42 DEG
INCID ANG 68.41 DEG
EMISS ANG 3.50 DEG
PHASE ANG 69.37 DEG
ALPHA -1.00 DEG

PRINCIPAL POINT
LATITUDE 2.75 DEG
LONGITUDE 24.38 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.00 DEG AB 16.4 KM
A LONG 24.50 DEG BC 4.1 KM
B LAT 2.47 DEG CD 16.4 KM
B LONG 24.39 DEG DA 4.2 KM
C LAT 2.50 DEG TILT DISTANCE 36.3
C LONG 24.26 DEG
D LAT 3.03 DEG
D LONG 24.37 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.26 DEG AB 37.4 KM
A LONG 25.04 DEG BC 30.7 KM
B LAT 2.05 DEG CD 37.3 KM
B LONG 24.76 DEG DA 32.4 KM
C LAT 2.27 DEG TILT DISTANCE 4.9
C LONG 23.77 DEG
D LAT 3.48 DEG
D LONG 24.00 DEG

MISSION/
FRAME NO. 2068

YR. MO. DY 661120
FR. MI. SEC 021237.58

TIME 021237.58

S/C POSITION
ALT 45.55 KM
ALT RT. 0.0131 KM/SEC
LAT 2.64 DEG
LONG 24.47 DEG

S/C ORIENTATION
TILT ANG 3.42 DEG
TILT AZIM 18.81 DEG
SWING ANG 186.76 DEG
N.DEV. 347.91 DEG

PHOTO ILLUMINATION
SUN AZIM 91.42 DEG
INCID ANG 68.28 DEG
EMISS ANG 3.51 DEG
PHASE ANG 69.37 DEG
ALPHA -1.13 DEG

PRINCIPAL POINT
LATITUDE 2.72 DEG
LONGITUDE 24.50 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.98 DEG AB 16.4 KM
A LONG 24.63 DEG BC 4.1 KM
B LAT 2.45 DEG CD 16.4 KM
B LONG 24.51 DEG DA 4.2 KM
C LAT 2.47 DEG TILT DISTANCE 36.4
C LONG 24.38 DEG
D LAT 3.00 DEG
D LONG 24.49 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.23 DEG AB 37.5 KM
A LONG 25.17 DEG BC 30.7 KM
B LAT 2.03 DEG CD 37.3 KM
B LONG 24.88 DEG DA 32.4 KM
C LAT 2.24 DEG TILT DISTANCE 4.9
C LONG 23.89 DEG
D LAT 3.45 DEG
D LONG 24.12 DEG

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MISSION/
FRAME NO.
2069

YR. MO. DY 661120
HR. MI. SEC 021239.55

S/C POSITION
ALT 45.57 KM
ALT RT 0.0142 KM/SEC
LAT 2.61 DEG
LONG 24.59 DFG

S/C ORIENTATION
TILT ANG 3.44 DEG
TILT AZIM 20.82 DEG
SWING ANG 188.77 DEG
N.DEV. 347.91 DEG

PHOTO ILLUMINATION
SUN AZIM 91.42 DEG
INCID ANG 68.16 DEG
EMISS ANG 3.53 DEG
PHASE ANG 69.37 DEG
ALPHA -1.25 DEG

PRINCIPAL POINT
LATITUDE 2.70 DEG
LONGITUDE 24.42 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.21 DEG AB 37.5 KM
A LONG 25.29 DEG BC 30.8 KM
B LAT 2.00 DEG CD 37.3 KM
B LONG 25.00 DEG DA 32.4 KM
C LAT 2.22 DEG TILT DISTANCE 4.9
C LONG 24.01 DEG
D LAT 3.43 DEG
D LONG 24.24 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.95 DEG AB 15.4 KM
A LONG 24.75 DEG BC 4.1 KM
B LAT 2.42 DFG CD 16.4 KM
B LONG 24.63 DEG DA 4.2 KM
C LAT 2.45 DEG TILT DISTANCE 36.6
C LONG 24.59 DEG
D LAT 2.98 DEG
D LONG 24.61 DEG

MISSION/
FRAME NO.
2070

YR. MO. DY 661120
HR. MI. SEC 021241.53

S/C POSITION
ALT 45.60 KM
ALT RT 0.0152 KM/SEC
LAT 2.59 DEG
LONG 24.71 DEG

S/C ORIENTATION
TILT ANG 3.46 DEG
TILT AZIM 22.82 DEG
SWING ANG 190.77 DEG
N.DEV. 347.90 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 68.04 DEG
EMISS ANG 3.55 DEG
PHASE ANG 69.37 DEG
ALPHA -1.37 DEG

PRINCIPAL POINT
LATITUDE 2.67 DEG
LONGITUDE 24.75 DFG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.18 DEG AB 37.6 KM
A LONG 25.41 DEG BC 30.8 KM
B LAT 1.98 DEG CD 37.3 KM
B LONG 25.13 DEG DA 32.4 KM
C LAT 2.19 DEG TILT DISTANCE 5.3
C LONG 24.13 DEG
D LAT 3.40 DEG
D LONG 24.36 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.93 DEG AB 16.5 KM
A LONG 24.87 DEG BC 4.1 KM
B LAT 2.39 DEG CD 16.4 KM
B LONG 24.76 DEG DA 4.2 KM
C LAT 2.42 DEG TILT DISTANCE 35.8
C LONG 24.62 DEG
D LAT 2.95 DEG
D LONG 24.74 DEG

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MISSION/
FRAME NO.

2071
YR,MO,DY 661120
HR,MI,SEC 021243.51

S/C POSITION
ALT 45.63 KM
ALT RT 0.0162 KM/SEC
LAT 2.56 DEG
LONG 24.83 DEG

S/C ORIENTATION
TILT ANG 3.49 DEG
TILT AZIM 24.80 DEG
SWING ANG 192.74 DEG
N.DEV. 347.90 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 67.91 DEG
EMISS ANG 3.58 DEG
PHASE ANG 69.37 DEG
ALPHA -1.50 DEG

PRINCIPAL POINT
LATITUDE 2.65 DEG
LONGITUDE 24.87 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.16 DEG AB 37.7 KM
A LONG 25.54 DEG BC 30.8 KM
B LAT 1.95 DEG CD 37.3 KM
B LONG 25.25 DEG DA 32.4 KM
C LAT 2.17 DEG TILT DISTANCE 5.0
C LONG 24.26 DEG
D LAT 3.38 DEG
D LONG 24.49 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.90 DEG AB 16.5 KM
A LONG 24.99 DEG BC 4.1 KM
B LAT 2.37 DEG CD 16.5 KM
B LONG 24.88 DEG DA 4.2 KM
C LAT 2.40 DEG TILT DISTANCE 37.1
C LONG 24.75 DEG
D LAT 2.93 DEG
D LONG 24.86 DEG

MISSION/
FRAME NO.

2072
YR,MO,DY 661120
HR,MI,SEC 021245.49

S/C POSITION
ALT 45.67 KM
ALT RT 0.0173 KM/SEC
LAT 2.54 DEG
LONG 24.95 DEG

S/C ORIENTATION
TILT ANG 3.52 DEG
TILT AZIM 26.74 DEG
SWING ANG 194.68 DEG
N.DEV. 347.89 DEG

PHOTO ILLUMINATION
SUN AZIM 91.41 DEG
INCID ANG 67.79 DEG
EMISS ANG 3.61 DEG
PHASE ANG 69.37 DEG
ALPHA -1.52 DEG

PRINCIPAL POINT
LATITUDE 2.62 DEG
LONGITUDE 24.99 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.13 DEG AB 37.7 KM
A LONG 25.66 DEG BC 30.8 KM
B LAT 1.92 DEG CD 37.3 KM
B LONG 25.37 DEG DA 32.5 KM
C LAT 2.14 DEG TILT DISTANCE 5.0
C LONG 24.38 DEG
D LAT 3.35 DEG
D LONG 24.61 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.88 DEG AB 16.5 KM
A LONG 25.12 DEG BC 4.1 KM
B LAT 2.34 DEG CD 16.5 KM
B LONG 25.00 DEG DA 4.2 KM
C LAT 2.37 DEG TILT DISTANCE 37.4
C LONG 24.87 DEG
D LAT 2.90 DEG
D LONG 24.98 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2073

TIME 661120
YR.NO.DY 661120
PR.MI.SEC 021247.47

S/C POSITION ALT 45.73 KM
LAT RT 0.0183 KM/SEC
LONG -25.07 DEG

S/C ORIENTATION TILT ANG 3.55 DEG
TILT AZIM 28.64 DEG
SWING ANG 196.58 DEG
N.DEV. 347.89 DEG

PHOTO ILLUMINATION SUN AZIM 91.40 DEG
INCID ANG 67.67 DEG
EMISS ANG 3.65 DEG
PHASE ANG 69.37 DEG
ALPHA -1.74 DEG

PRINCIPAL POINT LATITUDE 2.60 DEG
LONGITUDE 25.11 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.11 DEG AB 37.8 KM
A LONG 25.79 DEG BC 30.9 KM
B LAT 1.90 DEG CD 37.3 KM
B LONG 25.50 DEG DA 32.5 KM
C LAT 2.12 DEG TILT DISTANCE 5.1
C LONG 24.50 DEG
D LAT 3.33 DEG
D LONG 24.73 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.85 DEG AB 16.5 KM
A LONG 25.24 DEG BC 4.1 KM
B LAT 2.32 DEG CD 16.5 KM
B LONG 25.12 DEG DA 4.2 KM
C LAT 2.35 DEG TILT DISTANCE 37.8
C LONG 24.99 DEG
D LAT 2.89 DEG
D LONG 25.10 DEG

MISSION/
FRAME NO.
2074

TIME 661120
YR.NO.DY 661120
PR.MI.SEC 021249.45

S/C POSITION ALT 45.74 KM
LAT RT 0.0193 KM/SEC
LONG 25.19 DEG

S/C ORIENTATION TILT ANG 3.59 DEG
TILT AZIM 30.51 DEG
SWING ANG 198.45 DEG
N.DEV. 347.88 DEG

PHOTO ILLUMINATION SUN AZIM 91.40 DEG
INCID ANG 67.54 DEG
EMISS ANG 3.68 DEG
PHASE ANG 69.37 DEG
ALPHA -1.87 DEG

PRINCIPAL POINT LATITUDE 2.57 DEG
LONGITUDE 25.24 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.09 DEG AB 37.8 KM
A LONG 25.51 DEG BC 30.9 KM
B LAT 1.87 DEG CD 37.3 KM
B LONG 25.42 DEG DA 32.5 KM
C LAT 2.09 DEG TILT DISTANCE 5.1
C LONG 24.63 DEG
D LAT 3.30 DEG
D LONG 24.86 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.83 DEG AB 16.5 KM
A LONG 25.36 DEG BC 4.1 KM
B LAT 2.29 DEG CD 16.5 KM
B LONG 25.25 DEG DA 4.2 KM
C LAT 2.32 DEG TILT DISTANCE 38.2
C LONG 25.11 DEG
D LAT 2.85 DEG
D LONG 25.23 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2075

YR.MO.DY 661120
PR.MI.SEC 101217.91

S/C POSITION ALT 1468.65 KM
ALT RT 0.3153 KM/SEC
LAT -9.74 DEG
LONG 158.42 DEG

S/C ORIENTATION TILT ANG 12.82 DEG
TILT AZIM 181.91 DEG
SWING ANG 183.30 DEG
N.DEV. 181.09 DEG

PHOTO ILLUMINATION SUN AZIM 277.43 DEG
INCID ANG 70.65 DEG
EMISS ANG 24.19 DEG
PHASE ANG 70.20 DEG
ALPHA -1.50 DEG

PRINCIPAL POINT LATITUDE -21.10 DEG
LONGITUDE 158.01 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -48.89 DEG AB 370.3 KM
A LONG 111.77 DEG BC 710.7 KM
B LAT -1.17 DEG CD 647.1 KM
B LONG 140.42 DEG DA 586.4 KM
C LAT -0.68 DEG TILT DISTANCE 18.3
C LONG 174.27 DEG
D LAT -48.27 DEG
D LONG -156.89 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -33.02 DEG AB 632.9 KM
A LONG 155.15 DEG BC 131.0 KM
B LAT -12.02 DEG CD 630.6 KM
B LONG 155.62 DEG DA 155.7 KM
C LAT -11.92 DEG TILT DISTANCE 38.7
C LONG 169.04 DEG
D LAT -32.82 DEG
D LONG 161.27 DEG

MISSION/
FRAME NO.
2076

YR.MO.DY 661120
PR.MI.SEC 160E47.41

S/C POSITION ALT 49.16 KM
ALT RT 0.6703 KM/SEC
LAT 1.21 DEG
LONG 23.71 DEG

S/C ORIENTATION TILT ANG 0.87 DEG
TILT AZIM 104.73 DEG
SWING ANG 272.47 DEG
N.DEV. 347.74 DEG

PHOTO ILLUMINATION SUN AZIM 91.00 DEG
INCID ANG 61.96 DEG
EMISS ANG 0.89 DEG
PHASE ANG 62.82 DEG
ALPHA -0.87 DEG

PRINCIPAL POINT LATITUDE 1.19 DEG
LONGITUDE 23.74 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.73 DEG AB 40.4 KM
A LONG 24.44 DEG BC 34.0 KM
B LAT 0.42 DEG CD 40.0 KM
B LONG 24.15 DEG DA 34.0 KM
C LAT 0.67 DEG TILT DISTANCE 1.2
C LONG 23.06 DEG
D LAT 1.56 DEG
D LONG 23.34 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.46 DEG AB 17.7 KM
A LONG 23.87 DEG BC 4.4 KM
B LAT 0.89 DEG CD 17.7 KM
B LONG 23.75 DEG DA 4.4 KM
C LAT 0.92 DEG TILT DISTANCE 9.2
C LONG 23.60 DEG
D LAT 1.49 DEG
D LONG 23.73 DEG

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MISSION/
FRAME NO.
2077

YR.MO.DY 661120
FR.MI.SEC 160649.45

S/C POSITION
ALT 49.31 KM
ALT RT 0.0714 KM/SEC
LAT 1.17 DEG
LONG 23.84 DEG

S/C ORIENTATION
TILT ANG 1.00 DEG
TILT AZIM 104.37 DEG
SWING ANG 272.11 DEG
N.DEV. 347.73 DEG

PHOTO ILLUMINATION
SUN AZIM 90.99 DEG
INCID ANG 61.83 DEG
EMISS ANG 1.03 DEG
PHASE ANG 62.82 DEG
ALPHA -1.00 DEG

PRINCIPAL POINT
LATITUDE 1.17 DEG
LONGITUDE 23.87 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.70 DEG AB 40.6 KM
A LONG 24.57 DEG BC 34.1 KM
B LAT 0.39 DEG CD 40.0 KM
B LONG 24.29 DEG DA 34.1 KM
C LAT 0.64 DEG TILT DISTANCE 1.4
C LONG 23.19 DEG
D LAT 1.93 DEG
D LONG 23.47 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.44 DEG AB 17.7 KM
A LONG 24.00 DEG BC 4.5 KM
B LAT 0.86 DEG CD 17.7 KM
B LONG 23.88 DEG DA 4.5 KM
C LAT 0.90 DEG TILT DISTANCE 10.6
C LONG 23.73 DEG
D LAT 1.47 DEG
D LONG 23.86 DEG

MISSION/
FRAME NO.
2078

YR.MO.DY 661120
FR.MI.SEC 160651.60

S/C POSITION
ALT 49.46 KM
ALT RT 0.0725 KM/SEC
LAT 1.15 DEG
LONG 23.96 DEG

S/C ORIENTATION
TILT ANG 1.13 DEG
TILT AZIM 104.10 DEG
SWING ANG 271.83 DEG
N.DEV. 347.73 DEG

PHOTO ILLUMINATION
SUN AZIM 90.98 DEG
INCID ANG 61.70 DEG
EMISS ANG 1.16 DEG
PHASE ANG 62.82 DEG
ALPHA -1.13 DEG

PRINCIPAL POINT
LATITUDE 1.14 DEG
LONGITUDE 24.00 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.68 DEG AB 40.7 KM
A LONG 24.70 DEG BC 34.2 KM
B LAT 0.36 DEG CD 40.1 KM
B LONG 24.42 DEG DA 34.2 KM
C LAT 0.61 DEG TILT DISTANCE 1.6
C LONG 23.32 DEG
D LAT 1.91 DEG
D LONG 23.60 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.41 DEG AB 17.8 KM
A LONG 24.13 DEG BC 4.5 KM
B LAT 0.84 DEG CD 17.8 KM
B LONG 24.01 DEG DA 4.5 KM
C LAT 0.87 DEG TILT DISTANCE 11.9
C LONG 23.86 DEG
D LAT 1.44 DEG
D LONG 23.99 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2079

YR.MO.DY 661120
HR.MI.SEC 160553.72
TIME 661120 160553.72

S/C POSITION ALT 49.62 KM
ALT RT 0.0736 KM/SEC
LAT 1.12 DEG
LONG 24.09 DEG

S/C ORIENTATION TILT ANG 1.26 DEG
TILT AZIM 103.67 DEG
SWING ANG 271.60 DEG
N.DEV. 347.73 DEG

PHOTO ILLUMINATION SUN AZIM 90.97 DEG
INCID ANG 61.56 DEG
EMISS ANG 1.29 DEG
PHASE ANG 62.82 DEG
ALPHA -1.26 DEG

PRINCIPAL POINT LATITUDE 1.11 DEG
LONGITUDE 24.13 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.65 DEG AB 40.9 KM
A LONG 24.84 DEG BC 34.3 KM
B LAT 0.33 DEG CD 43.2 KM
B LONG 24.55 DEG DA 34.3 KM
C LAT 0.58 DEG TILT DISTANCE 1.8
C LONG 23.45 DEG
D LAT 1.88 DEG
D LONG 23.73 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.38 DEG AB 17.9 KM
A LONG 24.26 DEG BC 4.5 KM
B LAT 0.81 DEG CD 17.8 KM
B LONG 24.14 DEG DA 4.5 KM
C LAT 0.84 DEG TILT DISTANCE 13.3
C LONG 23.99 DEG
D LAT 1.41 DEG
D LONG 24.12 DEG

MISSION/
FRAME NO.
2080

YR.MO.DY 661120
HR.MI.SEC 150555.87
TIME 661120 150555.87

S/C POSITION ALT 49.78 KM
ALT RT 0.0747 KM/SEC
LAT 1.09 DEG
LONG 24.22 DEG

S/C ORIENTATION TILT ANG 1.39 DEG
TILT AZIM 103.69 DEG
SWING ANG 271.42 DEG
N.DEV. 347.73 DEG

PHOTO ILLUMINATION SUN AZIM 90.96 DEG
INCID ANG 61.43 DEG
EMISS ANG 1.43 DEG
PHASE ANG 62.82 DEG
ALPHA -1.39 DEG

PRINCIPAL POINT LATITUDE 1.08 DEG
LONGITUDE 24.25 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.63 DEG AB 41.1 KM
A LONG 24.97 DEG BC 34.4 KM
B LAT 0.30 DEG CD 40.3 KM
B LONG 24.69 DEG DA 34.5 KM
C LAT 0.55 DEG TILT DISTANCE 1.9
C LONG 23.58 DEG
D LAT 1.86 DEG
D LONG 23.86 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.36 DEG AB 17.9 KM
A LONG 24.40 DEG BC 4.5 KM
B LAT 0.78 DEG CD 17.9 KM
B LONG 24.27 DEG DA 4.5 KM
C LAT 0.81 DEG TILT DISTANCE 14.7
C LONG 24.12 DEG
D LAT 1.39 DEG
D LONG 24.25 DEG

LUNAR CRBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

2081

YR.MO.DY 661123
PR.MI.SEC 160658.C4

S/C POSITION
ALT 49.94 KM
ALT RT 0.0758 KM/SEC
LAT 1.07 DEG
LONG 24.35 DEG

S/C ORIENTATION
TILT ANG 1.52 DEG
TILT AZIM 103.54 DEG
SWING ANG 271.26 DEG
N.DEV. 347.73 DEG

PHOTO ILLUMINATION
SUN AZIM 90.94 DEG
INCID ANG 61.30 DEG
EMISS ANG 1.57 DEG
PHASE ANG 62.82 DEG
ALPHA -1.53 DEG

PRINCIPAL POINT
LATITUDE 1.06 DEG
LONGITUDE 24.39 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.60 DEG AB 41.2 KM
A LONG 25.11 DEG BC 34.5 KM
B LAT 0.27 DEG CD 40.4 KM
B LONG 24.82 DEG DA 34.6 KM
C LAT 0.52 DEG TILT DISTANCE 2.1
C LONG 23.71 DEG
D LAT 1.83 DEG
D LONG 23.59 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.33 DEG AB 18.0 KM
A LONG 24.53 DEG BC 4.5 KM
B LAT 0.75 DEG CD 17.9 KM
B LONG 24.40 DEG DA 4.5 KM
C LAT 0.78 DEG TILT DISTANCE 16.2
C LONG 24.26 DEG
D LAT 1.36 DEG
D LONG 24.38 DEG

MISSION/
FRAME NO.

2082

YR.MO.DY 661120
PR.MI.SEC 1609 0.22

S/C POSITION
ALT 50.11 KM
ALT RT 0.0769 KM/SEC
LAT 1.04 DEG
LONG 24.48 DEG

S/C ORIENTATION
TILT ANG 1.66 DEG
TILT AZIM 103.41 DEG
SWING ANG 271.13 DEG
N.DEV. 347.72 DEG

PHOTO ILLUMINATION
SUN AZIM 90.93 DEG
INCID ANG 61.16 DEG
EMISS ANG 1.70 DEG
PHASE ANG 62.82 DEG
ALPHA -1.67 DEG

PRINCIPAL POINT
LATITUDE 1.03 DEG
LONGITUDE 24.53 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.57 DEG AB 41.4 KM
A LONG 25.25 DEG BC 34.7 KM
B LAT 0.24 DEG CD 40.5 KM
B LONG 24.96 DEG DA 34.7 KM
C LAT 0.49 DEG TILT DISTANCE 2.3
C LONG 23.84 DEG
D LAT 1.80 DEG
D LONG 24.13 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.30 DEG AB 18.0 KM
A LONG 24.66 DEG BC 4.5 KM
B LAT 0.72 DEG CD 18.0 KM
B LONG 24.54 DEG DA 4.5 KM
C LAT 0.75 DEG TILT DISTANCE 17.6
C LONG 24.39 DEG
D LAT 1.33 DEG
D LONG 24.52 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2083

YR. MO. DY
MR. MI. SEC

TIME
661120
1609 2.43

S/C POSITION
ALT 50.28 KM
ALT RT 0.0783 KM/SEC
LAT 1.01 DEG
LONG 24.61 DEG

S/C ORIENTATION
TILT ANG 1.79 DEG
TILT AZIM 133.30 DEG
SWING ANG 271.93 DEG
N.DEV. 347.72 DEG

PHOTO ILLUMINATION
SUN AZIM 90.92 DEG
INCID ANG 61.92 DEG
EMISS ANG 1.84 DEG
PHASE ANG 52.82 DEG
ALPHA -1.80 DEG

CORNER COORDINATE
A LAT 1.27 DEG
A LONG 24.80 DEG
B LAT 0.69 DEG
B LONG 24.67 DEG
C LAT 0.72 DEG
C LONG 24.53 DEG
D LAT 1.30 DEG
D LONG 24.65 DEG

SIDE LENGTH
AB 18.1 KM
BC 4.5 KM
CD 18.1 KM
DA 4.5 KM

TILT DISTANCE
19.0

PRINCIPAL POINT
LATITUDE 1.00 DEG
LONGITUDE 24.55 DEG

MISSION/
FRAME NO.
2084

YR. MO. DY
MR. MI. SEC

TIME
661120
193751.01

S/C POSITION
ALT 51.18 KM
ALT RT 0.0250 KM/SEC
LAT 0.82 DEG
LONG 23.58 DEG

S/C ORIENTATION
TILT ANG 1.07 DEG
TILT AZIM 95.56 DEG
SWING ANG 263.32 DEG
N.DEV. 347.76 DEG

PHOTO ILLUMINATION
SUN AZIM 90.84 DEG
INCID ANG 60.31 DEG
EMISS ANG 1.10 DEG
PHASE ANG 51.41 DEG
ALPHA -1.10 DEG

CORNER COORDINATE
A LAT 1.10 DEG
A LONG 23.75 DEG
B LAT 0.51 DEG
B LONG 23.63 DEG
C LAT 0.54 DEG
C LONG 23.48 DEG
D LAT 1.13 DEG
D LONG 23.60 DEG

SIDE LENGTH
AB 18.4 KM
BC 4.6 KM
CD 18.4 KM
DA 4.6 KM

TILT DISTANCE
11.4

PRINCIPAL POINT
LATITUDE 0.82 DEG
LONGITUDE 23.61 DEG

MISSION/
FRAME NO.
2084

YR. MO. DY
MR. MI. SEC

TIME
661120
193751.01

S/C POSITION
ALT 51.18 KM
ALT RT 0.0250 KM/SEC
LAT 0.82 DEG
LONG 23.58 DEG

S/C ORIENTATION
TILT ANG 1.07 DEG
TILT AZIM 95.56 DEG
SWING ANG 263.32 DEG
N.DEV. 347.76 DEG

PHOTO ILLUMINATION
SUN AZIM 90.84 DEG
INCID ANG 60.31 DEG
EMISS ANG 1.10 DEG
PHASE ANG 51.41 DEG
ALPHA -1.10 DEG

CORNER COORDINATE
A LAT 1.10 DEG
A LONG 23.75 DEG
B LAT 0.51 DEG
B LONG 23.63 DEG
C LAT 0.54 DEG
C LONG 23.48 DEG
D LAT 1.13 DEG
D LONG 23.60 DEG

SIDE LENGTH
AB 18.4 KM
BC 4.6 KM
CD 18.4 KM
DA 4.6 KM

TILT DISTANCE
11.4

PRINCIPAL POINT
LATITUDE 0.82 DEG
LONGITUDE 23.61 DEG

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MISSION/
FRAME NO.
2085

YR.MO.DY 661120
FR.MI.SEC 193753.20

S/C POSITION
ALT 51.37 KM
ALT RT 0.0862 KM/SEC
LAT 0.80 DEG
LONG 23.71 DEG

S/C ORIENTATION
TILT ANG 1.21 DEG
TILT AZIM 96.27 DEG
SWING ANG 264.03 DEG
N.DEV. 347.76 DEG

PHOTO ILLUMINATION
SUN AZIM 92.92 DEG
INCID ANG 60.17 DEG
EMISS ANG 1.24 DEG
PHASE ANG 61.41 DEG
ALPHA -1.24 DEG

PRINCIPAL POINT
LATITUDE 0.79 DEG
LONGITUDE 23.75 DEG

CORNER COORDINATE
A LAT 1.25 DEG
A LONG 24.49 DEG
B LAT -0.61 DEG
B LONG 24.19 DEG
C LAT 0.25 DEG
C LONG 23.05 DEG
D LAT 1.59 DEG
D LONG 23.33 DEG

MEDIUM RESOLUTION
SIDE LENGTH
AB 42.3 KM
BC 35.5 KM
CD 41.7 KM
DA 35.5 KM
TILT DISTANCE 1.7

HIGH RESOLUTION
CORNER COORDINATE
A LAT 1.07 DEG
A LONG 23.89 DEG
B LAT 0.49 DEG
B LONG 23.76 DEG
C LAT 0.51 DEG
C LONG 23.61 DEG
D LAT 1.11 DEG
D LONG 23.74 DEG

SIDE LENGTH
AB 18.5 KM
BC 4.6 KM
CD 18.5 KM
DA 4.6 KM
TILT DISTANCE 12.8

MISSION/
FRAME NO.
2086

YR.MO.DY 661120
FR.MI.SEC 193755.41

S/C POSITION
ALT 51.56 KM
ALT RT 0.0873 KM/SEC
LAT 0.77 DEG
LONG 23.85 DEG

S/C ORIENTATION
TILT ANG 1.34 DEG
TILT AZIM 96.85 DEG
SWING ANG 264.61 DEG
N.DEV. 347.76 DEG

PHOTO ILLUMINATION
SUN AZIM 90.81 DEG
INCID ANG 60.23 DEG
EMISS ANG 1.38 DEG
PHASE ANG 61.41 DEG
ALPHA -1.37 DEG

PRINCIPAL POINT
LATITUDE 0.76 DEG
LONGITUDE 23.89 DEG

CORNER COORDINATE
A LAT 1.33 DEG
A LONG 24.63 DEG
B LAT -0.05 DEG
B LONG 24.33 DEG
C LAT 0.21 DEG
C LONG 23.19 DEG
D LAT 1.56 DEG
D LONG 23.47 DEG

MEDIUM RESOLUTION
SIDE LENGTH
AB 42.5 KM
BC 35.6 KM
CD 41.8 KM
DA 35.7 KM
TILT DISTANCE 1.9

HIGH RESOLUTION
CORNER COORDINATE
A LAT 1.05 DEG
A LONG 24.03 DEG
B LAT 0.45 DEG
B LONG 23.90 DEG
C LAT 0.48 DEG
C LONG 23.75 DEG
D LAT 1.08 DEG
D LONG 23.88 DEG

SIDE LENGTH
AB 18.6 KM
BC 4.7 KM
CD 18.5 KM
DA 4.7 KM
TILT DISTANCE 14.2

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MISSION/ FRAME NO.	2087	TIME	661120 193759.63	S/C POSITION	ALT 51.76 KM ALT RT 0.0884 KM/SEC LAT 0.74 DEG LONG 23.98 DEG	S/C ORIENTATION	TILT ANG 1.48 DEG TILT AZIM 97.72 DEG SWING ANG 265.49 DEG N.DEV. 347.76 DEG	PHOTO ILLUMINATION	SUN AZIM 99.80 DEG INCID ANG 59.79 DEG EMISS ANG 1.52 DEG PHASE ANG 61.41 DEG ALPHA -1.51 DEG	PRINCIPAL POINT	LATITUDE 0.73 DEG LONGITUDE 24.16 DEG
				MEDIUM RESOLUTION	CORNER COORDINATE	SIDE LENGTH					
					A LAT 1.20 DEG A LONG 24.77 DEG B LAT -0.08 DEG B LONG 24.47 DEG C LAT 0.19 DEG C LONG 23.31 DEG D LAT 1.54 DEG D LONG 23.61 DEG	AB 42.7 KM BC 35.9 KM CD 41.9 KM DA 35.9 KM					
						TILT DISTANCE 2.1					
								HIGH RESOLUTION	CORNER COORDINATE	SIDE LENGTH	
									A LAT 1.02 DEG A LONG 24.16 DEG B LAT 0.42 DEG B LONG 24.03 DEG C LAT 0.45 DEG C LONG 23.88 DEG D LAT 1.05 DEG D LONG 24.01 DEG	AB 18.5 KM BC 4.7 KM CD 18.6 KM DA 4.7 KM	TILT DISTANCE 15.7

MISSION/ FRAME NO.	2088	TIME	661120 193759.87	S/C POSITION	ALT 51.96 KM ALT RT 0.0896 KM/SEC LAT 0.71 DEG LONG 24.11 DEG	S/C ORIENTATION	TILT ANG 1.61 DEG TILT AZIM 97.72 DEG SWING ANG 265.47 DEG N.DEV. 347.76 DEG	PHOTO ILLUMINATION	SUN AZIM 99.79 DEG INCID ANG 59.76 DEG EMISS ANG 1.66 DEG PHASE ANG 61.41 DEG ALPHA -1.65 DEG	PRINCIPAL POINT	LATITUDE 0.71 DEG LONGITUDE 24.16 DEG
				MEDIUM RESOLUTION	CORNER COORDINATE	SIDE LENGTH					
					A LAT 1.27 DEG A LONG 24.51 DEG B LAT -0.11 DEG B LONG 24.61 DEG C LAT 0.15 DEG C LONG 23.45 DEG D LAT 1.53 DEG D LONG 23.74 DEG	AB 42.9 KM BC 35.9 KM CD 42.1 KM DA 36.0 KM					
						TILT DISTANCE 2.1					
								HIGH RESOLUTION	CORNER COORDINATE	SIDE LENGTH	
									A LAT 0.99 DEG A LONG 24.30 DEG B LAT 0.39 DEG B LONG 24.17 DEG C LAT 0.42 DEG C LONG 24.02 DEG D LAT 1.02 DEG D LONG 24.15 DEG	AB 18.7 KM BC 4.7 KM CD 18.7 KM DA 4.7 KM	TILT DISTANCE 17.1

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2089

YR. MO. DY 461123
FR. MI. SEC 193E 4.41

S/C POSITION
ALT 52.15 KM
ALT RT 0.0927 KM/SEC
LAT 0.58 DEG
LONG 24.25 DEG

S/C ORIENTATION
TILT ANG 1.75 DEG
TILT AZIM 98.34 DEG
SWING ANG 255.81 DEG
N.DEV. 347.76 DEG

PHOTO ILLUMINATION
SUN AZIM 90.77 DEG
INCID ANG 59.48 DEG
EMISS ANG 1.95 DEG
PHASE ANG 61.41 DEG
ALPHA -1.79 DEG

PRINCIPAL POINT
LATITUDE 0.68 DEG
LONGITUDE 24.37 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.25 DEG AB 43.1 KM
A LONG 26.25 DEG BC 36.1 KM
B LAT -0.15 DEG CD 43.2 KM
B LONG 24.75 DEG DA 36.2 KM
C LAT 0.12 DEG TILT DISTANCE 2.5
C LONG 23.59 DEG
D LAT 1.48 DEG
D LONG 23.88 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.96 DEG AB 18.8 KM
A LONG 24.44 DEG BC 4.7 KM
B LAT 0.36 DEG CD 18.7 KM
B LONG 24.31 DEG DA 4.7 KM
C LAT 0.39 DEG TILT DISTANCE 18.6
C LONG 24.16 DEG
D LAT 0.99 DEG
D LONG 24.29 DEG

MISSION/
FRAME NO.
2090

YR. MO. DY 661123
FR. MI. SEC 193E 4.41

S/C POSITION
ALT 52.37 KM
ALT RT 0.0919 KM/SEC
LAT 0.65 DEG
LONG 24.39 DEG

S/C ORIENTATION
TILT ANG 1.89 DEG
TILT AZIM 98.34 DEG
SWING ANG 266.10 DEG
N.DEV. 347.76 DEG

PHOTO ILLUMINATION
SUN AZIM 90.76 DEG
INCID ANG 59.48 DEG
EMISS ANG 1.95 DEG
PHASE ANG 61.41 DEG
ALPHA -1.93 DEG

PRINCIPAL POINT
LATITUDE 0.65 DEG
LONGITUDE 24.44 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.22 DEG AB 43.4 KM
A LONG 25.20 DEG BC 36.2 KM
B LAT -0.19 DEG CD 42.3 KM
B LONG 24.89 DEG DA 36.3 KM
C LAT 0.09 DEG TILT DISTANCE 2.7
C LONG 23.73 DEG
D LAT 1.45 DEG
D LONG 24.02 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.93 DEG AB 18.9 KM
A LONG 24.88 DEG BC 4.7 KM
B LAT 0.32 DEG CD 18.8 KM
B LONG 24.45 DEG DA 4.7 KM
C LAT 0.36 DEG TILT DISTANCE 20.1
C LONG 24.30 DEG
D LAT 0.97 DEG
D LONG 24.43 DEG

LUNAR CRITTER PHOTOGRAPHIC SUPPORTING DATA

MISSION/ FRAME NO. 279	MISSION/ FRAME NO. 2092
YR,MO,DY 661121	YR,MO,DY 661121
HR,MI,SEC 1958 4.71	HR,MI,SEC 223746.11
S/C POSITION	S/C POSITION
ALT 52.59 KM	ALT 44.07 KM
ALT RT 3.793 KM/SEC	ALT RT -0.0475 KM/SEC
LAT 1.62 DEG	LAT 3.94 DEG
LONG 24.52 DEG	LONG 4.57 DEG
S/C ORIENTATION	S/C ORIENTATION
TILT ANG 2.73 DEG	TILT ANG 13.52 DEG
TILT AZIM 98.53 DEG	TILT AZIM 12.07 DEG
SWING ANG 265.35 DEG	SWING ANG 190.11 DEG
N.DEV. 347.76 DEG	N.DEV. 347.59 DEG
PHOTO ILLUMINATION	PHOTO ILLUMINATION
SUN AZIM 90.74 DEG	SUN AZIM 91.42 DEG
INCID ANG 59.33 DEG	INCID ANG. 75.91 DEG
EMISS ANG 2.09 DEG	EMISS ANG 13.87 DEG
PHASE ANG 61.41 DEG	PHASE ANG 78.85 DEG
ALPHA -2.07 DEG	ALPHA -3.35 DEG
PRINCIPAL POINT	PRINCIPAL POINT
LATITUDE 24.52 DEG	LATITUDE 4.23 DEG
LONGITUDE 24.52 DEG	LONGITUDE 4.58 DEG
CORNER COORDINATE	CORNER COORDINATE
A LAT 1.19 DEG	A LAT 0.90 DEG
A LONG 25.74 DEG	A LONG 24.73 DEG
B LAT -0.21 DEG	B LAT 3.29 DEG
B LONG 25.04 DEG	B LONG 24.59 DEG
C LAT 7.74 DEG	C LAT 0.22 DEG
C LONG 23.87 DEG	C LONG 24.44 DEG
D LAT 1.43 DEG	D LAT 0.94 DEG
D LONG 24.55 DEG	D LONG 24.57 DEG
SIDE LENGTH	SIDE LENGTH
AB 43.4 KM	AB 18.9 KM
BC 26.4 KM	BC 4.8 KM
CD 42.5 KM	CD 18.9 KM
DA 36.5 KM	DA 4.8 KM
TILT DISTANCE	TILT DISTANCE
2.9	21.5
HIGH RESOLUTION	HIGH RESOLUTION
CORNER COORDINATE	CORNER COORDINATE
A LAT 1.19 DEG	A LAT 0.90 DEG
A LONG 25.74 DEG	A LONG 24.73 DEG
B LAT -0.21 DEG	B LAT 3.29 DEG
B LONG 25.04 DEG	B LONG 24.59 DEG
C LAT 7.74 DEG	C LAT 0.22 DEG
C LONG 23.87 DEG	C LONG 24.44 DEG
D LAT 1.43 DEG	D LAT 0.94 DEG
D LONG 24.55 DEG	D LONG 24.57 DEG
SIDE LENGTH	SIDE LENGTH
AB 43.4 KM	AB 18.9 KM
BC 26.4 KM	BC 4.8 KM
CD 42.5 KM	CD 18.9 KM
DA 36.5 KM	DA 4.8 KM
TILT DISTANCE	TILT DISTANCE
2.9	21.5

MISSION/ FRAME NO. 2092	MISSION/ FRAME NO. 2092
YR,MO,DY 661121	YR,MO,DY 661121
HR,MI,SEC 223746.11	HR,MI,SEC 223746.11
S/C POSITION	S/C POSITION
ALT 44.07 KM	ALT 44.07 KM
ALT RT -0.0475 KM/SEC	ALT RT -0.0475 KM/SEC
LAT 3.94 DEG	LAT 3.94 DEG
LONG 4.57 DEG	LONG 4.57 DEG
S/C ORIENTATION	S/C ORIENTATION
TILT ANG 13.52 DEG	TILT ANG 13.52 DEG
TILT AZIM 12.07 DEG	TILT AZIM 12.07 DEG
SWING ANG 190.11 DEG	SWING ANG 190.11 DEG
N.DEV. 347.59 DEG	N.DEV. 347.59 DEG
PHOTO ILLUMINATION	PHOTO ILLUMINATION
SUN AZIM 91.42 DEG	SUN AZIM 91.42 DEG
INCID ANG. 75.91 DEG	INCID ANG. 75.91 DEG
EMISS ANG 13.87 DEG	EMISS ANG 13.87 DEG
PHASE ANG 78.85 DEG	PHASE ANG 78.85 DEG
ALPHA -3.35 DEG	ALPHA -3.35 DEG
PRINCIPAL POINT	PRINCIPAL POINT
LATITUDE 4.23 DEG	LATITUDE 4.23 DEG
LONGITUDE 4.58 DEG	LONGITUDE 4.58 DEG
CORNER COORDINATE	CORNER COORDINATE
A LAT 4.65 DEG	A LAT 4.55 DEG
A LONG 5.32 DEG	A LONG 4.71 DEG
B LAT 3.63 DEG	B LAT 4.01 DEG
B LONG 4.53 DEG	B LONG 4.59 DEG
C LAT 3.82 DEG	C LAT 4.04 DEG
C LONG 4.21 DEG	C LONG 4.46 DEG
D LAT 5.09 DEG	D LAT 4.58 DEG
D LONG 4.17 DEG	D LONG 4.57 DEG
SIDE LENGTH	SIDE LENGTH
AB 19.7 KM	AB 16.8 KM
BC 28.4 KM	BC 3.9 KM
CD 33.7 KM	CD 16.8 KM
DA 34.9 KM	DA 4.3 KM
TILT DISTANCE	TILT DISTANCE
19.3	46.6
HIGH RESOLUTION	HIGH RESOLUTION
CORNER COORDINATE	CORNER COORDINATE
A LAT 4.65 DEG	A LAT 4.55 DEG
A LONG 5.32 DEG	A LONG 4.71 DEG
B LAT 3.63 DEG	B LAT 4.01 DEG
B LONG 4.53 DEG	B LONG 4.59 DEG
C LAT 3.82 DEG	C LAT 4.04 DEG
C LONG 4.21 DEG	C LONG 4.46 DEG
D LAT 5.09 DEG	D LAT 4.58 DEG
D LONG 4.17 DEG	D LONG 4.57 DEG
SIDE LENGTH	SIDE LENGTH
AB 19.7 KM	AB 16.8 KM
BC 28.4 KM	BC 3.9 KM
CD 33.7 KM	CD 16.8 KM
DA 34.9 KM	DA 4.3 KM
TILT DISTANCE	TILT DISTANCE
19.3	46.6

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2091 YR,MO,DY 07,07,73
PR,MI,SEC 052737.21

S/C POSITION
ALT 44.15 KM
ALT RT -0.0373 KM/SEC
LAT 4.15 DEG
LONG -0.31 DEG

S/C ORIENTATION
TILT ANG 58.30 DEG
TILT AZIM 191.24 DEG
SWING ANG 1.17 DEG
N.DEV. 328.24 DEG

PHOTO ILLUMINATION
SUN AZIM 91.39 DEG
INCID ANG 78.25 DEG
EMISS ANG 72.31 DEG
PHASE ANG 74.23 DEG
ALPHA -24.68 DEG

PRINCIPAL POINT
LATITUDE 7.21 DEG
LONGITUDE -1.11 DEG

CORNER COORDINATE

A LAT 2.23 DEG
A LONG 0.74 DEG
B LAT -3.50 DEG
B LONG 7.84 DEG
C LAT -3.77 DEG
C LONG -4.55 DEG
D LAT 2.75 DEG
D LONG -1.23 DEG

HIGH RESOLUTION

CORNER COORDINATE
A LAT 1.75 DEG
A LONG -0.47 DEG
B LAT -7.15 DEG
B LONG -1.97 DEG
C LAT -3.02 DEG
C LONG 1.79 DEG
D LONG -0.92 DEG

PRINCIPAL POINT
LATITUDE 7.21 DEG
LONGITUDE -1.11 DEG

MISSION/
FRAME NO.

2094 YR,MO,DY 07,07,73
PR,MI,SEC 052737.21

S/C POSITION
ALT 49.23 KM
ALT RT 0.0875 KM/SEC
LAT 0.80 DEG
LONG 12.77 DEG

S/C ORIENTATION
TILT ANG 1.42 DEG
TILT AZIM 108.79 DEG
SWING ANG 276.95 DEG
N.DEV. 347.77 DEG

PHOTO ILLUMINATION
SUN AZIM 90.72 DEG
INCID ANG 69.54 DEG
EMISS ANG 1.46 DEG
PHASE ANG 61.93 DEG
ALPHA -1.39 DEG

PRINCIPAL POINT
LATITUDE 3.59 DEG
LONGITUDE 12.81 DEG

CORNER COORDINATE

A LAT 1.12 DEG
A LONG 13.51 DEG
B LAT -0.79 DEG
B LONG 17.23 DEG
C LAT 0.06 DEG
C LONG 12.13 DEG
D LAT 1.35 DEG
D LONG 12.41 DEG

HIGH RESOLUTION

CORNER COORDINATE
A LAT 0.85 DEG
A LONG 12.94 DEG
B LAT 0.28 DEG
B LONG 12.82 DEG
C LAT 0.31 DEG
C LONG 12.68 DEG
D LAT 0.88 DEG
D LONG 12.80 DEG

PRINCIPAL POINT
LATITUDE 3.59 DEG
LONGITUDE 12.81 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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04/10/71

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2095
TIME
661121
232410.71

S/C POSITION
ALT 42.84 KM
LAT RT 0.0127 KM/SEC
LONG 0.42 DEG

S/C ORIENTATION
TILT ANG 0.71 DEG
TILT AZIM 79.48 DEG
SWING ANG 247.38 DEG
N.DEV. 347.89 DEG

PHOTO ILLUMINATION
SUN AZIM 91.28 DEG
INCID ANG 69.44 DEG
EMISS ANG 0.73 DEG
PHASE ANG 70.15 DEG
ALPHA -0.71 DEG

PRINCIPAL POINT
LATITUDE 2.42 DEG
LONGITUDE 0.44 DFG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.67 DEG AB 33.5 KM
A LONG 1.02 DEG BC 28.1 KM
B LAT 1.79 DEG CD 33.2 KM
B LONG 0.78 DEG DA 28.3 KM
C LAT 1.89 DEG TILT DISTANCE 1.1
C LONG -0.12 DEG
D LAT 2.06 DEG
D LONG 0.10 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.65 DEG AB 34.7 KM
A LONG 0.55 DEG BC 3.7 KM
B LAT 2.18 DFG CD 14.7 KM
B LONG 0.44 DEG DA 3.7 KM
C LAT 2.20 DEG TILT DISTANCE 7.5
C LONG 0.33 DEG
D LAT 2.67 DEG
D LONG 0.43 DEG

MISSION/
FRAME NO.

2096
TIME
661122
025234.62

S/C POSITION
ALT 40.79 KM
LAT RT 0.0069 KM/SEC
LONG 2.51 DEG

S/C ORIENTATION
TILT ANG 0.28 DEG
TILT AZIM 121.00 DEG
SWING ANG 289.02 DEG
N.DEV. 348.02 DEG

PHOTO ILLUMINATION
SUN AZIM 91.28 DEG
INCID ANG 70.50 DEG
EMISS ANG 0.29 DEG
PHASE ANG 70.45 DEG
ALPHA -0.25 DFG

PRINCIPAL POINT
LATITUDE 2.51 DEG
LONGITUDE -2.08 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.55 DEG AB 33.4 KM
A LONG -1.50 DEG BC 28.2 KM
B LAT 1.88 DEG CD 33.2 KM
B LONG -1.73 DEG DA 28.2 KM
C LAT 2.07 DEG TILT DISTANCE 0.4
C LONG -2.54 DEG
D LAT 2.14 DEG
D LONG -2.41 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.73 DFG AB 14.7 KM
A LONG -1.97 DEG BC 3.7 KM
B LAT 2.26 DFG CD 14.7 KM
B LONG -2.07 DEG DA 3.7 KM
C LAT 2.29 DEG TILT DISTANCE 2.9
C LONG -2.19 DEG
D LAT 2.76 DEG
D LONG -2.09 DFG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 150

MISSION/
FRAME NO.

2097
YR.MO.DY 651122
FR.MI.SEC J25236.41

S/C POSITION
ALT 43.87 KM
ALT RT 0.0078 KM/SEC
LAT 2.49 DEG
LONG -1.98 DEG

S/C ORIENTATION
TILT ANG 0.29 DEG
TILT AZIM 115.51 DEG
SWING ANG 283.62 DEG
N.DEV. 348.02 DEG

PHOTO ILLUMINATION
SUN AZIM 91.28 DEG
INCID ANG 70.08 DEG
EMISS ANG 0.40 DEG
PHASE ANG 70.45 DEG
ALPHA -0.36 DEG

PRINCIPAL POINT
LATITUDE 2.49 DEG
LONGITUDE -1.97 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.53 DEG AB 33.4 KM
A LONG -1.29 DEG BC 28.2 KM
B LAT 1.85 DEG CD 33.2 KM
B LONG -1.62 DEG DA 28.2 KM
C LAT 2.65 DEG TILT DISTANCE 3.5
C LONG -2.53 DEG
D LAT 3.12 DEG
D LONG -2.30 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.71 DEG AB 14.7 KM
A LONG -1.86 DEG BC 3.7 KM
B LAT 2.24 DEG CD 14.7 KM
B LONG -1.96 DEG DA 3.7 KM
C LAT 2.26 DEG TILT DISTANCE 4.1
C LONG -2.08 DEG
D LAT 2.74 DEG
D LONG -1.98 DEG

MISSION/
FRAME NO.

2098
YR.MO.DY 651122
FR.MI.SEC J25238.20

S/C POSITION
ALT 40.82 KM
ALT RT 0.0088 KM/SEC
LAT 2.47 DEG
LONG -1.87 DEG

S/C ORIENTATION
TILT ANG 0.50 DEG
TILT AZIM 112.56 DEG
SWING ANG 280.57 DEG
N.DEV. 348.01 DEG

PHOTO ILLUMINATION
SUN AZIM 91.27 DEG
INCID. ANG 69.97 DEG
EMISS ANG 0.51 DEG
PHASE ANG 70.45 DEG
ALPHA -0.47 DEG

PRINCIPAL POINT
LATITUDE 2.45 DEG
LONGITUDE -1.86 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.51 DEG AB 33.4 KM
A LONG -1.28 DEG BC 28.2 KM
B LAT 1.83 DEG CD 33.2 KM
B LONG -1.61 DEG DA 28.2 KM
C LAT 2.67 DEG TILT DISTANCE 0.7
C LONG -2.42 DEG
D LAT 3.10 DEG
D LONG -2.19 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.69 DEG AB 14.7 KM
A LONG -1.75 DEG BC 3.7 KM
B LAT 2.21 DEG CD 14.7 KM
B LONG -1.85 DEG DA 3.7 KM
C LAT 2.24 DEG TILT DISTANCE 5.2
C LONG -1.97 DEG
D LAT 2.71 DEG
D LONG -1.87 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2095 YP, MJ, DY
651122
FR, MI, SEC 325241.81

S/C POSITION ALT 41.93 KM
ALT PT 2.0097 KM/SEC
LAT 3.45 DEG
LONG -1.74 DEG

S/C ORIENTATION TILT ANG 3.41 DEG
TILT AZIM 110.40 DEG
SWING ANG 278.61 DEG
N.DEV. 348.71 DEG

PHOTO ILLUMINATION SUN AZIM 91.27 DEG
INCID ANG 69.85 DEG
EMISS ANG 3.59 DEG
PHASE ANG 70.45 DEG
ALPHA -0.58 DEG

PRINCIPAL POINT
LATITUDE 2.44 DEG
LONGITUDE -1.75 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.88 DEG AB 33.3 KM
A LONG -1.16 DEG BC 28.2 KM
B LAT 1.87 DEG CD 31.2 KM
B LONG -1.39 DEG DA 28.2 KM
C LAT 2.88 DEG TILT DISTANCE 6.8
C LONG -2.30 DEG
D LAT 3.27 DEG
D LONG -2.28 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.66 DEG AB 14.7 KM
A LONG -1.64 DEG BC 3.7 KM
B LAT 2.19 DEG CD 14.7 KM
B LONG -1.74 DEG DA 3.7 KM
C LAT 2.22 DEG TILT DISTANCE 6.4
C LONG -1.86 DEG
D LAT 2.69 DEG
D LONG -1.75 DEG

MISSION/
FRAME NO.

2100 YP, MJ, DY
651122
FR, MI, SEC 325241.81

S/C POSITION ALT 40.85 KM
ALT PT 2.0107 KM/SEC
LAT 2.42 DEG
LONG -1.65 DEG

S/C ORIENTATION TILT ANG 3.72 DEG
TILT AZIM 109.24 DEG
SWING ANG 277.24 DEG
N.DEV. 348.00 DEG

PHOTO ILLUMINATION SUN AZIM 91.27 DEG
INCID ANG 69.75 DEG
EMISS ANG 0.73 DEG
PHASE ANG 70.45 DEG
ALPHA -0.70 DEG

PRINCIPAL POINT
LATITUDE 2.42 DEG
LONGITUDE -1.63 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.86 DEG AB 33.3 KM
A LONG -1.15 DEG BC 28.2 KM
B LAT 1.78 DEG CD 31.2 KM
B LONG -1.28 DEG DA 28.2 KM
C LAT 1.58 DEG TILT DISTANCE 1.9
C LONG -2.19 DEG
D LAT 3.25 DEG
D LONG -1.95 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.64 DEG AB 14.7 KM
A LONG -1.52 DEG BC 3.7 KM
B LAT 2.17 DEG CD 14.7 KM
B LONG -1.82 DEG DA 3.7 KM
C LAT 2.19 DEG TILT DISTANCE 7.6
C LONG -1.74 DEG
D LAT 2.67 DEG
D LONG -1.64 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 152

MISSION/
FRAME NO.
210

YR.NO.DY 661122
FR.MI.SEC 025243.52

S/C POSITION
ALT 40.87 KM
ALT RT 0.0116 KM/SEC
LAT 2.4 DEG
LONG -1.54 DEG

S/C ORIENTATION
TILT ANG 0.83 DEG
TILT AZIM 108.24 DEG
SWING ANG 276.24 DEG
N.DEV. 148.7C DEG

PHOTO ILLUMINATION
SUN AZIM 91.76 DEG
INCID ANG 59.54 DEG
PHASE ANG 0.85 DEG
PHASE ANG 70.45 DEG
ALPHA -0.81 DEG

PRINCIPAL POINT
LATITUDE 2.39 DEG
LONGITUDE -1.52 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.84 DEG AB 33.5 KM
A LONG -0.54 DEG BC 38.2 KM
B LAT 1.74 DEG CD 33.2 KM
B LONG -1.17 DEG DA 28.2 KM
C LAT 1.56 DEG TILT DISTANCE
C LONG -2.08 DEG TILT DISTANCE 1.2
D LAT 3.03 DEG
D LONG -1.85 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.52 DEG AB 14.7 KM
A LONG -1.41 DEG BC 3.7 KM
B LAT 2.14 DEG CD 14.7 KM
B LONG -1.51 DEG DA 3.7 KM
C LAT 2.17 DEG TILT DISTANCE
C LONG -1.63 DEG TILT DISTANCE 8.8
D LAT 2.64 DEG
D LONG -1.53 DEG

MISSION/
FRAME NO.
2102

YR.NO.DY 661122
FR.MI.SEC 025245.45

S/C POSITION
ALT 40.89 KM
ALT RT 0.0126 KM/SEC
LAT 2.38 DEG
LONG -1.43 DEG

S/C ORIENTATION
TILT ANG 3.94 DEG
TILT AZIM 107.83 DEG
SWING ANG 275.47 DEG
N.DEV. 347.99 DEG

PHOTO ILLUMINATION
SUN AZIM 91.26 DEG
INCID ANG 69.52 DEG
PHASE ANG 0.94 DEG
PHASE ANG 70.45 DEG
ALPHA -0.92 DEG

PRINCIPAL POINT
LATITUDE 2.37 DEG
LONGITUDE -1.41 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.82 DEG AB 33.5 KM
A LONG -0.82 DEG BC 28.1 KM
B LAT 1.73 DEG CD 33.2 KM
B LONG -1.36 DEG DA 28.3 KM
C LAT 1.53 DEG TILT DISTANCE
C LONG -1.97 DEG TILT DISTANCE 1.3
D LAT 3.00 DEG
D LONG -1.74 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.59 DEG AB 14.7 KM
A LONG -1.30 DEG BC 3.7 KM
B LAT 2.12 DEG CD 14.7 KM
B LONG -1.40 DEG DA 3.7 KM
C LAT 2.15 DEG TILT DISTANCE
C LONG -1.52 DEG TILT DISTANCE 12.2
D LAT 2.62 DEG
D LONG -1.42 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2103

TIME 661122
YR,MO,DY 661122
PR,MI,SEC 025247.28

S/C POSITION
ALT 40.92 KM
ALT RT 0.0135 KM/SEC
LAT 2.35 DEG
LONG -1.32 DEG

S/C ORIENTATION
TILT ANG 1.05 DEG
TILT AZIM 106.87 DEG
SWING ANG 274.86 DEG
N.DEV. 347.99 DEG

PHOTO ILLUMINATION
SUN AZIM 91.26 DEG
INCID ANG 69.41 DEG
EMISS ANG 1.08 DEG
PHASE ANG 70.45 DEG
ALPHA -1.04 DEG

PRINCIPAL POINT
LATITUDE 2.35 DEG
LONGITUDE -1.29 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.79 DEG AB 33.6 KM
A LONG -0.71 DEG BC 28.3 KM
B LAT 1.71 DEG CD 33.2 KM
B LONG -0.54 DEG DA 28.3 KM
C LAT 1.91 DEG TILT DISTANCE
C LONG -1.85 DEG 1.5
D LAT 2.98 DEG
D LONG -1.62 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.57 DEG AB 14.7 KM
A LONG -1.18 DEG BC 3.7 KM
B LAT 2.10 DEG CD 14.7 KM
B LONG -1.29 DEG DA 3.7 KM
C LAT -2.12 DEG TILT DISTANCE
C LONG -1.41 DEG 11.2
D LAT 2.60 DEG
D LONG -1.30 DEG

MISSION/
FRAME NO.
2104

TIME 062136.63
YR,MO,DY 661122
PR,MI,SEC 062136.63

S/C POSITION
ALT 41.14 KM
ALT RT 0.0211 KM/SEC
LAT 2.16 DEG
LONG -2.28 DEG

S/C ORIENTATION
TILT ANG 0.64 DEG
TILT AZIM 94.66 DEG
SWING ANG 262.83 DEG
N.DEV. 348.17 DEG

PHOTO ILLUMINATION
SUN AZIM 91.23 DEG
INCID ANG 68.61 DEG
EMISS ANG 0.65 DEG
PHASE ANG 69.26 DEG
ALPHA -0.65 DEG

PRINCIPAL POINT
LATITUDE 2.15 DEG
LONGITUDE -2.27 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.60 DEG AB 33.7 KM
A LONG -1.68 DEG BC 28.4 KM
B LAT 1.52 DEG CD 33.5 KM
B LONG -1.91 DEG DA 28.5 KM
C LAT 1.71 DEG TILT DISTANCE
C LONG -2.83 DEG 0.9
D LAT 2.79 DEG
D LONG -2.60 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.38 DEG AB 14.8 KM
A LONG -2.16 DEG BC 3.7 KM
B LAT 1.90 DEG CD 14.8 KM
B LONG -2.26 DEG DA 3.7 KM
C LAT 1.93 DEG TILT DISTANCE
C LONG -2.38 DEG 6.7
D LAT 2.41 DEG
D LONG -2.28 DEG

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MISSION/
FRAME NO.
2175

YR.MO.DY 661122
PR.MI.SEC 062136.47

S/C POSITION
ALT 41.18 KM
ALT RT 0.0221 KM/SEC
LAT 2.13 DEG
LONG -2.17 DEG

S/C ORIENTATION
TILT ANG 0.75 DEG
TILT AZIM 95.76 DEG
SWING ANG 263.92 DEG
N.DEV. 348.17 DEG

PHOTO ILLUMINATION
SUN AZIM 91.22 DEG
INCID ANG 68.50 DEG
EMISS ANG 0.77 DEG
PHASE ANG 69.26 DEG
ALPHA -0.77 DEG

PRINCIPAL POINT
LATITUDE 2.13 DEG
LONGITUDE -2.15 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.58 DEG AB 33.8 KM
A LONG -1.57 DEG BC 28.4 KM
B LAT 1.49 DEG CD 33.5 KM
B LONG -1.80 DEG DA 28.5 KM
C LAT 1.69 DEG TILT DISTANCE 1.1
C LONG -2.71 DEG
D LAT 2.77 DEG
D LONG -2.49 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.36 DEG AB 14.8 KM
A LONG -2.04 DEG BC 3.7 KM
B LAT 1.88 DEG CD 14.8 KM
B LONG -2.14 DEG DA 3.7 KM
C LAT 1.91 DEG TILT DISTANCE 7.9
C LONG -2.26 DEG
D LAT 2.38 DEG
D LONG -2.16 DEG

MISSION/
FRAME NO.
2106

YR.MO.DY 661122
PR.MI.SEC 062140.31

S/C POSITION
ALT 41.23 KM
ALT RT 0.0230 KM/SEC
LAT 2.11 DEG
LONG -2.06 DEG

S/C ORIENTATION
TILT ANG 0.86 DEG
TILT AZIM 96.57 DEG
SWING ANG 264.73 DEG
N.DEV. 348.16 DEG

PHOTO ILLUMINATION
SUN AZIM 91.22 DEG
INCID ANG 68.38 DEG
EMISS ANG 0.88 DEG
PHASE ANG 69.26 DEG
ALPHA -0.88 DEG

PRINCIPAL POINT
LATITUDE 2.11 DEG
LONGITUDE -2.04 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.56 DEG AB 33.9 KM
A LONG -1.45 DEG BC 28.4 KM
B LAT 1.47 DEG CD 33.5 KM
B LONG -1.68 DEG DA 28.5 KM
C LAT 1.66 DEG TILT DISTANCE 1.2
C LONG -2.60 DEG
D LAT 2.74 DEG
D LONG -2.37 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.33 DEG AB 14.8 KM
A LONG -1.93 DEG BC 3.7 KM
B LAT 1.86 DEG CD 14.8 KM
B LONG -2.03 DEG DA 3.7 KM
C LAT 1.88 DEG TILT DISTANCE 9.2
C LONG -2.15 DEG
D LAT 2.36 DEG
D LONG -2.05 DEG

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MISSION/
FRAME NO.

2107
YR,MO,DY 661122
HR,MI,SEC 062142.14

S/C POSITION
ALT 41.27 KM
ALT RT 0.0240 KM/SEC
LAT 2.09 DEG
LONG -1.95 DEG

S/C ORIENTATION
TILT ANG 5.93 DEG
TILT-AZIM 97.19 DEG
SWING ANG 265.35 DEG
N.DEV. 348.16 DEG

PHOTO ILLUMINATION
SUN AZIM 91.21 DEG
INCID ANG 68.27 DEG
EMISS ANG 1.00 DEG
PHASE ANG 69.26 DEG
ALPHA -1.00 DEG

PRINCIPAL POINT
LATITUDE 2.08 DEG
LONGITUDE -1.92 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.53 DEG AB 35.9 KM
A LONG -1.34 DEG BC 28.5 KM
B LAT 1.44 DEG CD 33.5 KM
B LONG -1.27 DEG DA 28.5 KM
C LAT 1.64 DEG TILT DISTANCE 1.4
C LONG -2.49 DEG
D LAT 2.72 DEG
D LONG -2.26 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.31 DEG AB 14.8 KM
A LONG -1.81 DEG BC 3.7 KM
B LAT 1.83 DEG CD 14.8 KM
B LONG -1.91 DEG DA 3.7 KM
C LAT 1.86 DEG TILT DISTANCE 10.4
C LONG -2.04 DEG
D LAT 2.34 DEG
D LONG -1.93 DEG

MISSION/
FRAME NO.

2108
YR,MO,DY 661122
HR,MI,SEC 062143.58

S/C POSITION
ALT 41.31 KM
ALT RT 0.0250 KM/SEC
LAT 2.06 DEG
LONG -1.84 DEG

S/C ORIENTATION
TILT ANG 1.09 DEG
TILT-AZIM 97.68 DEG
SWING ANG 265.84 DEG
N.DEV. 348.16 DEG

PHOTO ILLUMINATION
SUN AZIM 91.21 DEG
INCID ANG 68.16 DEG
EMISS ANG 1.12 DEG
PHASE ANG 69.26 DEG
ALPHA -1.11 DEG

PRINCIPAL POINT
LATITUDE 2.06 DEG
LONGITUDE -1.81 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.51 DEG AB 34.2 KM
A LONG -1.22 DEG BC 28.5 KM
B LAT 1.42 DEG CD 33.5 KM
B LONG -1.45 DEG DA 28.6 KM
C LAT 1.62 DEG TILT DISTANCE 1.5
C LONG -2.37 DEG
D LAT 2.73 DEG
D LONG -2.15 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.29 DEG AB 14.9 KM
A LONG -1.70 DEG BC 3.7 KM
B LAT 1.81 DEG CD 14.8 KM
B LONG -1.80 DEG DA 3.7 KM
C LAT 1.83 DEG TILT DISTANCE 11.6
C LONG -1.92 DEG
D LAT 2.31 DEG
D LONG -1.82 DEG

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MISSION/
FRAME NO.
2109

YR.MO.DY 661122
PR.MI.SEC 062145.81

S/C POSITION
ALT 41.36 KM
ALT RT 0.0259 KM/SEC
LAT 2.04 DEG
LONG -1.73 DEG

S/C ORIENTATION
TILT ANG 1.20 DEG
TILT AZIM 98.04 DEG
SWING ANG 266.24 DEG
N.DEV. 348.15 DEG

PHOTO ILLUMINATION
SUN AZIM 91.20 DEG
INCID ANG 68.04 DEG
EMISS ANG 1.23 DEG
PHASE ANG 69.26 DEG
ALPHA -1.22 DEG

PRINCIPAL POINT
LATITUDE 2.04 DEG
LONGITUDE -1.73 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.49 DEG AB 34.0 KM
A LONG -1.11 DEG BC 28.5 KM
B LAT 1.39 DEG CD 33.5 KM
B LONG -1.74 DEG DA 28.5 KM
C LAT 1.59 DEG TILT DISTANCE 1.7
C LONG -2.26 DEG
D LAT 2.67 DEG
D LONG -2.03 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.26 DEG AB 14.9 KM
A LONG -1.59 DEG BC 3.7 KM
B LAT 1.78 DEG CD 14.9 KM
B LONG -1.69 DEG DA 3.7 KM
C LAT 1.81 DEG TILT DISTANCE 12.8
C LONG -1.81 DEG
D LAT 2.29 DEG
D LONG -1.71 DEG

MISSION/
FRAME NO.
2110

YR.MO.DY 661122
PR.MI.SEC 062147.65

S/C POSITION
ALT 41.41 KM
ALT RT 0.0269 KM/SEC
LAT 2.02 DEG
LONG -1.62 DEG

S/C ORIENTATION
TILT ANG 1.32 DEG
TILT AZIM 98.42 DEG
SWING ANG 266.57 DEG
N.DEV. 348.15 DEG

PHOTO ILLUMINATION
SUN AZIM 91.20 DEG
INCID ANG 67.93 DEG
EMISS ANG 1.35 DEG
PHASE ANG 69.26 DEG
ALPHA -1.34 DEG

PRINCIPAL POINT
LATITUDE 2.01 DEG
LONGITUDE -1.59 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.47 DEG AB 34.1 KM
A LONG -0.99 DEG BC 28.5 KM
B LAT 1.37 DEG CD 33.5 KM
B LONG -1.22 DEG DA 28.7 KM
C LAT 1.57 DEG TILT DISTANCE 1.9
C LONG -2.15 DEG
D LAT 2.65 DEG
D LONG -1.92 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.24 DEG AB 14.9 KM
A LONG -1.47 DEG BC 3.7 KM
B LAT 1.76 DEG CD 14.9 KM
B LONG -1.57 DEG DA 3.7 KM
C LAT 1.78 DEG TILT DISTANCE 14.0
C LONG -1.69 DEG
D LAT 2.26 DEG
D LONG -1.59 DEG

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MISSION/
FRAME NO.
2111

TIME
661122

YR.MO.DY
062149.48

HR.MI.SEC

S/C POSITION
ALT 41.46 KM
ALT RT 0.0278 KM/SEC
LAT 1.99 DEG
LONG -1.50 DEG

S/C ORIENTATION
TILT ANG 1.43 DEG
TILT AZIM 98.70 DEG
SWING ANG 265.84 DEG
N.DEV. 348.15 DEG

PHOTO ILLUMINATION
SUN AZIM 91.19 DEG
INCID ANG 67.81 DEG
EMISS ANG 1.46 DEG
PHASE ANG 69.26 DEG
ALPHA -1.45 DEG

PRINCIPAL POINT
LATITUDE 1.99 DEG
LONGITUDE -1.47 DEG

CORNER COORDINATE
A LAT 2.44 DEG
A LONG -0.88 DEG
B LAT 1.34 DEG
B LONG -1.11 DEG
C LAT 1.54 DEG
C LONG -2.03 DEG
D LAT 2.63 DEG
D LONG -1.81 DEG

MEDIUM RESOLUTION
SIDE LENGTH
AB 34.2 KM
BC 28.5 KM
CD 33.6 KM
DA 28.7 KM
TILT DISTANCE 2.0

HIGH RESOLUTION
CORNER COORDINATE
A LAT 2.22 DEG
A LONG -1.36 DEG
B LAT 1.73 DEG
B LONG -1.46 DEG
C LAT 1.76 DEG
C LONG -1.58 DEG
D LAT 2.24 DEG
D LONG -1.48 DEG

SIDE LENGTH
AB 14.9 KM
BC 3.7 KM
CD 14.9 KM
DA 3.7 KM
TILT DISTANCE 15.2

MISSION/
FRAME NO.
2112

TIME
661122

YR.MO.DY
131711.71

HR.MI.SEC

S/C POSITION
ALT 41.69 KM
ALT RT -0.0284 KM/SEC
LAT 3.27 DEG
LONG -11.68 DEG

S/C ORIENTATION
TILT ANG 0.19 DEG
TILT AZIM 158.88 DEG
SWING ANG 326.94 DEG
N.DEV. 348.06 DEG

PHOTO ILLUMINATION
SUN AZIM 91.28 DEG
INCID ANG 74.53 DEG
EMISS ANG 0.19 DEG
PHASE ANG 74.61 DEG
ALPHA -0.07 DEG

PRINCIPAL POINT
LATITUDE 3.26 DEG
LONGITUDE -11.68 DEG

CORNER COORDINATE
A LAT 3.71 DEG
A LONG -11.09 DEG
B LAT 2.61 DEG
B LONG -11.32 DEG
C LAT 2.81 DEG
C LONG -12.25 DEG
D LAT 3.91 DEG
D LONG -12.02 DEG

MEDIUM RESOLUTION
SIDE LENGTH
AB 34.1 KM
BC 28.8 KM
CD 34.0 KM
DA 28.8 KM
TILT DISTANCE 0.2

HIGH RESOLUTION
CORNER COORDINATE
A LAT 3.49 DEG
A LONG -11.57 DEG
B LAT 3.01 DEG
B LONG -11.67 DEG
C LAT 3.03 DEG
C LONG -11.79 DEG
D LAT 3.52 DEG
D LONG -11.69 DEG

SIDE LENGTH
AB 15.0 KM
BC 3.8 KM
CD 15.0 KM
DA 3.8 KM
TILT DISTANCE 1.9

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2113
YR.MO.DY 661122
HR.MI.SEC 1645 9.12

S/C POSITION
ALT 46.70 KM
ALT RT 0.0772 KM/SEC
LAT 0.70 DEG
LONG -1.20 DEG

S/C ORIENTATION
TILT ANG 1.19 DEG
TILT AZIM 109.00 DEG
SWING ANG 276.53 DEG
N.DEV. 347.54 DEG

PHOTO ILLUMINATION
SUN AZIM 90.78 DEG
INCID ANG 62.28 DEG
EMISS ANG 1.22 DEG
PHASE ANG 63.44 DEG
ALPHA -1.16 DEG

PRINCIPAL POINT
LATITUDE 0.69 DEG
LONGITUDE -1.25 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.20 DEG AB 38.5 KM
A LONG -0.59 DEG BC 32.3 KM
B LAT -0.24 DEG CD 37.9 KM
B LONG -0.86 DEG DA 32.3 KM
C LAT 0.20 DEG TILT DISTANCE 1.7
C LONG -1.50 DEG
D LAT 1.42 DEG
D LONG -1.63 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.95 DEG AB 16.8 KM
A LONG -1.13 DEG BC 4.2 KM
B LAT 0.41 DEG CD 16.8 KM
B LONG -1.25 DEG DA 4.2 KM
C LAT 0.44 DEG TILT DISTANCE 12.6
C LONG -1.38 DEG
D LAT 0.98 DEG
D LONG -1.26 DEG

MISSION/
FRAME NO.

2114
YR.MO.DY 661122
HR.MI.SEC 164511.18

S/C POSITION
ALT 46.86 KM
ALT RT 0.0782 KM/SEC
LAT 0.68 DEG
LONG -1.16 DEG

S/C ORIENTATION
TILT ANG 1.32 DEG
TILT AZIM 108.32 DEG
SWING ANG 275.86 DEG
N.DEV. 347.54 DEG

PHOTO ILLUMINATION
SUN AZIM 90.76 DEG
INCID ANG 62.15 DEG
EMISS ANG 1.35 DEG
PHASE ANG 63.44 DEG
ALPHA -1.29 DEG

PRINCIPAL POINT
LATITUDE 0.66 DEG
LONGITUDE -1.13 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.17 DEG AB 38.6 KM
A LONG -0.45 DEG BC 32.4 KM
B LAT -0.07 DEG CD 38.0 KM
B LONG -0.73 DEG DA 32.4 KM
C LAT 0.17 DEG TILT DISTANCE 1.8
C LONG -1.77 DEG
D LAT 1.39 DEG
D LONG -1.50 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.92 DEG AB 16.9 KM
A LONG -1.00 DEG BC 4.2 KM
B LAT 0.38 DEG CD 16.8 KM
B LONG -1.12 DEG DA 4.2 KM
C LAT 0.41 DEG TILT DISTANCE 14.0
C LONG -1.26 DEG
D LAT 0.95 DEG
D LONG -1.14 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/ TIME S/C POSITION S/C ORIENTATION PHOTO ILLUMINATION PRINCIPAL POINT
 FRAME NO. 2115 ALT 47.03 KM TILT ANG 1.44 DEG SUN AZIM 90.75 DEG LATITUDE 3.64 DEG
 YR.NO.DY 661122 ALT RT 0.0793 KM/SEC TILT AZIM 107.77 DEG INCID ANG 62.03 DEG LONGITUDE -1.00 DEG
 FR.MI.SEC 164913.24 LAT C.65 DEG SWING ANG 275.39 DEG EMISS ANG 1.48 DEG
 LONG -1.04 DEG N.DEV. 347.54 DEG PHASE ANG 63.44 DEG
 ALPHA -1.42 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.89 DEG AB 16.9 KM
 A LONG -0.87 DEG BC 4.3 KM
 B LAT 0.35 DEG CD 16.9 KM
 B LONG -0.59 DEG DA 4.3 KM
 C LAT 0.38 DEG TILT DISTANCE
 C LONG -1.13 DEG 15.2
 D LAT 0.92 DEG
 D LONG -1.01 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 1.15 DEG AB 36.8 KM
 A LONG -0.32 DEG BC 32.5 KM
 B LAT -0.10 DEG CD 38.1 KM
 B LONG -0.60 DEG DA 32.5 KM
 C LAT 0.14 DEG TILT DISTANCE
 C LONG -1.65 DEG 2.0
 D LAT 1.37 DEG
 D LONG -1.37 DEG

MISSION/ TIME S/C POSITION S/C ORIENTATION PHOTO ILLUMINATION PRINCIPAL POINT
 FRAME NO. 2116 ALT 47.19 KM TILT ANG 1.57 DEG SUN AZIM 90.74 DEG LATITUDE 0.61 DEG
 YR.NO.DY 661122 ALT RT 0.5804 KM/SEC TILT AZIM 107.30 DEG INCID ANG 61.90 DEG LONGITUDE -0.87 DEG
 FR.MI.SEC 164915.32 LAT 0.62 DEG SWING ANG 274.82 DEG EMISS ANG 1.51 DEG
 LONG -0.91 DEG N.DEV. 347.54 DEG PHASE ANG 63.44 DEG
 ALPHA -1.55 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.87 DEG AB 17.0 KM
 A LONG -0.74 DEG BC 4.3 KM
 B LAT 0.52 DEG CD 16.9 KM
 B LONG -0.86 DEG DA 4.3 KM
 C LAT 0.35 DEG TILT DISTANCE
 C LONG -1.00 DEG 16.7
 D LAT 0.90 DEG
 D LONG -0.88 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 1.12 DEG AB 39.0 KM
 A LONG -0.19 DEG BC 32.7 KM
 B LAT -0.13 DEG CD 38.2 KM
 B LONG -0.47 DEG DA 32.7 KM
 C LAT 0.11 DEG TILT DISTANCE
 C LONG -1.52 DEG 2.2
 D LAT 1.34 DEG
 D LONG -1.25 DEG

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MISSION/
FRAME NO.

2117 YR.NO.DY 661122
HR.MI.SEC 164915.50

S/C POSITION
ALT 47.36 KM
ALT RT 0.0814 KM/SEC
LAT 0.60 DEG
LONG -0.79 DEG

S/C ORIENTATION
TILT ANG 1.70 DEG
TILT AZIM 106.90 DEG
SWING ANG 274.42 DEG
N.DEV. 347.53 DEG

PHOTO ILLUMINATION
SUN AZIM 90.73 DEG
INCID ANG 61.77 DEG
EMISS ANG 1.74 DEG
PHASE ANG 63.44 DEG
ALPHA -1.68 DEG

PRINCIPAL POINT
LATITUDE 0.59 DEG
LONGITUDE -3.74 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.10 DEG AB 39.1 KM
A LONG -0.06 DEG BC 32.8 KM
B LAT -0.16 DEG CD 36.3 KM
B LONG -0.34 DEG DA 32.8 KM
C LAT 0.08 DEG TILT DISTANCE 2.4
C LONG -1.39 DEG
D LAT 1.32 DEG
D LONG -1.12 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.84 DEG AB 17.1 KM
A LONG -0.61 DEG BC 4.3 KM
B LAT 0.29 DEG CD 17.0 KM
B LONG -0.74 DEG DA 4.3 KM
C LAT 0.32 DEG TILT DISTANCE 18.0
C LONG -0.87 DEG
D LAT 0.87 DEG
D LONG -0.75 DEG

MISSION/
FRAME NO.

2118 YR.NO.DY 661122
HR.MI.SEC 164915.50

S/C POSITION
ALT 47.53 KM
ALT RT 0.0825 KM/SEC
LAT 0.57 DEG
LONG -0.66 DEG

S/C ORIENTATION
TILT ANG 1.83 DEG
TILT AZIM 106.55 DEG
SWING ANG 274.07 DEG
N.DEV. 347.53 DEG

PHOTO ILLUMINATION
SUN AZIM 90.71 DEG
INCID ANG 61.64 DEG
EMISS ANG 1.88 DEG
PHASE ANG 63.44 DEG
ALPHA -1.81 DEG

PRINCIPAL POINT
LATITUDE 0.56 DEG
LONGITUDE -0.51 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.07 DEG AB 39.3 KM
A LONG 0.07 DEG BC 32.9 KM
B LAT -0.19 DEG CD 38.4 KM
B LONG -0.21 DEG DA 32.9 KM
C LAT 0.05 DEG TILT DISTANCE 2.5
C LONG -1.26 DEG
D LAT 1.29 DEG
D LONG -0.99 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.82 DEG AB 17.1 KM
A LONG -0.48 DEG BC 4.3 KM
B LAT 0.26 DEG CD 17.1 KM
B LONG -0.61 DEG DA 4.3 KM
C LAT 0.30 DEG TILT DISTANCE 19.4
C LONG -0.74 DEG
D LAT 0.85 DEG
D LONG -0.62 DEG

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MISSION/
FRAME NO.

2119
YR,MO,DY
PR,HI,SEC

S/C POSITION
ALT 47.71 KM
ALT RT 0.0836 KM/SEC
LAT 0.54 DEG
LONG -0.54 DEG

S/C ORIENTATION
TILT ANG 1.95 DEG
TILT AZIM 106.25 DEG
SWING ANG 273.77 DEG
N.DEV. 347.53 DEG

PHOTO ILLUMINATION
SUN AZIM 90.70 DEG
INCID ANG 61.51 DEG
EMISS ANG 2.01 DEG
PHASE ANG 63.44 DEG
ALPHA -1.94 DEG

PRINCIPAL POINT
LATITUDE 0.53 DEG
LONGITUDE -0.48 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.05 DEG AB 39.5 KM
A LONG 0.20 DEG BC 33.2 KM
B LAT -0.23 DEG CD 38.5 KM
B LONG -0.08 DEG DA 33.3 KM
C LAT 0.03 DEG TILT DISTANCE 2.7
C LONG -1.14 DEG
D LAT 1.27 DEG
D LONG -0.86 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.79 DEG AB 17.2 KM
A LONG -0.35 DEG BC 4.3 KM
B LAT 0.24 DEG CD 17.1 KM
B LONG -0.48 DEG DA 4.3 KM
C LAT 0.27 DEG TILT DISTANCE 20.8
C LONG -0.61 DEG
D LAT 0.82 DEG
D LONG -0.49 DEG

MISSION/
FRAME NO.

2120
YR,MO,DY
PR,HI,SEC

S/C POSITION
ALT 47.88 KM
ALT RT 0.0847 KM/SEC
LAT 0.52 DEG
LONG -0.41 DEG

S/C ORIENTATION
TILT ANG 2.08 DEG
TILT AZIM 105.98 DEG
SWING ANG 273.50 DEG
N.DEV. 347.53 DEG

PHOTO ILLUMINATION
SUN AZIM 90.69 DEG
INCID ANG 61.38 DEG
EMISS ANG 2.14 DEG
PHASE ANG 63.44 DEG
ALPHA -2.07 DEG

PRINCIPAL POINT
LATITUDE 0.50 DEG
LONGITUDE -0.35 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.02 DEG AB 39.7 KM
A LONG 0.34 DEG BC 33.2 KM
B LAT -0.26 DEG CD 38.6 KM
B LONG 0.06 DEG DA 33.2 KM
C LAT -0.00 DEG TILT DISTANCE 2.9
C LONG -1.01 DEG
D LAT 1.24 DEG
D LONG -0.73 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.76 DEG AB 17.3 KM
A LONG -0.22 DEG BC 4.3 KM
B LAT 0.21 DEG CD 17.2 KM
B LONG -0.35 DEG DA 4.3 KM
C LAT 0.24 DEG TILT DISTANCE 22.1
C LONG -0.48 DEG
D LAT 0.79 DEG
D LONG -0.36 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2121

YR.MO.DY 661122
HR.MI.SEC 201611.92

S/C POSITION
ALT 49.16 KM
ALT RT 0.0915 KM/SEC
LAT 0.33 DEG
LONG -1.44 DEG

S/C ORIENTATION
TILT ANG 1.24 DEG
TILT AZIM 107.42 DEG
SWING ANG 275.33 DEG
N.DEV. 347.62 DEG

PHOTO ILLUMINATION
SUN AZIM 90.60 DEG
INCID ANG 69.67 DEG
EMISS ANG 1.28 DEG
PHASE ANG 61.89 DEG
ALPHA -1.22 DEG

PRINCIPAL POINT
LATITUDE 0.32 DEG
LONGITUDE -1.41 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.25 DEG AB 40.5 KM
A LONG -0.70 DEG BC 34.0 KM
B LAT -0.45 DEG CD 39.9 KM
B LONG -0.59 DEG DA 34.0 KM
C LAT -0.20 DEG TILT DISTANCE 1.7
C LONG -2.08 DEG
D LAT 1.08 DEG
D LONG -1.80 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.59 DEG AB 17.7 KM
A LONG -1.27 DEG BC 4.4 KM
B LAT 0.02 DEG CD 17.7 KM
B LONG -1.40 DEG DA 4.4 KM
C LAT 0.05 DEG TILT DISTANCE 13.2
C LONG -1.54 DEG
D LAT 0.62 DEG
D LONG -1.42 DEG

MISSION/
FRAME NO.
2122

YR.MO.DY 661122
HR.MI.SEC 201614.11

S/C POSITION
ALT 49.36 KM
ALT RT 0.0926 KM/SEC
LAT 0.30 DEG
LONG -1.31 DEG

S/C ORIENTATION
TILT ANG 1.37 DEG
TILT AZIM 106.89 DEG
SWING ANG 274.50 DEG
N.DEV. 347.62 DEG

PHOTO ILLUMINATION
SUN AZIM 90.59 DEG
INCID ANG 60.53 DEG
EMISS ANG 1.41 DEG
PHASE ANG 61.89 DEG
ALPHA -1.36 DEG

PRINCIPAL POINT
LATITUDE 0.29 DEG
LONGITUDE -1.27 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.82 DEG AB 40.7 KM
A LONG -0.57 DEG BC 34.2 KM
B LAT -0.49 DEG CD 40.3 KM
B LONG -0.85 DEG DA 34.2 KM
C LAT -0.23 DEG TILT DISTANCE 1.9
C LONG -1.95 DEG
D LAT 1.05 DEG
D LONG -1.67 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.56 DEG AB 17.8 KM
A LONG -1.14 DEG BC 4.5 KM
B LAT -0.01 DEG CD 17.7 KM
B LONG -1.26 DEG DA 4.5 KM
C LAT 0.02 DEG TILT DISTANCE 14.6
C LONG -1.41 DEG
D LAT 0.59 DEG
D LONG -1.28 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2123 YP,MO,0Y 661122 TIME 661122 S/C POSITION ALT 49.56 KM S/C ORIENTATION TILT ANG 1.51 DEG PHOTO ILLUMINATION SUN AZIM 90.57 DEG PRINCIPAL POINT LATITUDE 0.26 DEG
 201E16.30 HR,MI,SEC 201E16.30 ALT PT 0.2538 KM/SEC TILT AZIM 195.45 DEG TILT ANG 1.51 DEG INCID ANG 60.40 DEG LONGITUDE -1.14 DEG
 LAT 0.27 DEG SWING ANG 274.96 DEG EMISS ANG 1.55 DEG PHASE ANG 61.89 DEG
 LONG -1.18 DEG N.DEV. 347.62 DEG ALPHA -1.49 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.80 DEG AB 42.9 KM
 A LONG -0.43 DEG BC 34.3 KM
 B LAT -0.52 DEG CD 40.1 KM
 B LONG -0.72 DEG DA 34.3 KM
 C LAT -0.26 DEG TILT DISTANCE 2.1
 D LAT 1.03 DEG
 D LONG -1.53 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.53 DEG AB 17.8 KM
 A LONG -1.00 DEG BC 4.5 KM
 B LAT -0.04 DEG CD 17.8 KM
 B LONG -1.13 DEG DA 4.5 KM
 C LAT -0.01 DEG TILT DISTANCE 16.0
 D LAT 0.56 DEG
 D LONG -1.15 DEG

MISSION/
FRAME NO.

2124 YP,MO,0Y 661122 TIME 201E18.50 S/C POSITION ALT 49.77 KM S/C ORIENTATION TILT ANG 1.64 DEG PHOTO ILLUMINATION SUN AZIM 90.56 DEG PRINCIPAL POINT LATITUDE 0.23 DEG
 201E18.50 HR,MI,SEC 201E18.50 ALT PT 0.6949 KM/SEC TILT AZIM 106.08 DEG TILT ANG 1.64 DEG INCID ANG 60.26 DEG LONGITUDE -1.00 DEG
 LAT 0.24 DEG SWING ANG 273.69 DEG EMISS ANG 1.69 DEG PHASE ANG 61.89 DEG
 LONG -1.05 DEG N.DEV. 347.62 DEG ALPHA -1.63 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.77 DEG AB 41.1 KM
 A LONG -0.29 DEG BC 34.4 KM
 B LAT -0.55 DEG CD 40.3 KM
 B LONG -0.58 DEG DA 34.5 KM
 C LAT -0.30 DEG TILT DISTANCE 2.3
 D LAT 1.00 DEG
 D LONG -1.40 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.50 DEG AB 17.9 KM
 A LONG -0.87 DEG BC 4.5 KM
 B LAT -0.07 DEG CD 17.9 KM
 B LONG -0.99 DEG DA 4.5 KM
 C LAT -0.04 DEG TILT DISTANCE 17.4
 D LAT 0.53 DEG
 D LONG -1.01 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/ FRAME NO. 2125
 YR.NO.DY 661122
 HR.MI.SEC 201822.71

S/C POSITION ALT 49.98 KM
 ALT RT 0.0860 KM/SEC
 LAT 0.22 DEG
 LONG -0.92 DEG

S/C ORIENTATION TILT ANG 1.78 DEG
 TILT AZIM 105.77 DEG
 SWING ANG 273.38 DEG
 N.DEV. 347.62 DEG

PHOTO ILLUMINATION SUN AZIM 90.54 DEG
 INCID ANG 60.12 DEG
 EMISS ANG 1.83 DEG
 PHASE ANG 61.89 DEG
 ALPHA -1.77 DEG

PRINCIPAL POINT LATITUDE 9.27 DEG
 LONGITUDE -0.87 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.48 DEG AB 18.0 KM
 A LONG -0.73 DEG BC 4.5 KM
 B LAT -0.10 DEG CD 17.9 KM
 B LONG -0.86 DEG DA 4.5 KM
 C LAT -0.07 DEG TILT DISTANCE 18.9
 C LONG -1.00 DEG
 D LAT 0.51 DEG
 D LONG -0.88 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.75 DEG AB 41.3 KM
 A LONG -0.15 DEG BC 34.6 KM
 B LAT -0.59 DEG CD 40.4 KM
 B LONG -0.44 DEG DA 34.6 KM
 C LAT -0.33 DEG TILT DISTANCE 2.5
 C LONG -1.55 DEG
 D LAT 0.58 DEG
 D LONG -1.26 DEG

MISSION/ FRAME NO. 2126
 YR.NO.DY 661122
 HR.MI.SEC 201822.92

S/C POSITION ALT 50.19 KM
 ALT RT 0.0971 KM/SEC
 LAT 0.19 DEG
 LONG -0.78 DEG

S/C ORIENTATION TILT ANG 1.91 DEG
 TILT AZIM 105.50 DEG
 SWING ANG 273.11 DEG
 N.DEV. 347.62 DEG

PHOTO ILLUMINATION SUN AZIM 90.53 DEG
 INCID ANG 59.99 DEG
 EMISS ANG 1.97 DEG
 PHASE ANG 61.89 DEG
 ALPHA -1.90 DEG

PRINCIPAL POINT LATITUDE 0.17 DEG
 LONGITUDE -0.73 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.45 DEG AB 18.1 KM
 A LONG -0.59 DEG BC 4.5 KM
 B LAT -0.13 DEG CD 18.0 KM
 B LONG -0.72 DEG DA 4.5 KM
 C LAT -0.10 DEG TILT DISTANCE 20.3
 C LONG -0.87 DEG
 D LAT 0.48 DEG
 D LONG -0.74 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.72 DEG AB 41.6 KM
 A LONG -0.01 DEG BC 34.8 KM
 B LAT -0.62 DEG CD 40.6 KM
 B LONG -0.30 DEG DA 34.8 KM
 C LAT -0.36 DEG TILT DISTANCE 2.7
 C LONG -1.42 DEG
 D LAT 0.55 DEG
 D LONG -1.13 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2127

TIME
661122
201625.15

S/C POSITION
ALT 50.41 KM
ALT RT 0.0983 KM/SEC
LAT 0.16 DEG
LONG -0.65 DEG

S/C ORIENTATION
TILT ANG 2.05 DEG
TILT AZIM 105.27 DEG
SWING ANG 272.88 DEG
N.DEV. 347.62 DEG

PHOTO ILLUMINATION
SUN AZIM 90.51 DEG
INCID ANG 59.85 DEG
EMISS ANG 2.11 DEG
PHASE ANG 61.85 DEG
ALPHA -2.04 DEG

PRINCIPAL POINT
LATITUDE 3.14 DEG
LONGITUDE -0.45 DEG

CORNER COORDINATE
A LAT 0.69 DEG
A LONG 0.13 DEG
B LAT -0.65 DEG
B LONG -0.16 DEG
C LAT -0.39 DEG
C LONG -1.28 DEG
D LAT 0.52 DEG
D LONG -0.99 DEG

MEDIUM RESOLUTION
SIDE LENGTH
AB 41.8 KM
BC 34.9 KM
CD 40.7 KM
DA 34.9 KM
TILT DISTANCE 2.9

HIGH RESOLUTION
CORNER COORDINATE
A LAT 0.42 DEG
A LONG -0.46 DEG
B LAT -0.16 DEG
B LONG -0.58 DEG
C LAT -0.13 DEG
C LONG -0.73 DEG
D LAT 0.45 DEG
D LONG -0.60 DEG

MISSION/
FRAME NO.
2128

TIME
661122
201627.38

S/C POSITION
ALT 50.63 KM
ALT RT 0.0994 KM/SEC
LAT 0.13 DEG
LONG -0.52 DEG

S/C ORIENTATION
TILT ANG 2.19 DEG
TILT AZIM 105.06 DEG
SWING ANG 272.67 DEG
N.DEV. 347.62 DEG

PHOTO ILLUMINATION
SUN AZIM 90.49 DEG
INCID ANG 59.71 DEG
EMISS ANG 2.25 DEG
PHASE ANG 61.89 DEG
ALPHA -2.18 DEG

PRINCIPAL POINT
LATITUDE 3.12 DEG
LONGITUDE -0.45 DEG

CORNER COORDINATE
A LAT 0.67 DEG
A LONG 0.28 DEG
B LAT -0.69 DEG
B LONG -0.02 DEG
C LAT -0.42 DEG
C LONG -1.15 DEG
D LAT 0.50 DEG
D LONG -0.86 DEG

MEDIUM RESOLUTION
SIDE LENGTH
AB 42.3 KM
BC 35.1 KM
CD 40.9 KM
DA 35.1 KM
TILT DISTANCE 3.0

HIGH RESOLUTION
CORNER COORDINATE
A LAT 0.39 DEG
A LONG -0.32 DEG
B LAT -0.19 DEG
B LONG -0.45 DEG
C LAT -0.16 DEG
C LONG -0.59 DEG
D LAT 0.42 DEG
D LONG -0.46 DEG

SIDE LENGTH
AB 18.2 KM
BC 4.6 KM
CD 18.2 KM
DA 4.6 KM
TILT DISTANCE 23.2

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2129

YR.MO.DY 661122
FR.MI.SEC 234715.60

S/C POSITION
ALT 57.92 KM
ALT RT 0.1052 KM/SEC
LAT -1.03 DEG
LONG -1.57 DEG

S/C ORIENTATION
TILT ANG 1.38 DEG
TILT AZIM 104.55 DEG
SWING ANG 272.16 DEG
N.DEV. 347.61 DEG

PHOTO ILLUMINATION
SUN AZIM 90.41 DEG
INCID ANG 59.12 DEG
EMISS ANG 1.42 DEG
PHASE ANG 60.50 DEG
ALPHA -1.38 DEG

PRINCIPAL POINT
LATITUDE -0.04 DEG
LONGITUDE -1.63 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.52 DEG AB 42.9 KM
A LONG -0.89 DEG BC 35.9 KM
B LAT -0.85 DEG CD 42.1 KM
B LONG -1.19 DEG DA 36.3 KM
C LAT -0.59 DEG TILT DISTANCE 1.9
C LONG -2.34 DEG
D LAT 0.76 DEG
D LONG -2.35 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.24 DEG AB 18.7 KM
A LONG -1.49 DEG BC 4.7 KM
B LAT -0.36 DEG CD 18.6 KM
B LONG -1.62 DEG DA 4.7 KM
C LAT -0.33 DEG TILT DISTANCE 14.6
C LONG -1.77 DEG
D LAT 0.27 DEG
D LONG -1.64 DEG

MISSION/
FRAME NO.
2130

YR.MO.DY 661122
FR.MI.SEC 234715.90

S/C POSITION
ALT 52.15 KM
ALT RT 0.1064 KM/SEC
LAT -0.05 DEG
LONG -1.53 DEG

S/C ORIENTATION
TILT ANG 1.52 DEG
TILT AZIM 104.31 DEG
SWING ANG 271.92 DEG
N.DEV. 347.61 DEG

PHOTO ILLUMINATION
SUN AZIM 90.39 DEG
INCID ANG 58.98 DEG
EMISS ANG 1.56 DEG
PHASE ANG 60.50 DEG
ALPHA -1.52 DEG

PRINCIPAL POINT
LATITUDE -0.07 DEG
LONGITUDE -1.49 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 4.49 DEG AB 43.1 KM
A LONG -0.74 DEG BC 36.1 KM
B LAT -0.89 DEG CD 42.2 KM
B LONG -1.05 DEG DA 36.1 KM
C LAT -0.62 DEG TILT DISTANCE 2.1
C LONG -2.20 DEG
D LAT 0.74 DEG
D LONG -1.91 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.21 DEG AB 18.8 KM
A LONG -1.35 DEG BC 4.7 KM
B LAT -0.39 DEG CD 18.7 KM
B LONG -1.48 DEG DA 4.7 KM
C LAT -0.36 DEG TILT DISTANCE 16.1
C LONG -1.63 DEG
D LAT 0.25 DEG
D LONG -1.50 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/13/77

MISSION/
FRAME NO.
2131

TIME 641122
Yp,MO,DY 04,11,77
PR,MI,SEC 234718.42

S/C POSITION ALT 52.41 KM
ALT HT 0.1075 KM/SEC
LAT -0.09 DEG
LONG -1.30 DEG

S/C ORIENTATION TILT ANG 1.66 DEG
TILT AZIM 104.11 DEG
SWING ANG 271.72 DEG
N.DEV. 347.61 DEG

PHOTO ILLUMINATION SUN AZIM 90.37 DEG
INCID ANG 58.84 DEG
EMISS ANG 1.71 DEG
PHASE ANG 60.50 DEG
ALPHA -1.66 DEG

PRINCIPAL POINT LATITUDE -0.13 DEG
LONGITUDE -1.35 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.47 DEG AB 47.3 KM
A LONG -0.59 DEG BC 36.3 KM
B LAT -0.53 DEG CD 42.4 KM
B LONG -0.60 DEG DA 36.3 KM
C LAT -0.26 DEG TILT DISTANCE 2.3
C LONG 0.71 DEG
D LAT -1.74 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.18 DEG AB 18.9 KM
A LONG -1.20 DEG BC 4.7 KM
B LAT -0.42 DEG CD 18.8 KM
B LONG -1.34 DEG DA 4.7 KM
C LAT -0.39 DEG TILT DISTANCE 17.6
C LONG -1.49 DEG
D LAT 0.22 DEG
D LONG -1.36 DEG

MISSION/
FRAME NO.
2132

TIME 641122
Yp,MO,DY 04,11,77
PR,MI,SEC 234720.56

S/C POSITION ALT 52.64 KM
ALT HT 0.1087 KM/SEC
LAT -0.12 DEG
LONG -1.25 DEG

S/C ORIENTATION TILT ANG 1.80 DEG
TILT AZIM 103.94 DEG
SWING ANG 271.55 DEG
N.DEV. 347.51 DEG

PHOTO ILLUMINATION SUN AZIM 90.35 DEG
INCID ANG 58.69 DEG
EMISS ANG 1.86 DEG
PHASE ANG 60.50 DEG
ALPHA -1.81 DEG

PRINCIPAL POINT LATITUDE -0.13 DEG
LONGITUDE -1.20 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.44 DEG AB 41.5 KM
A LONG -0.44 DEG BC 36.5 KM
B LAT -0.59 DEG CD 42.5 KM
B LONG -0.75 DEG DA 36.5 KM
C LAT -0.69 DEG TILT DISTANCE 2.5
C LONG 0.68 DEG
D LAT -1.42 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.16 DEG AB 16.0 KM
A LONG -1.06 DEG BC 4.8 KM
B LAT -0.46 DEG CD 18.9 KM
B LONG -1.19 DEG DA 4.8 KM
C LAT -0.42 DEG TILT DISTANCE 19.1
C LONG -1.35 DEG
D LAT 0.19 DEG
D LONG -1.21 DEG

LUNAR CRBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2122

YR,MO, DY 661122
FR,MI,SEC 234722.92

S/C POSITION
ALT 51.92 KM
ALT RT 0.1099 KM/SEC
LAT -0.15 DEG
LONG -1.11 DEG

S/C ORIENTATION
TILT ANG 1.75 DEG
TILT AZIM 103.80 DEG
SWING ANG 271.41 DEG
N.DEV. 347.61 DEG

PHOTO ILLUMINATION
SUN AZIM 90.33 DEG
INCID ANG 58.55 DEG
EMISS ANG 2.91 DEG
PHASE ANG 60.50 DEG
ALPHA -1.95 DEG

PRINCIPAL POINT
LATITUDE -3.16 DEG
LONGITUDE -1.94 DEG

CORNER COORDINATE SIDE LENGTH
A LAT 5.41 DEG AB 43.8 KM
A LONG -0.29 DEG BC 35.5 KM
B LAT -1.02 DEG CD 42.9 KM
B LONG -0.46 DEG DA 36.7 KM
C LAT -0.72 DEG TILT DISTANCE 2.7
C LONG -1.78 DEG
D LAT 0.65 DEG
D LONG -1.48 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 5.41 DEG AB 43.8 KM
A LONG -0.29 DEG BC 35.5 KM
B LAT -1.02 DEG CD 42.9 KM
B LONG -0.46 DEG DA 36.7 KM
C LAT -0.72 DEG TILT DISTANCE 2.7
C LONG -1.78 DEG
D LAT 0.65 DEG
D LONG -1.48 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 9.13 DEG AB 19.1 KM
A LONG -0.91 DEG BC 4.8 KM
B LAT -0.49 DEG CD 19.0 KM
B LONG -1.25 DEG DA 4.8 KM
C LAT -3.45 DEG TILT DISTANCE 20.7
C LONG -1.20 DEG
D LAT 3.16 DEG
D LONG -1.07 DEG

MISSION/
FRAME NO.
2134

YR,MO, DY 661122
FR,MI,SEC 234725.31

S/C POSITION
ALT 53.19 KM
ALT RT 0.1111 KM/SEC
LAT -0.18 DEG
LONG -0.97 DEG

S/C ORIENTATION
TILT ANG 2.39 DEG
TILT AZIM 103.67 DEG
SWING ANG 271.28 DEG
N.DEV. 347.62 DEG

PHOTO ILLUMINATION
SUN AZIM 90.32 DEG
INCID ANG 58.40 DEG
EMISS ANG 2.15 DEG
PHASE ANG 60.50 DEG
ALPHA -2.10 DEG

PRINCIPAL POINT
LATITUDE -3.23 DEG
LONGITUDE -0.91 DEG

CORNER COORDINATE SIDE LENGTH
A LAT 3.38 DEG AB 44.1 KM
A LONG -0.14 DEG BC 36.9 KM
B LAT -3.04 DEG CD 42.9 KM
B LONG -0.45 DEG DA 36.9 KM
C LAT -0.76 DEG TILT DISTANCE 2.9
C LONG -1.64 DEG
D LAT 0.43 DEG
D LONG -1.33 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.38 DEG AB 44.1 KM
A LONG -0.14 DEG BC 36.9 KM
B LAT -3.04 DEG CD 42.9 KM
B LONG -0.45 DEG DA 36.9 KM
C LAT -0.76 DEG TILT DISTANCE 2.9
C LONG -1.64 DEG
D LAT 0.43 DEG
D LONG -1.33 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.10 DEG AB 19.2 KM
A LONG -0.76 DEG BC 4.8 KM
B LAT -0.52 DEG CD 19.1 KM
B LONG -0.90 DEG DA 4.8 KM
C LAT -3.49 DEG TILT DISTANCE 22.2
C LONG -1.05 DEG
D LAT 3.13 DEG
D LONG -0.92 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2135
YR,MO,DY
HR,MI,SEC

S/C POSITION
ALT 53.45 KM
ALT RT 0.1123 KM/SEC
LAT -0.21 DEG
LONG -0.83 DEG

S/C ORIENTATION
TILT ANG 2.24 DEG
TILT AZIM 103.56 DEG
SWING ANG 271.17 DEG
N.DEV. 347.62 DEG

PHOTO ILLUMINATION
SUN AZIM 90.30 DEG
INCID ANG 58.25 DEG
EMISS ANG 2.51 DEG
PHASE ANG 60.50 DEG

PRINCIPAL POINT
LATITUDE -0.23 DEG
LONGITUDE -0.76 DEG
ALPHA -2.25 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.36 DEG AB 44.4 KM
A LONG 0.01 DEG BC 37.9 KM
B LAT -1.07 DEG CD 43.1 KM
B LONG -0.30 DEG DA 37.1 KM
C LAT -0.79 DEG TILT DISTANCE 3.1
C LONG -1.49 DEG
D LAT 0.60 DEG
D LONG -1.19 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.07 DEG AB 19.3 KM
A LONG -0.62 DEG BC 4.8 KM
B LAT -0.55 DEG CD 19.2 KM
B LONG -0.75 DEG DA 4.8 KM
C LAT -0.52 DEG TILT DISTANCE 23.8
C LONG -0.91 DEG
D LAT 0.10 DEG
D LONG -0.77 DEG

MISSION/
FRAME NO.

2136
YR,MO,DY
HR,MI,SEC

S/C POSITION
ALT 53.73 KM
ALT RT 0.1135 KM/SEC
LAT -0.24 DEG
LONG -0.68 DEG

S/C ORIENTATION
TILT ANG 2.39 DEG
TILT AZIM 103.46 DEG
SWING ANG 271.07 DEG
N.DEV. 347.62 DEG

PHOTO ILLUMINATION
SUN AZIM 90.28 DEG
INCID ANG 58.10 DEG
EMISS ANG 2.46 DEG
PHASE ANG 60.50 DEG

PRINCIPAL POINT
LATITUDE -0.26 DEG
LONGITUDE -0.51 DEG
ALPHA -2.40 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.33 DEG AB 44.5 KM
A LONG 0.17 DEG BC 37.2 KM
B LAT -1.11 DEG CD 43.3 KM
B LONG -0.15 DEG DA 37.3 KM
C LAT -0.82 DEG TILT DISTANCE 3.3
C LONG -1.34 DEG
D LAT 0.57 DEG
D LONG -1.04 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.04 DEG AB 19.4 KM
A LONG -0.46 DEG BC 4.9 KM
B LAT -0.59 DEG CD 19.3 KM
B LONG -0.60 DEG DA 4.9 KM
C LAT -0.55 DEG TILT DISTANCE 25.4
C LONG -0.76 DEG
D LAT 0.07 DEG
D LONG -0.62 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2137 YR.MO.DY 661123
HR.MI.SEC 030515.31

S/C POSITION
ALT 51.13 KM
ALT RT -0.0981 KM/SEC
LAT 4.89 DEG
LONG -27.18 DEG

S/C ORIENTATION
TILT ANG 1.31 DEG
TILT AZIM 283.20 DEG
SWING ANG 91.82 DEG
N.DEV. 348.63 DEG

PHOTO ILLUMINATION
SUN AZIM 90.98 DEG
INCID ANG 83.96 DEG
EMISS ANG 1.35 DEG
PHASE ANG 81.74 DEG
ALPHA 1.32 DEG

PRINCIPAL POINT
LATITUDE 4.90 DEG
LONGITUDE -27.21 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.46 DEG AB 41.4 KM
A LONG -26.50 DEG BC 35.3 KM
B LAT 4.12 DEG CD 42.1 KM
B LONG -26.77 DEG DA 35.4 KM
C LAT 4.34 DEG TILT DISTANCE 1.7
C LONG -27.92 DEG
D LAT 5.70 DEG
D LONG -27.65 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 5.18 DEG AB 18.4 KM
A LONG -27.08 DEG BC 4.6 KM
B LAT 4.59 DEG CD 18.4 KM
B LONG -27.20 DEG DA 4.6 KM
C LAT 4.62 DEG TILT DISTANCE 13.9
C LONG -27.35 DEG
D LAT 5.21 DEG
D LONG -27.23 DEG

MISSION/
FRAME NO.

2138 YR.MO.DY 661123
HR.MI.SEC 101115.02

S/C POSITION
ALT 44.33 KM
ALT RT 0.0530 KM/SEC
LAT 1.25 DEG
LONG -13.29 DEG

S/C ORIENTATION
TILT ANG 1.13 DEG
TILT AZIM 83.96 DEG
SWING ANG 251.93 DEG
N.DEV. 347.97 DEG

PHOTO ILLUMINATION
SUN AZIM 90.99 DEG
INCID ANG 65.51 DEG
EMISS ANG 1.15 DEG
PHASE ANG 66.65 DEG
ALPHA -1.15 DEG

PRINCIPAL POINT
LATITUDE 1.25 DEG
LONGITUDE -13.27 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.73 DEG AB 36.5 KM
A LONG -12.63 DEG BC 30.5 KM
B LAT 0.56 DEG CD 36.0 KM
B LONG -12.89 DEG DA 30.8 KM
C LAT 0.78 DEG TILT DISTANCE 1.6
C LONG -13.87 DEG
D LAT 1.94 DEG
D LONG -13.63 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.49 DEG AB 16.0 KM
A LONG -13.15 DEG BC 4.0 KM
B LAT 0.98 DEG CD 15.9 KM
B LONG -13.26 DEG DA 4.0 KM
C LAT 1.01 DEG TILT DISTANCE 11.9
C LONG -13.39 DEG
D LAT 1.52 DEG
D LONG -13.28 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
 FRAME NO. 2135
 YR.MO.DY 661123
 PR.MI.SEC 10117.69

S/C POSITION ALT 44.44 KM
 ALT RT 0.7541 KM/SEC
 LAT 1.22 DEG
 LONG -13.18 DEG

S/C ORIENTATION TILT ANG 1.24 DEG
 TILT AZIM 95.71 DEG
 SWING ANG 253.68 DEG
 N.DEV. 347.96 DEG

PHOTO ILLUMINATION SUN AZIM 90.98 DEG
 INCID ANG 65.39 DEG
 EMISS ANG 1.27 DEG
 PHASE ANG 66.65 DEG
 ALPHA -1.27 DEG

PRINCIPAL POINT LATITUDE 1.22 DEG
 LONGITUDE -13.14 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 1.71 DEG AB 36.5 KM
 A LONG -12.51 DEG BC 30.5 KM
 B LAT 0.53 DEG CD 36.0 KM
 B LONG -12.76 DEG DA 30.8 KM
 C LAT 0.75 DEG TILT DISTANCE 1.8
 C LONG -13.75 DEG
 D LAT 1.91 DEG
 D LONG -12.50 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 1.47 DEG AB 15.0 KM
 A LONG -13.02 DEG BC 4.0 KM
 B LAT 0.95 DEG CD 16.0 KM
 B LONG -13.13 DEG DA 4.0 KM
 C LAT 0.98 DEG TILT DISTANCE 13.2
 C LONG -13.26 DEG
 D LAT 1.49 DEG
 D LONG -13.15 DEG

MISSION/
 FRAME NO. 2140
 YR.MO.DY 661123
 PR.MI.SEC 10118.99

S/C POSITION ALT 44.55 KM
 ALT RT 0.9551 KM/SEC
 LAT 1.19 DEG
 LONG -13.06 DEG

S/C ORIENTATION TILT ANG 1.35 DEG
 TILT AZIM 87.16 DEG
 SWING ANG 255.13 DEG
 N.DEV. 347.96 DEG

PHOTO ILLUMINATION SUN AZIM 90.97 DEG
 INCID ANG 65.26 DEG
 EMISS ANG 1.39 DEG
 PHASE ANG 66.55 DEG
 ALPHA -1.39 DEG

PRINCIPAL POINT LATITUDE 1.20 DEG
 LONGITUDE -13.02 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 1.68 DEG AB 36.7 KM
 A LONG -12.38 DEG BC 32.7 KM
 B LAT 0.50 DEG CD 36.1 KM
 B LONG -12.64 DEG DA 30.9 KM
 C LAT 0.72 DEG TILT DISTANCE 1.9
 C LONG -13.63 DEG
 D LAT 1.89 DEG
 D LONG -13.28 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
 A LAT 1.44 DEG AB 16.0 KM
 A LONG -12.90 DEG BC 4.0 KM
 B LAT 0.92 DEG CD 16.0 KM
 B LONG -13.01 DEG DA 4.0 KM
 C LAT 0.95 DEG TILT DISTANCE 14.4
 C LONG 13.14 DEG
 D LAT 1.47 DEG
 D LONG -13.03 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

2141 YR.MO.DY
661123
HR.MI.SEC 101122.98

S/C POSITION
ALT 44.66 KM
ALT RT 0.9581 KM/SEC
LAT 1.17 DEG
LONG -12.94 DEG

S/C ORIENTATION
TILT ANG 1.48 DEG
TILT AZIM 88.39 DEG
SWING ANG 256.35 DEG
N.DEV. 347.96 DEG

PHOTO ILLUMINATION
SUN AZIM 90.96 DEG
INCID ANG 65.14 DEG
EMISS ANG 1.52 DEG
PHASE ANG 66.65 DEG
ALPHA -1.52 DEG

PRINCIPAL POINT
LATITUDE 1.17 DEG
LONGITUDE -12.90 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.66 DEG AB 36.9 KM
A LONG -12.26 DEG BC 30.8 KM
B LAT 0.47 DEG CD 36.2 KM
B LONG -12.51 DEG DA 31.0 KM
C LAT 0.70 DEG TILT DISTANCE 2.1
C LONG -13.50 DEG
D LAT 1.86 DEG
D LONG -13.26 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.42 DEG AB 15.1 KM
A LONG -12.78 DEG BC 4.5 KM
B LAT 0.98 DEG CD 15.0 KM
B LONG -12.89 DEG DA 4.0 KM
C LAT 0.93 DEG TILT DISTANCE 15.7
C LONG -13.02 DEG
D LAT 1.44 DEG
D LONG -12.91 DEG

MISSION/
FRAME NO.

2142 YR.MO.DY
661123
HR.MI.SEC 101122.98

S/C POSITION
ALT 44.77 KM
ALT RT 0.9572 KM/SEC
LAT 1.14 DEG
LONG -12.82 DEG

S/C ORIENTATION
TILT ANG 1.60 DEG
TILT AZIM 89.43 DEG
SWING ANG 257.39 DEG
N.DEV. 347.96 DEG

PHOTO ILLUMINATION
SUN AZIM 90.95 DEG
INCID ANG 65.01 DEG
EMISS ANG 1.64 DEG
PHASE ANG 66.65 DEG
ALPHA -1.64 DEG

PRINCIPAL POINT
LATITUDE 1.14 DEG
LONGITUDE -12.77 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.64 DEG AB 37.0 KM
A LONG -12.13 DEG BC 30.9 KM
B LAT 0.44 DEG CD 36.2 KM
B LONG -12.39 DEG DA 31.1 KM
C LAT 0.67 DEG TILT DISTANCE 2.3
C LONG -13.38 DEG
D LAT 1.84 DEG
D LONG -13.14 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.39 DEG AB 15.1 KM
A LONG -12.65 DEG BC 4.0 KM
B LAT 0.87 DEG CD 16.1 KM
B LONG -12.76 DEG DA 4.1 KM
C LAT 0.90 DEG TILT DISTANCE 17.0
C LONG -12.89 DEG
D LAT 1.42 DEG
D LONG -12.78 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

2143 YR.MO.DY 661123
HR.MI.SEC 101124.99

S/C POSITION
ALT 44.89 KM
ALT RT 0.0582 KM/SEC
LAT 1.12 DEG
LONG -12.69 DEG

S/C ORIENTATION
TILT ANG 1.72 DEG
TILT AZIM 90.33 DEG
SWING ANG 258.29 DEG
N.DEV. 347.95 DEG

PHOTO ILLUMINATION
SUN AZIM 90.95 DEG
INCID ANG 64.89 DEG
EMISS ANG 1.76 DEG
PHASE ANG 66.65 DEG
ALPHA -1.76 DEG

PRINCIPAL POINT
LATITUDE 1.12 DEG
LONGITUDE -12.65 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.61 DEG AB 37.1 KM
A LONG -12.00 DEG BC 31.0 KM
B LAT 0.42 DEG CD 36.3 KM
B LONG -12.26 DEG DA 31.2 KM
C LAT 0.64 DEG TILT DISTANCE 2.4
C LONG -13.26 DEG
D LAT 1.81 DEG
D LONG -13.01 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.36 DEG AB 16.2 KM
A LONG -12.53 DEG BC 4.1 KM
B LAT 0.84 DEG CD 16.1 KM
B LONG -12.64 DEG DA 4.1 KM
C LAT 0.87 DEG TILT DISTANCE 16.3
C LONG -12.77 DEG
D LAT 1.39 DEG
D LONG -12.66 DEG

MISSION/
FRAME NO.

2144 YR.MO.DY 661123
HR.MI.SEC 101127.00

S/C POSITION
ALT 45.00 KM
ALT RT 0.0593 KM/SEC
LAT 1.09 DEG
LONG -12.57 DEG

S/C ORIENTATION
TILT ANG 1.84 DEG
TILT AZIM 91.11 DEG
SWING ANG 259.07 DEG
N.DEV. 347.95 DEG

PHOTO ILLUMINATION
SUN AZIM 90.94 DEG
INCID ANG 64.76 DEG
EMISS ANG 1.89 DEG
PHASE ANG 66.65 DEG
ALPHA -1.89 DEG

PRINCIPAL POINT
LATITUDE 1.09 DEG
LONGITUDE -12.53 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.59 DEG AB 37.2 KM
A LONG -11.88 DEG BC 31.0 KM
B LAT 0.39 DEG CD 36.4 KM
B LONG -12.14 DEG DA 31.3 KM
C LAT 0.61 DEG TILT DISTANCE 2.6
C LONG -13.14 DEG
D LAT 1.79 DEG
D LONG -12.89 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.34 DEG AB 16.2 KM
A LONG -12.40 DEG BC 4.1 KM
B LAT 0.82 DEG CD 16.2 KM
B LONG -12.52 DEG DA 4.1 KM
C LAT 0.85 DEG TILT DISTANCE 19.6
C LONG -12.65 DEG
D LAT 1.37 DEG
D LONG -12.54 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2146
YR.MO.DY 661123
HR.MI.SEC 133625.01

S/C POSITION
ALT 45.12 KM
ALT RT 0.0603 KM/SEC
LAT 1.07 DEG
LONG -12.45 DEG

S/C ORIENTATION
TILT ANG 1.96 DEG
TILT AZIM. 91.80 DEG
SWING ANG 259.75 DEG
N.DEV. 347.95 DEG

PHOTO ILLUMINATION
SUN AZIM 90.93 DEG
INCID ANG 64.64 DEG
EMISS ANG 2.01 DEG
PHASE ANG 65.65 DEG
ALPHA -2.01 DEG

PRINCIPAL POINT
LATITUDE 1.05 DEG
LONGITUDE -12.40 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.56 DEG AB 37.3 KM
A LONG -11.75 DEG BC 31.1 KM
B LAT 0.36 DEG CD 36.4 KM
B LONG -12.01 DEG DA 31.3 KM
C LAT 0.59 DEG TILT DISTANCE 2.8
C LONG -13.01 DEG
D LAT 1.76 DEG
D LONG -12.77 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 1.31 DEG AB 15.3 KM
A LONG -12.28 DEG BC 4.1 KM
B LAT 0.79 DEG CD 16.2 KM
B LONG -12.39 DEG DA 4.1 KM
C LAT 0.82 DEG TILT DISTANCE 20.8
C LONG -12.52 DEG
D LAT 1.34 DEG
D LONG -12.41 DEG

MISSION/
FRAME NO.

2146
YR.MO.DY 661123
HR.MI.SEC 133625.02

S/C POSITION
ALT 45.10 KM
ALT RT -0.0535 KM/SEC
LAT 3.77 DEG
LONG -27.47 DEG

S/C ORIENTATION
TILT ANG 0.93 DEG
TILT AZIM 275.47 DEG
SWING ANG 83.73 DEG
N.DEV. 348.26 DEG

PHOTO ILLUMINATION
SUN AZIM 91.19 DEG
INCID ANG 78.04 DEG
EMISS ANG 0.95 DEG
PHASE ANG 77.09 DEG
ALPHA 0.95 DEG

PRINCIPAL POINT
LATITUDE 3.77 DEG
LONGITUDE -27.49 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.26 DEG AB 36.6 KM
A LONG -26.86 DEG BC 31.2 KM
B LAT 3.07 DEG CD 37.0 KM
B LONG -27.11 DEG DA 31.2 KM
C LAT 3.28 DEG TILT DISTANCE 1.2
C LONG -28.12 DEG
D LAT 4.47 DEG
D LONG -27.87 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.02 DEG AB 16.2 KM
A LONG -27.37 DEG BC 4.1 KM
B LAT 3.49 DEG CD 16.2 KM
B LONG -27.48 DEG DA 4.1 KM
C LAT 3.52 DEG TILT DISTANCE 9.8
C LONG -27.61 DEG
D LAT 4.04 DEG
D LONG -27.51 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/77: PAGE 175

MISSION/
FRAME NO.
2147

TIME 661123
YR.NO.DY 661123
HR.MI.SEC 133026.98

S/C POSITION
ALT 45.00 KM
ALT RT -0.0524 KM/SEC
LAT 3.74 DEG
LONG -27.35 DEG

S/C ORIENTATION
TILT ANG 0.81 DEG
TILT AZIM 274.58 DEG
SWING ANG 82.83 DEG
N.DEV. 348.25 DEG

PHOTO ILLUMINATION
SUN AZIM 91.20 DEG
INCID ANG 77.92 DEG
EMISS ANG 0.83 DEG
PHASE ANG 77.09 DEG
ALPHA 0.83 DEG

PRINCIPAL POINT
LATITUDE 3.74 DEG
LONGITUDE -27.37 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.23 DEG AB 36.6 KM
A LONG -26.74 DEG BC 31.1 KM
B LAT 3.05 DEG CD 36.9 KM
B LONG -26.99 DEG DA 31.1 KM
C LAT 3.25 DEG TILT DISTANCE
C LONG -27.59 DEG 1.0
D LAT 4.45 DEG
D LONG -27.74 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.99 DEG AB 16.2 KM
A LONG -27.25 DEG BC 4.1 KM
B LAT 3.47 DEG CD 15.2 KM
B LONG -27.36 DEG DA 4.1 KM
C LAT 3.50 DEG TILT DISTANCE
C LONG -27.49 DEG 8.5
D LAT 4.02 DEG
D LONG -27.38 DEG

MISSION/
FRAME NO.
2148

TIME 661123
YR.NO.DY 661123
HR.MI.SEC 133026.98

S/C POSITION
ALT 44.89 KM
ALT RT -0.0514 KM/SEC
LAT 3.72 DEG
LONG -27.23 DEG

S/C ORIENTATION
TILT ANG 0.69 DEG
TILT AZIM 273.38 DEG
SWING ANG 81.62 DEG
N.DEV. 348.24 DEG

PHOTO ILLUMINATION
SUN AZIM 91.20 DEG
INCID ANG 77.80 DEG
EMISS ANG 0.70 DEG
PHASE ANG 77.09 DEG
ALPHA 0.70 DEG

PRINCIPAL POINT
LATITUDE 3.72 DEG
LONGITUDE -27.25 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.21 DEG AB 36.5 KM
A LONG -26.62 DEG BC 31.0 KM
B LAT 3.03 DEG CD 36.8 KM
B LONG -26.86 DEG DA 31.0 KM
C LAT 3.23 DEG TILT DISTANCE
C LONG -27.67 DEG 0.9
D LAT 4.42 DEG
D LONG -27.62 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.97 DEG AB 16.1 KM
A LONG -27.13 DEG BC 4.1 KM
B LAT 3.44 DEG CD 16.1 KM
B LONG -27.24 DEG DA 4.1 KM
C LAT 3.47 DEG TILT DISTANCE
C LONG -27.37 DEG 7.3
D LAT 3.99 DEG
D LONG -27.26 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/ FRAME NO. 2149
 YR. MO. DY 661123
 HR. MI. SEC 133430.95
 TIME 133430.95
 S/C POSITION
 ALT 44.79 KM
 ALT RT -0.0504 KM/SEC
 LAT 3.69 DEG
 LONG -27.11 DEG
 S/C ORIENTATION
 TILT ANG 0.57 DEG
 TILT AZIM 271.66 DEG
 SWING ANG 79.90 DEG
 N.DEV. 348.23 DEG
 PHOTO ILLUMINATION
 SUN AZIM. 91.20 DEG
 INCID ANG 77.67 DEG
 EMISS ANG 0.58 DEG
 PHASE ANG 77.09 DEG
 ALPHA 0.58 DEG
 PRINCIPAL POINT
 LATITUDE 3.69 DEG
 LONGITUDE -27.13 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 3.94 DEG AB 16.1 KM
 A LONG -27.01 DEG BC 4.0 KM
 B LAT 3.42 DEG CD 16.1 KM
 B LONG -27.12 DEG DA 4.0 KM
 C LAT 3.45 DEG TILT DISTANCE 6.0
 C LONG -27.25 DEG
 D LAT 3.97 DEG
 D LONG -27.14 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.18 DEG AB 36.5 KM
 A LONG -26.50 DEG BC 30.9 KM
 B LAT 3.00 DEG CD 36.7 KM
 B LONG -26.74 DEG DA 31.0 KM
 C LAT 3.21 DEG TILT DISTANCE 0.7
 C LONG -27.74 DEG
 D LAT 4.39 DEG
 D LONG -27.50 DEG

MISSION/ FRAME NO. 2150
 YR. MO. DY 661123
 HR. MI. SEC 133432.93
 TIME 133432.93
 S/C POSITION
 ALT 44.70 KM
 ALT RT -0.0494 KM/SEC
 LAT 3.67 DEG
 LONG -26.99 DEG
 S/C ORIENTATION
 TILT ANG 0.45 DEG
 TILT AZIM 269.01 DEG
 SWING ANG 77.24 DEG
 N.DEV. 348.23 DEG
 PHOTO ILLUMINATION
 SUN AZIM 91.21 DEG
 INCID ANG 77.55 DEG
 EMISS ANG 0.46 DEG
 PHASE ANG 77.09 DEG
 ALPHA 0.46 DEG
 PRINCIPAL POINT
 LATITUDE 3.67 DEG
 LONGITUDE -27.00 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 3.92 DEG AB 16.1 KM
 A LONG -26.88 DEG BC 4.0 KM
 B LAT 3.40 DEG CD 16.1 KM
 B LONG -26.99 DEG DA 4.0 KM
 C LAT 3.42 DEG TILT DISTANCE 4.7
 C LONG -27.12 DEG
 D LAT 3.94 DEG
 D LONG -27.02 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 4.15 DEG AB 36.4 KM
 A LONG -26.37 DEG BC 30.9 KM
 B LAT 2.98 DEG CD 36.6 KM
 B LONG -26.62 DEG DA 30.9 KM
 C LAT 3.18 DEG TILT DISTANCE 0.5
 C LONG -27.62 DEG
 D LAT 4.37 DEG
 D LONG -27.37 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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04/10/71

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2151

YR.MO.DY
HR.MI.SEC

TIME
61123
133634.90

S/C POSITION
ALT 44.60 KM
ALT RT -0.0483 KM/SEC
LAT 3.65 DEG
LONG -26.87 DEG

S/C ORIENTATION
TILT ANG 0.33 DEG
TILT AZIM 264.47 DEG
SWING ANG 72.68 DEG
N.DEV. 348.22 DEG

PHOTO ILLUMINATION
SUN AZIM 91.21 DEG
INCID ANG 77.43 DEG
EMISS ANG. 0.34 DEG
PHASE ANG 77.09 DEG
ALPHA 0.34 DEG

PRINCIPAL POINT
LATITUDE 3.64 DEG
LONGITUDE -26.88 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.13 DEG AB 36.4 KM
A LONG -26.25 DEG BC 30.8 KM
B LAT 2.96 DEG CD 36.5 KM
B LONG -26.60 DEG DA 30.8 KM
C LAT 3.16 DEG TILT DISTANCE 0.3
C LONG -27.49 DEG
D LAT 4.34 DEG
D LONG -27.25 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.89 DEG AB 16.0 KM
A LONG -26.76 DEG BC 4.0 KM
B LAT 3.37 DEG CD 16.0 KM
B LONG -26.87 DEG DA 4.0 KM
C LAT 3.40 DEG TILT DISTANCE 3.5
C LONG -27.00 DEG
D LAT 3.92 DEG
D LONG -26.89 DEG

MISSION/
FRAME NO.
2152

YR.MO.DY
HR.MI.SEC

TIME
61123
133636.87

S/C POSITION
ALT 44.51 KM
ALT RT -0.0473 KM/SEC
LAT 3.62 DEG
LONG -26.75 DEG

S/C ORIENTATION
TILT ANG 0.22 DEG
TILT AZIM 256.03 DEG
SWING ANG 63.24 DEG
N.DEV. 348.21 DEG

PHOTO ILLUMINATION
SUN AZIM 91.21 DEG
INCID ANG 77.30 DEG
EMISS ANG 0.22 DEG
PHASE ANG 77.09 DEG
ALPHA 0.21 DEG

PRINCIPAL POINT
LATITUDE 3.62 DEG
LONGITUDE -26.76 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.10 DEG AB 36.3 KM
A LONG -26.13 DEG BC 30.7 KM
B LAT 2.93 DEG CD 36.4 KM
B LONG -26.38 DEG DA 30.8 KM
C LAT 3.14 DEG TILT DISTANCE 0.2
C LONG -27.37 DEG
D LAT 4.31 DEG
D LONG -27.13 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.86 DEG AB 16.0 KM
A LONG -26.64 DEG BC 4.0 KM
B LAT 3.35 DEG CD 16.0 KM
B LONG -26.75 DEG DA 4.0 KM
C LAT 3.38 DEG TILT DISTANCE 2.3
C LONG -26.88 DEG
D LAT 3.89 DEG
D LONG -26.77 DEG

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MISSION/
FRAME NO.
2153

YR.MO.DY 661123
HR.MI.SEC 133636.84

S/C POSITION
ALT 44.41 KM
ALT RT -0.0463 KM/SEC
LAT 3.60 DEG
LONG -26.64 DEG

S/C ORIENTATION
TILT ANG 0.12 DEG
TILT AZIM 228.31 DEG
SWING ANG 36.51 DEG
N.DEV. 348.20 DEG

PHOTO ILLUMINATION
SUN AZIM 91.21 DEG
INCID ANG 77.18 DEG
EMISS ANG 0.12 DEG
PHASE ANG 77.09 DEG
ALPHA 0.09 DEG

PRINCIPAL POINT
LATITUDE 3.60 DEG
LONGITUDE -26.64 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 4.08 DEG AB 36.3 KM
A LONG -26.01 DEG BC 30.7 KM
B LAT 2.91 DEG CD 36.3 KM
B LONG -26.25 DEG DA 30.7 KM
C LAT 3.11 DEG TILT DISTANCE 0.0
C LONG -27.25 DEG
D LAT 4.29 DEG
D LONG -27.00 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.84 DEG AB 16.0 KM
A LONG -26.52 DEG BC 4.0 KM
B LAT 3.32 DEG CD 16.0 KM
B LONG -26.63 DEG DA 4.0 KM
C LAT 3.35 DEG TILT DISTANCE 1.2
C LONG -26.76 DEG
D LAT 3.87 DEG
D LONG -26.65 DEG

MISSION/
FRAME NO.
2154

YR.MO.DY 661123
HR.MI.SEC 170529.89

S/C POSITION
ALT 43.92 KM
ALT RT -0.0375 KM/SEC
LAT 3.37 DEG
LONG -27.46 DEG

S/C ORIENTATION
TILT ANG 0.59 DEG
TILT AZIM 282.01 DEG
SWING ANG 90.21 DEG
N.DEV. 348.19 DEG

PHOTO ILLUMINATION
SUN AZIM 91.23 DEG
INCID ANG 76.26 DEG
EMISS ANG 0.60 DEG
PHASE ANG 75.66 DEG
ALPHA 0.59 DEG

PRINCIPAL POINT
LATITUDE 3.38 DEG
LONGITUDE -27.48 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.85 DEG AB 35.7 KM
A LONG -26.86 DEG BC 30.3 KM
B LAT 2.70 DEG CD 36.0 KM
B LONG -27.10 DEG DA 30.4 KM
C LAT 2.90 DEG TILT DISTANCE 0.7
C LONG -28.08 DEG
D LAT 4.06 DEG
D LONG -27.84 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.62 DEG AB 15.8 KM
A LONG -27.36 DEG BC 4.0 KM
B LAT 3.11 DEG CD 15.8 KM
B LONG -27.47 DEG DA 4.0 KM
C LAT 3.13 DEG TILT DISTANCE 6.2
C LONG -27.59 DEG
D LAT 3.64 DEG
D LONG -27.49 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO. 2155
YR.MO.DY 651123
HR.MI.SEC 170531.75

S/C POSITION ALT 43.85 KM
ALT RT -0.0365 KM/SEC
LAT 3.35 DEG
LONG -27.35 DEG

S/C ORIENTATION TILT ANG 0.47 DEG
TILT AZIM 282.14 DEG
SWING ANG 90.32 DEG
N.DEV. 348.19 DEG

PHOTO ILLUMINATION SUN AZIM 91.23 DEG
INCID ANG 76.14 DEG
EMISS ANG 0.48 DEG
PHASE ANG 75.56 DEG
ALPHA 0.47 DEG

PRINCIPAL POINT LATITUDE 3.35 DEG
LONGITUDE -27.36 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.83 DEG AB 35.7 KM
A LONG -26.74 DEG BC 30.3 KM
B LAT 2.67 DEG CD 35.9 KM
B LONG -26.58 DEG DA 30.3 KM
C LAT 2.88 DEG TILT DISTANCE 0.6
C LONG -27.96 DEG
D LAT 4.04 DEG
D LONG -27.72 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.59 DEG AB 15.8 KM
A LONG -27.24 DEG BC 4.0 KM
B LAT 3.08 DEG CD 15.8 KM
B LONG -27.35 DEG DA 4.0 KM
C LAT 3.11 DEG TILT DISTANCE 5.0
C LONG -27.48 DEG
D LAT 3.52 DEG
D LONG -27.37 DEG

MISSION/
FRAME NO. 2156
YR.MO.DY 651123
HR.MI.SEC 170533.70

S/C POSITION ALT 43.78 KM
ALT RT -0.0355 KM/SEC
LAT 3.33 DEG
LONG -27.23 DEG

S/C ORIENTATION TILT ANG 0.35 DEG
TILT AZIM 282.34 DEG
SWING ANG 90.52 DEG
N.DEV. 348.18 DEG

PHOTO ILLUMINATION SUN AZIM 91.23 DEG
INCID ANG 76.02 DEG
EMISS ANG 0.36 DEG
PHASE ANG 75.65 DEG
ALPHA 0.36 DEG

PRINCIPAL POINT LATITUDE 3.33 DEG
LONGITUDE -27.24 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.80 DEG AB 35.7 KM
A LONG -26.62 DEG BC 30.2 KM
B LAT 2.65 DEG CD 35.8 KM
B LONG -26.86 DEG DA 30.3 KM
C LAT 2.85 DEG TILT DISTANCE 0.4
C LONG -27.84 DEG
D LAT 4.01 DEG
D LONG -27.60 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.57 DEG AB 15.7 KM
A LONG -27.12 DEG BC 4.0 KM
B LAT 3.06 DEG CD 15.7 KM
B LONG -27.23 DEG DA 4.0 KM
C LAT 3.09 DEG TILT DISTANCE 3.7
C LONG -27.36 DEG
D LAT 3.59 DEG
D LONG -27.25 DEG

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MISSION/
FRAME NO.
2157

YR. MO. DY
HR. MI. SEC
170 535.62

S/C POSITION
ALT 43.72 KM
ALT RT -0.0345 KM/SEC
LAT 3.30' DEG
LONG -27.12 DEG

S/C ORIENTATION
TILT ANG 0.23 DEG
TILT AZIM 282.75 DEG
SWING ANG. 90.92 DEG
N.DEV. 348.17 DEG

PHOTO ILLUMINATION
SUN AZIM 91.23 DEG
INCID ANG 75.90 DEG
EMISS ANG 0.24 DEG
PHASE ANG 75.66 DEG
ALPHA 0.24 DEG

PRINCIPAL POINT
LATITUDE 3.30 DEG
LONGITUDE -27.12 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.78 DEG AB 35.7 KM
A LONG -26.80 DEG BC 30.2 KM
B LAT 2.63 DEG CD 35.7 KM
B LONG -26.75 DEG DA 30.2 KM
C LAT 2.83 DEG TILT DISTANCE
C LONG -27.72 DEG 0.3
D LAT 3.58 DEG
D LONG -27.48 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.54 DEG AB 15.7 KM
A LONG -27.00 DEG BC 4.0 KM
B LAT 3.04 DEG CD 15.7 KM
B LONG -27.11 DEG DA 4.0 KM
C LAT 3.06 DEG TILT DISTANCE
C LONG -27.24 DEG 2.5
D LAT 3.57 DEG
D LONG -27.13 DEG

MISSION/
FRAME NO.
2158

YR. MO. DY
HR. MI. SEC
170 537.56

S/C POSITION
ALT 43.65 KM
ALT RT -0.0335 KM/SEC
LAT 3.28 DEG
LONG -27.00 DEG

S/C ORIENTATION
TILT ANG 0.11 DEG
TILT AZIM 284.00 DEG
SWING ANG 92.16 DEG
N.DEV. 348.17 DEG

PHOTO ILLUMINATION
SUN AZIM 91.23 DEG
INCID ANG 75.78 DEG
EMISS ANG 0.12 DEG
PHASE ANG 75.65 DEG
ALPHA 0.12 DEG

PRINCIPAL POINT
LATITUDE 3.28 DEG
LONGITUDE -27.00 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.75 DEG AB 35.5 KM
A LONG -26.38 DEG BC 30.1 KM
B LAT 2.60 DEG CD 35.7 KM
B LONG -26.63 DEG DA 30.2 KM
C LAT 2.81 DEG TILT DISTANCE
C LONG -27.60 DEG 0.2
D LAT 3.56 DEG
D LONG -27.36 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.52 DEG AB 15.7 KM
A LONG -26.88 DEG BC 3.9 KM
B LAT 3.01 DEG CD 15.7 KM
B LONG -26.99 DEG DA 3.9 KM
C LAT 3.04 DEG TILT DISTANCE
C LONG -27.12 DEG 1.2
D LAT 3.55 DEG
D LONG -27.01 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2159
YR,MO, DY
HR,MI,SEC
170533.51
661123
TIME
S/C POSITION
ALT 43.59 KM
LAT -26.88 DEG
LONG -26.88 DEG
S/C ORIENTATION
TILT ANG 0.
TILT AZIM 58.61 DEG
SWING ANG 226.80 DEG
N.DEV. 348.16 DEG
PHOTO ILLUMINATION
SUN AZIM 91.23 DEG
INCID ANG 75.66 DEG
EMISS ANG 0. DEG
PHASE ANG 75.66 DEG
ALPHA -0.01 DEG
CORNER COORDINATE
A LAT 3.73 DEG
A LONG -26.26 DEG
B LAT 2.58 DEG
B LONG -26.51 DEG
C LAT 2.78 DEG
C LONG -27.48 DEG
D LAT 3.93 DEG
D LONG -27.24 DEG
MEDIUM RESOLUTION
CORNER COORDINATE
A LAT 3.73 DEG
A LONG -26.26 DEG
B LAT 2.58 DEG
B LONG -26.51 DEG
C LAT 2.78 DEG
C LONG -27.48 DEG
D LAT 3.93 DEG
D LONG -27.24 DEG
SIDE LENGTH
AB 35.6 KM
BC 30.1 KM
CD 35.6 KM
DA 30.1 KM
TILT DISTANCE
0.1
HIGH RESOLUTION
CORNER COORDINATE
A LAT 3.49 DEG
A LONG -26.76 DEG
B LAT 2.99 DEG
B LONG -26.87 DEG
C LAT 3.01 DEG
C LONG -27.00 DEG
D LAT 3.52 DEG
D LONG -26.89 DEG
SIDE LENGTH
AB 15.7 KM
BC 3.9 KM
CD 15.7 KM
DA 3.9 KM
TILT DISTANCE
0.
PRINCIPAL POINT
LATITUDE 3.25 DEG
LONGITUDE -26.88 DEG

MISSION/
FRAME NO.
2160
YR,MO, DY
HR,MI,SEC
170541.47
661123
TIME
S/C POSITION
ALT 43.52 KM
LAT -26.76 DEG
LONG -26.76 DEG
S/C ORIENTATION
TILT ANG 0.13 DEG
TILT AZIM 99.35 DEG
SWING ANG 267.51 DEG
N.DEV. 348.15 DEG
PHOTO ILLUMINATION
SUN AZIM 91.24 DEG
INCID ANG 75.54 DEG
EMISS ANG 0.13 DEG
PHASE ANG 75.65 DEG
ALPHA -0.13 DEG
CORNER COORDINATE
A LAT 3.70 DEG
A LONG -26.14 DEG
B LAT 2.55 DEG
B LONG -26.38 DEG
C LAT 2.76 DEG
C LONG -27.35 DEG
D LAT 3.91 DEG
D LONG -27.11 DEG
MEDIUM RESOLUTION
CORNER COORDINATE
A LAT 3.70 DEG
A LONG -26.14 DEG
B LAT 2.55 DEG
B LONG -26.38 DEG
C LAT 2.76 DEG
C LONG -27.35 DEG
D LAT 3.91 DEG
D LONG -27.11 DEG
SIDE LENGTH
AB 35.6 KM
BC 30.0 KM
CD 35.5 KM
DA 30.1 KM
TILT DISTANCE
0.2
HIGH RESOLUTION
CORNER COORDINATE
A LAT 3.47 DEG
A LONG -26.64 DEG
B LAT 2.96 DEG
B LONG -26.75 DEG
C LAT 2.99 DEG
C LONG -26.88 DEG
D LAT 3.49 DEG
D LONG -26.77 DEG
SIDE LENGTH
AB 15.6 KM
BC 3.9 KM
CD 15.6 KM
DA 3.9 KM
TILT DISTANCE
1.3
PRINCIPAL POINT
LATITUDE 3.23 DEG
LONGITUDE -26.76 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2161

TIME
661123
170543.45

YR.NO.DY
HR.MI.SEC

S/C POSITION
ALT 43.46 KM
ALT RT -0.0304 KM/SEC
LAT 3.21 DEG
LONG -26.64 DEG

S/C ORIENTATION
TILT ANG 0.25 DEG
TILT AZIM 100.46 DEG
SWING ANG 268.50 DEG
N.DEV. 348.14 DEG

PHOTO ILLUMINATION
SUN AZIM 91.24 DEG
INCID ANG 75.41 DEG
EMISS ANG 0.25 DEG
PHASE ANG 75.66 DEG
ALPHA -0.25 DEG

PRINCIPAL POINT
LATITUDE 3.20 DEG
LONGITUDE -26.64 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.68 DEG AB 35.6 KM
A LONG -26.02 DEG BC 30.0 KM
B LAT 2.53 DEG CD 35.4 KM
B LONG -26.26 DEG DA 30.1 KM
C LAT 2.74 DEG TILT DISTANCE 0.4
C LONG -27.23 DEG
D LAT 3.88 DEG
D LONG -26.99 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.44 DEG AB 15.6 KM
A LONG -26.52 DEG BC 3.9 KM
B LAT 2.94 DEG CD 15.6 KM
B LONG -26.63 DEG DA 3.9 KM
C LAT 2.97 DEG TILT DISTANCE 2.6
C LONG -26.75 DEG
D LAT 3.47 DEG
D LONG -26.65 DEG

MISSION/
FRAME NO.
2162

TIME
661124
000542.70

YR.NO.DY
HR.MI.SEC

S/C POSITION
ALT 45.91 KM
ALT RT 0.0587 KM/SEC
LAT 0.98 DEG
LONG -20.01 DEG

S/C ORIENTATION
TILT ANG 69.40 DEG
TILT AZIM 0.18 DEG
SWING ANG 177.31 DEG
N.DEV. 356.64 DEG

PHOTO ILLUMINATION
SUN AZIM 92.96 DEG
INCID ANG 65.35 DEG
EMISS ANG 73.90 DEG
PHASE ANG 80.91 DEG
ALPHA -53.75 DEG

PRINCIPAL POINT
LATITUDE 5.48 DEG
LONGITUDE -20.00 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 10.38 DEG AB 207.7 KM
A LONG -16.55 DEG BC 44.2 KM
B LAT 2.61 DEG CD 74.2 KM
B LONG -19.32 DEG DA 126.0 KM
C LAT 2.71 DEG TILT DISTANCE 13.7
C LONG -20.78 DEG
D LAT 7.06 DEG
D LONG -22.16 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.03 DEG AB 276.2 KM
A LONG -19.33 DEG BC 8.3 KM
B LAT 3.61 DEG CD 93.9 KM
B LONG -19.89 DEG DA 50.1 KM
C LAT 3.64 DEG TILT DISTANCE 21.9
C LONG -20.16 DEG
D LAT 12.80 DEG
D LONG -20.45 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2163

YR. MO. DY
HR. MI. SEC
661124
070350.09

S/C POSITION
ALT 50.91 KM
ALT RT 0.0895 KM/SEC
LAT 0.19 DEG
LONG -20.13 DEG

S/C ORIENTATION
TILT ANG 1.33 DEG
TILT AZIM 108.91 DEG
SWING ANG 276.57 DEG
N.DEV. 347.67 DEG

PHOTO ILLUMINATION
SUN AZIM 90.55 DEG
INCL ANG 61.76 DEG
EMISS ANG 1.37 DEG
PHASE ANG 63.06 DEG
ALPHA -1.30 DEG

PRINCIPAL POINT
LATITUDE 0.17 DEG
LONGITUDE -20.10 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.45 DEG AB 18.3 KM
A LONG -19.96 DEG BC 4.6 KM
B LAT -0.14 DEG CD 18.3 KM
B LONG -29.09 DEG DA 4.6 KM
C LAT -0.11 DEG TILT DISTANCE 14.1
C LONG -20.23 DEG
D LAT 0.48 DEG
D LONG -20.11 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.72 DEG AB 42.0 KM
A LONG -15.37 DEG BC 35.2 KM
B LAT -0.63 DEG CD 41.3 KM
B LONG -15.66 DEG DA 35.2 KM
C LAT -0.37 DEG TILT DISTANCE 1.8
C LONG -20.80 DEG
D LAT 0.56 DEG
D LONG -20.50 DEG

MISSION/
FRAME NO.
2164

YR. MO. DY
HR. MI. SEC
661124
070352.34

S/C POSITION
ALT 51.11 KM
ALT RT 0.0905 KM/SEC
LAT 0.16 DEG
LONG -20.00 DEG

S/C ORIENTATION
TILT ANG 1.47 DEG
TILT AZIM 108.25 DEG
SWING ANG 275.91 DEG
N.DEV. 347.67 DEG

PHOTO ILLUMINATION
SUN AZIM 90.54 DEG
INCL ANG 61.62 DEG
EMISS ANG 1.51 DEG
PHASE ANG 63.06 DEG
ALPHA -1.44 DEG

PRINCIPAL POINT
LATITUDE 0.14 DEG
LONGITUDE -19.96 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.42 DEG AB 18.4 KM
A LONG -19.82 DEG BC 4.6 KM
B LAT -0.17 DEG CD 18.4 KM
B LONG -19.95 DEG DA 4.6 KM
C LAT -0.14 DEG TILT DISTANCE 15.6
C LONG -20.10 DEG
D LAT 0.46 DEG
D LONG -19.97 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.70 DEG AB 42.2 KM
A LONG -19.22 DEG BC 35.4 KM
B LAT -0.66 DEG CD 41.4 KM
B LONG -19.52 DEG DA 35.4 KM
C LAT -0.40 DEG TILT DISTANCE 2.0
C LONG -20.66 DEG
D LAT 0.94 DEG
D LONG -20.37 DEG

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MISSION/
FRAME NO.
2165

YR. MO. DY 661124
HR. MI. SEC 070354.61

S/C POSITION
ALT 51.32 KM
ALT RT 0.0917 KM/SEC
LAT 3.13 DEG
LONG -19.86 DEG

S/C ORIENTATION
TILT ANG 1.61 DEG
TILT AZIM 107.70 DEG
SWING ANG 275.36 DEG
N.DEV. 347.67 DEG

PHOTO ILLUMINATION
SUN AZIM 90.52 DEG
INCID ANG 61.48 DEG
EMISS ANG 1.65 DEG
PHASE ANG 63.06 DEG
ALPHA -1.58 DEG

PRINCIPAL POINT
LATITUDE 0.11 DEG
LONGITUDE -19.82 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.67 DEG AB 42.4 KM
A LONG -15.08 DEG BC 35.5 KM
B LAT -0.69 DEG CD 41.5 KM
B LONG -19.38 DEG DA 35.5 KM
C LAT -0.43 DEG TILT DISTANCE 2.2
C LONG -20.52 DEG
D LAT 0.51 DEG
D LONG -20.23 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.40 DEG AB 18.5 KM
A LONG -19.68 DEG BC 4.6 KM
B LAT -0.20 DEG CD 18.4 KM
B LONG -19.81 DEG DA 4.6 KM
C LAT -0.17 DEG TILT DISTANCE 17.0
C LONG -19.96 DEG
D LAT 0.43 DEG
D LONG -19.83 DEG

MISSION/
FRAME NO.
2166

YR. MO. DY 661124
HR. MI. SEC 070356.90

S/C POSITION
ALT 51.53 KM
ALT RT 0.0929 KM/SEC
LAT 0.10 DEG
LONG -19.73 DEG

S/C ORIENTATION
TILT ANG 1.75 DEG
TILT AZIM 107.23 DEG
SWING ANG 274.90 DEG
N.DEV. 347.67 DEG

PHOTO ILLUMINATION
SUN AZIM 90.50 DEG
INCID ANG 61.34 DEG
EMISS ANG 1.80 DEG
PHASE ANG 63.06 DEG
ALPHA -1.72 DEG

PRINCIPAL POINT
LATITUDE 0.08 DEG
LONGITUDE -19.68 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.65 DEG AB 42.6 KM
A LONG -18.94 DEG BC 35.7 KM
B LAT -0.73 DEG CD 41.7 KM
B LONG -19.24 DEG DA 35.7 KM
C LAT -0.46 DEG TILT DISTANCE 2.4
C LONG -20.38 DEG
D LAT 0.88 DEG
D LONG -20.09 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.37 DEG AB 18.6 KM
A LONG -19.54 DEG BC 4.7 KM
B LAT -0.23 DEG CD 18.5 KM
B LONG -19.87 DEG DA 4.7 KM
C LAT -0.20 DEG TILT DISTANCE 18.5
C LONG -19.82 DEG
D LAT 0.40 DEG
D LONG -19.69 DEG

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MISSION/ FRAME NO. 2167
 YR.NO.DY 661124
 HR.MI.SEC 070359.21
 TIME 661124

S/C POSITION
 ALT 51.75 KM
 ALT RT 0.0941 KM/SEC
 LAT 0.07 DEG
 LONG -19.59 DEG

S/C ORIENTATION
 TILT ANG 1.89 DEG
 TILT AZIM 106.83 DEG
 SWING ANG 274.49 DEG
 N.DEV. 347.67 DEG

PHOTO ILLUMINATION
 SUN AZIM 90.49 DEG
 INCID ANG 61.19 DEG
 EMISS ANG 1.94 DEG
 PHASE ANG 63.06 DEG
 ALPHA -1.87 DEG

PRINCIPAL POINT
 LATITUDE 0.05 DEG
 LONGITUDE -19.53 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.62 DEG AB 42.8 KM
 A LONG -18.79 DEG BC 35.8 KM
 B LAT -0.76 DEG CD 41.8 KM
 B LONG -19.09 DEG DA 35.8 KM
 C LAT -0.49 DEG TILT DISTANCE 2.6
 C LONG -20.24 DEG
 D LAT 0.85 DEG
 D LONG -18.55 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.34 DEG AB 18.6 KM
 A LONG -19.39 DEG BC 4.7 KM
 B LAT -0.26 DEG CD 18.6 KM
 B LONG -19.52 DEG DA 4.7 KM
 C LAT -0.23 DEG TILT DISTANCE 20.0
 C LONG -19.67 DEG
 D LAT 0.37 DEG
 D LONG -19.54 DEG

MISSION/ FRAME NO. 2168
 YR.NO.DY 661124
 HR.MI.SEC 0704 1.53
 TIME 661124

S/C POSITION
 ALT 51.97 KM
 ALT RT 0.0953 KM/SEC
 LAT 0.04 DEG
 LONG -19.45 DEG

S/C ORIENTATION
 TILT ANG 2.63 DEG
 TILT AZIM 106.49 DEG
 SWING ANG 274.15 DEG
 N.DEV. 347.67 DEG

PHOTO ILLUMINATION
 SUN AZIM 90.47 DEG
 INCID ANG 61.05 DEG
 EMISS ANG 2.09 DEG
 PHASE ANG 63.06 DEG
 ALPHA -2.01 DEG

PRINCIPAL POINT
 LATITUDE 0.02 DEG
 LONGITUDE -19.39 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.59 DEG AB 43.1 KM
 A LONG -18.64 DEG BC 36.0 KM
 B LAT -0.80 DEG CD 42.0 KM
 B LONG -18.55 DEG DA 36.0 KM
 C LAT -0.52 DEG TILT DISTANCE 2.8
 C LONG -20.10 DEG
 D LAT 0.83 DEG
 D LONG -15.81 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 0.31 DEG AB 18.7 KM
 A LONG -19.25 DEG BC 4.7 KM
 B LAT -0.29 DEG CD 18.7 KM
 B LONG -19.38 DEG DA 4.7 KM
 C LAT -0.26 DEG TILT DISTANCE 21.5
 C LONG -19.53 DEG
 D LAT 0.24 DEG
 D LONG -19.40 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2169

YR.,MO.,DY 661124
HR.,MI.,SEC 0704 3.87

S/C POSITION
ALT 52.19 KM
ALT RT 0.0964 KM/SEC
LAT 0.01 DEG
LONG -19.31 DEG

S/C ORIENTATION
TILT ANG 2.17 DEG
TILT AZIM 106.18 DEG
SWING ANG 273.84 DEG
N.DEV. 347.67 DEG

PHOTO ILLUMINATION
SUN AZIM 90.46 DEG
INCID ANG 60.91 DEG
EMISS ANG 2.23 DEG
PHASE ANG 43.06 DEG
ALPHA -2.15 DEG

PRINCIPAL POINT
LATITUDE -0.01 DEG
LONGITUDE -19.25 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.56 DEG AB 43.3 KM
A LONG -18.49 DEG BC 36.2 KM
B LAT -0.83 DEG CD 42.1 KM
B LONG -18.80 DEG DA 36.2 KM
C LAT -0.56 DEG TILT DISTANCE
C LONG -19.96 DEG 3.2
D LAT 0.80 DEG
D LONG -19.66 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.28 DEG AB 18.8 KM
A LONG -19.10 DEG BC 4.7 KM
B LAT -0.33 DEG CD 18.7 KM
B LONG -19.24 DEG DA 4.7 KM
C LAT -0.29 DEG TILT DISTANCE
C LONG -19.39 DEG 23.0
D LAT 0.31 DEG
D LONG -19.26 DEG

MISSION/
FRAME NO.
2170

YR.,MO.,DY 661124
HR.,MI.,SEC 0704 6.23

S/C POSITION
ALT 52.42 KM
ALT RT 0.0976 KM/SEC
LAT -0.02 DEG
LONG -19.17 DEG

S/C ORIENTATION
TILT ANG 2.31 DEG
TILT AZIM 105.92 DEG
SWING ANG 273.68 DEG
N.DEV. 347.67 DEG

PHOTO ILLUMINATION
SUN AZIM 90.44 DEG
INCID ANG 60.76 DEG
EMISS ANG 2.38 DEG
PHASE ANG 43.06 DEG
ALPHA -2.30 DEG

PRINCIPAL POINT
LATITUDE -0.04 DEG
LONGITUDE -19.10 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.54 DEG AB 43.5 KM
A LONG -18.34 DEG BC 36.3 KM
B LAT -0.87 DEG CD 42.3 KM
B LONG -18.65 DEG DA 36.3 KM
C LAT -0.59 DEG TILT DISTANCE
C LONG -19.82 DEG 3.2
D LAT 0.77 DEG
D LONG -19.52 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.25 DEG AB 18.9 KM
A LONG -18.96 DEG BC 4.7 KM
B LAT -0.36 DEG CD 18.8 KM
B LONG -19.09 DEG DA 4.7 KM
C LAT -0.32 DEG TILT DISTANCE
C LONG -19.24 DEG 24.6
D LAT 0.28 DEG
D LONG -19.11 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2172 YR,MO, DY 661124
FR,MI,SEC 103254.40

S/C POSITION
ALT 54.18 KM
ALT RT 0.3049 KM/SEC
LAT -0.22 DEG
LONG -20.16 DEG

S/C ORIENTATION
TILT ANG 1.95 DEG
TILT AZIM 104.24 DEG
SWING ANG 271.94 DEG
N.DEV. 347.71 DEG

PHOTO ILLUMINATION
SUN AZIM 90.33 DEG
INCID ANG 60.00 DEG
EMISS ANG 2.01 DEG
PHASE ANG 61.95 DEG
ALPHA -1.95 DEG

PRINCIPAL POINT
LATITUDE -0.24 DEG
LONGITUDE -20.10 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.26 DEG AB 44.9 KM
A LONG -19.33 DEG BC 37.5 KM
B LAT -1.09 DEG CD 43.8 KM
B LONG -15.64 DEG DA 37.5 KM
C LAT -1.81 DEG TILT DISTANCE 2.7
C LONG -20.65 DEG
D LAT 0.60 DEG
D LONG -20.54 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.06 DEG AB 19.5 KM
A LONG -19.96 DEG BC 4.9 KM
B LAT -0.57 DEG CD 19.5 KM
B LONG -20.09 DEG DA 4.9 KM
C LAT -0.53 DEG TILT DISTANCE 20.7
C LONG -20.25 DEG
D LAT 0.09 DEG
D LONG -20.11 DEG

MISSION/
FRAME NO.

2172 YR,MO, DY 661124
FR,MI,SEC 103256.83

S/C POSITION
ALT 54.44 KM
ALT RT 0.1062 KM/SEC
LAT -0.25 DEG
LONG -20.02 DEG

S/C ORIENTATION
TILT ANG 2.09 DEG
TILT AZIM 104.07 DEG
SWING ANG 271.77 DEG
N.DEV. 347.71 DEG

PHOTO ILLUMINATION
SUN AZIM 90.31 DEG
INCID ANG 59.85 DEG
EMISS ANG 2.16 DEG
PHASE ANG 61.95 DEG
ALPHA -2.10 DEG

PRINCIPAL POINT
LATITUDE -0.27 DEG
LONGITUDE -19.96 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.33 DEG AB 45.1 KM
A LONG -19.17 DEG BC 37.7 KM
B LAT -1.13 DEG CD 44.0 KM
B LONG -15.49 DEG DA 37.7 KM
C LAT -0.84 DEG TILT DISTANCE 2.9
C LONG -20.70 DEG
D LAT 0.57 DEG
D LONG -20.39 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 0.03 DEG AB 19.6 KM
A LONG -19.81 DEG BC 4.9 KM
B LAT -0.60 DEG CD 19.5 KM
B LONG -19.94 DEG DA 4.9 KM
C LAT -0.56 DEG TILT DISTANCE 22.3
C LONG -20.10 DEG
D LAT 0.07 DEG
D LONG -19.97 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2172

YR,MO, DY 661124
HR,MI,SEC 103259.28

S/C POSITION
ALT 54.79 KM
ALT RT 0.1074 KM/SEC
LAT -0.28 DEG
LONG -19.87 DEG

S/C ORIENTATION
TILT ANG 2.24 DEG
TILT AZIM 103.92 DEG
SWING ANG 271.52 DEG
N.DEV. 347.71 DEG

PHOTO ILLUMINATION
SUN AZIM 90.30 DEG
INCID ANG 59.70 DEG
EMISS ANG 2.31 DEG
PHASE ANG 61.95 DEG
ALPHA -2.25 DEG

PRINCIPAL POINT
LATITUDE -0.30 DEG
LONGITUDE -19.80 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.30 DEG AB 45.4 KM
A LONG -19.02 DEG BC 37.9 KM
B LAT -1.16 DEG CD 44.1 KM
B LONG -19.34 DEG DA 37.9 KM
C LAT -0.88 DEG TILT DISTANCE
C LONG -20.55 DEG 3.1
D LAT 0.55 DEG
D LONG -20.24 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.00 DEG AB 19.7 KM
A LONG -19.68 DEG BC 5.0 KM
B LAT -0.63 DEG CD 19.6 KM
B LONG -19.79 DEG DA 5.0 KM
C LAT -0.60 DEG TILT DISTANCE
C LONG -19.95 DEG 23.8
D LAT 0.03 DEG
D LONG -19.81 DEG

MISSION/
FRAME NO.
2174

YR,MO, DY 661124
HR,MI,SEC 1033 1.74

S/C POSITION
ALT 54.95 KM
ALT RT 0.1085 KM/SEC
LAT -0.31 DEG
LONG -19.73 DEG

S/C ORIENTATION
TILT ANG 2.39 DEG
TILT AZIM 103.79 DEG
SWING ANG 271.49 DEG
N.DEV. 347.72 DEG

PHOTO ILLUMINATION
SUN AZIM 90.28 DEG
INCID ANG 59.55 DEG
EMISS ANG 2.47 DEG
PHASE ANG 61.95 DEG
ALPHA -2.40 DEG

PRINCIPAL POINT
LATITUDE -0.33 DEG
LONGITUDE -19.65 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.27 DEG AB 45.7 KM
A LONG -18.86 DEG BC 38.1 KM
B LAT -1.20 DEG CD 44.3 KM
B LONG -19.18 DEG DA 38.1 KM
C LAT -0.91 DEG TILT DISTANCE
C LONG -20.40 DEG 3.3
D LAT 0.52 DEG
D LONG -20.09 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.03 DEG AB 19.8 KM
A LONG -19.50 DEG BC 5.0 KM
B LAT -0.67 DEG CD 19.7 KM
B LONG -19.64 DEG DA 5.0 KM
C LAT -0.63 DEG TILT DISTANCE
C LONG -19.80 DEG 25.4
D LAT 0.00 DEG
D LONG -19.66 DEG

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MISSION/
FRAME NO.
2175

YR.NO.DY 661124
PR.MI.SEC 1033 4.21

S/C POSITION
ALT 55.23 KM
ALT RT 0.1099 KM/SEC
LAT -0.34 DEG
LONG -19.58 DEG

S/C ORIENTATION
TILT ANG 2.54 DEG
TILT AZIM 103.58 DEG
SWING ANG 271.28 DEG
N.DEV. 347.72 DEG

PHOTO ILLUMINATION
SUN AZIM 90.26 DEG
INCID ANG 59.40 DEG
EMISS ANG 2.63 DEG
PHASE ANG 61.95 DEG
ALPHA -2.56 DEG

PRINCIPAL POINT
LATITUDE -0.36 DEG
LONGITUDE -19.50 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.24 DEG AB 46.0 KM
A LONG -18.70 DEG BC 38.3 KM
B LAT -1.24 DEG CD 44.5 KM
B LONG -19.03 DEG DA 38.3 KM
C LAT -0.94 DEG TILT DISTANCE 3.6
C LONG -20.25 DEG
D LAT C.49 DEG
D LONG -19.64 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.06 DEG AB 19.9 KM
A LONG -19.35 DEG BC 5.0 KM
B LAT -0.70 DEG CD 19.8 KM
B LONG -19.49 DEG DA 5.0 KM
C LAT -0.66 DEG TILT DISTANCE 27.0
C LONG -19.65 DEG
D LAT -0.03 DEG
D LONG -19.51 DEG

MISSION/
FRAME NO.
2176

YR.NO.DY 661124
PR.MI.SEC 1033 5.70

S/C POSITION
ALT 55.51 KM
ALT RT 0.1111 KM/SEC
LAT -0.37 DEG
LONG -19.43 DEG

S/C ORIENTATION
TILT ANG 2.70 DEG
TILT AZIM 103.57 DEG
SWING ANG 271.28 DEG
N.DEV. 347.72 DEG

PHOTO ILLUMINATION
SUN AZIM 90.24 DEG
INCID ANG 59.24 DEG
EMISS ANG 2.78 DEG
PHASE ANG 61.95 DEG
ALPHA -2.71 DEG

PRINCIPAL POINT
LATITUDE -0.39 DEG
LONGITUDE -19.35 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT C.21 DEG AB 46.2 KM
A LONG -18.54 DEG BC 38.5 KM
B LAT -1.27 DEG CD 44.7 KM
B LONG -19.87 DEG DA 38.5 KM
C LAT -0.58 DEG TILT DISTANCE 3.8
C LONG -20.10 DEG
D LAT C.46 DEG
D LONG -19.79 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.09 DEG AB 20.0 KM
A LONG -19.20 DEG BC 5.0 KM
B LAT -0.73 DEG CD 19.9 KM
B LONG -19.34 DEG DA 5.0 KM
C LAT -0.70 DEG TILT DISTANCE 28.7
C LONG -19.50 DEG
D LAT -0.06 DEG
D LONG -19.36 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2177
YR. MO. DY
HR. MI. SEC

TIME
661124
1033 9.20

S/C POSITION
ALT 55.79 KM
ALT RT 0.1124 KM/SEC
LAT -0.41 DEG
LONG -19.28 DEG

S/C ORIENTATION
TILT ANG 2.85 DEG
TILT AZIM 103.48 DEG
SWING ANG 271.19 DEG
N.DEV. 347.72 DEG

PHOTO ILLUMINATION
SUN AZIM 90.22 DEG
INCID ANG 59.09 DEG
EMISS ANG 2.94 DEG
PHASE ANG 61.95 DEG
ALPHA -2.87 DEG

PRINCIPAL POINT
LATITUDE -0.43 DEG
LONGITUDE -19.19 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT C.19 DEG AB 46.5 KM
A LONG -12.38 DEG BC 38.7 KM
B LAT -1.31 DEG CD 44.9 KM
B LONG -18.71 DEG DA 38.7 KM
C LAT -1.01 DEG TILT DISTANCE 4.1
C LONG -15.95 DEG
D LAT 0.43 DEG
D LONG -19.64 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.12 DEG AB 20.1 KM
A LONG -19.04 DEG BC 5.1 KM
B LAT -0.77 DEG CD 20.0 KM
B LONG -19.18 DEG DA 5.1 KM
C LAT -0.73 DEG TILT DISTANCE 30.3
C LONG -19.35 DEG
D LAT -0.09 DEG
D LONG -19.21 DEG

MISSION/
FRAME NO.

2178
YR. MO. DY
HR. MI. SEC

TIME
661124
1033 11.72

S/C POSITION
ALT 56.07 KM
ALT RT 0.1136 KM/SEC
LAT -0.44 DEG
LONG -19.13 DEG

S/C ORIENTATION
TILT ANG 3.00 DEG
TILT AZIM 103.40 DEG
SWING ANG 271.10 DEG
N.DEV. 347.73 DEG

PHOTO ILLUMINATION
SUN AZIM 90.20 DEG
INCID ANG 58.93 DEG
EMISS ANG 3.10 DEG
PHASE ANG 61.95 DEG
ALPHA -3.02 DEG

PRINCIPAL POINT
LATITUDE -0.46 DEG
LONGITUDE -19.04 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 0.16 DEG AB 46.8 KM
A LONG -18.22 DEG BC 38.9 KM
B LAT -1.35 DEG CD 45.1 KM
B LONG -18.55 DEG DA 38.9 KM
C LAT -1.05 DEG TILT DISTANCE 4.2
C LONG -19.80 DEG
D LAT 0.40 DEG
D LONG -19.48 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -0.15 DEG AB 20.2 KM
A LONG -18.89 DEG BC 5.1 KM
B LAT -0.80 DEG CD 20.1 KM
B LONG -19.03 DEG DA 5.1 KM
C LAT -0.77 DEG TILT DISTANCE 31.9
C LONG -19.19 DEG
D LAT -0.12 DEG
D LONG -19.05 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.
2179

TIME
661124
1358 0.72

S/C POSITION
ALT 45.20 KM
ALTI RT -0.0016 KM/SEC
LAT 2.42 DEG
LONG -34.45 DEG

S/C ORIENTATION
TILT ANG 0.59 DEG
TILT AZIM 106.96 DEG
SWING ANG 274.90 DEG
N.DEV. 347.94 DEG

PHOTO ILLUMINATION
SUN AZIM 91.19 DEG
INCID ANG 72.64 DEG
EMISS ANG 0.60 DEG
PHASE ANG 73.22 DEG
ALPHA -0.58 DEG

PRINCIPAL POINT
LATITUDE 2.42 DEG
LONGITUDE -34.44 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.91 DEG AB 37.1 KM
A LONG -32.80 DEG BC 31.2 KM
B LAT 1.71 DEG CD 36.8 KM
B LONG -34.05 DEG DA 31.3 KM
C LAT 1.53 DEG TILT DISTANCE 0.8
C LONG -35.06 DEG
D LAT 3.12 DEG
D LONG -34.81 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.67 DEG AB 16.3 KM
A LONG -34.32 DEG BC 4.1 KM
B LAT 2.14 DEG CD 16.2 KM
B LONG -34.43 DEG DA 4.1 KM
C LAT 2.17 DEG TILT DISTANCE 6.2
C LONG -34.56 DEG
D LAT 2.69 DEG
D LONG -34.45 DEG

MISSION/
FRAME NO.
2180

TIME
661124
1358 2.68

S/C POSITION
ALT 45.19 KM
ALTI RT -0.0006 KM/SEC
LAT 2.40 DEG
LONG -34.34 DEG

S/C ORIENTATION
TILT ANG 0.71 DEG
TILT AZIM 106.07 DEG
SWING ANG 274.00 DEG
N.DEV. 347.93 DEG

PHOTO ILLUMINATION
SUN AZIM 91.18 DEG
INCID ANG 72.62 DEG
EMISS ANG 0.72 DEG
PHASE ANG 73.22 DEG
ALPHA -0.70 DEG

PRINCIPAL POINT
LATITUDE 2.39 DEG
LONGITUDE -34.32 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.88 DEG AB 37.1 KM
A LONG -32.67 DEG BC 31.2 KM
B LAT 1.69 DEG CD 36.7 KM
B LONG -32.53 DEG DA 31.3 KM
C LAT 1.51 DEG TILT DISTANCE 1.0
C LONG -34.54 DEG
D LAT 3.09 DEG
D LONG -34.68 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.64 DEG AB 16.3 KM
A LONG -34.20 DEG BC 4.1 KM
B LAT 2.12 DEG CD 16.2 KM
B LONG -34.31 DEG DA 4.1 KM
C LAT 2.14 DEG TILT DISTANCE 7.5
C LONG -34.44 DEG
D LAT 2.67 DEG
D LONG -34.33 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2181

TIME
661124
1352 4.63

S/C POSITION
ALT 45.19 KM
ALT RT 0.0004 KM/SEC
LAT 2.37 DEG
LONG -34.22 DEG

S/C ORIENTATION
TILT ANG 0.83 DEG
TILT AZIM 105.44 DEG
SWING ANG 273.37 DEG
N.DEV. 347.93 DEG

PHOTO ILLUMINATION
SUN AZIM 91.18 DEG
INCID ANG 72.40 DEG
EMISS ANG 0.85 DEG
PHASE ANG 73.22 DEG
ALPHA -0.82 DEG

PRINCIPAL POINT
LATITUDE 2.37 DEG
LONGITUDE -34.20 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.86 DEG AB 37.1 KM
A LONG -33.55 DEG BC 31.2 KM
B LAT 1.88 DEG CD 36.7 KM
B LONG -32.81 DEG DA 31.3 KM
C LAT 1.88 DEG TILT DISTANCE 1.2
C LONG -34.82 DEG
D LAT 3.07 DEG
D LONG -34.56 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.82 DEG AB 16.3 KM
A LONG -34.07 DEG BC 4.1 KM
B LAT 2.09 DEG CD 16.2 KM
B LONG -34.19 DEG DA 4.1 KM
C LAT 2.12 DEG TILT DISTANCE 8.7
C LONG -34.32 DEG
D LAT 2.64 DEG
D LONG -34.21 DEG

MISSION/
FRAME NO.
2182

TIME
661124
1352 6.55

S/C POSITION
ALT 45.19 KM
ALT RT 0.0014 KM/SEC
LAT 2.35 DEG
LONG -34.10 DEG

S/C ORIENTATION
TILT ANG 0.95 DEG
TILT AZIM 104.97 DEG
SWING ANG 272.90 DEG
N.DEV. 347.92 DEG

PHOTO ILLUMINATION
SUN AZIM 91.18 DEG
INCID ANG 72.28 DEG
EMISS ANG 0.97 DEG
PHASE ANG 73.22 DEG
ALPHA -0.94 DEG

PRINCIPAL POINT
LATITUDE 2.34 DEG
LONGITUDE -34.08 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.83 DEG AB 37.1 KM
A LONG -33.43 DEG BC 31.2 KM
B LAT 1.64 DEG CD 36.7 KM
B LONG -32.69 DEG DA 31.3 KM
C LAT 1.86 DEG TILT DISTANCE 1.3
C LONG -34.69 DEG
D LAT 3.04 DEG
D LONG -34.44 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.59 DEG AB 16.3 KM
A LONG -33.95 DEG BC 4.1 KM
B LAT 2.07 DEG CD 16.2 KM
B LONG -34.07 DEG DA 4.1 KM
C LAT 2.09 DEG TILT DISTANCE 10.0
C LONG -34.20 DEG
D LAT 2.62 DEG
D LONG -34.09 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2183
YR.MD.DY 661124
HR.MI.SEC 1358 2.55

S/C POSITION
ALT 45.20 KM
ALT RT 0.0024 KM/SEC
LAT 2.32 DEG
LONG -33.98 DEG

S/C ORIENTATION
TILT ANG 1.07 DEG
TILT AZIM 104.61 DEG
SWING ANG 272.53 DEG
N.DEV. 347.92 DEG

PHOTO ILLUMINATION
SUN AZIM 91.18 DEG
INCID ANG 72.15 DEG
EMISS ANG 1.09 DEG
PHASE ANG 73.22 DEG
ALPHA -1.07 DEG

PRINCIPAL POINT
LATITUDE 2.32 DEG
LONGITUDE -33.95 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.81 DEG AB 37.2 KM
A LONG -33.31 DEG BC 31.2 KM
B LAT 1.61 DEG CD 36.7 KM
B LONG -33.57 DEG DA 31.3 KM
C LAT 1.63 DEG TILT DISTANCE 1.5
C LONG -34.57 DEG
D LAT 3.02 DEG
D LONG -34.32 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.57 DEG AB 14.3 KM
A LONG -33.83 DEG BC 4.1 KM
B LAT 2.04 DEG CD 16.2 KM
B LONG -33.94 DEG DA 4.1 KM
C LAT 2.07 DEG TILT DISTANCE 11.3
C LONG -34.08 DEG
D LAT 2.59 DEG
D LONG -33.96 DEG

MISSION/
FRAME NO.

2184
YR.MD.DY 661124
HR.MI.SEC 1358 10.51

S/C POSITION
ALT 45.20 KM
ALT RT 0.0035 KM/SEC
LAT 2.30 DEG
LONG -33.86 DEG

S/C ORIENTATION
TILT ANG 1.19 DEG
TILT AZIM 104.32 DEG
SWING ANG 272.24 DEG
N.DEV. 347.92 DEG

PHOTO ILLUMINATION
SUN AZIM 91.17 DEG
INCID ANG 72.03 DEG
EMISS ANG 1.22 DEG
PHASE ANG 73.22 DEG
ALPHA -1.19 DEG

PRINCIPAL POINT
LATITUDE 2.29 DEG
LONGITUDE -33.83 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.78 DEG AB 37.2 KM
A LONG -33.19 DEG BC 31.2 KM
B LAT 1.58 DEG CD 36.7 KM
B LONG -33.44 DEG DA 31.3 KM
C LAT 1.81 DEG TILT DISTANCE 1.7
C LONG -34.45 DEG
D LAT 2.59 DEG
D LONG -34.20 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.54 DEG AB 16.3 KM
A LONG -33.71 DEG BC 4.1 KM
B LAT 2.02 DEG CD 16.2 KM
B LONG -33.82 DEG DA 4.1 KM
C LAT 2.04 DEG TILT DISTANCE 12.6
C LONG -33.96 DEG
D LAT 2.57 DEG
D LONG -33.84 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 194

MISSION/
FRAME NO.
2185

YR. MO. DY
FR. MI. SEC
661124
135612.47

S/C POSITION
ALT
ALT RT
LAT
LONG
45.21 KM
0.0045 KM/SEC
2.27 DEG
-33.74 DEG

S/C ORIENTATION
TILT ANG
TILT AZIM
SWING ANG
N.DEV.
1.31 DEG
104.09 DEG
272.00 DEG
347.91 DEG

PHOTO ILLUMINATION
SUN AZIM
INCID ANG
EMISS ANG
PHASE ANG
ALPHA
91.17 DEG
71.91 DEG
1.34 DEG
73.22 DEG
-1.31 DEG

PRINCIPAL POINT
LATITUDE
LONGITUDE
2.27 DEG
-33.71 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.76 DEG AB 37.3 KM
A LONG -33.06 DEG BC 31.2 KM
B LAT 1.56 DEG CD 36.5 KM
B LONG -33.32 DEG DA 31.3 KM
C LAT 1.78 DEG TILT DISTANCE
C LONG -34.33 DEG 1.8
D LAT 2.57 DEG
D LONG -34.08 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.51 DEG AB 16.3 KM
A LONG -33.59 DEG BC 4.1 KM
B LAT 1.99 DEG CD 16.2 KM
B LONG -33.70 DEG DA 4.1 KM
C LAT 2.02 DEG TILT DISTANCE
C LONG -33.83 DEG 13.9
D LAT 2.54 DEG
D LONG -33.72 DEG

MISSION/
FRAME NO.
2186

YR. MO. DY
FR. MI. SEC
661124
135614.43

S/C POSITION
ALT
ALT RT
LAT
LONG
45.22 KM
0.0055 KM/SEC
2.25 DEG
-33.63 DEG

S/C ORIENTATION
TILT ANG
TILT AZIM
SWING ANG
N.DEV.
1.43 DEG
103.90 DEG
271.80 DEG
347.91 DEG

PHOTO ILLUMINATION
SUN AZIM
INCID ANG
EMISS ANG
PHASE ANG
ALPHA
91.17 DEG
71.79 DEG
1.47 DEG
73.22 DEG
-1.43 DEG

PRINCIPAL POINT
LATITUDE
LONGITUDE
2.24 DEG
-33.59 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.73 DEG AB 37.3 KM
A LONG -32.54 DEG BC 31.3 KM
B LAT 1.53 DEG CD 36.6 KM
B LONG -33.20 DEG DA 31.3 KM
C LAT 1.76 DEG TILT DISTANCE
C LONG -34.21 DEG 2.0
D LAT 2.94 DEG
D LONG -33.55 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.49 DEG AB 16.3 KM
A LONG -33.47 DEG BC 4.1 KM
B LAT 1.96 DEG CD 16.2 KM
B LONG -33.58 DEG DA 4.1 KM
C LAT 1.99 DEG TILT DISTANCE
C LONG -33.71 DEG 15.2
D LAT 2.52 DEG
D LONG -33.60 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA.

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04/10/71

FULL LIST ORDERED BY MISSION AND FRAME NUMBER.

MISSION/
FRAME NO.

2187
661124

PRINCIPAL POINT
LATITUDE 1.99 DEG
LONGITUDE -34.35 DEG

PHOTO ILLUMINATION
SUN AZIM 91.13 DEG
INCID ANG 70.79 DEG
EMISS ANG 1.06 DEG
PHASE ANG 71.84 DEG
ALPHA -1.05 DEG

S/C ORIENTATION
TILT ANG 1.03 DEG
TILT AZIM 190.98 DEG
SWING ANG 268.82 DEG
N.DEV. 347.84 DEG

S/C POSITION
ALT 45.73 KM
ALT RT 0.0159 KM/SEC
LAT 2.00 DEG
LONG -34.39 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.49 DEG AB 37.5 KM
A LONG -32.71 DEG BC 31.5 KM
B LAT 1.28 DEG CD 37.1 KM
B LONG -32.97 DEG DA 41.5 KM
C LAT 1.51 DEG TILT DISTANCE
C LONG -34.59 DEG 1.5
D LAT 2.79 DEG
D LONG -34.73 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.24 DEG AB 16.4 KM
A LONG -34.24 DEG BC 4.1 KM
B LAT 1.71 DEG CD 16.4 KM
B LONG -34.35 DEG DA 4.1 KM
C LAT 1.74 DEG TILT DISTANCE
C LONG -34.48 DEG 11.0
D LAT 2.27 DEG
D LONG -34.37 DEG

MISSION/
FRAME NO.

2188
661124

PRINCIPAL POINT
LATITUDE 1.97 DEG
LONGITUDE -34.24 DEG

PHOTO ILLUMINATION
SUN AZIM 91.13 DEG
INCID ANG 70.67 DEG
EMISS ANG 1.19 DEG
PHASE ANG 71.84 DEG
ALPHA -1.17 DEG

S/C ORIENTATION
TILT ANG 1.16 DEG
TILT AZIM 101.07 DEG
SWING ANG 268.91 DEG
N.DEV. 347.84 DEG

S/C POSITION
ALT 45.73 KM
ALT RT 0.0161 KM/SEC
LAT 1.97 DEG
LONG -34.27 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.47 DEG AB 37.6 KM
A LONG -32.58 DEG BC 31.5 KM
B LAT 1.25 DEG CD 37.1 KM
B LONG -32.65 DEG DA 31.7 KM
C LAT 1.48 DEG TILT DISTANCE
C LONG -34.56 DEG 1.6
D LAT 2.68 DEG
D LONG -34.61 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.22 DEG AB 16.5 KM
A LONG -34.11 DEG BC 4.1 KM
B LAT 1.69 DEG CD 16.4 KM
B LONG -34.23 DEG DA 4.1 KM
C LAT 1.72 DEG TILT DISTANCE
C LONG -34.36 DEG 12.3
D LAT 2.25 DEG
D LONG -34.25 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 196

MISSION/
FRAME NO.

2189
YR.MO.DY 661124
PR.MI.SEC 172710.07

S/C POSITION
ALT 45.77 KM
ALT RT 0.0171 KM/SEC
LAT 1.95 DEG
LONG -34.15 DEG

S/C ORIENTATION
TILT ANG 1.28 DEG
TILT AZIM 101.15 DEG
SWING ANG 268.98 DEG
N.DEV. 347.83 DEG

PHOTO ILLUMINATION
SUN AZIM 91.13 DEG
INCID ANG 70.35 DEG
EMISS ANG 1.31 DEG
PHASE ANG 71.84 DEG
ALPHA -1.29 DEG

PRINCIPAL POINT
LATITUDE 1.94 DEG
LONGITUDE -34.12 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.44 DEG AB 37.7 KM
A LONG -33.46 DEG BC 31.5 KM
B LAT 1.23 DEG CD 37.1 KM
B LONG -33.72 DEG DA 31.7 KM
C LAT 1.46 DEG TILT DISTANCE 1.8
C LONG -34.74 DEG
D LAT 2.65 DEG
D LONG -34.48 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.19 DEG AB 16.5 KM
A LONG -33.99 DEG BC 4.1 KM
B LAT 1.66 DEG CD 16.4 KM
B LONG -34.11 DEG DA 4.1 KM
C LAT 1.69 DEG TILT DISTANCE 13.5
C LONG -34.24 DEG
D LAT 2.22 DEG
D LONG -34.12 DEG

MISSION/
FRAME NO.

2190
YR.MO.DY 661124
PR.MI.SEC 172712.04

S/C POSITION
ALT 45.80 KM
ALT RT 0.0181 KM/SEC
LAT 1.92 DEG
LONG -34.03 DEG

S/C ORIENTATION
TILT ANG 1.40 DEG
TILT AZIM 101.21 DEG
SWING ANG 269.34 DEG
N.DEV. 347.83 DEG

PHOTO ILLUMINATION
SUN AZIM 91.12 DEG
INCID ANG 70.42 DEG
EMISS ANG 1.44 DEG
PHASE ANG 71.84 DEG
ALPHA -1.41 DEG

PRINCIPAL POINT
LATITUDE 1.92 DEG
LONGITUDE -33.99 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.42 DEG AB 37.8 KM
A LONG -33.34 DEG BC 31.6 KM
B LAT 1.20 DEG CD 37.1 KM
B LONG -33.60 DEG DA 31.7 KM
C LAT 1.43 DEG TILT DISTANCE 2.0
C LONG -34.62 DEG
D LAT 2.83 DEG
D LONG -34.36 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.17 DEG AB 16.5 KM
A LONG -33.87 DEG BC 4.1 KM
B LAT 1.64 DEG CD 16.4 KM
B LONG -33.98 DEG DA 4.1 KM
C LAT 1.67 DEG TILT DISTANCE 14.8
C LONG -34.12 DEG
D LAT 2.20 DEG
D LONG -34.00 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.
2191

YR.NO.DY
HR.MI.SEC
661124
172714.02

TIME

S/C POSITION
ALT 45.84 KM
ALT RT 0.0191 KM/SEC
LAT 1.90 DEG
LONG -33.91 DEG

S/C ORIENTATION
TILT ANG 1.52 DEG
TILT AZIM 101.26 DEG
SWING ANG 269.98 DEG
N.DEV. 347.83 DEG

PHOTO ILLUMINATION
SUN AZIM 91.12 DEG
INCID ANG 70.30 DEG
EMISS ANG 1.56 DEG
PHASE ANG 71.84 DEG
ALPHA -1.54 DEG

PRINCIPAL POINT
LATITUDE 1.89 DEG
LONGITUDE -33.87 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.14 DEG AB 16.5 KM
A LONG -33.75 DEG BC 4.1 KM
B LAT 1.61 DEG CD 16.5 KM
B LONG -33.86 DEG DA 4.1 KM
C LAT 1.64 DEG TILT DISTANCE 16.1
C LONG -34.00 DEG
D LAT 2.17 DEG
D LONG -33.88 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.39 DEG AB 37.8 KM
A LONG -33.21 DEG BC 31.7 KM
B LAT 1.17 DEG CD 37.1 KM
B LONG -33.48 DEG DA 31.7 KM
C LAT 1.40 DEG TILT DISTANCE 2.1
C LONG -34.50 DEG
D LAT 2.50 DEG
D LONG -34.24 DEG

MISSION/
FRAME NO.
2192

YR.NO.DY
HR.MI.SEC
661124
172716.01

TIME

S/C POSITION
ALT 45.89 KM
ALT RT 0.0202 KM/SEC
LAT 1.87 DEG
LONG -33.79 DEG

S/C ORIENTATION
TILT ANG 1.64 DEG
TILT AZIM 101.30 DEG
SWING ANG 269.12 DEG
N.DEV. 347.82 DEG

PHOTO ILLUMINATION
SUN AZIM 91.11 DEG
INCID ANG 70.18 DEG
EMISS ANG 1.69 DEG
PHASE ANG 71.84 DEG
ALPHA -1.66 DEG

PRINCIPAL POINT
LATITUDE 1.87 DEG
LONGITUDE -33.75 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.12 DEG AB 16.5 KM
A LONG -33.62 DEG BC 4.1 KM
B LAT 1.59 DEG CD 16.5 KM
B LONG -33.74 DEG DA 4.1 KM
C LAT 1.61 DEG TILT DISTANCE 17.4
C LONG -33.87 DEG
D LAT 2.15 DEG
D LONG -33.74 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.37 DEG AB 37.9 KM
A LONG -33.09 DEG BC 31.7 KM
B LAT 1.15 DEG CD 37.1 KM
B LONG -33.25 DEG DA 31.8 KM
C LAT 1.38 DEG TILT DISTANCE 2.3
C LONG -34.27 DEG
D LAT 2.58 DEG
D LONG -34.12 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2193

TIME 661124
YR,MO,DY 172716-01
PR,MI,SEC 172716-01

S/C POSITION
ALT 45.92 KM
ALT RT 0.0212 KM/SEC
LAT 1.85 DEG
LONG -33.67 DEG

S/C ORIENTATION
TILT ANG 1.77 DEG
TILT AZIM 101.24 DEG
SWING ANG 269.16 DEG
N.DEV. 347.82 DEG

PHOTO ILLUMINATION
SUN AZIM 91.11 DEG
INCID ANG 70.05 DEG
EMISS ANG 1.81 DEG
PHASE ANG 71.84 DEG
ALPHA -1.78 DEG

PRINCIPAL POINT
LATITUDE 1.84 DEG
LONGITUDE -33.62 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.34 DEG AB 38.0 KM
A LONG -32.96 DEG BC 31.7 KM
B LAT 1.12 DEG CD 37.1 KM
B LONG -33.23 DEG DA 31.8 KM
C LAT 1.35 DEG TILT DISTANCE
C LONG -34.25 DEG 2.5
D LAT 2.55 DEG
D LONG -33.59 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.09 DEG AB 16.5 KM
A LONG -33.50 DEG BC 4.2 KM
B LAT 1.56 DEG CD 16.5 KM
B LONG -33.61 DEG DA 4.2 KM
C LAT 1.59 DEG TILT DISTANCE
C LONG -33.75 DEG 18.8
D LAT 2.12 DEG
D LONG -33.63 DEG

MISSION/
FRAME NO.
219A

TIME 661124
YR,MO,DY 172720-01
PR,MI,SEC 172720-01

S/C POSITION
ALT 45.96 KM
ALT RT 0.0223 KM/SEC
LAT 1.82 DEG
LONG -33.55 DEG

S/C ORIENTATION
TILT ANG 1.89 DEG
TILT AZIM 101.38 DEG
SWING ANG 269.19 DEG
N.DEV. 347.82 DEG

PHOTO ILLUMINATION
SUN AZIM 91.10 DEG
INCID ANG 69.93 DEG
EMISS ANG 1.94 DEG
PHASE ANG 71.84 DEG
ALPHA -1.91 DEG

PRINCIPAL POINT
LATITUDE 1.81 DEG
LONGITUDE -33.50 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.32 DEG AB 38.0 KM
A LONG -32.84 DEG BC 31.8 KM
B LAT 1.09 DEG CD 37.1 KM
B LONG -33.10 DEG DA 31.8 KM
C LAT 1.33 DEG TILT DISTANCE
C LONG -34.13 DEG 2.6
D LAT 2.52 DEG
D LONG -33.67 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 2.07 DEG AB 16.6 KM
A LONG -33.38 DEG BC 4.2 KM
B LAT 1.53 DEG CD 16.5 KM
B LONG -33.49 DEG DA 4.2 KM
C LAT 1.56 DEG TILT DISTANCE
C LONG -33.63 DEG 20.1
D LAT 2.09 DEG
D LONG -33.51 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2195

YR.MO.DY 661125
PR.MI.SEC 045E 4.91

S/C POSITION
ALT 47.73 KM
ALT RT -0.0249 KM/SEC
LAT -2.83 DEG
LONG -42.74 DEG

S/C ORIENTATION
TILT ANG 1.02 DEG
TILT AZIM 85.20 DEG
SWING ANG 253.23 DEG
N.DEV. 349.03 DEG

PHOTO ILLUMINATION
SUN AZIM 91.16 DEG
INCID ANG 75.65 DEG
EMISS ANG 1.95 DEG
PHASE ANG 76.70 DEG
ALPHA -1.04 DEG

PRINCIPAL POINT
LATITUDE 2.83 DEG
LONGITUDE -42.71 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.35 DEG AB 39.2 KM
A LONG -42.93 DEG BC 32.9 KM
B LAT 2.58 DEG CD 38.8 KM
B LONG -42.70 DEG DA 33.1 KM
C LAT 2.32 DEG TILT DISTANCE 1.5
C LONG -42.37 DEG
D LAT 3.57 DEG
D LONG -42.10 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.09 DEG AB 17.2 KM
A LONG -42.58 DEG BC 4.3 KM
B LAT 2.54 DEG CD 17.1 KM
B LONG -42.70 DEG DA 4.3 KM
C LAT 2.57 DEG TILT DISTANCE 10.8
C LONG -42.84 DEG
D LAT 3.12 DEG
D LONG -42.72 DEG

MISSION/
FRAME NO.
2196

YR.MO.DY 661125
PR.MI.SEC 045E 4.92

S/C POSITION
ALT 1519.00 KM
ALT RT 0.2534 KM/SEC
LAT -8.77 DEG
LONG 163.68 DEG

S/C ORIENTATION
TILT ANG 0.15 DEG
TILT AZIM 236.55 DEG
SWING ANG 233.83 DEG
N.DEV. 177.27 DEG

PHOTO ILLUMINATION
SUN AZIM 272.76 DEG
INCID ANG 70.16 DEG
EMISS ANG 0.28 DEG
PHASE ANG 70.39 DEG
ALPHA -0.23 DEG

PRINCIPAL POINT
LATITUDE -8.84 DEG
LONGITUDE 163.56 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -32.35 DEG AB 480.0 KM
A LONG 72.54 DEG BC 241.3 KM
B LAT 17.76 DEG CD 470.3 KM
B LONG 79.69 DEG DA 254.5 KM
C LAT 15.56 DEG TILT DISTANCE 0.3
C LONG 123.48 DEG
D LAT -34.55 DEG
D LONG 124.80 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT -17.90 DEG AB 554.3 KM
A LONG 97.69 DEG BC 139.3 KM
B LAT 0.45 DEG CD 554.1 KM
B LONG 98.70 DEG DA 139.4 KM
C LAT 0.23 DEG TILT DISTANCE 1.6
C LONG 103.29 DEG
D LAT -18.13 DEG
D LONG 102.52 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2197

YR. MO. DY 461125
HR. MI. SEC 072113.13

S/C POSITION
ALT 47.90 KM
ALT RT 0.0121 KM/SEC
LAT 1.90 DEG
LONG -42.1A DEG

S/C ORIENTATION
TILT ANG 0.59 DEG
TILT AZIM 111.14 DEG
SWING ANG 279.72 DEG
N-DEV. 347.88 DEG

PHOTO ILLUMINATION
SUN AZIM 91.08 DEG
INCID ANG 71.57 DEG
EMISS ANG 0.61 DEG
PHASE ANG 72.14 DEG
ALPHA -0.57 DEG

PRINCIPAL POINT
LATITUDE 1.89 DEG
LONGITUDE -42.17 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.41 DEG AB 39.3 KM
A LONG -41.59 DEG BC 33.1 KM
B LAT 1.14 DEG CD 39.0 KM
B LONG -41.75 DEG DA 32.1 KM
C LAT 1.28 DEG TILT DISTANCE 7.8
C LONG -42.63 DEG
D LAT 2.54 DEG
D LONG -42.56 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.15 DEG AB 17.2 KM
A LONG -42.04 DEG BC 4.3 KM
B LAT 1.60 DEG CD 17.2 KM
B LONG -42.15 DEG DA 4.3 KM
C LAT 1.53 DEG TILT DISTANCE 6.2
C LONG -42.30 DEG
D LAT 2.18 DEG
D LONG -42.18 DEG

MISSION/
FRAME NO.
2198

YR. MO. DY 501125
HR. MI. SEC 072115.18

S/C POSITION
ALT 47.92 KM
ALT RT 0.0132 KM/SEC
LAT 1.87 DEG
LONG -42.03 DEG

S/C ORIENTATION
TILT ANG 0.72 DEG
TILT AZIM 100.48 DEG
SWING ANG 277.33 DEG
N-DEV. 347.87 DEG

PHOTO ILLUMINATION
SUN AZIM 91.08 DEG
INCID ANG 71.57 DEG
EMISS ANG 0.7A DEG
PHASE ANG 72.14 DEG
ALPHA -0.7A DEG

PRINCIPAL POINT
LATITUDE 1.85 DEG
LONGITUDE -42.04 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.39 DEG AB 39.3 KM
A LONG -41.36 DEG BC 33.1 KM
B LAT 1.12 DEG CD 39.0 KM
B LONG -41.63 DEG DA 33.1 KM
C LAT 1.35 DEG TILT DISTANCE 1.7
C LONG -42.70 DEG
D LAT 2.51 DEG
D LONG -42.42 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.13 DEG AB 17.2 KM
A LONG -41.91 DEG BC 4.3 KM
B LAT 1.57 DEG CD 17.2 KM
B LONG -42.03 DEG DA 4.3 KM
C LAT 1.66 DEG TILT DISTANCE 7.6
C LONG -42.17 DEG
D LAT 2.16 DEG
D LONG -42.05 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 04/10/71 PAGE 231

MISSION/
FRAME NO.
2199

TIME 661125
YR.MD.DY 072117.23
FR.MI.SEC

S/C POSITION ALT 47.95 KM
ALT RT. 0.0143 KM/SEC
LAT 1.85 DEG
LONG -41.94 DEG

S/C ORIENTATION TILT ANG 0.84 DEG
TILT AZIM 108.32 DEG
SWING ANG 276.18 DEG
N.DEV. 347.87 DEG

PHOTO ILLUMINATION SUN AZIM 91.07 DEG
INCID ANG 71.31 DEG
EMISS ANG 0.86 DEG
PHASE ANG 72.14 DEG
ALPHA -0.83 DEG

PRINCIPAL POINT LATITUDE 1.84 DEG
LONGITUDE -41.91 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.36 DEG AB 39.4 KM
A LONG -41.23 DEG BC 33.1 KM
B LAT 1.09 DEG CD 39.0 KM
B LONG -41.50 DEG DA 33.2 KM
C LAT 1.33 DEG TILT DISTANCE 1.2
C LONG -42.57 DEG
D LAT 2.58 DEG
D LONG -42.30 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.10 DEG AB 17.2 KM
A LONG -41.78 DEG BC 4.3 KM
B LAT 1.54 DEG CD 17.2 KM
B LONG -41.90 DEG DA 4.3 KM
C LAT 1.58 DEG TILT DISTANCE 8.9
C LONG -42.04 DEG
D LAT 2.13 DEG
D LONG -41.92 DEG

MISSION/
FRAME NO.
2200

TIME 661125
YR.MD.DY 072115.28
FR.MI.SEC

S/C POSITION ALT 47.98 KM
ALT RT. 0.0153 KM/SEC
LAT 1.82 DEG
LONG -41.81 DEG

S/C ORIENTATION TILT ANG 0.97 DEG
TILT AZIM 107.45 DEG
SWING ANG 275.32 DEG
N.DEV. 347.86 DEG

PHOTO ILLUMINATION SUN AZIM 91.07 DEG
INCID ANG 71.18 DEG
EMISS ANG 0.99 DEG
PHASE ANG 72.14 DEG
ALPHA -0.95 DEG

PRINCIPAL POINT LATITUDE 1.81 DEG
LONGITUDE -41.79 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.33 DEG AB 39.5 KM
A LONG -41.10 DEG BC 33.2 KM
B LAT 1.06 DEG CD 39.1 KM
B LONG -41.38 DEG DA 33.2 KM
C LAT 1.30 DEG TILT DISTANCE 1.3
C LONG -42.45 DEG
D LAT 2.56 DEG
D LONG -42.18 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.08 DEG AB 17.3 KM
A LONG -41.66 DEG BC 4.3 KM
B LAT 1.52 DEG CD 17.2 KM
B LONG -41.78 DEG DA 4.3 KM
C LAT 1.55 DEG TILT DISTANCE 10.2
C LONG -41.92 DEG
D LAT 2.11 DEG
D LONG -41.80 DEG

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MISSION/
FRAME NO.

2201
YR.MO.DY 661125
HR.MI.SEC 072121.34

S/C POSITION
ALT 48.02 KM
ALT RT 0.0164 KM/SEC
LAT 1.79 DEG
LONG -41.69 DEG

S/C ORIENTATION
TILT ANG 1.09 DEG
TILT AZIM 106.79 DEG
SWING ANG 274.85 DEG
N.DEV. 347.86 DEG

PHOTO ILLUMINATION
SUN AZIM 91.07 DEG
INCID ANG 71.35 DEG
EMISS ANG 1.12 DEG
PHASE ANG 72.14 DEG
ALPHA -1.08 DEG

PRINCIPAL POINT
LATITUDE 1.79 DEG
LONGITUDE -41.66 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.31 DEG AB 39.5 KM
A LONG -40.57 DEG BC 33.2 KM
B LAT 1.03 DEG CD 39.2 KM
B LONG -41.25 DEG DA 33.2 KM
C LAT 1.27 DEG TILT DISTANCE 1.5
C LONG -42.32 DEG
D LAT 2.53 DEG
D LONG -42.05 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.05 DEG AB 17.3 KM
A LONG -41.53 DEG BC 4.3 KM
B LAT 1.49 DEG CD 17.2 KM
B LONG -41.65 DEG DA 4.3 KM
C LAT 1.52 DEG TILT DISTANCE 11.6
C LONG -41.79 DEG
D LAT 2.08 DEG
D LONG -41.67 DEG

MISSION/
FRAME NO.

2202
YR.MO.DY 661125
HR.MI.SEC 072123.39

S/C POSITION
ALT 48.05 KM
ALT RT 0.0175 KM/SEC
LAT 1.77 DEG
LONG -41.57 DEG

S/C ORIENTATION
TILT ANG 1.22 DEG
TILT AZIM 106.26 DEG
SWING ANG 274.12 DEG
N.DEV. 347.86 DEG

PHOTO ILLUMINATION
SUN AZIM 91.06 DEG
INCID ANG 70.93 DEG
EMISS ANG 1.25 DEG
PHASE ANG 72.14 DEG
ALPHA -1.21 DEG

PRINCIPAL POINT
LATITUDE 1.76 DEG
LONGITUDE -41.53 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.28 DEG AB 39.5 KM
A LONG -40.84 DEG BC 33.2 KM
B LAT 1.01 DEG CD 39.0 KM
B LONG -41.12 DEG DA 33.2 KM
C LAT 1.25 DEG TILT DISTANCE 1.7
C LONG -42.19 DEG
D LAT 2.50 DEG
D LONG -41.92 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.02 DEG AB 17.3 KM
A LONG -41.40 DEG BC 4.3 KM
B LAT 1.47 DEG CD 17.3 KM
B LONG -41.52 DEG DA 4.3 KM
C LAT 1.50 DEG TILT DISTANCE 12.9
C LONG -41.66 DEG
D LAT 2.05 DEG
D LONG -41.54 DEG

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2203
YR.MO.DY
HR.MI.SEC

S/C POSITION
ALT 48.09 KM
ALT RT. 0.0185 KM/SEC
LAT 1.74 DEG
LONG -41.44 DEG

S/C ORIENTATION
TILT ANG 1.34 DEG
TILT.AZIM 105.84 DEG
SWING ANG 273.69 DEG
N.DEV. 347.85 DEG

PHOTO ILLUMINATION
SUN AZIM 91.06 DEG
INCID ANG 70.80 DEG
EMISS ANG 1.38 DEG
PHASE ANG 72.14 DEG
ALPHA -1.34 DEG

PRINCIPAL POINT
LATITUDE 1.73 DEG
LONGITUDE -41.41 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.26 DEG AB 39.6 KM
A LONG -40.72 DEG BC 33.3 KM
B LAT 0.98 DEG CD 39.0 KM
B LONG -40.99 DEG DA 33.3 KM
C LAT 1.22 DEG TILT DISTANCE 1.9
C LONG -42.06 DEG
D LAT 2.48 DEG
D LONG -41.79 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.00 DEG AB 17.3 KM
A LONG -41.28 DEG BC 4.3 KM
B LAT 1.44 DEG CD 17.3 KM
B LONG -41.40 DEG DA 4.3 KM
C LAT 1.47 DEG TILT DISTANCE 14.3
C LONG -41.54 DEG
D LAT 2.03 DEG
D LONG -41.42 DEG

MISSION/
FRAME NO.

2204
YR.MO.DY
HR.MI.SEC

S/C POSITION
ALT 48.13 KM
ALT RT 0.0196 KM/SEC
LAT 1.72 DEG
LONG -41.32 DEG

S/C ORIENTATION
TILT ANG 1.47 DEG
TILT AZIM 105.48 DEG
SWING ANG 273.33 DEG
N.DEV. 347.85 DEG

PHOTO ILLUMINATION
SUN AZIM 91.05 DEG
INCID ANG 70.57 DEG
EMISS ANG 1.51 DEG
PHASE ANG 72.14 DEG
ALPHA -1.45 DEG

PRINCIPAL POINT
LATITUDE 1.71 DEG
LONGITUDE -41.28 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.23 DEG AB 39.7 KM
A LONG -40.55 DEG BC 33.3 KM
B LAT 0.55 DEG CD 39.0 KM
B LONG -40.87 DEG DA 33.3 KM
C LAT 1.19 DEG TILT DISTANCE 2.1
C LONG -41.54 DEG
D LAT 2.45 DEG
D LONG -41.67 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.97 DEG AB 17.3 KM
A LONG -41.15 DEG BC 4.4 KM
B LAT 1.41 DEG CD 17.3 KM
B LONG -41.27 DEG DA 4.4 KM
C LAT 1.44 DEG TILT DISTANCE 15.6
C LONG -41.41 DEG
D LAT 2.00 DEG
D LONG -41.29 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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FULL LIST ORDERED BY MISSION AND FRAME NUMBER

MISSION/
FRAME NO.

2205 YR.MO.DY
HR.MI.SEC

TIME
661125
105017.71

S/C POSITION
ALT 48.85 KM
RT 0.0285 KM/SEC
LAT 1.48 DEG
LONG -42.15 DEG

S/C ORIENTATION
TILT ANG 1.08 DEG
TILT AZIM 95.53 DEG
SWING ANG 263.36 DEG
N.DEV. 347.83 DEG

PHOTO ILLUMINATION
SUN AZIM 91.01 DEG
INCID ANG 69.75 DEG
EMISS ANG 1.11 DEG
PHASE ANG 70.86 DEG
ALPHA -1.11 DEG

PRINCIPAL POINT
LATITUDE 1.48 DEG
LONGITUDE -42.12 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 2.01 DEG AB 40.2 KM
A LONG -41.42 DEG BC 33.7 KM
B LAT 0.71 DEG CD 39.6 KM
B LONG -41.70 DEG DA 33.8 KM
C LAT C.55 DEG TILT DISTANCE
C LONG -42.79 DEG J.5
D LAT 2.23 DEG
D LONG -42.52 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.74 DEG AB 17.6 KM
A LONG -41.99 DEG BC 4.4 KM
B LAT 1.18 DEG CD 17.5 KM
B LONG -42.11 DEG DA 4.4 KM
C LAT 1.21 DEG TILT DISTANCE
C LONG -42.25 DEG 11.5
D LAT 1.77 DEG
D LONG -42.13 DEG

MISSION/
FRAME NO.

2206 YR.MO.DY
HR.MI.SEC

TIME
661125
105019.81

S/C POSITION
ALT 48.91 KM
RT 0.0296 KM/SEC
LAT 1.45 DEG
LONG -42.02 DEG

S/C ORIENTATION
TILT ANG 1.21 DEG
TILT AZIM 96.19 DEG
SWING ANG 264.02 DEG
N.DEV. 347.83 DEG

PHOTO ILLUMINATION
SUN AZIM 91.00 DEG
INCID ANG 69.62 DEG
EMISS ANG 1.25 DEG
PHASE ANG 70.86 DEG
ALPHA -1.24 DEG

PRINCIPAL POINT
LATITUDE 1.45 DEG
LONGITUDE -41.99 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.98 DEG AB 40.3 KM
A LONG -41.29 DEG BC 33.8 KM
B LAT 0.68 DEG CD 39.7 KM
B LONG -41.57 DEG DA 33.9 KM
C LAT 0.53 DEG TILT DISTANCE
C LONG -42.66 DEG 1.7
D LAT 2.21 DEG
D LONG -42.39 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.72 DEG AB 17.6 KM
A LONG -41.86 DEG BC 4.4 KM
B LAT 1.15 DEG CD 17.6 KM
B LONG -41.98 DEG DA 4.4 KM
C LAT 1.18 DEG TILT DISTANCE
C LONG -42.12 DEG 12.9
D LAT 1.75 DEG
D LONG -42.00 DEG

LUNAR OPBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2207

YR.MO.DY 661125
HR.MI.SEC. 105021.91

TIME

S/C POSITION	S/C ORIENTATION	PHOTO ILLUMINATION	PRINCIPAL POINT
ALT 48.97 KM	TILT ANG 1.34 DEG	SUN AZIM 90.99 DEG	LATITUDE 1.42 DEG
ALT RT 0.0307 KM/SEC	TILT AZIM 96.72 DEG	INCID ANG 69.49 DEG	LONGITUDE -41.86 DEG
LAT 1.43 DEG	SWING ANG 264.58 DEG	EMISS ANG 1.38 DEG	
LONG -41.90 DEG	N.DEV. 347.83 DEG	PHASE ANG 70.86 DEG	
		ALPHA -1.37 DEG	

MEDIUM RESOLUTION		HIGH RESOLUTION	
CORNER COORDINATE	SIDE LENGTH	CORNER COORDINATE	SIDE LENGTH
A LAT 1.96 DEG	AB 40.4 KM	A LAT 1.69 DEG	AB 17.6 KM
A LONG -41.16 DEG	BC 33.8 KM	A LONG -41.73 DEG	BC 4.4 KM
B LAT 0.65 DEG	CD 39.7 KM	B LAT 1.12 DEG	CD 17.6 KM
B LONG -41.44 DEG	DA 33.9 KM	B LONG -41.85 DEG	DA 4.4 KM
C LAT -0.50 DEG	TILT DISTANCE 1.9	C LAT 1.15 DEG	TILT DISTANCE 14.2
C LONG -42.53 DEG		D LAT 1.72 DEG	
D LAT 2.18 DEG		D LONG -41.87 DEG	
D LONG -42.26 DEG			

MISSION/
FRAME NO.
2208

YR.MO.DY 661125
HR.MI.SEC. 105024.01

TIME

S/C POSITION	S/C ORIENTATION	PHOTO ILLUMINATION	PRINCIPAL POINT
ALT 49.04 KM	TILT ANG 1.47 DEG	SUN AZIM 90.99 DEG	LATITUDE 1.39 DEG
ALT RT 0.0318 KM/SEC	TILT AZIM 97.16 DEG	INCID ANG 69.36 DEG	LONGITUDE -41.73 DEG
LAT 1.40 DEG	SWING ANG 264.99 DEG	EMISS ANG 1.51 DEG	
LONG -41.77 DEG	N.DEV. 347.82 DEG	PHASE ANG 70.86 DEG	
		ALPHA -1.50 DEG	

MEDIUM RESOLUTION		HIGH RESOLUTION	
CORNER COORDINATE	SIDE LENGTH	CORNER COORDINATE	SIDE LENGTH
A LAT 1.93 DEG	AB 40.5 KM	A LAT 1.66 DEG	AB 17.7 KM
A LONG -41.03 DEG	BC 33.9 KM	A LONG -41.60 DEG	BC 4.4 KM
B LAT 0.63 DEG	CD 39.7 KM	B LAT 1.09 DEG	CD 17.6 KM
B LONG -41.31 DEG	DA 34.0 KM	B LONG -41.72 DEG	DA 4.4 KM
C LAT 0.87 DEG	TILT DISTANCE 2.1	C LAT 1.13 DEG	TILT DISTANCE 15.6
C LONG -42.40 DEG		C LONG -41.86 DEG	
D LAT 2.16 DEG		D LAT 1.69 DEG	
D LONG -42.13 DEG		D LONG -41.74 DEG	

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

MISSION/
FRAME NO.

2209
YR.MO.DY 661125
HR.MI.SEC 105026.11

S/C POSITION
ALT 49.10 KM
ALT RT 0.0329 KM/SEC
LAT 1.37 DEG
LONG -41.65 DEG

S/C ORIENTATION
TILT ANG 1.60 DEG
TILT AZIM 97.53 DEG
SWING ANG 265.35 DEG
N.DEV. 347.82 DEG

PHOTO ILLUMINATION
SUN AZIM 90.98 DEG
INCID ANG 69.23 DEG
EMISS ANG 1.64 DEG
PHASE ANG 70.86 DEG
ALPHA -1.63 DEG

PRINCIPAL POINT
LATITUDE 1.37 DEG
LONGITUDE -41.60 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.90 DEG AB 40.5 KM
A LONG -40.89 DEG BC 33.9 KM
B LAT 0.80 DEG CD 39.7 KM
B LONG -41.18 DEG DA 34.0 KM
C LAT 0.85 DEG TILT DISTANCE 2.3
C LONG -42.27 DEG
D LAT 2.13 DEG
D LONG -42.00 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.64 DEG AB 17.7 KM
A LONG -41.47 DEG BC 4.4 KM
B LAT 1.07 DEG CD 17.6 KM
B LONG -41.59 DEG DA 4.4 KM
C LAT 1.10 DEG TILT DISTANCE 17.0
C LONG -41.73 DEG
D LAT 1.57 DEG
D LONG -41.61 DEG

MISSION/
FRAME NO.

2210
YR.MO.DY 661125
HR.MI.SEC 105026.21

S/C POSITION
ALT 49.17 KM
ALT RT 0.0340 KM/SEC
LAT 1.35 DEG
LONG -41.52 DEG

S/C ORIENTATION
TILT ANG 1.73 DEG
TILT AZIM 97.85 DEG
SWING ANG 265.67 DEG
N.DEV. 347.82 DEG

PHOTO ILLUMINATION
SUN AZIM 90.97 DEG
INCID ANG 69.10 DEG
EMISS ANG 1.78 DEG
PHASE ANG 70.86 DEG
ALPHA -1.76 DEG

PRINCIPAL POINT
LATITUDE 1.34 DEG
LONGITUDE -41.47 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.88 DEG AB 40.6 KM
A LONG -40.76 DEG BC 34.0 KM
B LAT 0.57 DEG CD 39.8 KM
B LONG -41.05 DEG DA 34.1 KM
C LAT 0.82 DEG TILT DISTANCE 2.4
C LONG -42.14 DEG
D LAT 2.10 DEG
D LONG -41.87 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 1.61 DEG AB 17.7 KM
A LONG -41.34 DEG BC 4.4 KM
B LAT 1.04 DEG CD 17.7 KM
B LONG -41.46 DEG DA 4.5 KM
C LAT 1.07 DEG TILT DISTANCE 18.3
C LONG -41.60 DEG
D LAT 1.64 DEG
D LONG -41.48 DEG

LUNAR ORBITAL PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.

2211 YR.MO.DY 657125 TIME S/C POSITION S/C ORIENTATION PHOTO ILLUMINATION PRINCIPAL POINT
 175730.31 ALT 49.25 KM TILT ANG 1.96 DEG SUN AZIM 90.97 DEG LATITUDE 1.31 DEG
 ALT RT 0.3350 KM/SEC TILT AZIM 98.12 DEG INCID ANG 58.96 DEG LONGITUDE -41.34 DEG
 LAT 0.52 DEG SWING ANG 265.94 DEG EMISS ANG 1.91 DEG
 LONG -41.39 DEG N.DEV. 347.82 DEG PHASE ANG 70.86 DEG ALPHA -1.89 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 1.85 DEG AB 43.7 KM
 A LONG -40.63 DEG BC 39.3 KM
 B LAT 0.54 DEG CD 59.8 KM
 B LONG -40.92 DEG DA 34.2 KM
 C LAT 0.79 DEG TILT DISTANCE
 C LONG -42.01 DEG 2.5
 D LAT 2.08 DEG
 D LONG -41.74 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 1.58 DEG AB 17.7 KM
 A LONG -41.21 DEG BC 4.5 KM
 B LAT 1.01 DEG CD 17.7 KM
 B LONG -41.33 DEG DA 4.5 KM
 C LAT 1.34 DEG TILT DISTANCE
 C LONG -41.47 DEG 19.7
 D LAT 1.61 DEG
 D LONG -41.35 DEG

MISSION/
FRAME NO.

2212 YR.MO.DY 651125 TIME S/C POSITION S/C ORIENTATION PHOTO ILLUMINATION PRINCIPAL POINT
 105022.41 ALT 49.32 KM TILT ANG 1.99 DEG SUN AZIM 90.96 DEG LATITUDE 1.29 DEG
 ALT RT 0.9361 KM/SEC TILT AZIM 99.36 DEG INCID ANG 68.83 DEG LONGITUDE -41.31 DEG
 LAT 1.29 DEG SWING ANG 266.17 DEG EMISS ANG 2.04 DEG
 LONG -41.27 DEG N.DEV. 347.82 DEG PHASE ANG 70.86 DEG ALPHA -2.03 DEG

MEDIUM RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 1.83 DEG AB 40.8 KM
 A LONG -40.50 DEG BC 34.1 KM
 B LAT 0.51 DEG CD 39.8 KM
 B LONG -40.79 DEG DA 34.2 KM
 C LAT 0.75 DEG TILT DISTANCE
 C LONG -41.88 DEG 3.8
 D LAT 2.05 DEG
 D LONG -41.51 DEG

HIGH RESOLUTION
 CORNER COORDINATE SIDE LENGTH
 A LAT 1.56 DEG AB 17.8 KM
 A LONG -41.08 DEG BC 4.5 KM
 B LAT 0.98 DEG CD 17.7 KM
 B LONG -41.20 DEG DA 4.5 KM
 C LAT 1.02 DEG TILT DISTANCE
 C LONG -41.34 DEG 21.1
 D LAT 1.59 DEG
 D LONG -41.22 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

FULL LIST ORDERED BY MISSION AND FRAME NUMBER 3A/10/71 PAGE 2-3

MISSION/
FRAME NO.

2213 YR.MO.DY
HR.MI.SEC

TIME
661125
1416 9.11

S/C POSITION
ALT 59.86 KM
LAT -0.0551 KM/SEC
LONG 3.30 DEG
-53.75 DEG

S/C ORIENTATION
TILT ANG 68.49 DEG
TILT AZIM 11.74 DEG
SWING ANG 179.19 DEG
N.DEV. 323.16 DEG

PHOTO ILLUMINATION
SUN AZIM 92.03 DEG
INCID ANG 78.82 DEG
EMISS ANG 73.25 DEG
PHASE ANG 95.97 DEG
ALPHA -38.71 DEG

PRINCIPAL POINT
LATITUDE 7.96 DEG
LONGITUDE -52.77 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 14.10 DEG AB 279.1 KM
A LONG -46.57 DEG BC 48.0 KM
B LAT 4.89 DEG CD 79.6 KM
B LONG -52.61 DEG DA 238.8 KM
C LAT 5.24 DEG TILT DISTANCE
C LONG -54.17 DEG 03.8
D LAT 15.77 DEG
D LONG -55.45 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 14.52 DEG AB 255.4 KM
A LONG -50.77 DEG BC 9.5 KM
B LAT 5.04 DEG CD 131.1 KM
B LONG -53.03 DEG DA 75.0 KM
C LAT 6.11 DEG TILT DISTANCE
C LONG -53.32 DEG 46.6
D LAT 15.15 DEG
D LONG -51.77 DEG

MISSION/
FRAME NO.

2214 YR.MO.DY
HR.MI.SEC

TIME
661125
174514.91

S/C POSITION
ALT 49.59 KM
LAT -0.0380 KM/SEC
LONG -2.87 DEG
-53.62 DEG

S/C ORIENTATION
TILT ANG 0.56 DEG
TILT AZIM 140.63 DEG
SWING ANG 308.66 DEG
N.DEV. 348.03 DEG

PHOTO ILLUMINATION
SUN AZIM 91.07 DEG
INCID ANG 77.76 DEG
EMISS ANG 0.58 DEG
PHASE ANG 78.13 DEG
ALPHA -0.38 DEG

PRINCIPAL POINT
LATITUDE 2.86 DEG
LONGITUDE -53.51 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.40 DEG AB 40.5 KM
A LONG -52.90 DEG BC 34.3 KM
B LAT 2.08 DEG CD 40.4 KM
B LONG -53.18 DEG DA 34.2 KM
C LAT 2.32 DEG TILT DISTANCE
C LONG -54.29 DEG 0.7
D LAT 3.63 DEG
D LONG -54.01 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.13 DEG AB 17.8 KM
A LONG -53.47 DEG BC 4.5 KM
B LAT 2.55 DEG CD 17.8 KM
B LONG -53.59 DEG DA 4.5 KM
C LAT 2.59 DEG TILT DISTANCE
C LONG -53.74 DEG 6.0
D LAT 3.16 DEG
D LONG -53.62 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
2215

YR.NO.DY 661125
FR.MI.SEC 211253.41

TIME

S/C POSITION
ALT 52.68 KM
ALT RT -0.0656 KM/SEC
LAT 3.49 DEG
LONG -58.73 DEG

S/C ORIENTATION
TILT ANG 62.76 DEG
TILT AZIM 11.99 DEG
SWING ANG 179.39 DEG
N.DEV. 331.05 DEG

PHOTO ILLUMINATION
SUN AZIM 91.64 DEG
INCID ANG 80.47 DEG
EMISS ANG 66.35 DEG
PHASE ANG 95.57 DEG
ALPHA -27.13 DEG

PRINCIPAL POINT
LATITUDE 7.89 DEG
LONGITUDE -57.98 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 13.35 DEG AB 144.6 KM
A LONG -56.89 DEG BC 7.9 KM
B LAT 5.74 DEG CD 145.1 KM
B LONG -58.13 DEG DA 20.1 KM
C LAT 5.80 DEG TILT DISTANCE 83.8
C LONG -58.38 DEG
D LAT 19.55 DEG
D LONG -57.53 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 11.96 DEG AB 230.1 KM
A LONG -53.42 DEG BC 45.0 KM
B LAT 4.80 DEG CD 74.5 KM
B LONG -57.70 DEG DA 218.2 KM
C LAT 5.14 DEG TILT DISTANCE 55.8
C LONG -59.15 DEG
D LAT 14.94 DEG
D LONG -60.17 DEG

MISSION/
FRAME NO.
3005

YR.NO.DY 670215
FR.MI.SEC 160040.51

TIME

S/C POSITION
ALT 59.90 KM
ALT RT -0.0697 KM/SEC
LAT 3.09 DEG
LONG 34.27 DEG

S/C ORIENTATION
TILT ANG 1.67 DEG
TILT AZIM 283.46 DEG
SWING ANG 82.78 DEG
N.DEV. 339.32 DEG

PHOTO ILLUMINATION
SUN AZIM 92.28 DEG
INCID ANG 76.73 DEG
EMISS ANG 1.73 DEG
PHASE ANG 75.03 DEG
ALPHA 1.59 DEG

PRINCIPAL POINT
LATITUDE 3.10 DEG
LONGITUDE 34.21 DEG

HIGH RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.40 DEG AB 21.5 KM
A LONG 34.42 DEG BC 5.4 KM
B LAT 2.74 DEG CD 21.6 KM
B LONG 34.17 DEG DA 5.4 KM
C LAT 2.80 DEG TILT DISTANCE 17.7
C LONG 34.00 DEG
D LAT 3.47 DEG
D LONG 34.26 DEG

MEDIUM RESOLUTION
CORNER COORDINATE SIDE LENGTH
A LAT 3.61 DEG AB 48.5 KM
A LONG 35.14 DEG BC 41.6 KM
B LAT 2.11 DEG CD 49.5 KM
B LONG 34.57 DEG DA 41.5 KM
C LAT 2.58 DEG TILT DISTANCE 2.4
C LONG 33.28 DEG
D LAT 4.11 DEG
D LONG 33.26 DEG

LUNAR ORBITER PHOTOGRAPHIC SUPPORTING DATA

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MISSION/
FRAME NO.
300C

YR. MO. DY
HR. MI. SEC
100043.11

S/C POSITION
ALT 59.72 KM
ALT RT -0.0684 KM/SEC
LAT 3.03 DEG
LONG 34.42. DEG

S/C ORIENTATION
TILT ANG 1.51 DEG
TILT AZIM 282.71 DEG
SWING ANG 82.01 DEG
N.DEV. 339.31 DEG

PHOTO ILLUMINATION
SUN AZIM 92.27 DEG
INCID ANG 76.57 DEG
EMISS ANG 1.56 DEG
PHASE ANG 75.03 DEG
ALPHA 1.54 DEG

PRINCIPAL POINT
LATITUDE 3.04 DEG
LONGITUDE 34.37 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.55 DEG AB 48.4 KM
A LONG 35.29 DEG BC 41.4 KM
B LAT 2.35 DEG CD 49.4 KM
B LONG 34.72 DEG DA 41.4 KM
C LAT 2.52 DEG TILT DISTANCE 2.2
C LONG 33.44 DEG
D LAT 4.05 DEG
D LONG 34.01 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.34 DEG AB 21.4 KM
A LONG 34.58 DEG BC 5.4 KM
B LAT 2.68 DEG CD 21.5 KM
B LONG 34.33 DEG DA 5.4 KM
C LAT 2.74 DEG TILT DISTANCE 16.1
C LONG 34.16 DEG.
D LAT 3.41 DEG
D LONG 34.41 DEG

MISSION/
FRAME NO.
300T

YR. MO. DY
HR. MI. SEC
100045.61

S/C POSITION
ALT 59.55 KM
ALT RT -0.0671 KM/SEC
LAT 2.98 DEG
LONG 34.56 DEG

S/C ORIENTATION
TILT ANG 1.36 DEG
TILT AZIM 281.82 DEG
SWING ANG 81.12 DEG
N.DEV. 339.30 DEG

PHOTO ILLUMINATION
SUN AZIM 92.27 DEG
INCID ANG 76.42 DEG
EMISS ANG 1.41 DEG
PHASE ANG 75.03 DEG
ALPHA 1.39 DEG

PRINCIPAL POINT
LATITUDE 2.99 DEG
LONGITUDE 34.51 DEG

MEDIUM RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.49 DEG AB 48.3 KM
A LONG 35.43 DEG BC 41.3 KM
B LAT 2.00 DEG CD 49.2 KM
B LONG 34.87 DEG DA 41.2 KM
C LAT 2.47 DEG TILT DISTANCE 2.0
C LONG 33.59 DEG
D LAT 3.59 DEG
D LONG 34.16 DEG

HIGH RESOLUTION

CORNER COORDINATE SIDE LENGTH
A LAT 3.29 DEG AB 21.4 KM
A LONG 34.72 DEG BC 5.4 KM
B LAT 2.62 DEG CD 21.4 KM
B LONG 34.47 DEG DA 5.4 KM
C LAT 2.69 DEG TILT DISTANCE 14.4
C LONG 34.31 DEG
D LAT 3.35 DEG
D LONG 34.56 DEG