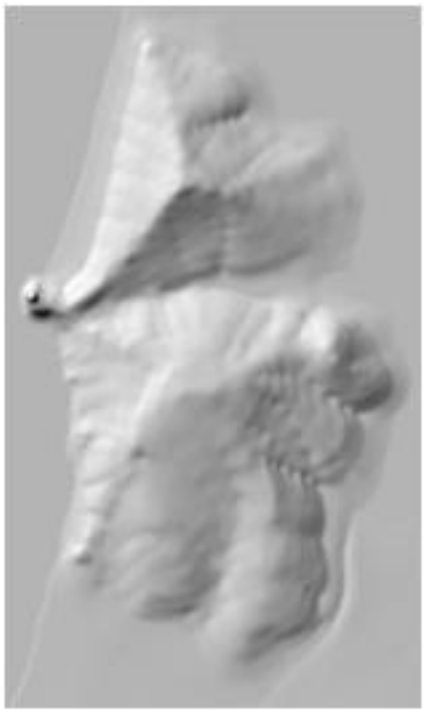

The focal length in millimeters is: 50

The circle of confusion is: 0.005

The distance from the aircraft to the ground (Near Depth of Field) in meters is: 100

The depth of field in meters is: 124.8924906

The far deph of field in meters is: 224.8924906

When the subject distance is large in comparison with the lens focal length, the required f-number is: 1.38835772447

DEFINITIONS:

F-Number: The F-Number is the ratio of the len's focal length to the diameter of the entrance pupil. The depth of field increase with the F-Number. An F-Number of f/1.8 will produce a shallow depth of field. An F-Number of f/22, will produce a large depth of field.

Focal Length: The focal length of the lens is the distance between the lens and the sensor. A 50mm lens is generally called a standard or normal lens. The 50mm lens generally mimicks what the human eyes sees. As the focal length decreases from 50mm, the subject will appear increasingly further away. As the focal length increases from 50mm, the subject will appear increasingly closer.

Depth of Field: The depth of field is the distance between the nearest oject that is in focus (DOF-Near), and the farthest object that is in focus (DOF-Far). Teh depth of field is determined by the F-Number.

Circle of Confusion: The circle of confusion (CoC) is used in determining the depth of field of a shot. The depth of field in a shot is the area in which the CoC is less than the resolution of the human eye.

Citation: en.wikipedia.org/wiki/Circle_of_Confusion, en.wikipedia.org/wiki/Depth_of_Field, en.wikipedia.org/wiki/F-number