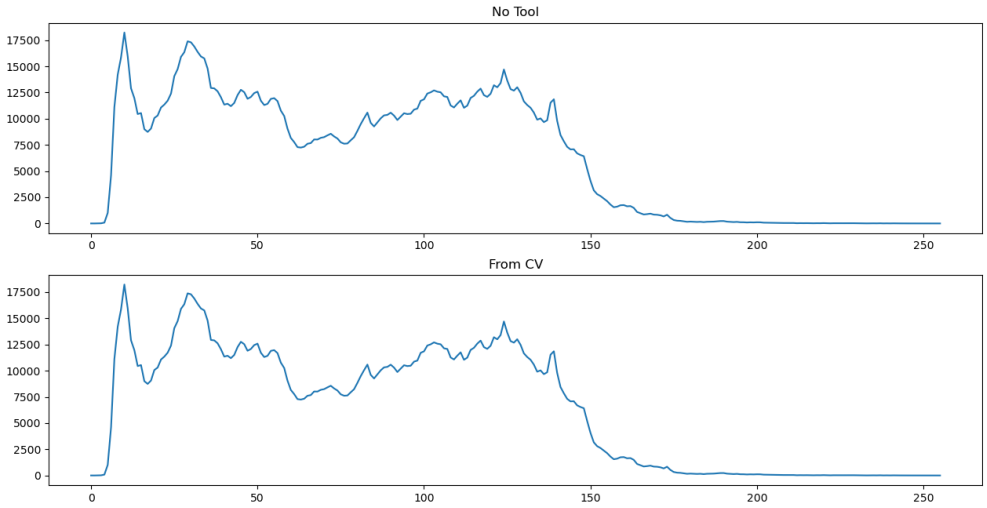
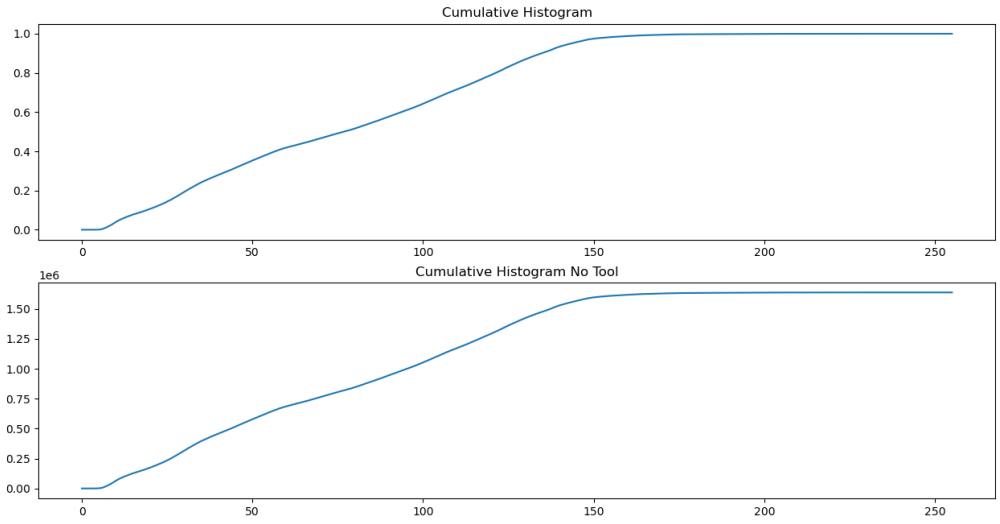
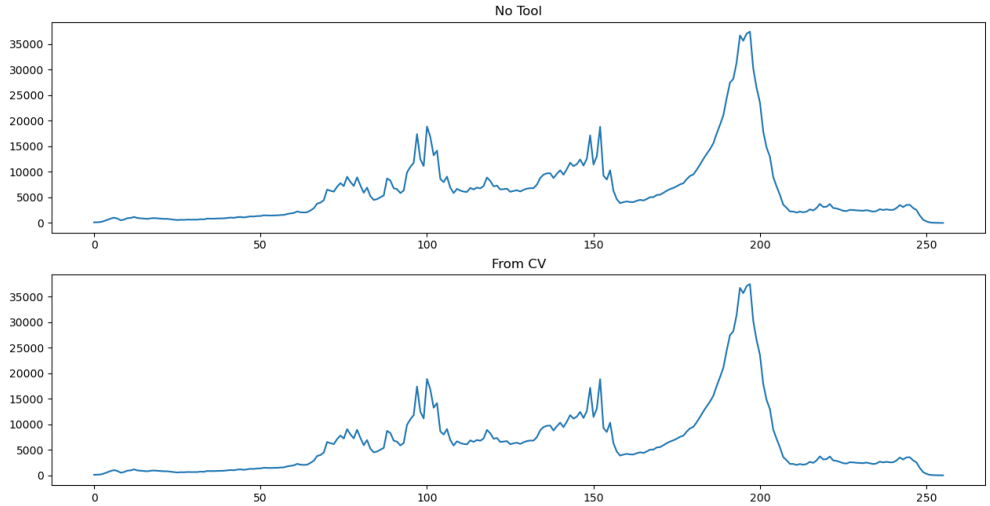
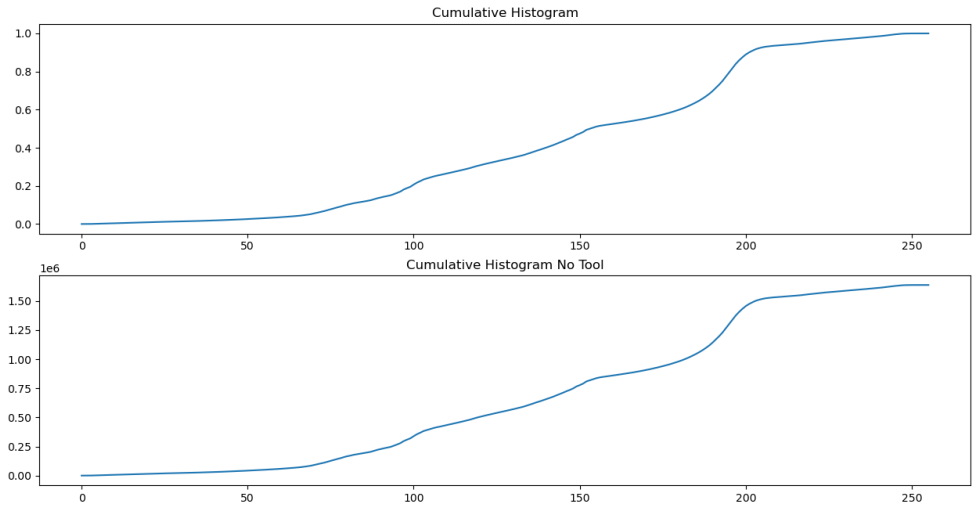
```python
import cv2
import numpy as np
from matplotlib import pyplot as plt

def calculate_cdf(histogram):
    cdf = histogram.cumsum()
    normalized_cdf = cdf / float(cdf.max())
    return normalized_cdf

min_intensity = 0
max_intensity = 256

img = cv2.imread('zsang.jpg',0)

list_img = []
intensity = [0 for i in range(max_intensity)]
cumulative = [0 for i in range(max_intensity)]

for row,index in enumerate(img):
    list_img = np.concatenate((list_img,index))

for i in list_img:
    intensity[int(i)] +=1

for i in range(max_intensity):
    if(i == 0):
        cumulative[i] = intensity[i]
    else:
        cumulative[i] = intensity[i] + cumulative[i-1]

histr = cv2.calcHist([img],[0],None,[max_intensity],[min_intensity,max_intensity])
cumulat = calculate_cdf(histr)

plt.figure("Histogram")
plt.subplot(2,1,1)
plt.title("No Tool")
plt.plot(intensity)
plt.subplot(2,1,2)
plt.title("From CV")
plt.plot(histr)
plt.figure("Cumulative")
plt.subplot(2,1,1)
plt.title("Cumulative Histogram")
plt.plot(cumulat)
plt.subplot(2,1,2)
plt.title("Cumulative Histogram No Tool")
plt.plot(cumulative)
plt.show()
```


No Tool
17500
15000
12500
10000
7500
5000
2500
0
0
50
100
150
200
250
From CV
17500
15000
12500
10000
7500
5000
2500
0
0
50
100
150
200
250


Cumulative Histogram
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
250
Cumulative Histogram No Tool
1e6
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0
50
100
150
200
250


No Tool
35000
30000
25000
20000
15000
10000
5000
0
0
50
100
150
200
250

From CV
35000
30000
25000
20000
15000
10000
5000
0
0
50
100
150
200
250


Cumulative Histogram
1.0
0.8
0.6
0.4
0.2
0.0
0
50
100
150
200
250

Cumulative Histogram No Tool
1e6
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0
50
100
150
200
250