For a string s, $L(k)$ is the length of the longest substring of s which appears at least k times in s
Let us define $K(l)$ as the maximum occurences of any substring of s with length l
It is easy to see that $L(k)$ and $K(l)$ are decreasing functions and inverse each other.
So $\sum_{k \geqslant 1} L(k) = \sum_{l \geqslant 1} K(l)$ as illustrated by figures above for S_{20}