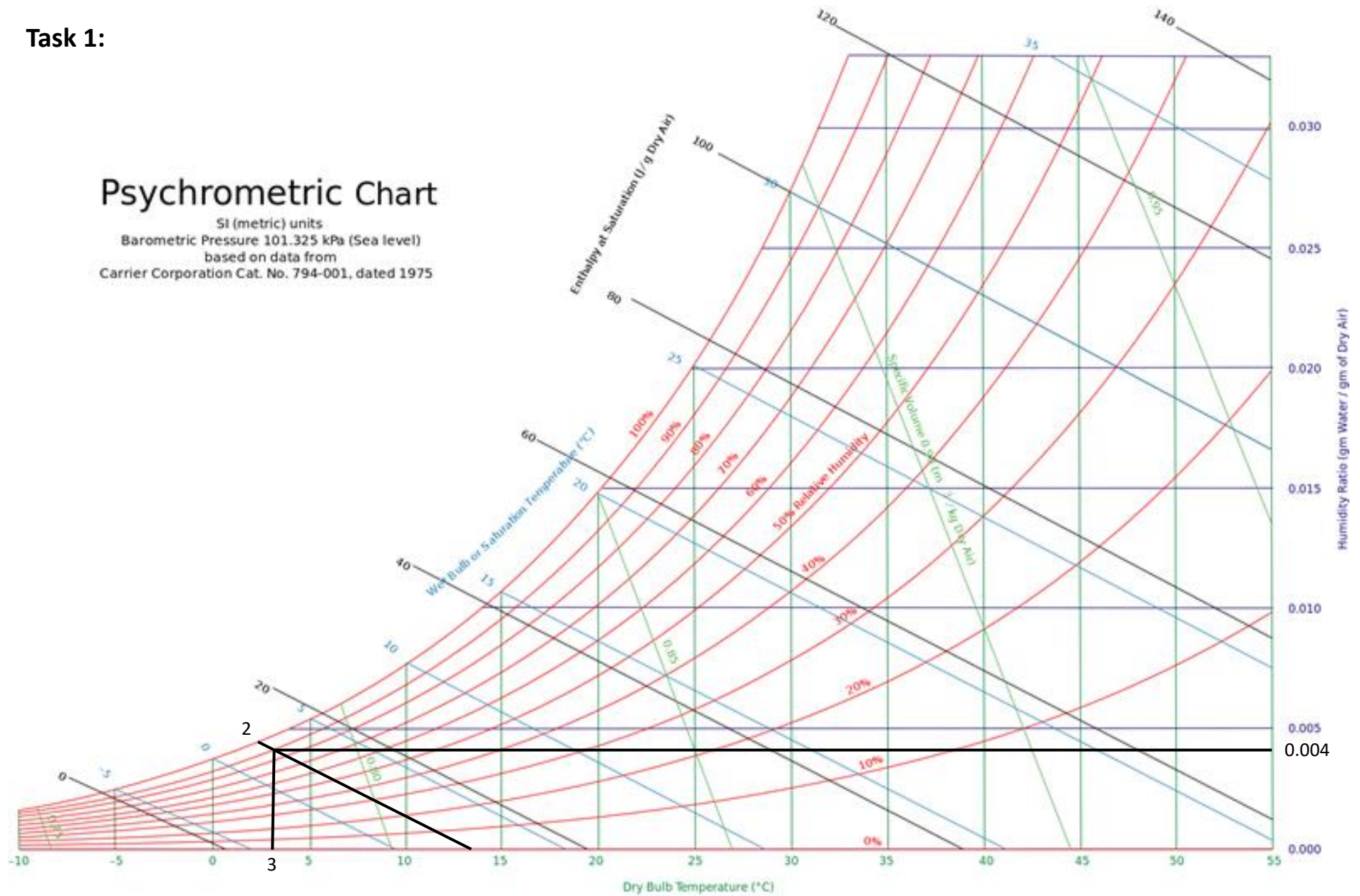


Task 1:

## Psychrometric Chart

SI (metric) units  
Barometric Pressure 101.325 kPa (Sea level)  
based on data from  
Carrier Corporation Cat. No. 794-001, dated 1975



**Il tempo oggi in Piacenza**  
*Martedì, 03 Dicembre 2019*

23:00

  
Sun

Temperatura effettiva	<b>3°C</b>
Temperatura percepita	<b>1°C</b>
Precipitazioni	<b>0 mm</b>
Umidità	<b>89 %</b>
Pressione atmosferica	<b>1028 hPa</b>

The relative humidity  $\phi=89\%$   
Atmospheric pressure  $P=102.8$  kPa  
Effective temperature  $T= 3^{\circ}\text{C}= 276$  K

From the psychrometric chart,  
We can find the absolute humidity  $\omega=0.004$   
The web-bulb temperature  $T_{wb}= 2^{\circ}\text{C}$

$\omega=0.622P_v/P_a=0.622P_v/(P-P_v)=0.004$   
 $P=102.8$  kPa  
So,  $P_v= 0.657$  kPa

$\phi=89\%= m_v/m_g$   
if the volume of Aula  $A= 800$  m<sup>3</sup>  
 $m_v=PV/R_{sp}T=0.657*800/(0.4615*276)=4.126$   
so,  $m_g=m_v/0.89=4.636$