

Projeto 3 – Análise Sombreamento e Ventilação De região da Móoca - São Paulo

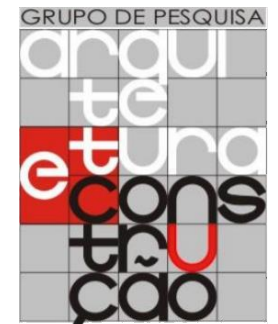
Arq. Samuel Bertrand Melo Nazareth

São Paulo, mar. 2019

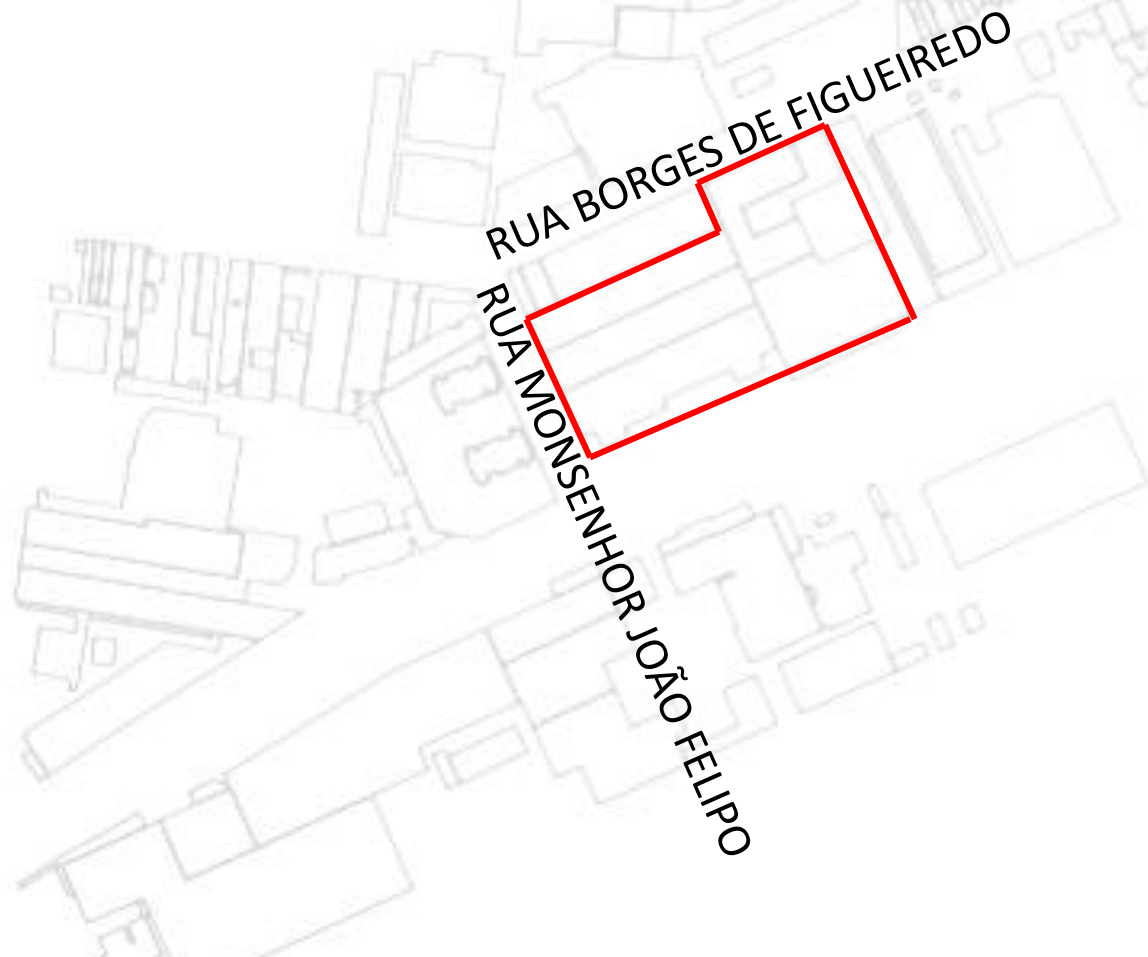
Material didático produzido para a matéria de Projeto 3.

Análise de sombreamento e ventilação de terreno proposto
para o projeto da matéria.

APOIO:



Projeto 3 – Análise Sombreamento e Ventilação De região da Mooca - São Paulo



Sombreamento (Rhinceros +
Grasshopper – Plung-in LADYBUG)

Ventilação (Autodesk FlowDesign)

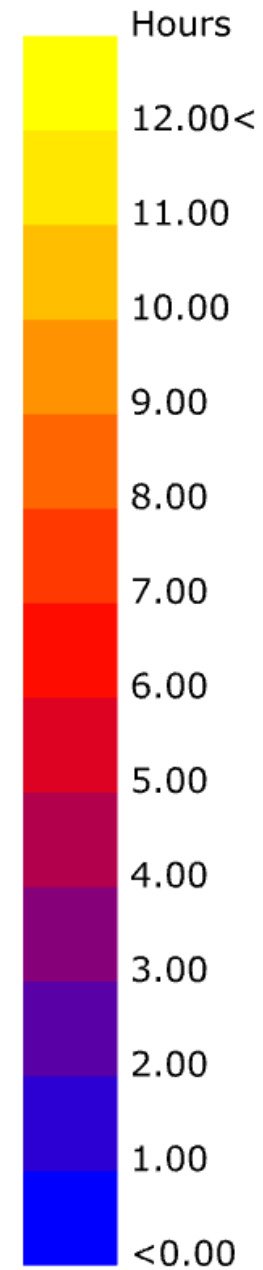
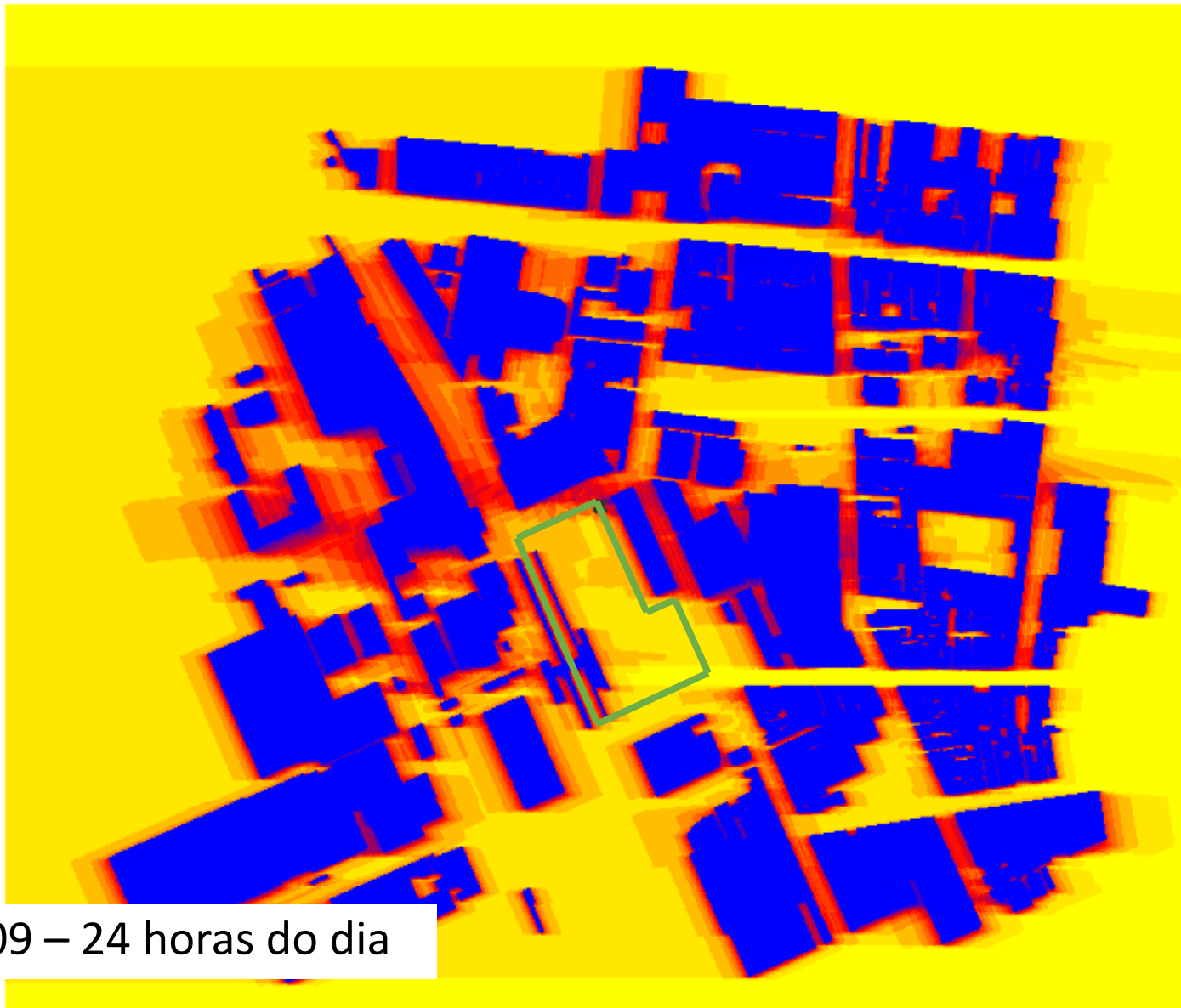
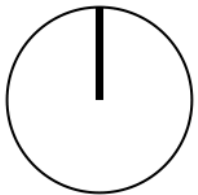


GOOGLE. Google Earth website.
<http://earth.google.com/> 2009. Acesso 17 mar.
2019



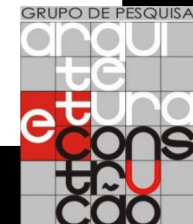
Google Earth
Image Landsat / Copernicus

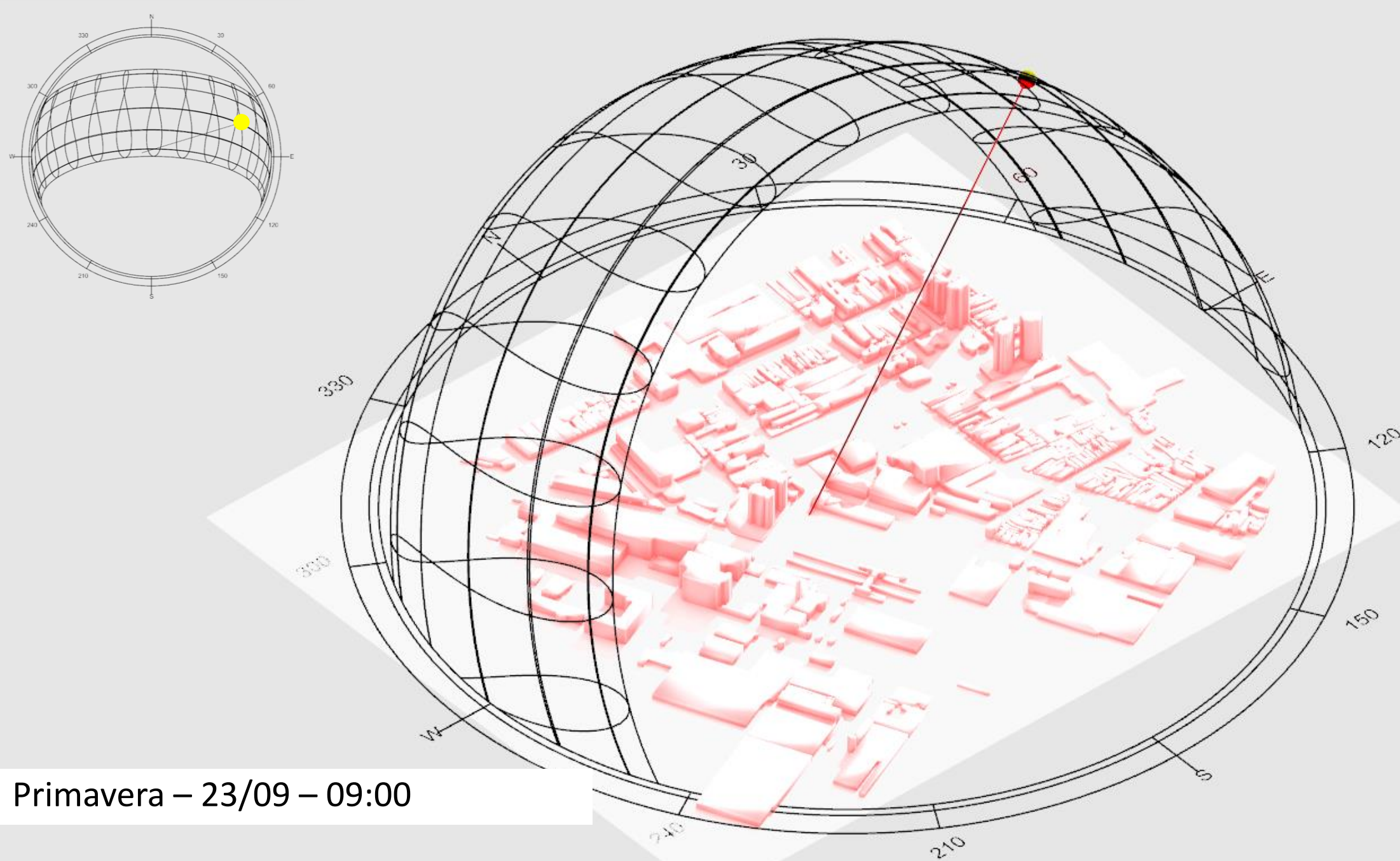
LOCALIZAÇÃO



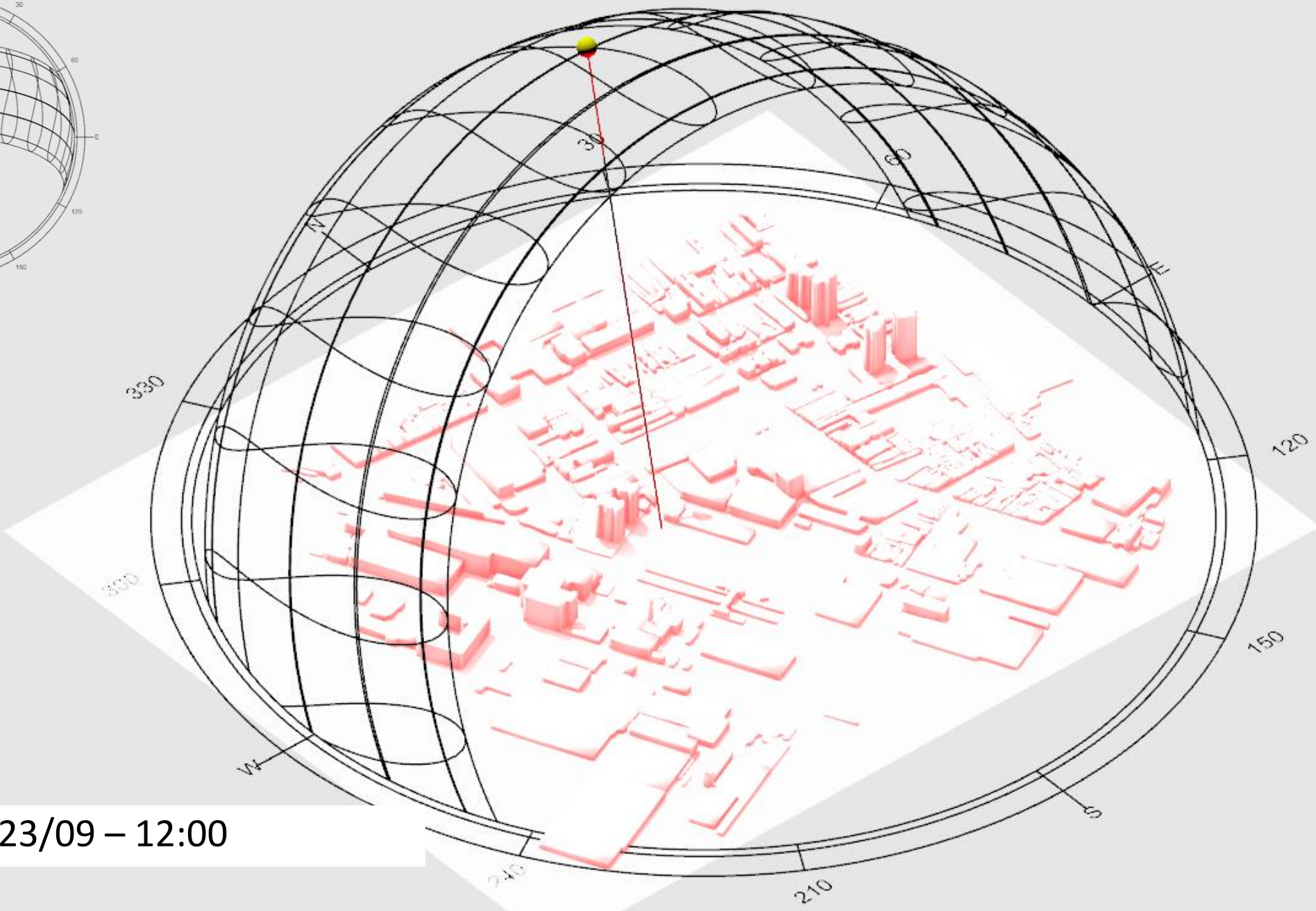
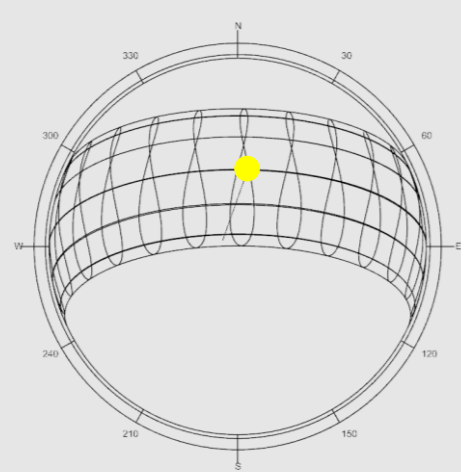
TEMPO DE SOMBRA – PLUG-IN
LADYBUG

Primavera – 23/09 – 24 horas do dia

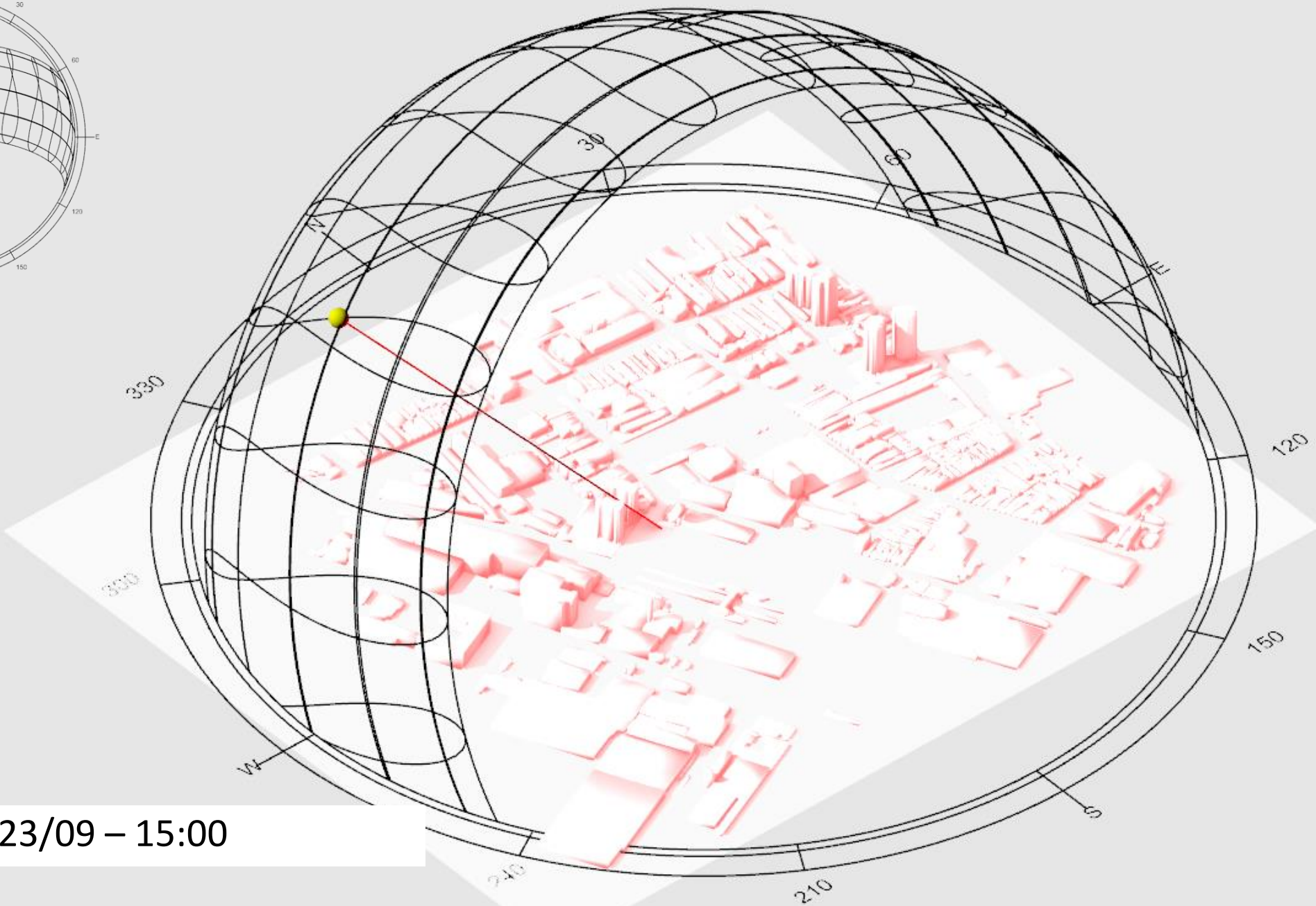
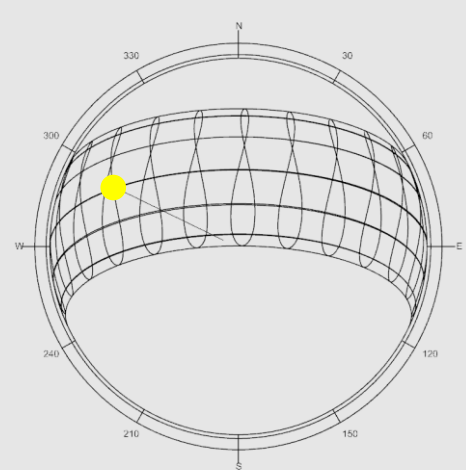




Primavera – 23/09 – 09:00

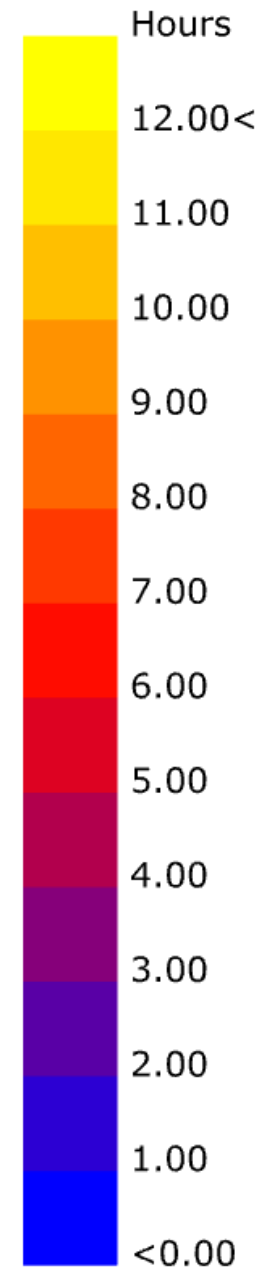
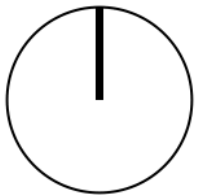


Primavera – 23/09 – 12:00



Primavera – 23/09 – 15:00

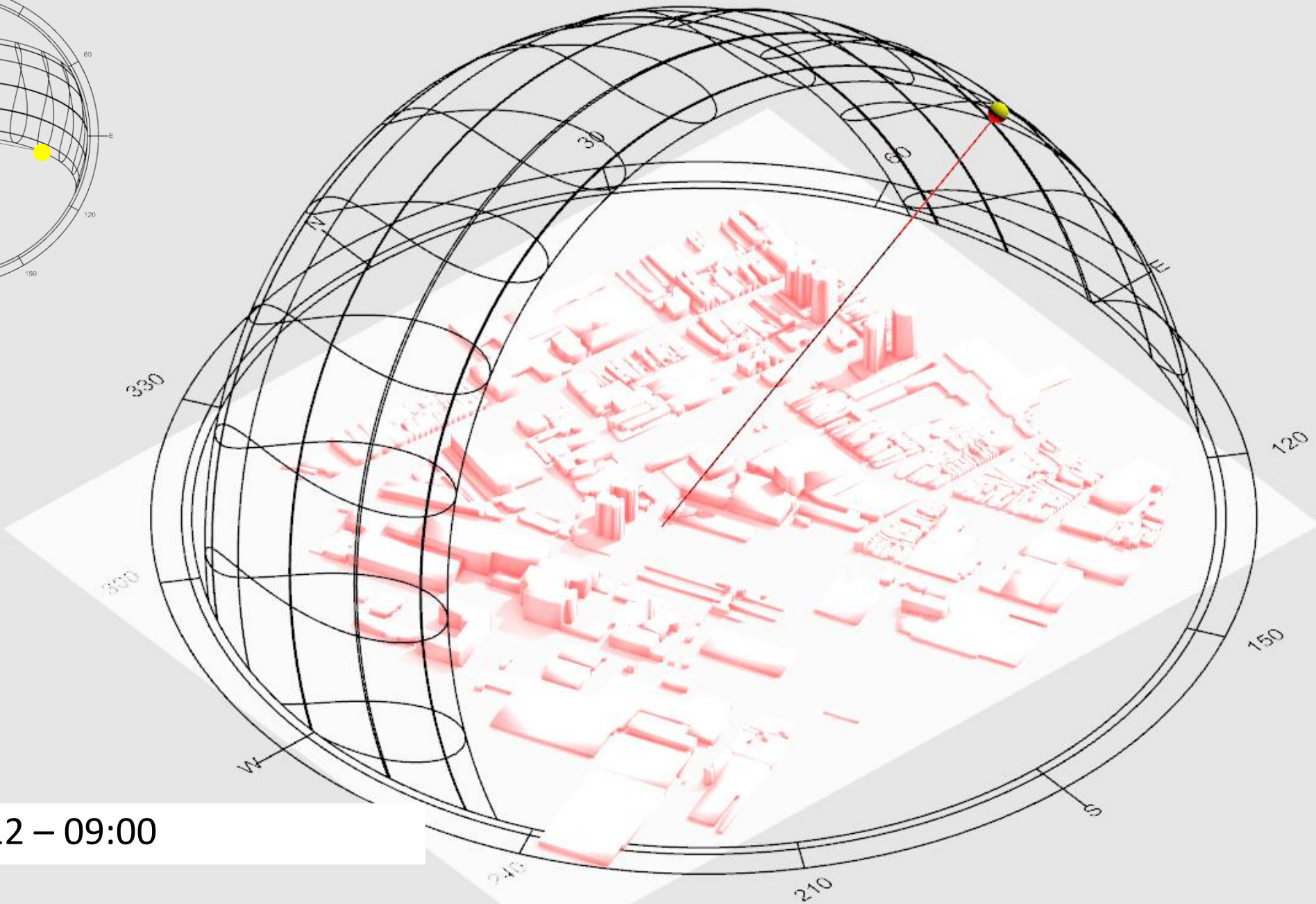
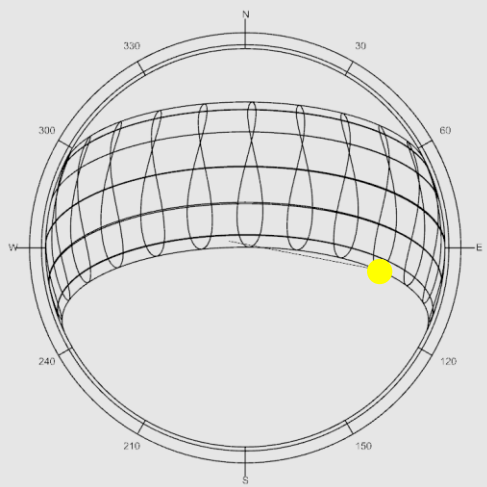
SOMBREAMENTO – PLUG-IN LADYBUG



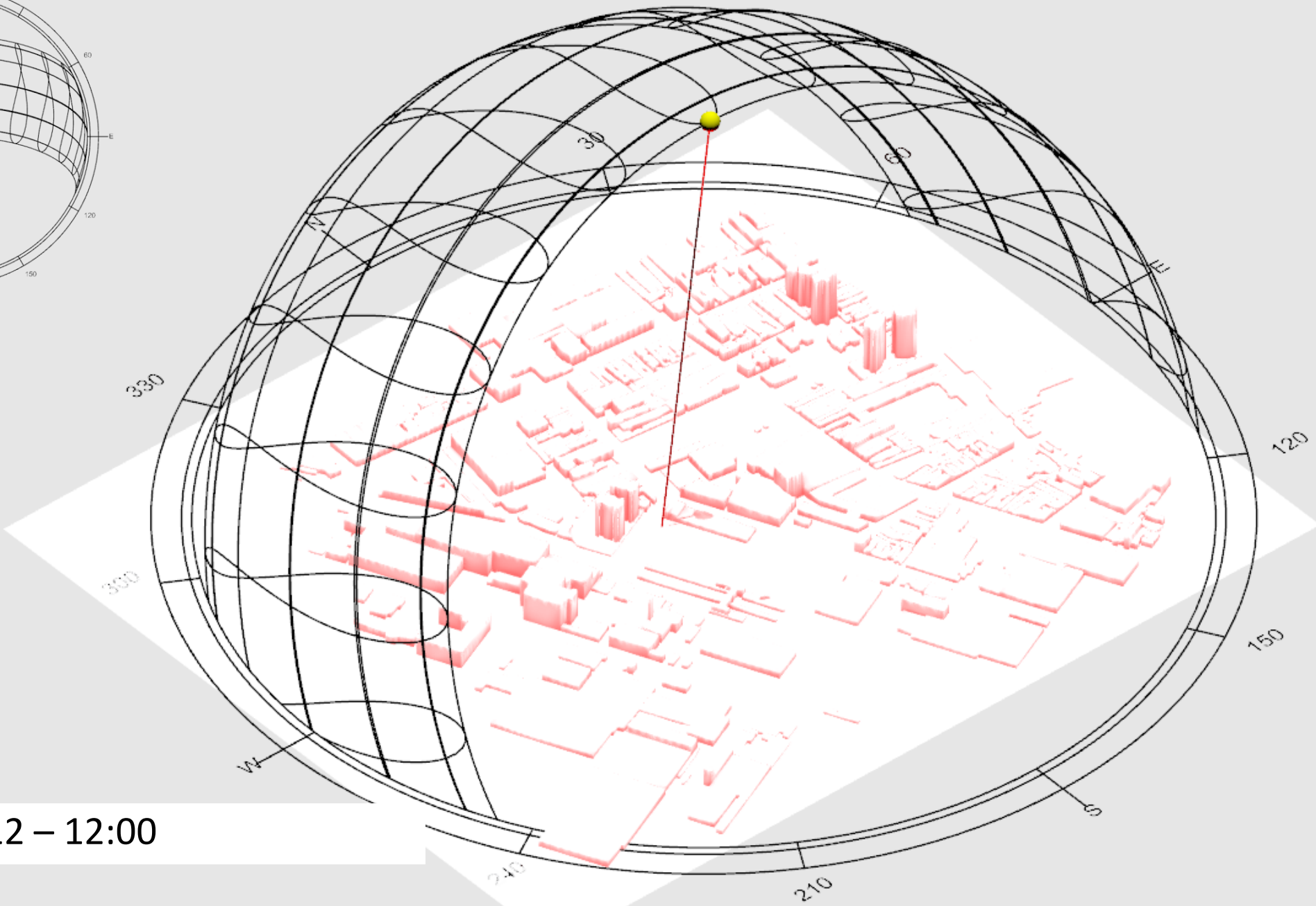
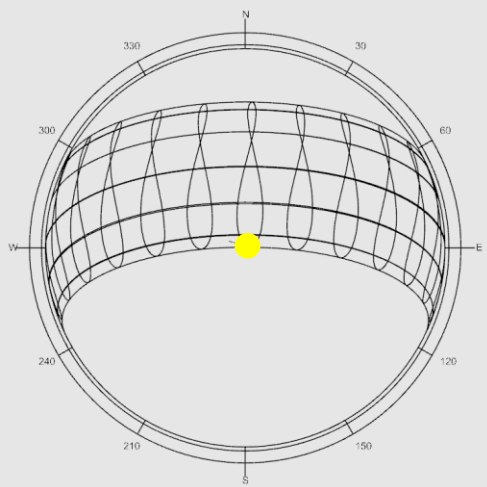
TEMPO DE SOMBRA – PLUG-IN
LADYBUG

Verão – 21/12 – 24 horas do dia

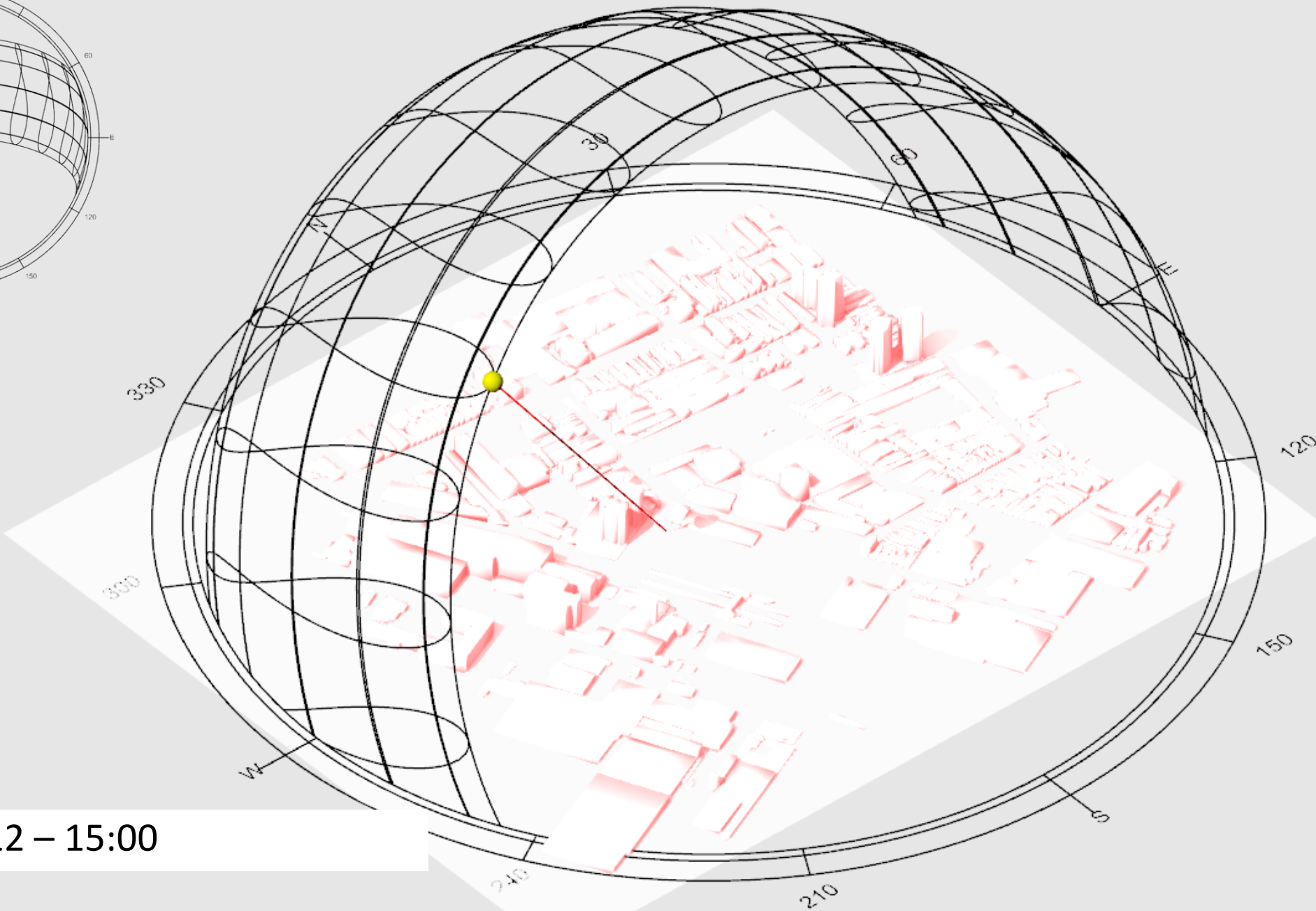
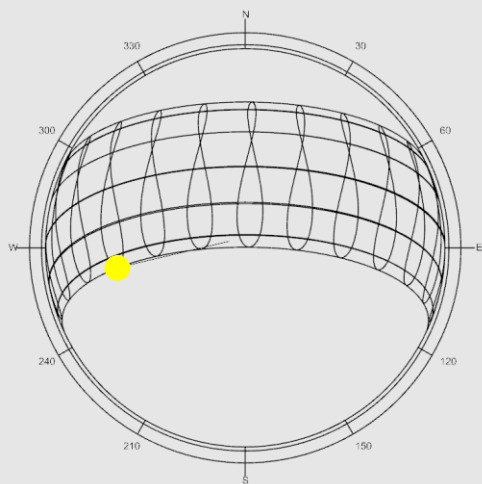




Verão – 21/12 – 09:00

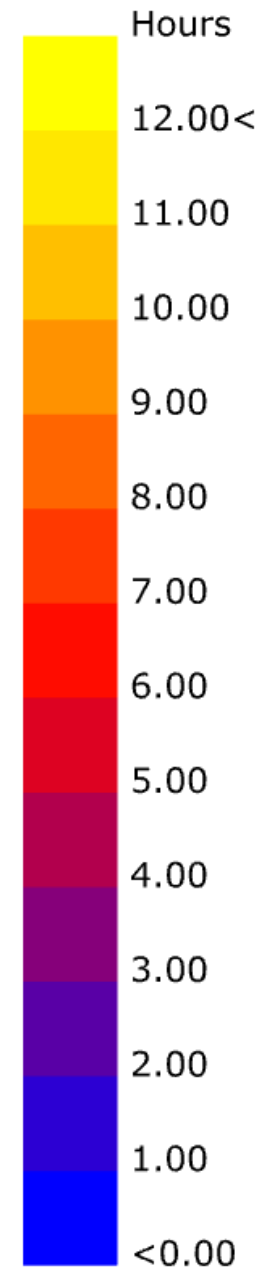
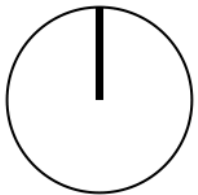


Verão – 21/12 – 12:00



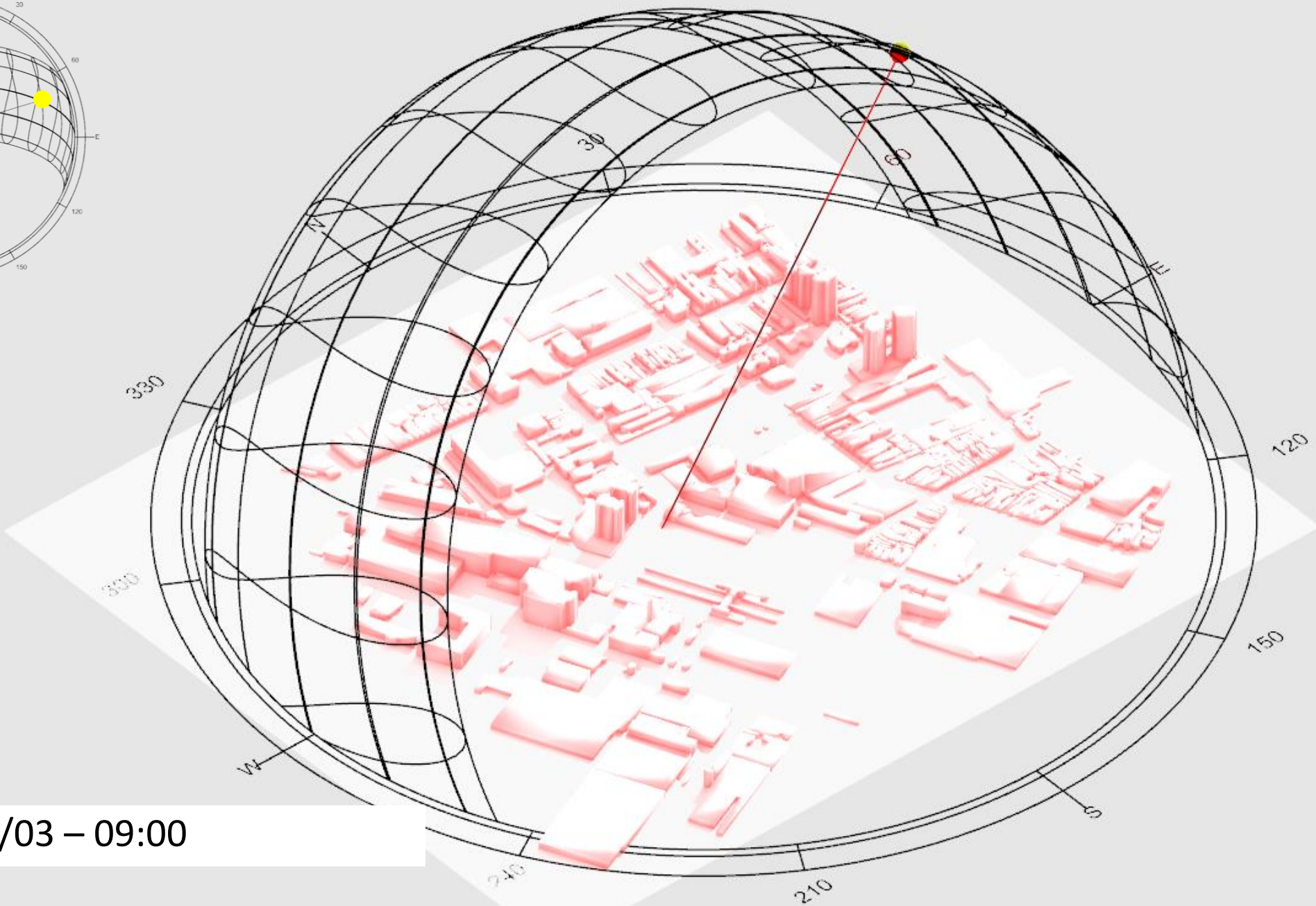
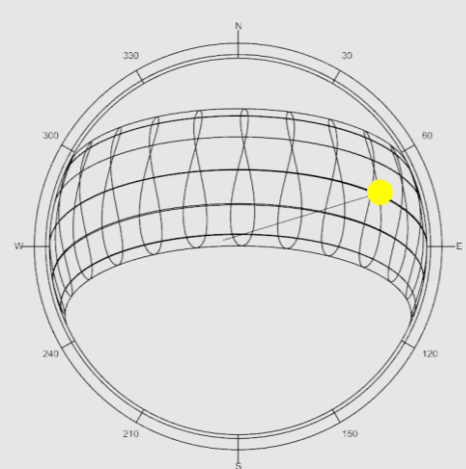
Verão – 21/12 – 15:00





TEMPO DE SOMBRA – PLUG-IN
LADYBUG

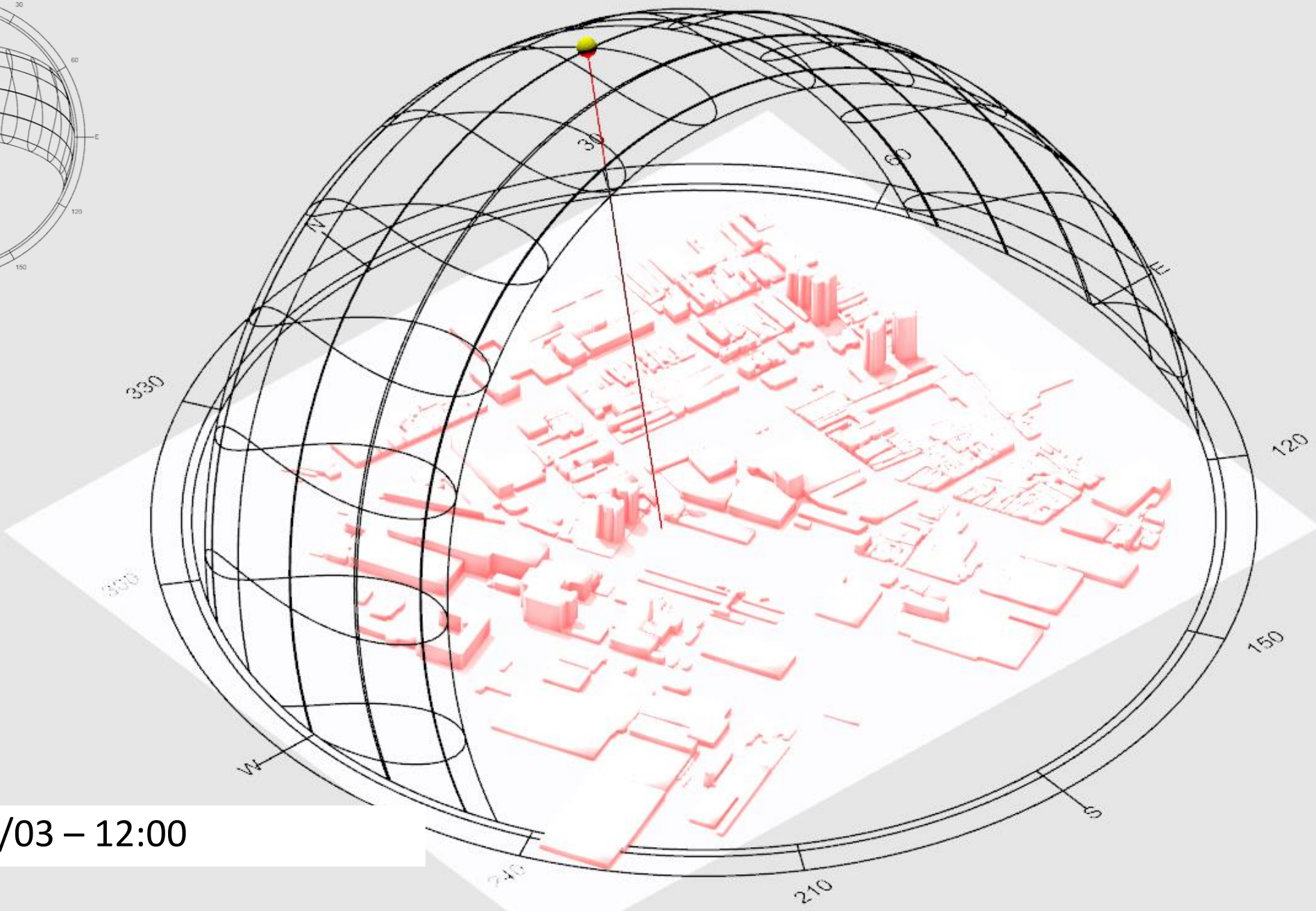
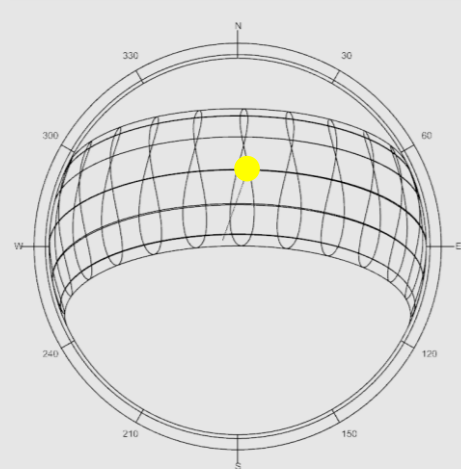
Outono – 21/03 – 24 horas do dia



Outono – 21/03 – 09:00

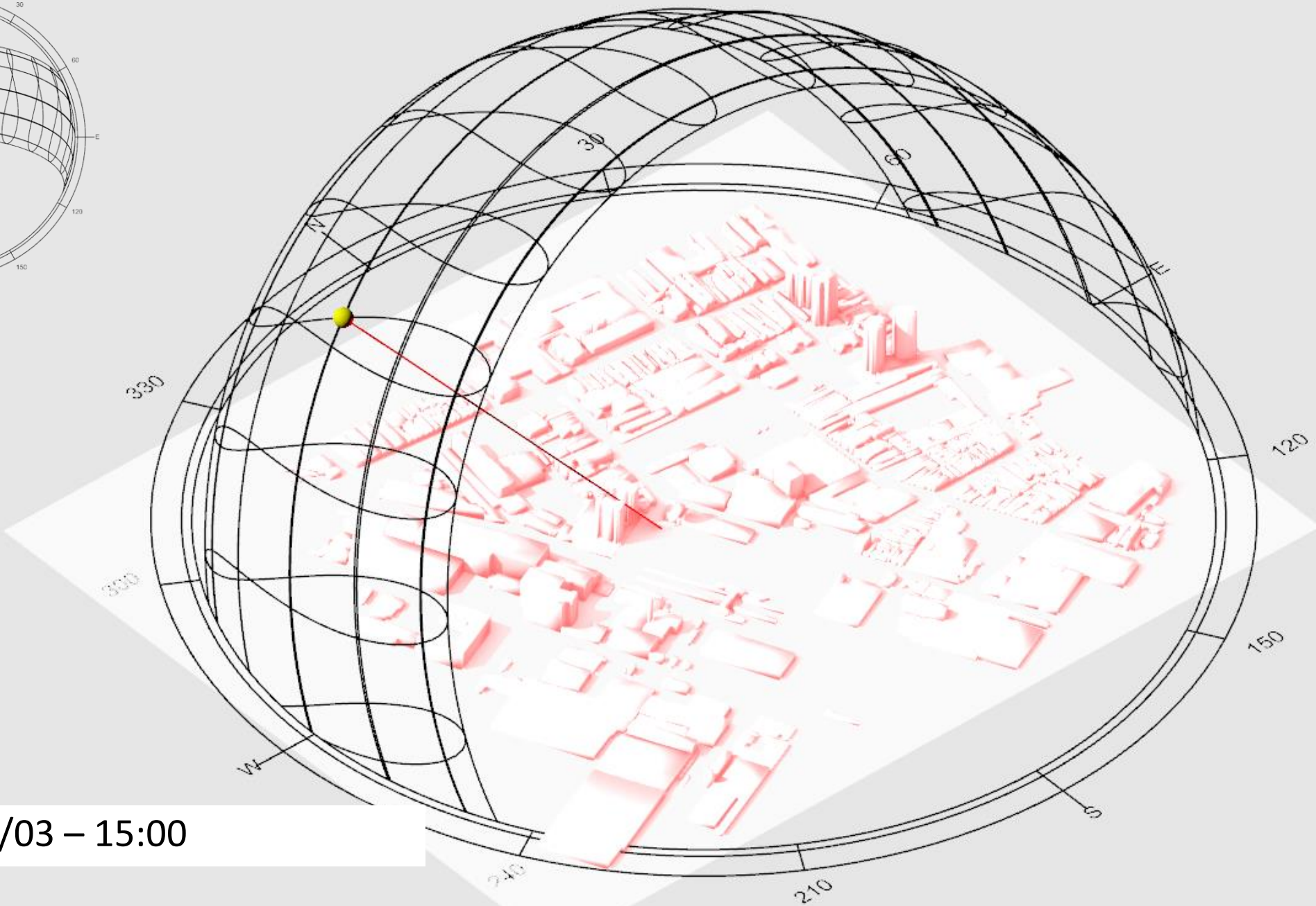
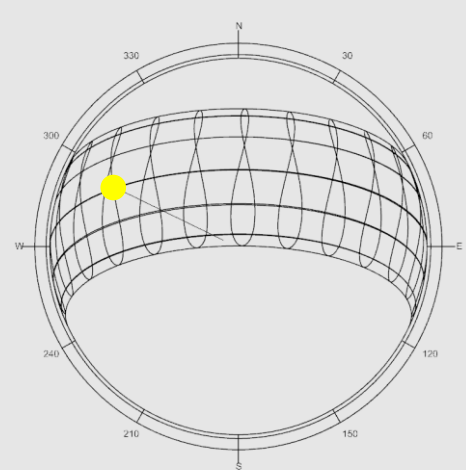
SOMBREAMENTO – PLUG-IN LADYBUG





Outono – 21/03 – 12:00

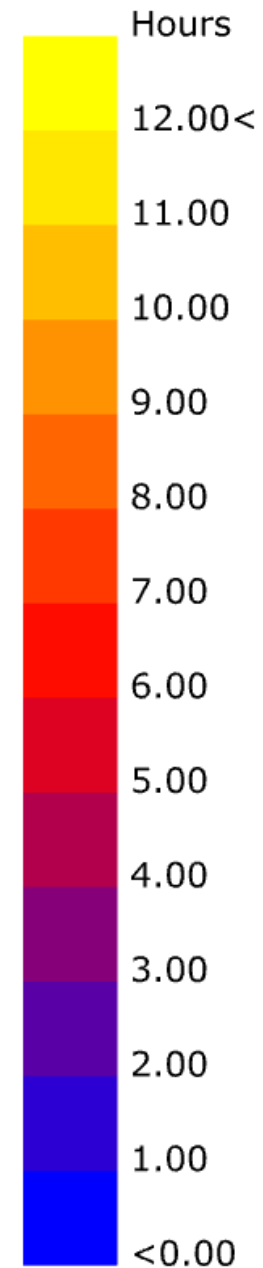
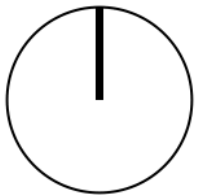
SOMBREAMENTO – PLUG-IN LADYBUG



Outono – 21/03 – 15:00

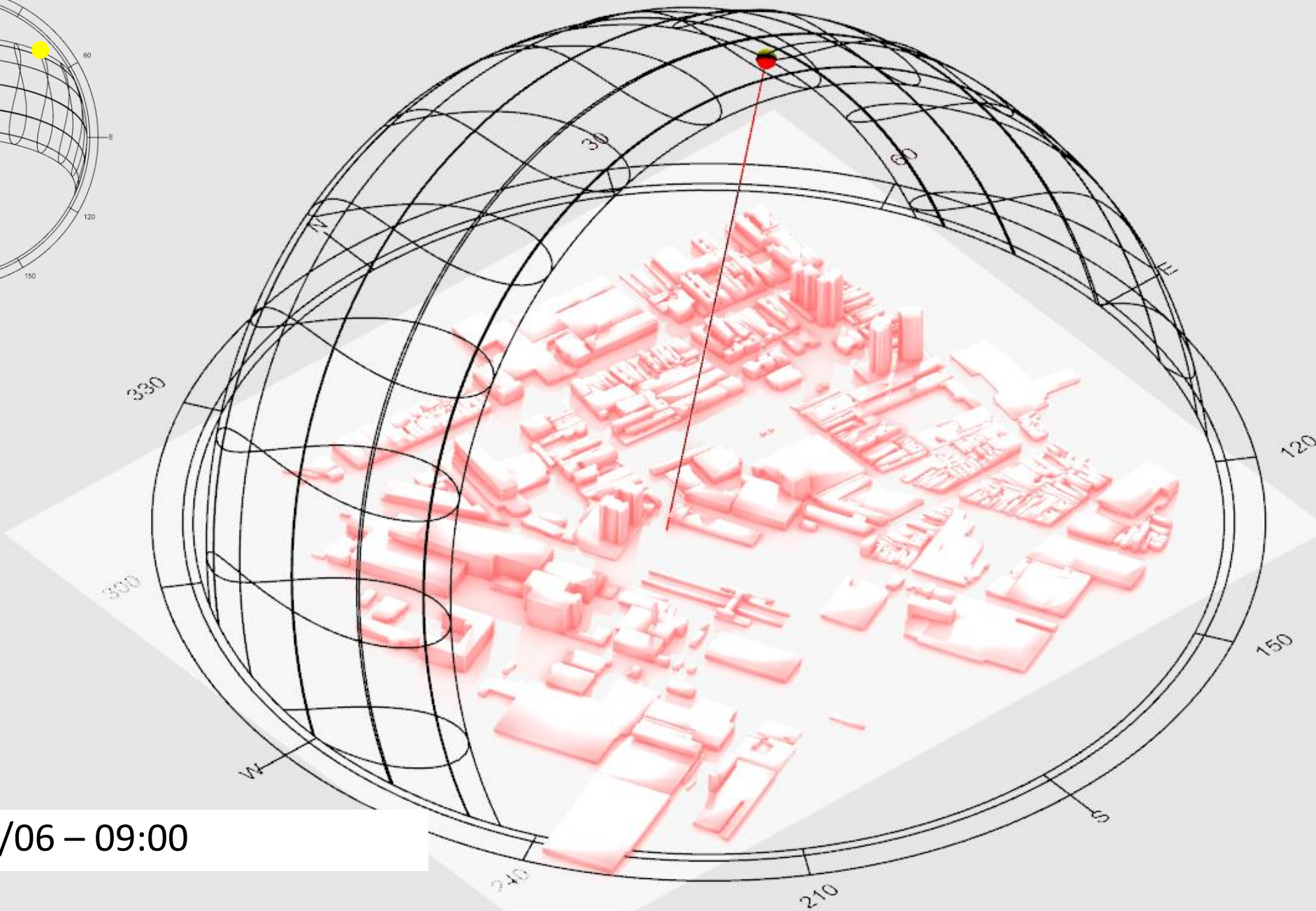
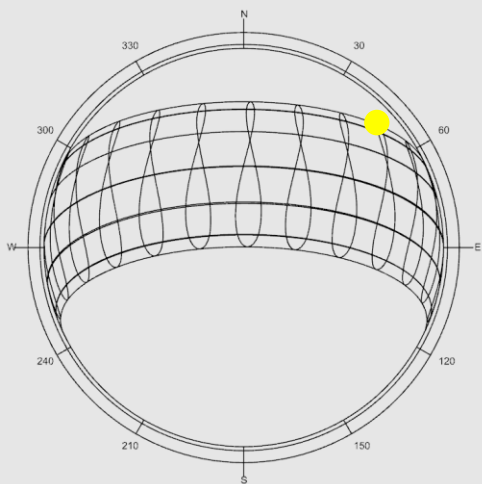
SOMBREAMENTO – PLUG-IN LADYBUG



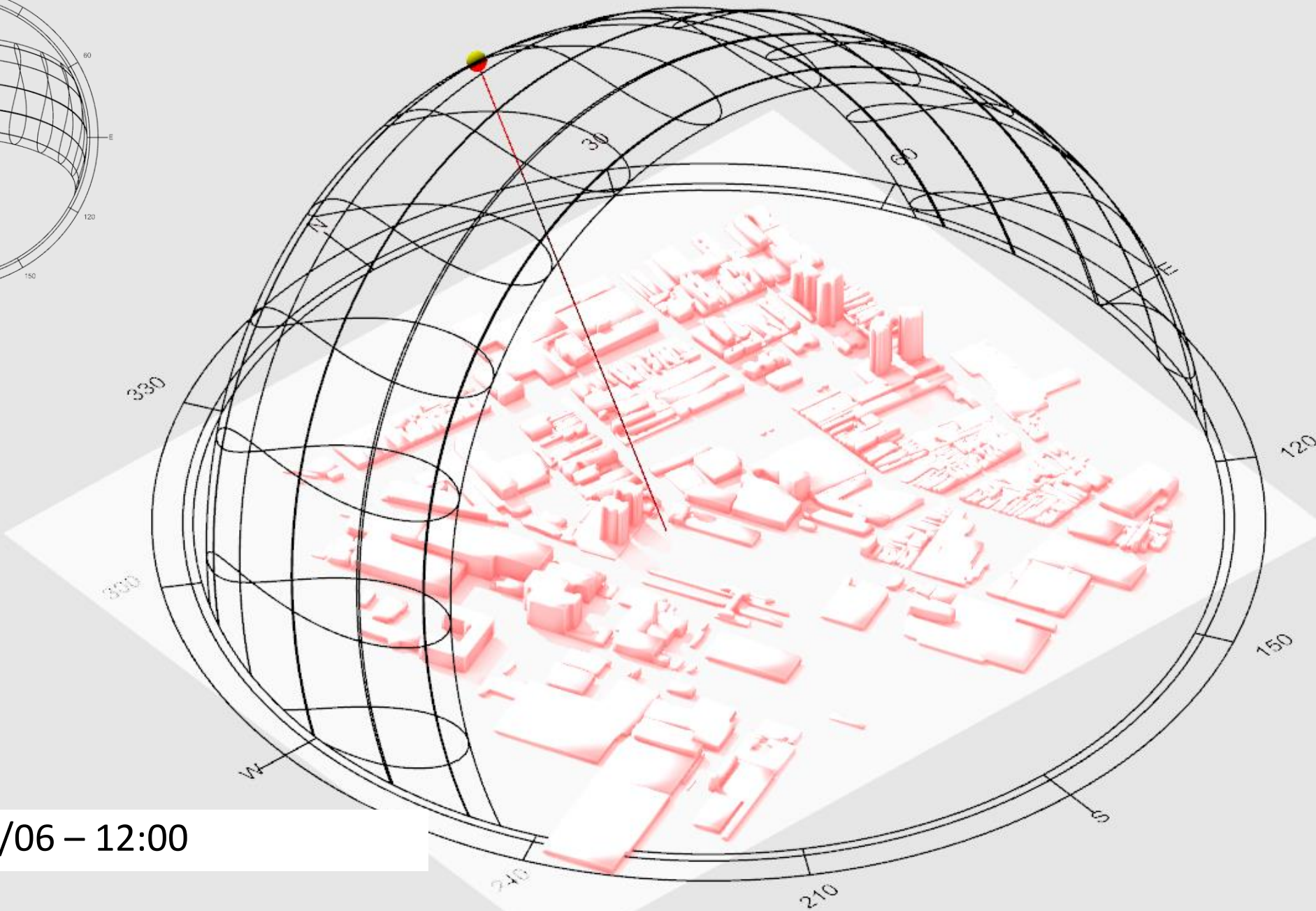
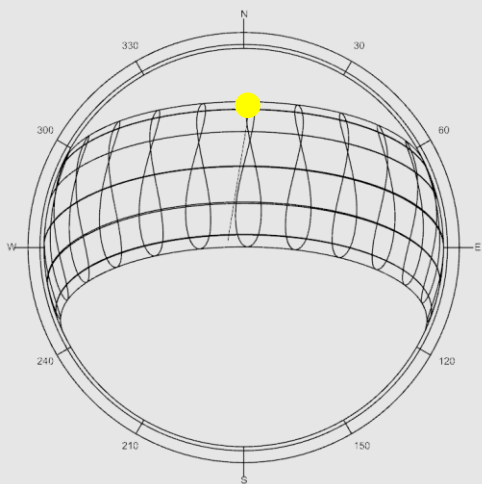


TEMPO DE SOMBRA – PLUG-IN
LADYBUG

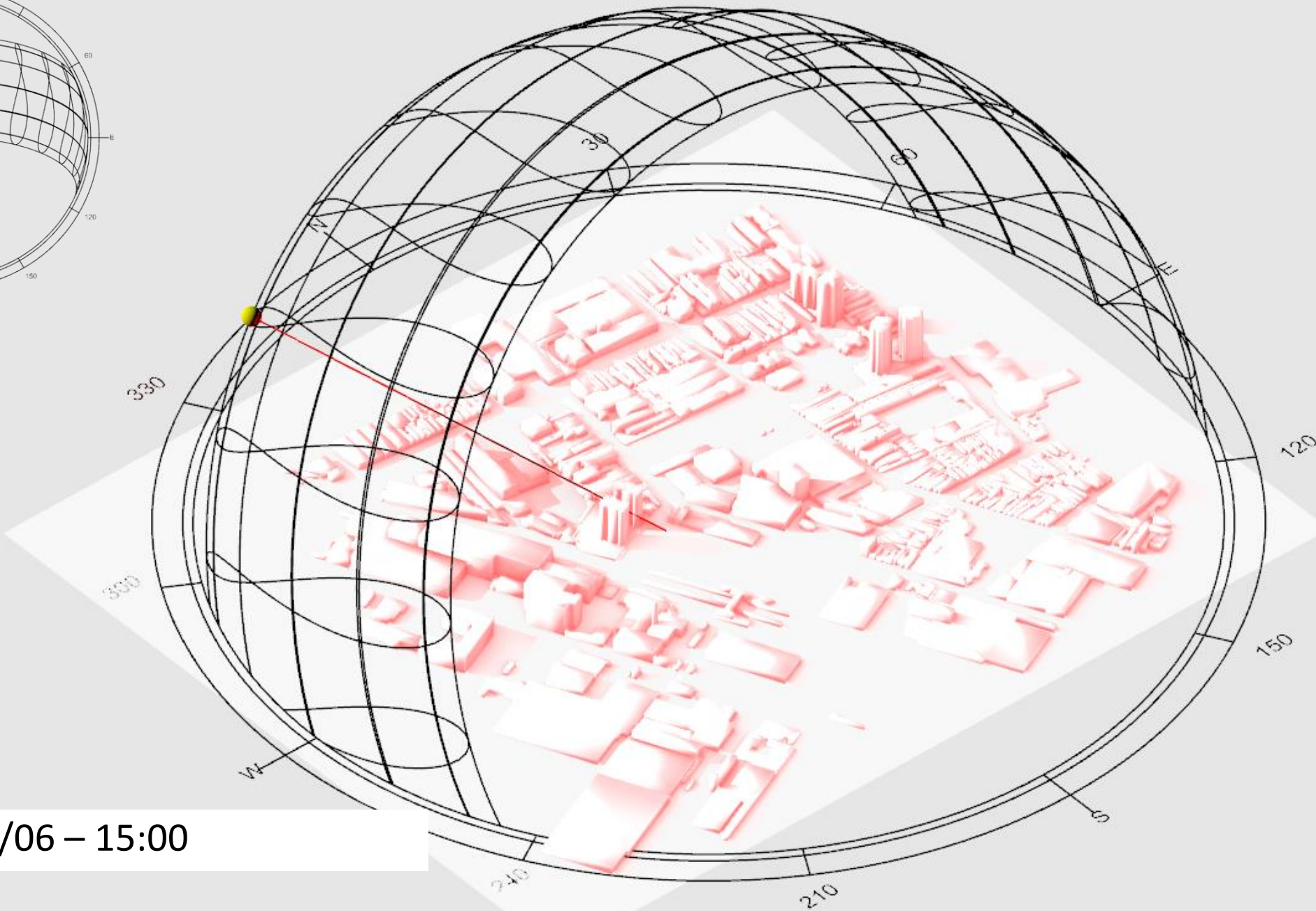
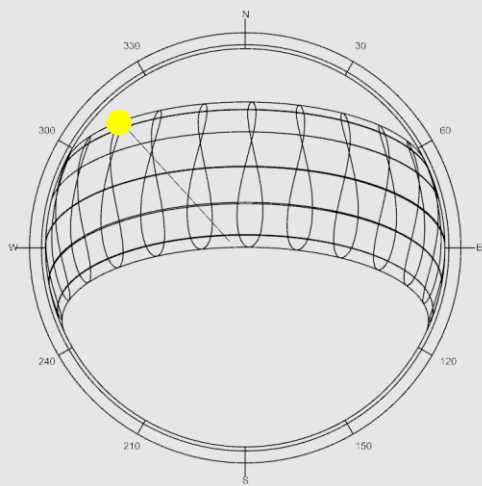
Inverno – 21/06 – 24 horas do dia



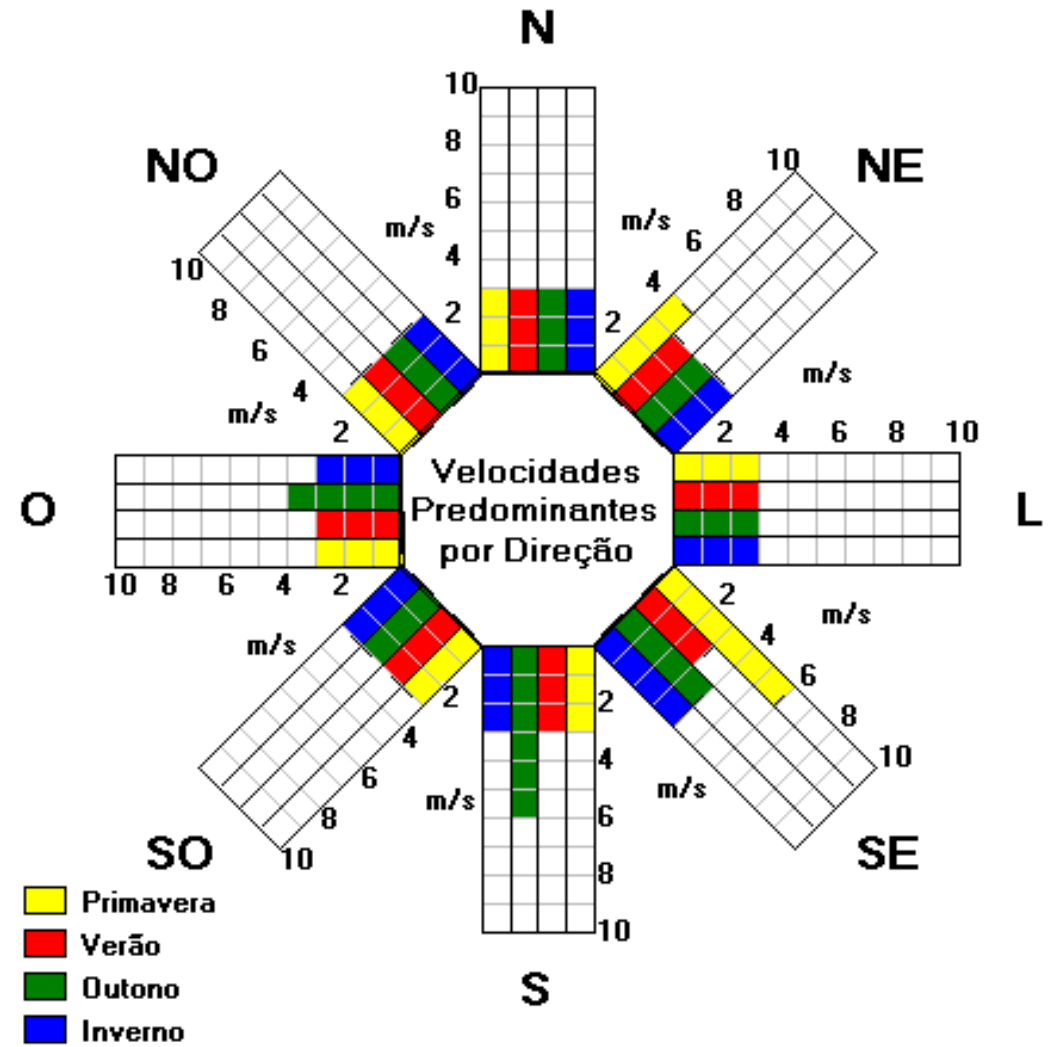
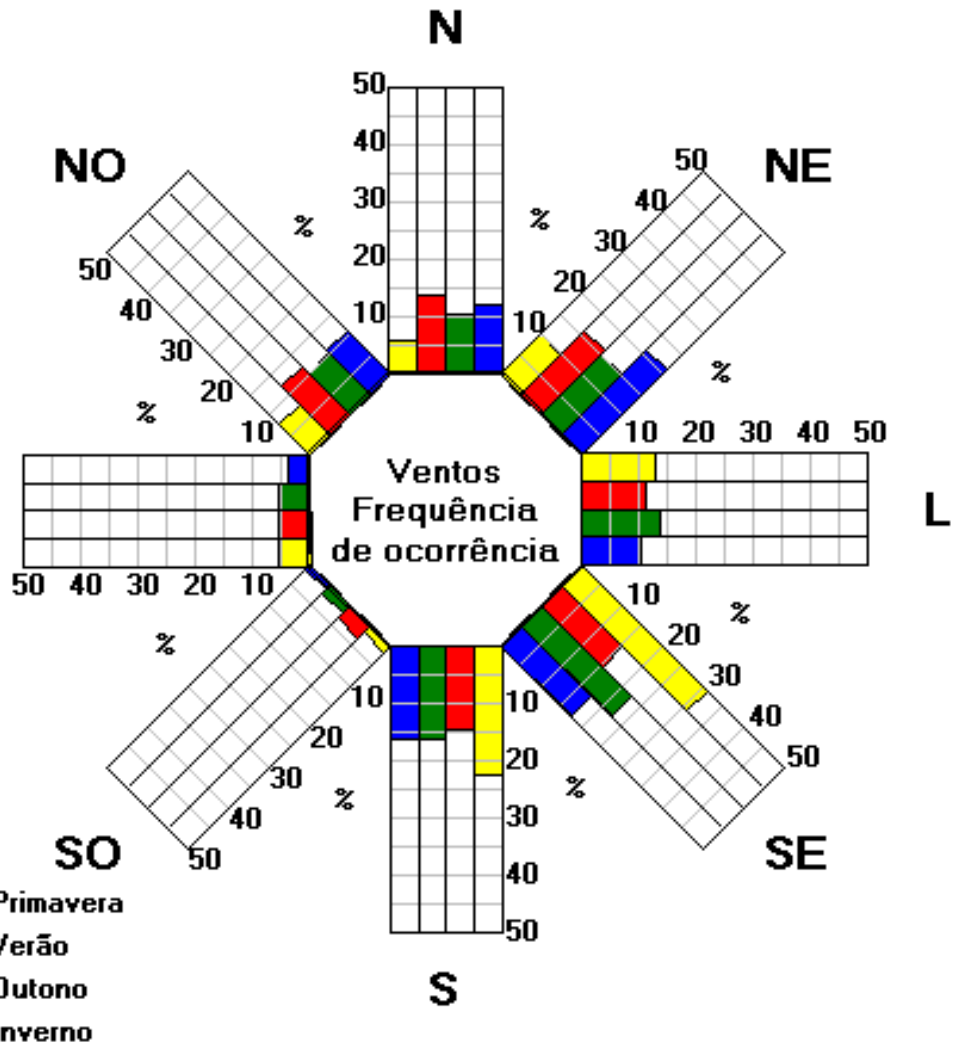
Inverno – 21/06 – 09:00

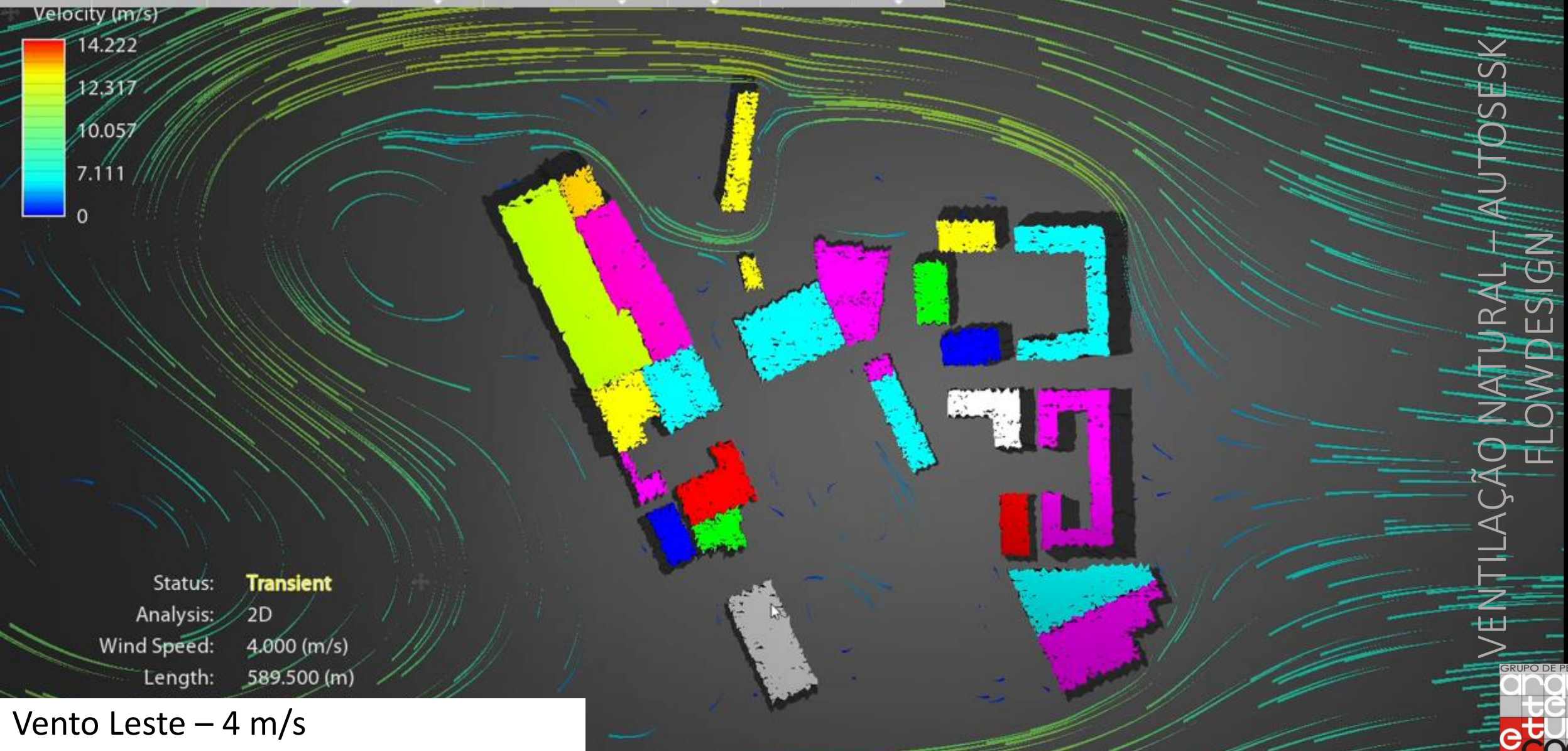
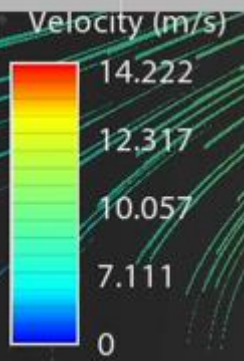


Inverno – 21/06 – 12:00



Inverno – 21/06 – 15:00



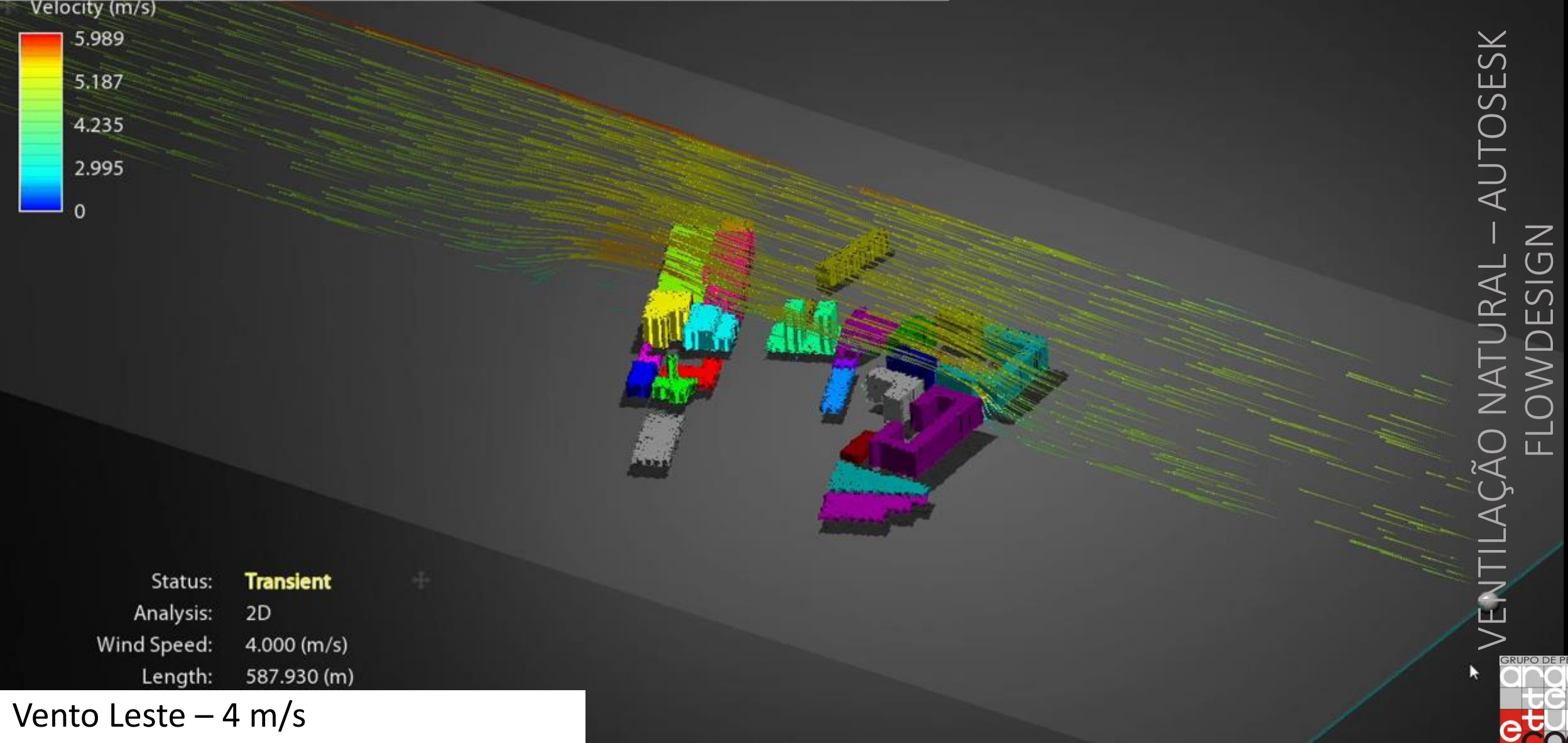
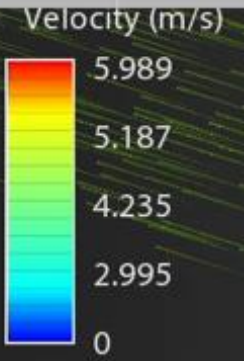


Status: **Transient**
 Analysis: 2D
 Wind Speed: 4.000 (m/s)
 Length: 589.500 (m)

Vento Leste – 4 m/s

VENTILAÇÃO NATURAL – AUTOCESK
 FLOWDESIGN

SIMULATION WIND TUNNEL ORIENTATION 2D VELOCITY DRAG PLOT FLOW LINES LINES SETTINGS SIDE



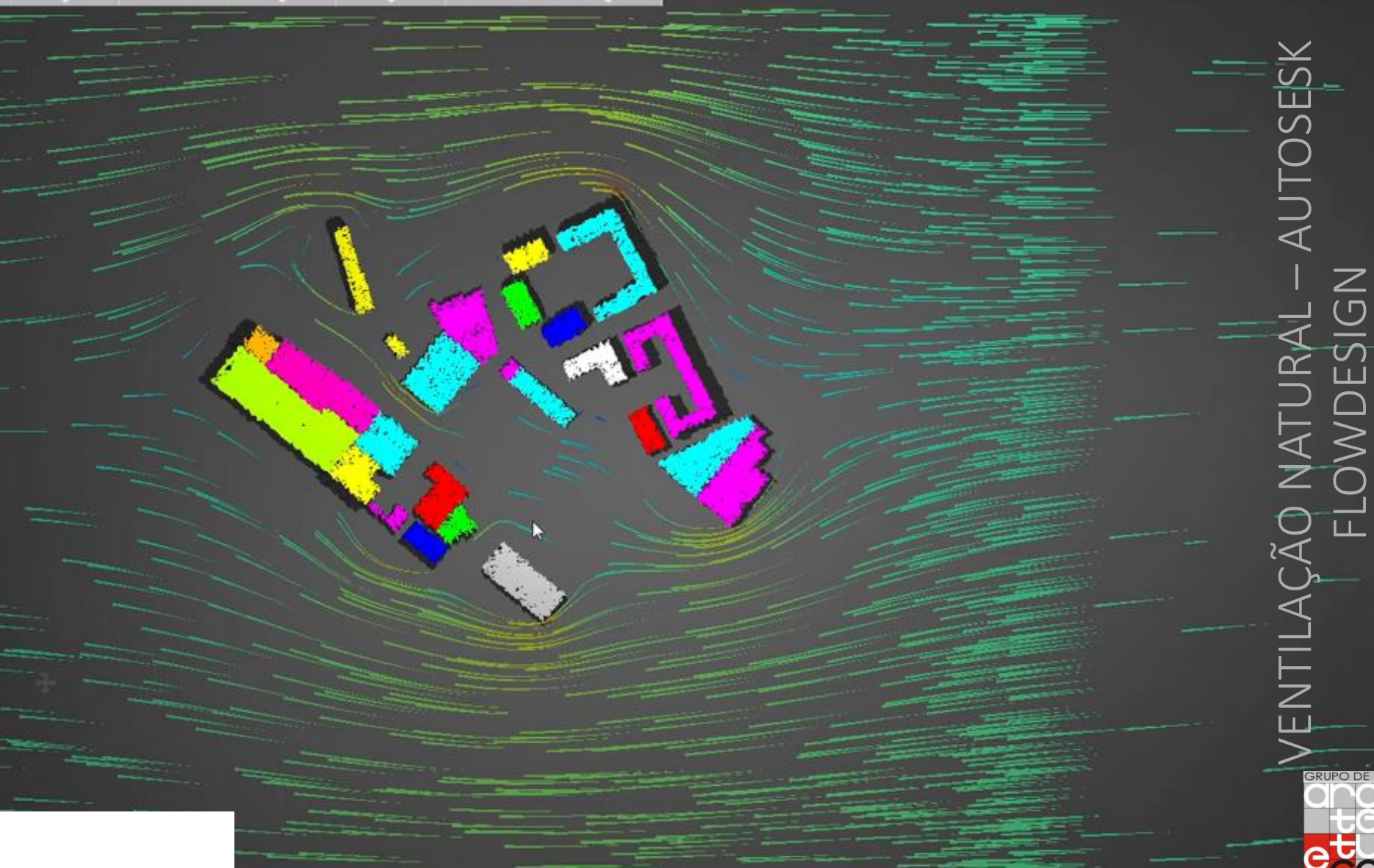
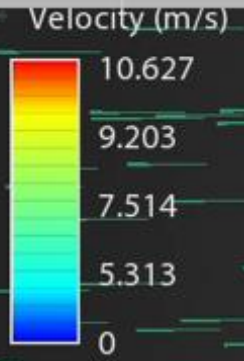
Status: **Transient**
Analysis: 2D
Wind Speed: 4.000 (m/s)
Length: 587.930 (m)

Vento Leste – 4 m/s

VENTILAÇÃO NATURAL – AUTODESK
FLOWDESIGN



SIMULATION WIND TUNNEL ORIENTATION 2D VELOCITY DRAG PLOT FLOW LINES LINES SETTINGS TOP



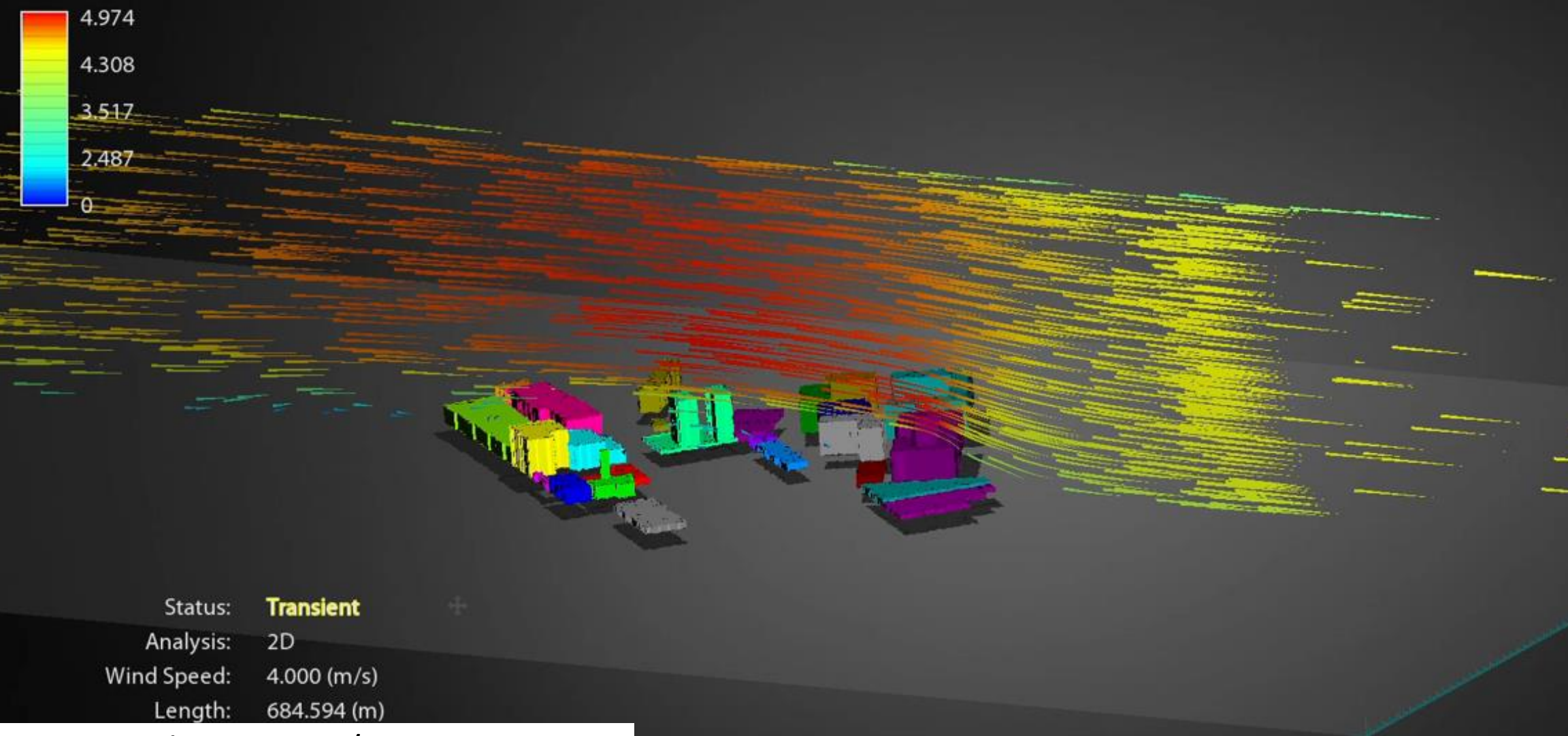
Status: **Transient**
Analysis: 2D
Wind Speed: 4.000 (m/s)
Length: 684.594 (m)

Vento Sudeste – 4 m/s

VENTILAÇÃO NATURAL – AUTOSEK
FLOWDESIGN



Velocity (m/s)



Status: **Transient**

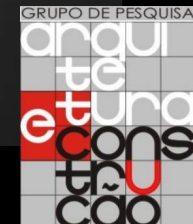
Analysis: 2D

Wind Speed: 4.000 (m/s)

Length: 684.594 (m)

Vento Sudeste – 4 m/s

VENTILAÇÃO NATURAL – AUTODESK
FLOWDESIGN



COMO REFERENCIAR

Nazareth, Samuel Bertrand Melo. **Projeto 3 – Análise Sombreamento e Ventilação Região da Mooca – São Paulo**. Material Didático. São Paulo: Faculdade de Arquitetura e Urbanismo da Universidade Mackenzie, 2019. Disponível em <<http://gparqcon.com.br/>> Acesso em 13 mar. 2019

Projeto 3 – Análise Sombreamento e Ventilação Região da Mooca
- São Paulo

Arq. Samuel Bertrand Melo Nazareth
São Paulo, mar. 2019



PROGRAMAS

RHINOCEROS: <https://www.rhino3d.com/download>

GRASSHOPPER: <https://www.grasshopper3d.com/page/download-1>

LADYBUG: <https://www.food4rhino.com/app/ladybug-tools>

AUTODESK FLOWDESIGN: <https://www.autodesk.com/education/free-software/flow-design>

SOL-AR: <http://www.labeee.ufsc.br/downloads/software/analysis-sol-ar>

