

Projeto 4 – Análise Sombreamento e Ventilação De região da Liberdade - São Paulo

Arq. Samuel Bertrand Melo Nazareth

São Paulo, mar. 2019

Material didático produzido para a matéria de Projeto 4.

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

APOIO:





Google Earth

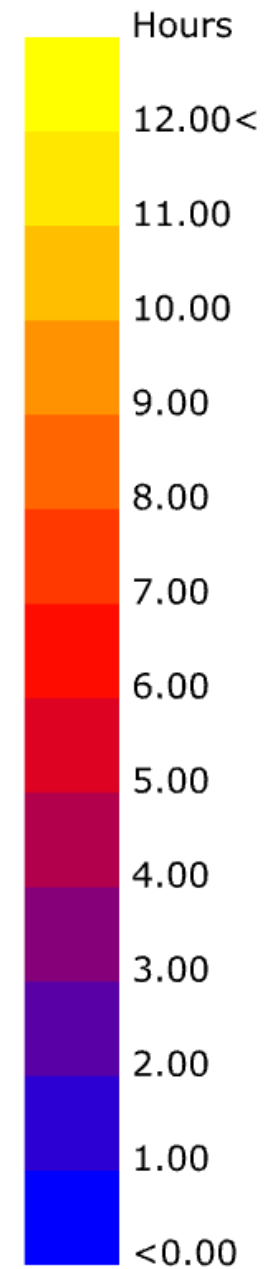
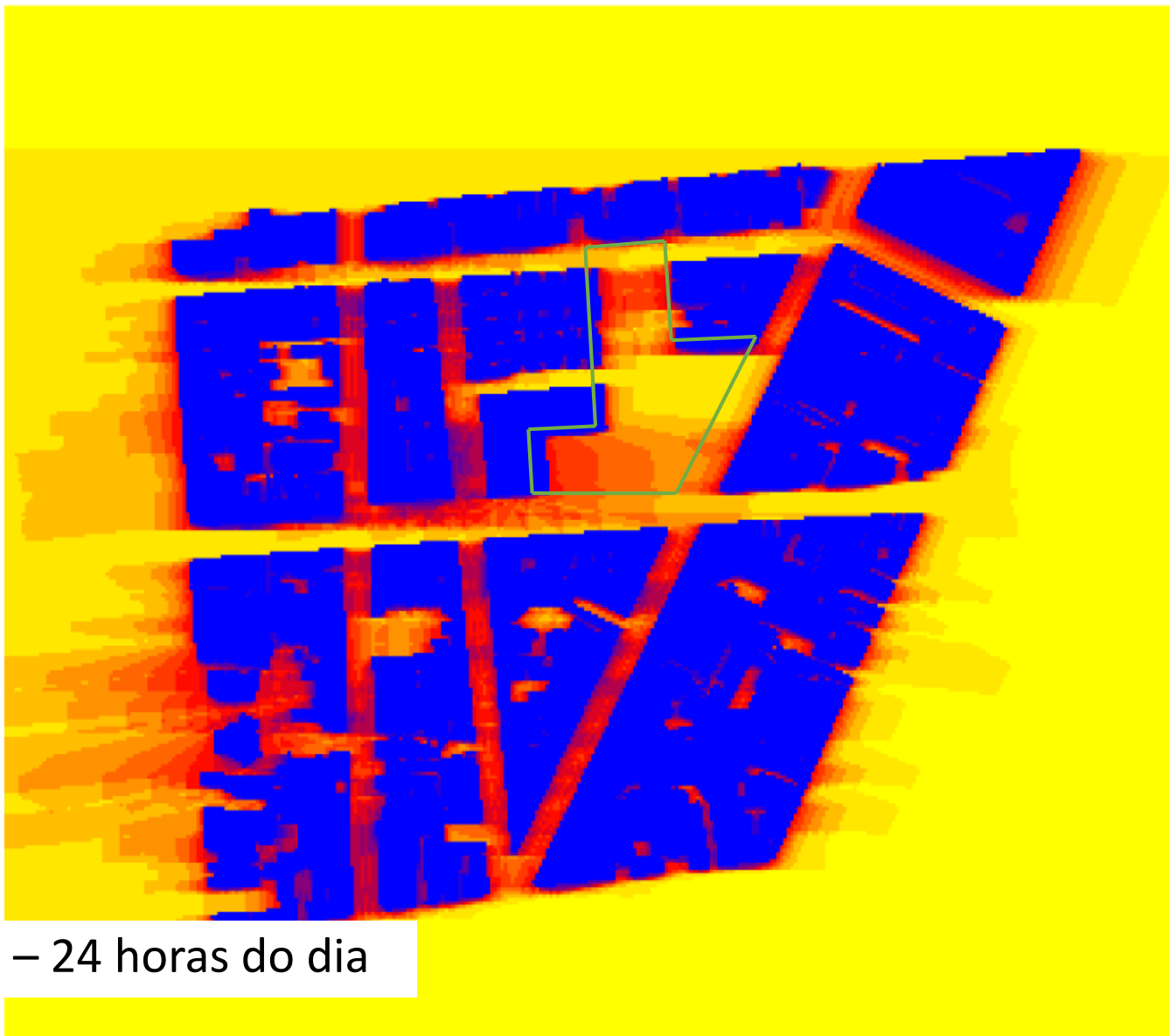
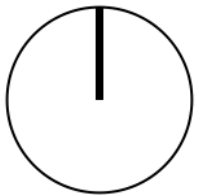
©2018 Google

50 m

Sombreamento (Rhinoceros +
Grasshopper – Plung-in LADYBUG)

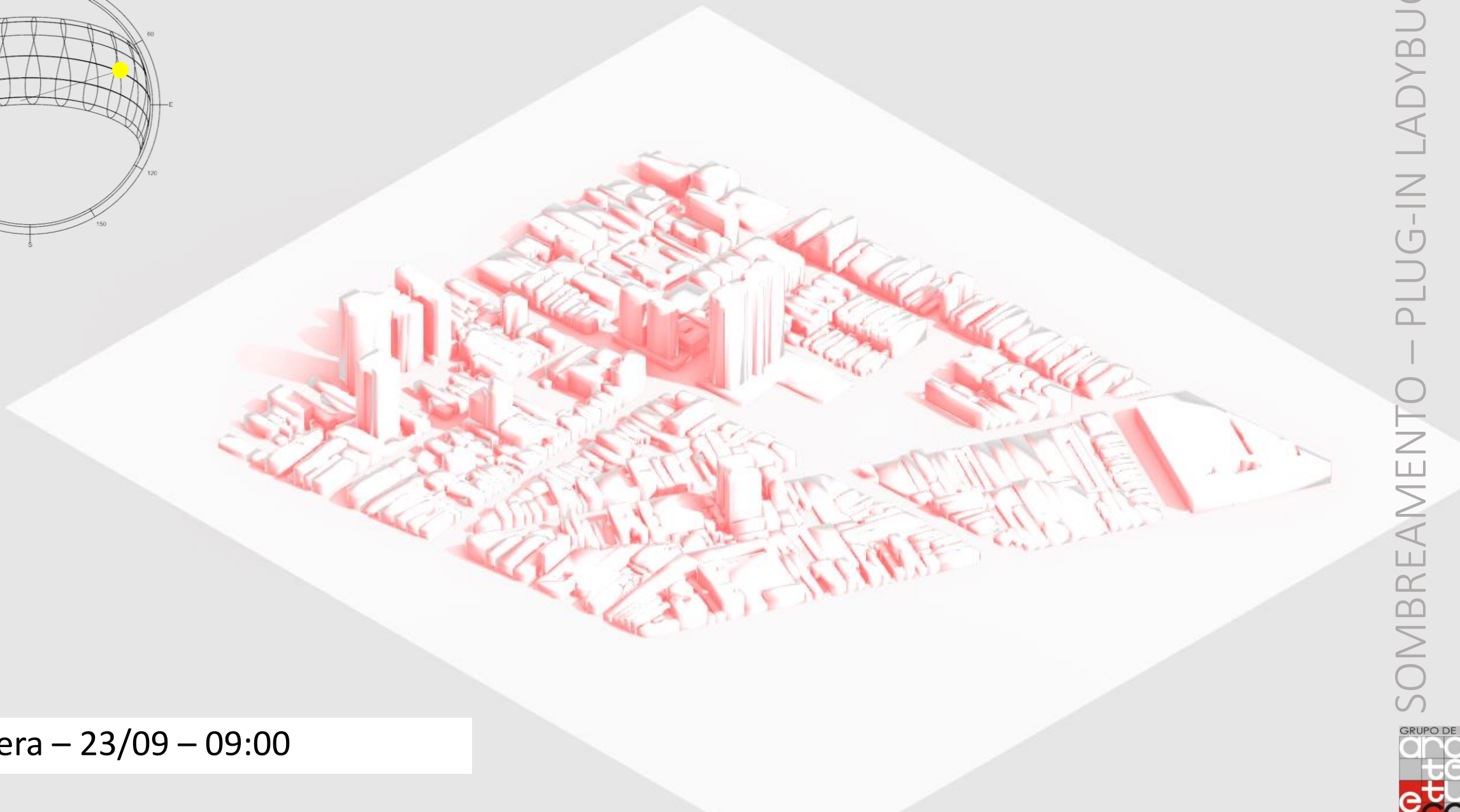
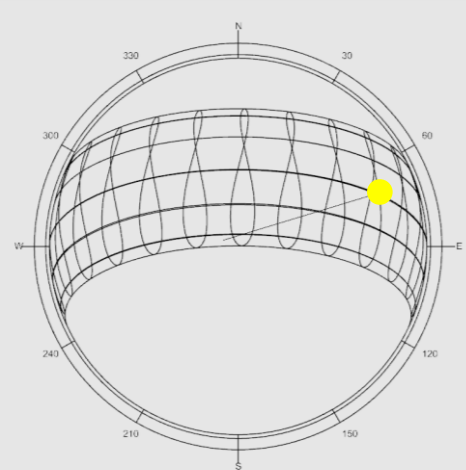
Ventilação (Autodesk FlowDesign)

LOCALIZAÇÃO



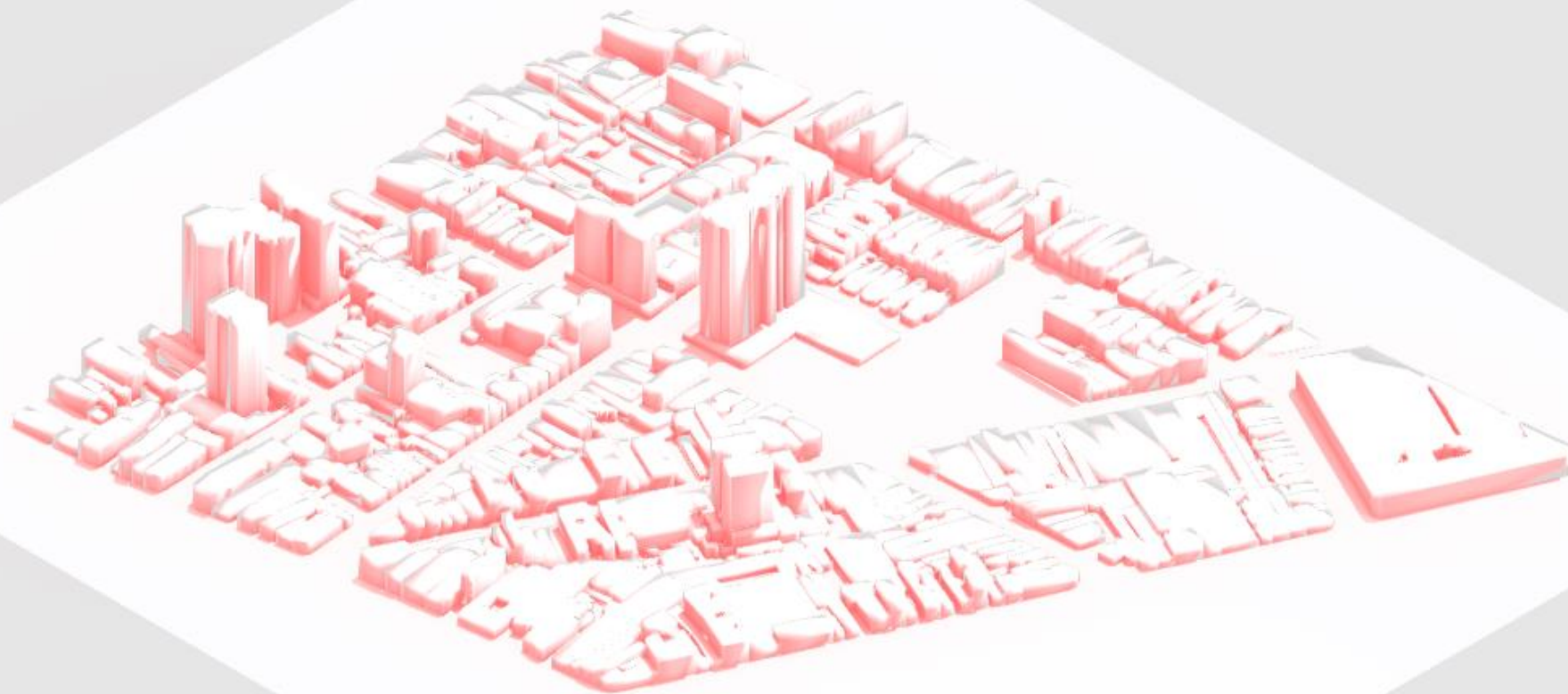
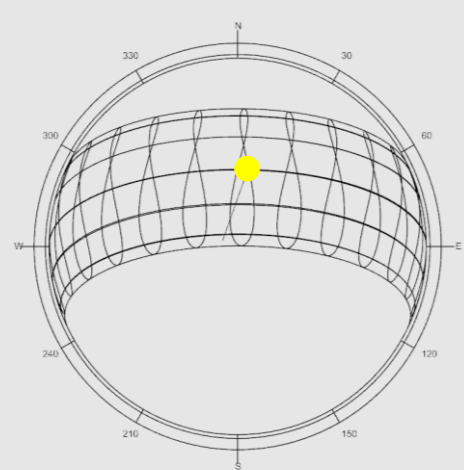
TEMPO DE SOMBRA – PLUG-IN
LADYBUG

Primavera – 23/09 – 24 horas do dia



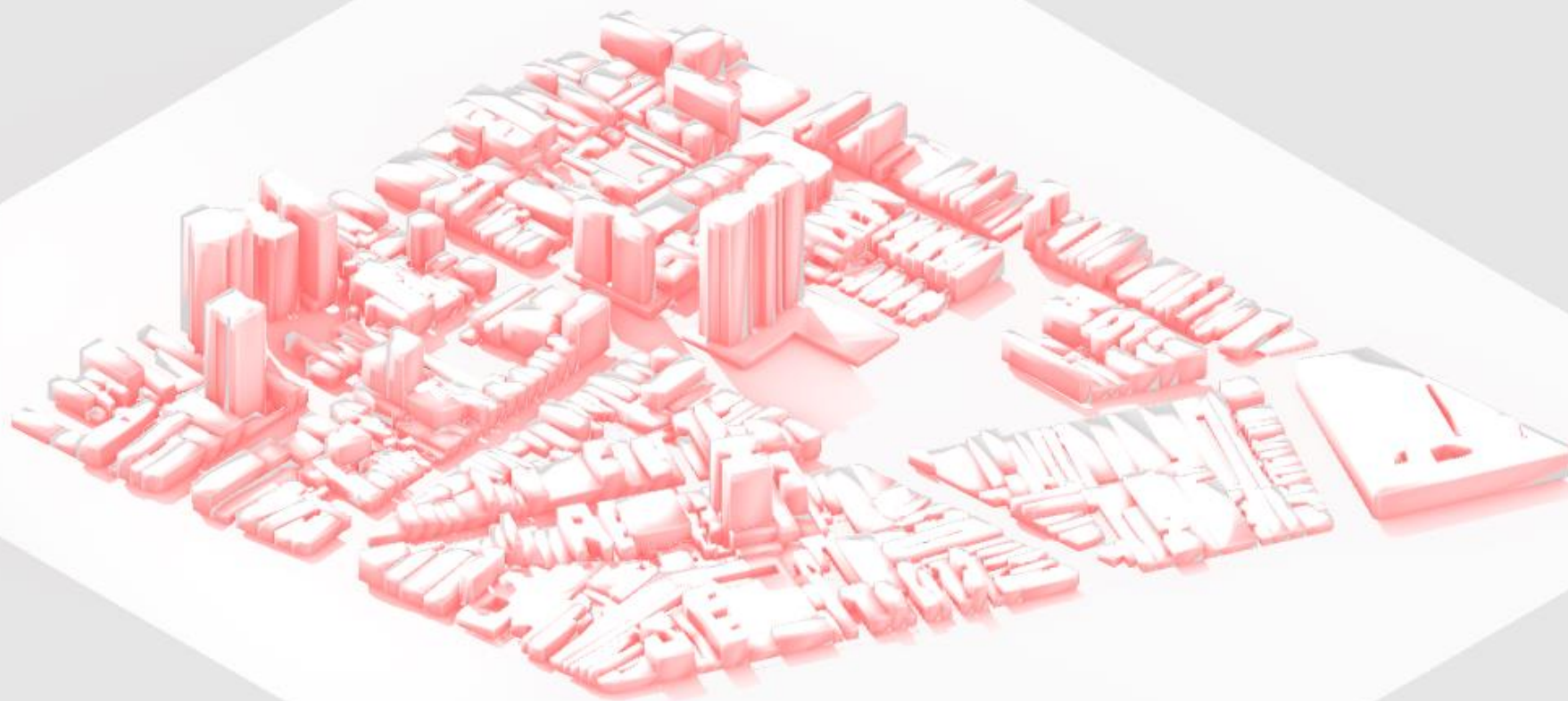
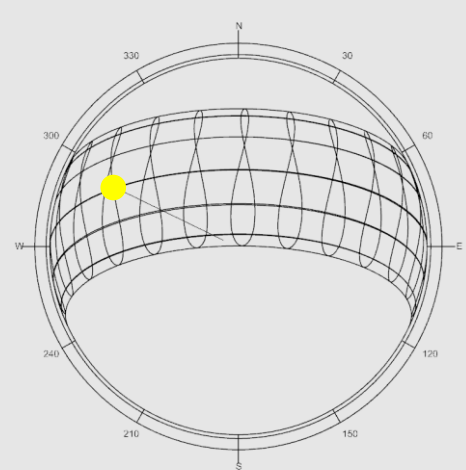
Primavera – 23/09 – 09:00

SOMBREAMENTO – PLUG-IN LADYBUG



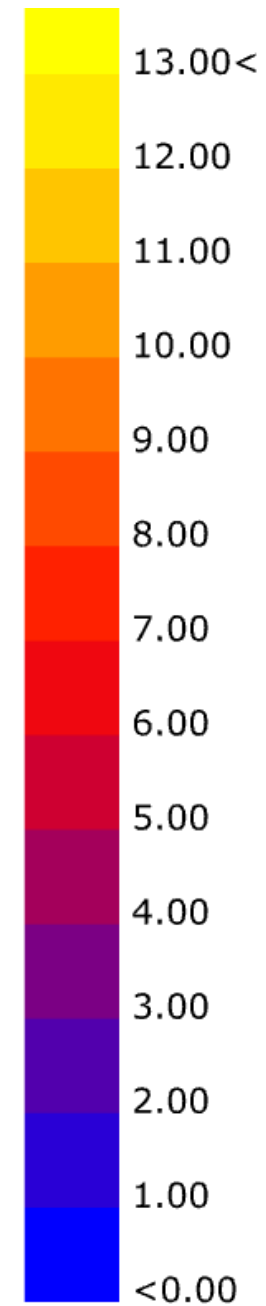
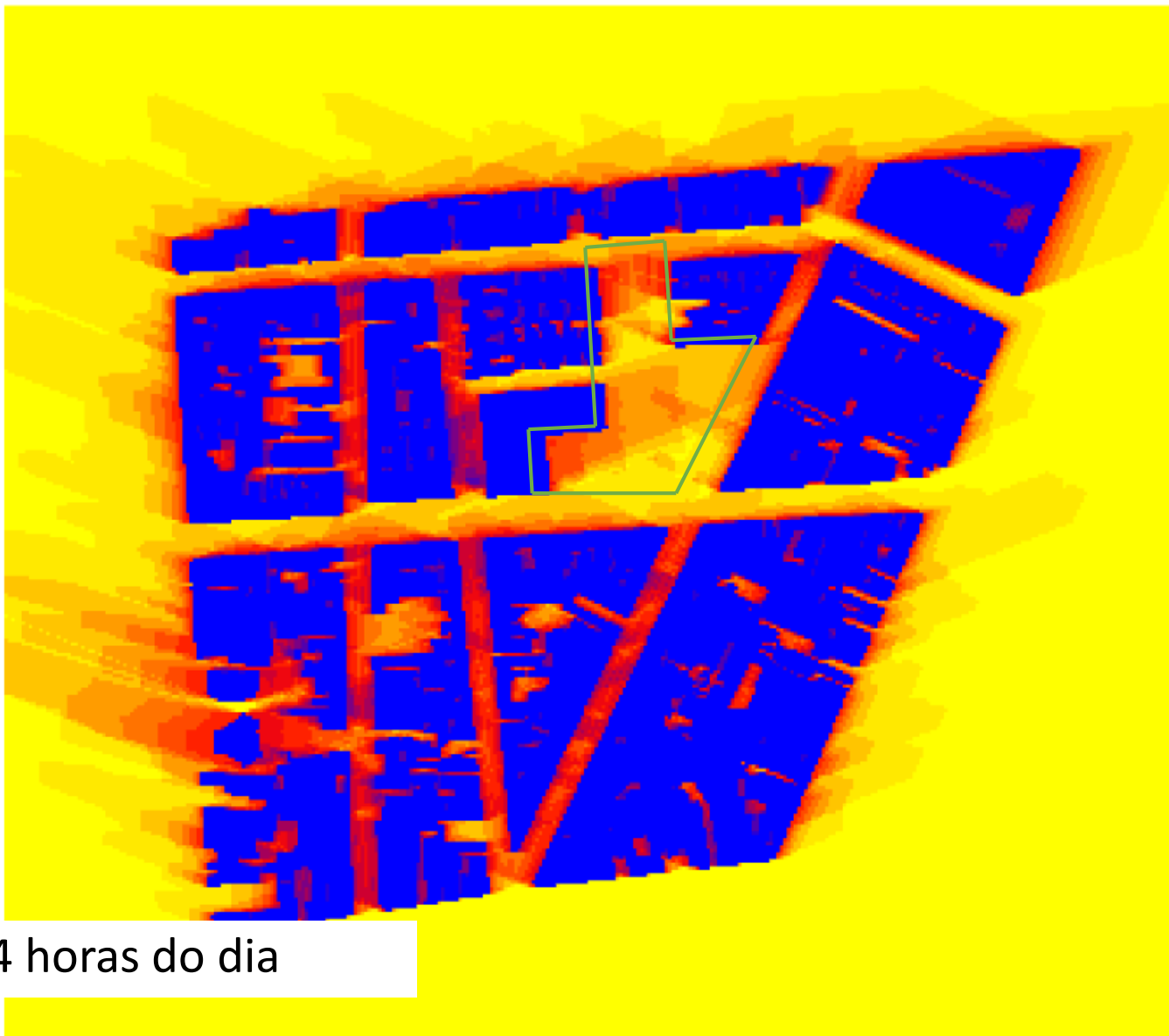
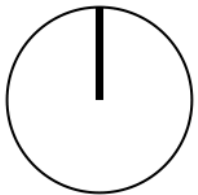
Primavera – 23/09 – 12:00





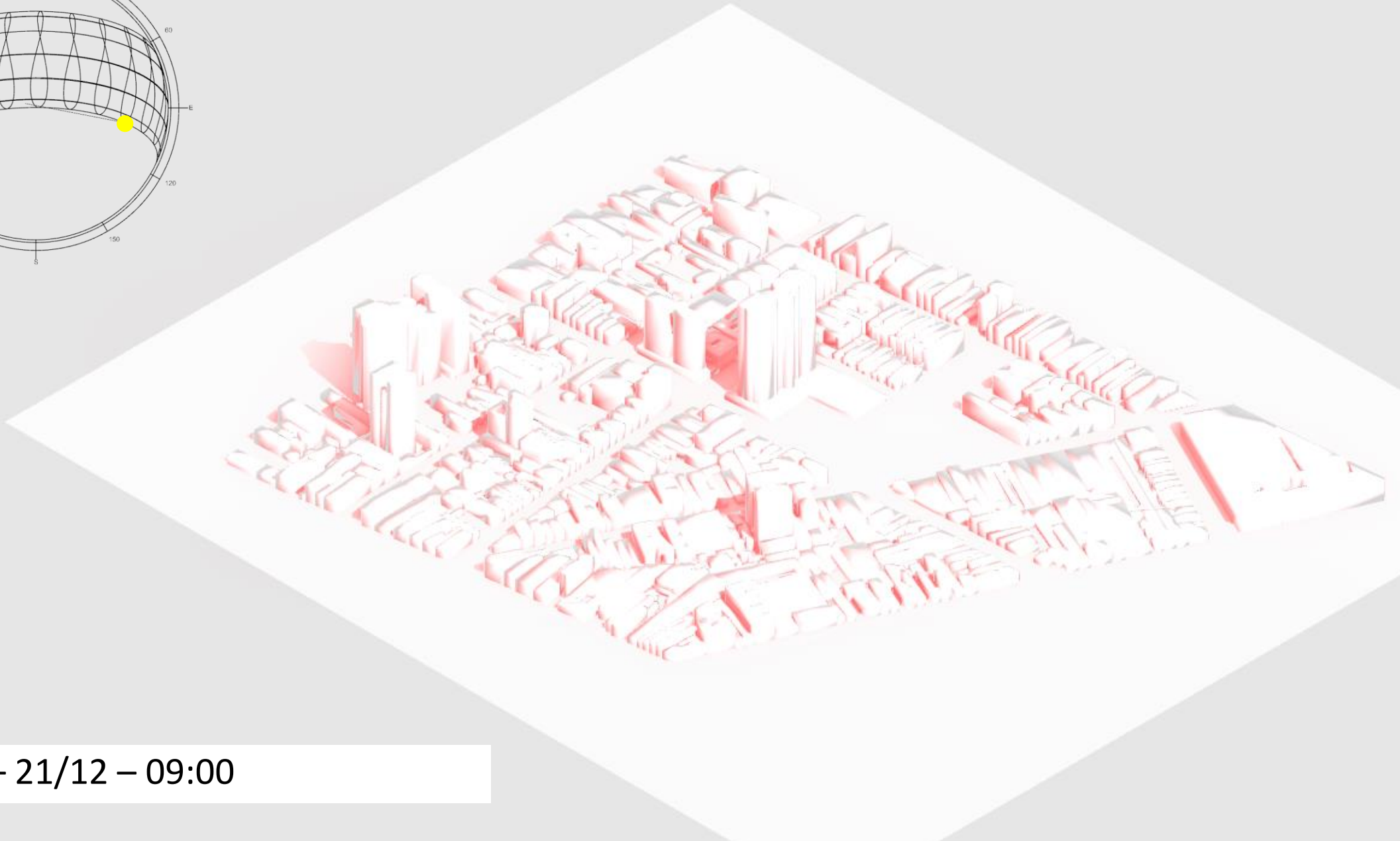
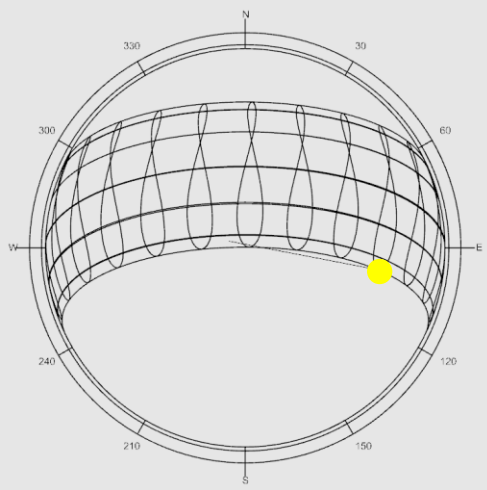
Primavera – 23/09 – 15:00





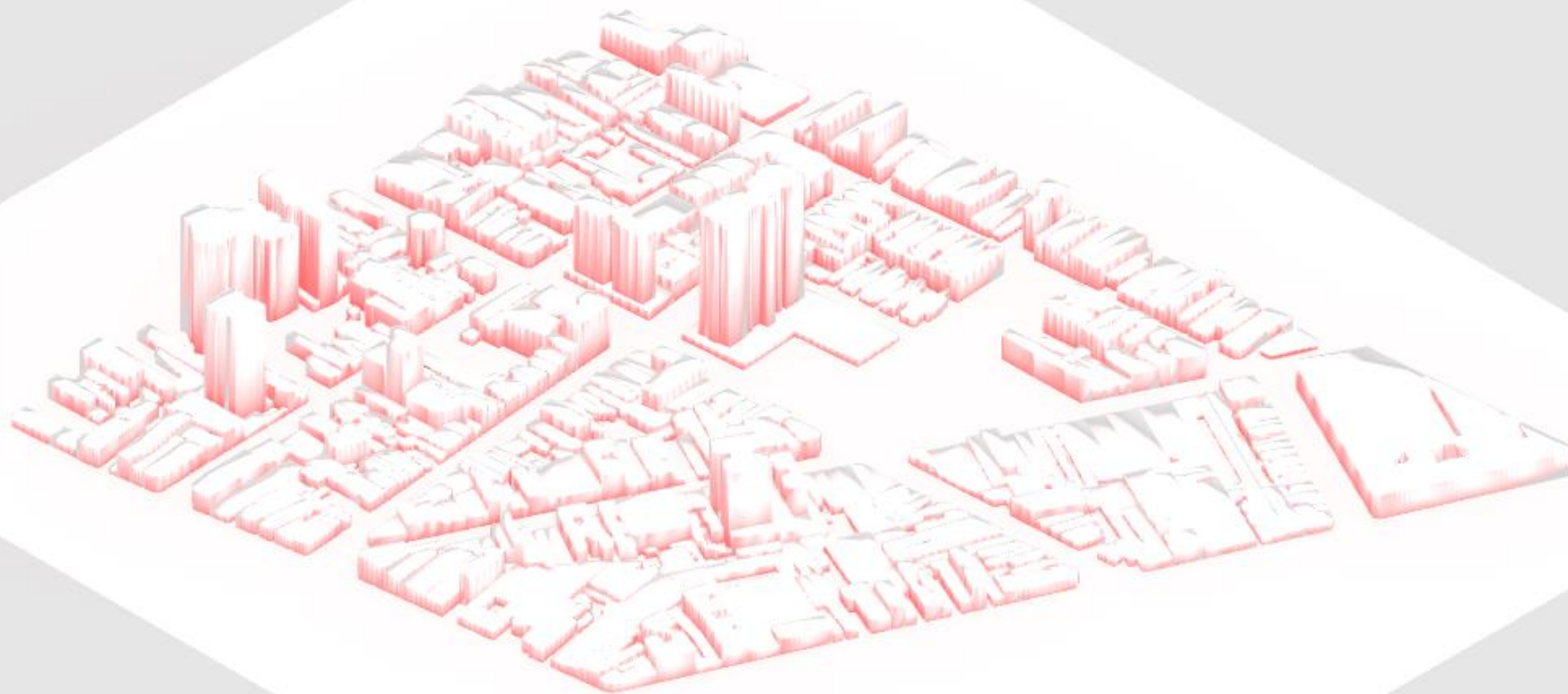
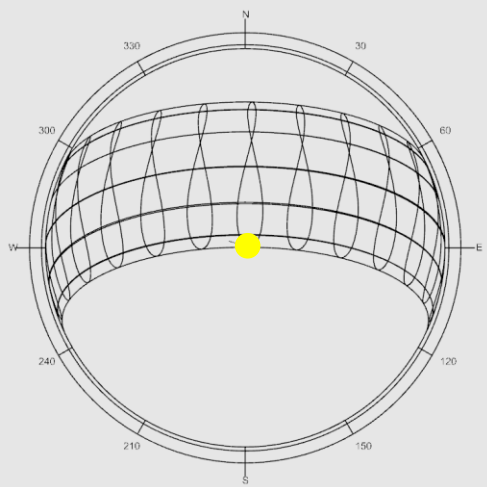
TEMPO DE SOMBRA – PLUG-IN
LADYBUG

Verão – 21/12 – 24 horas do dia



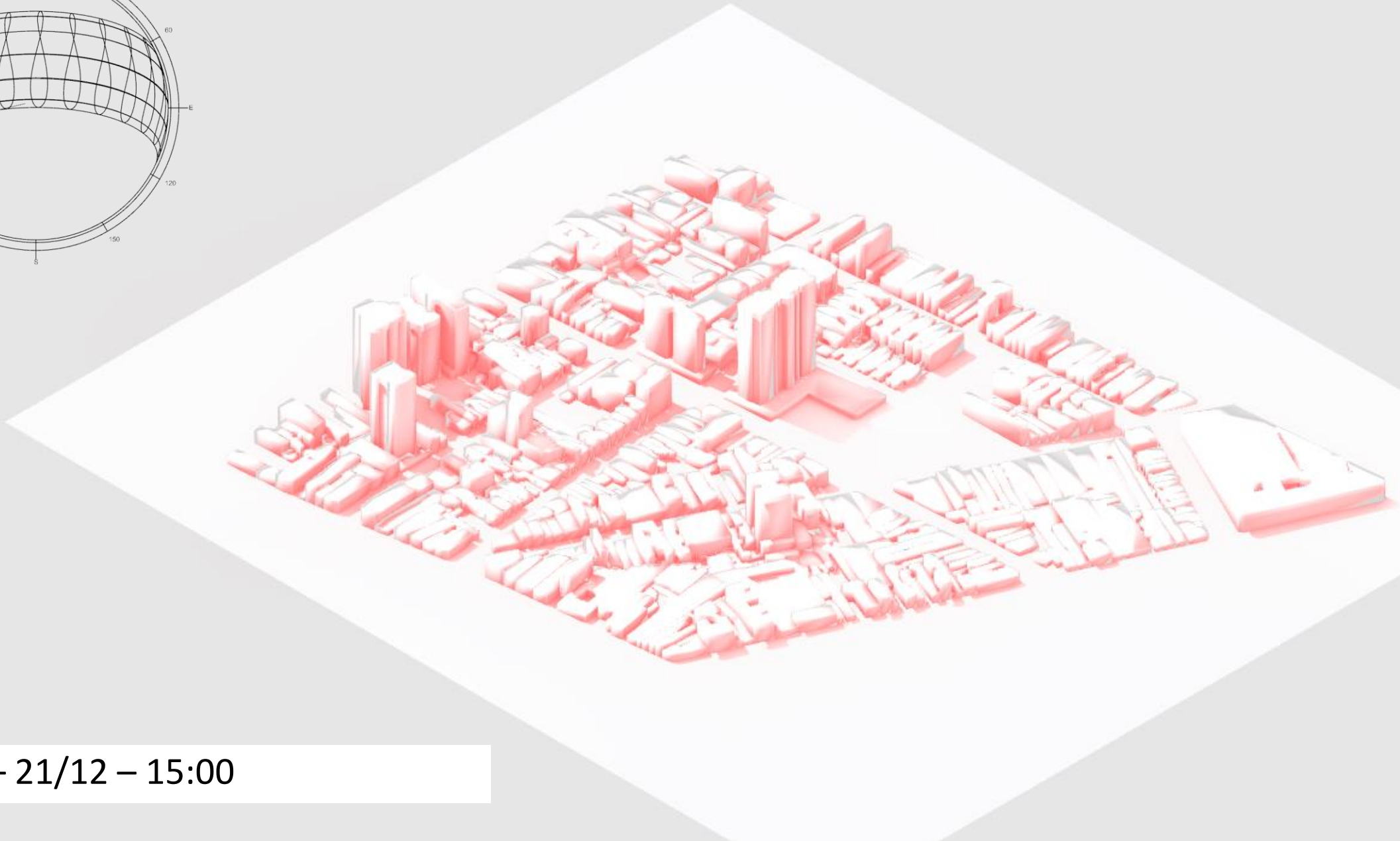
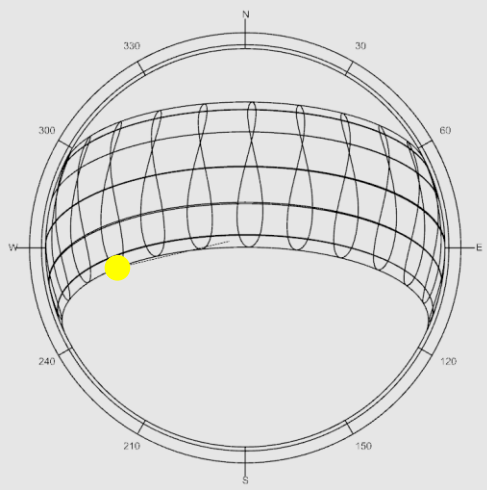
Verão – 21/12 – 09:00

SOMBREAMENTO – PLUG-IN LADYBUG



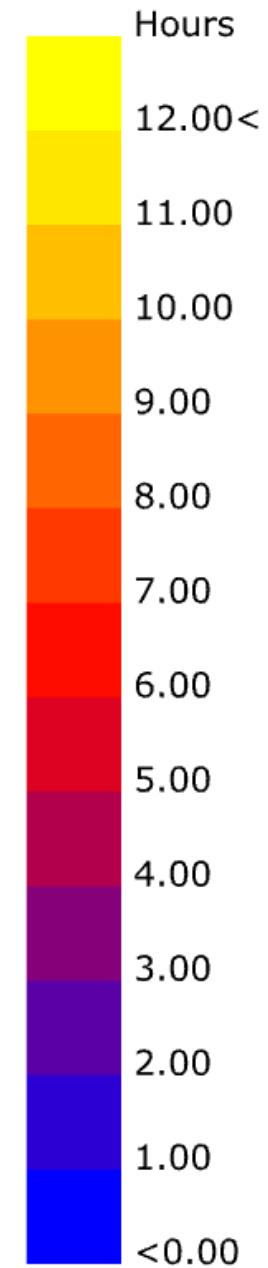
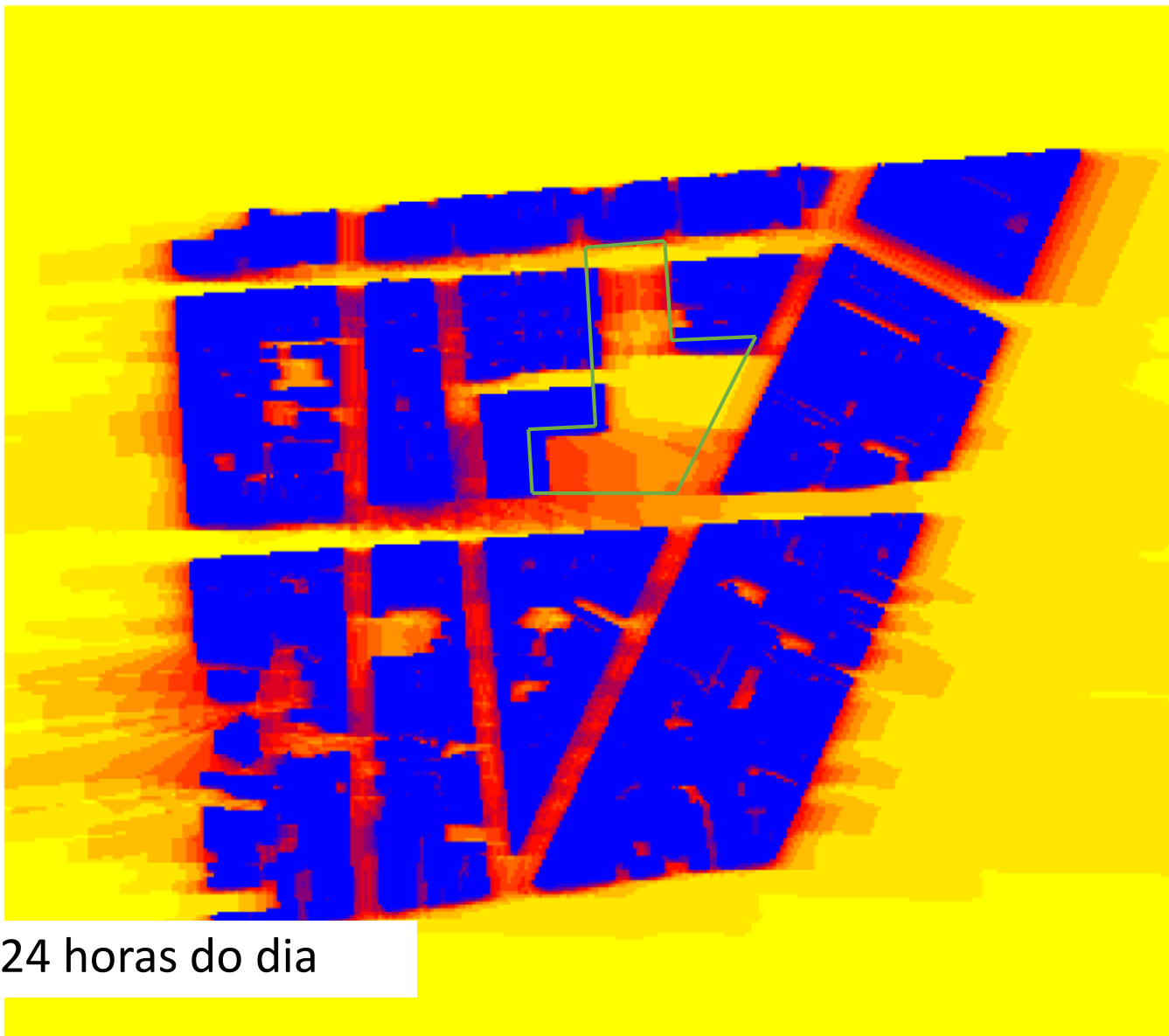
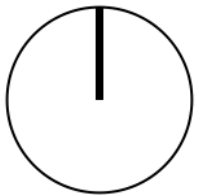
Verão – 21/12 – 12:00

SOMBREAMENTO – PLUG-IN LADYBUG



Verão – 21/12 – 15:00

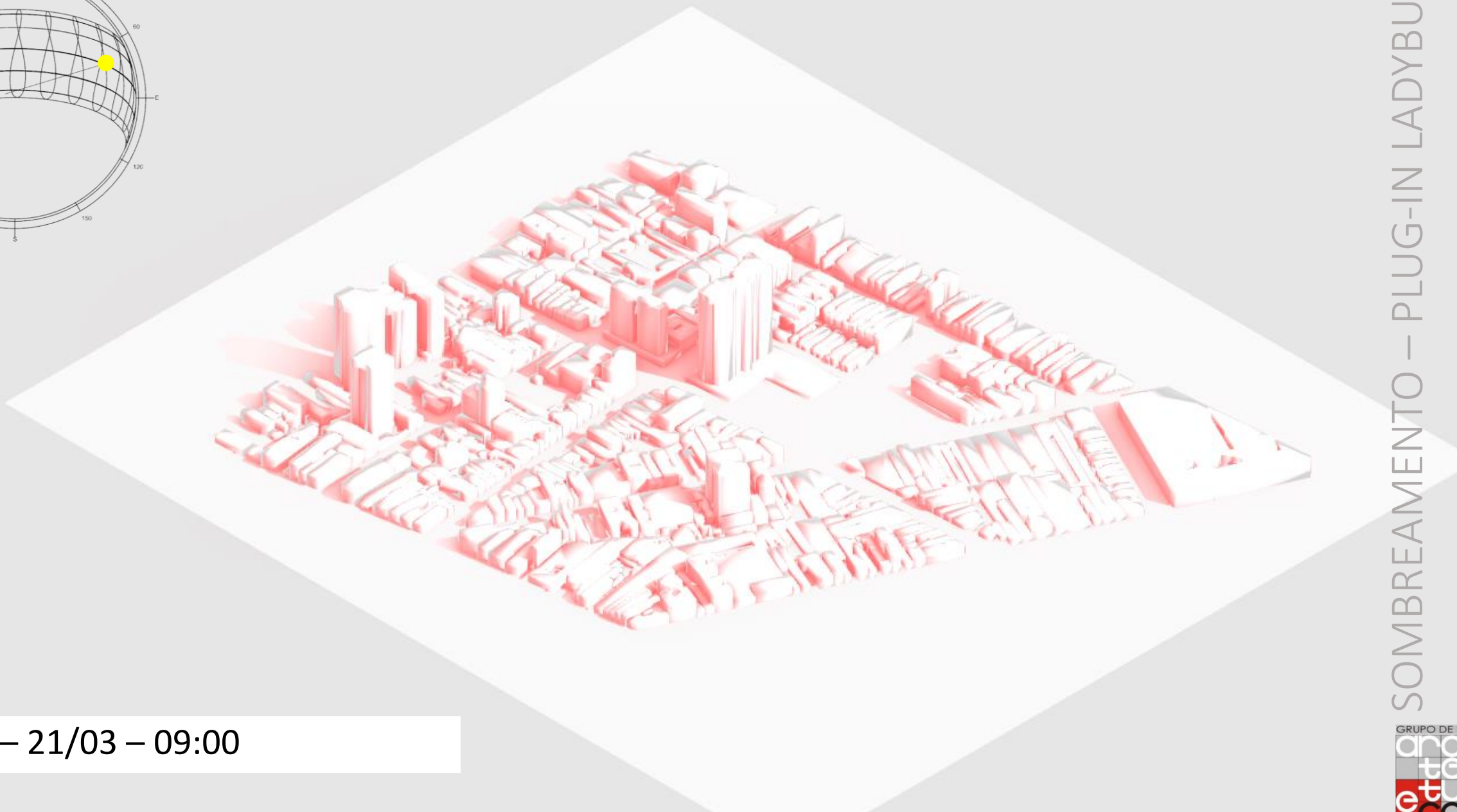
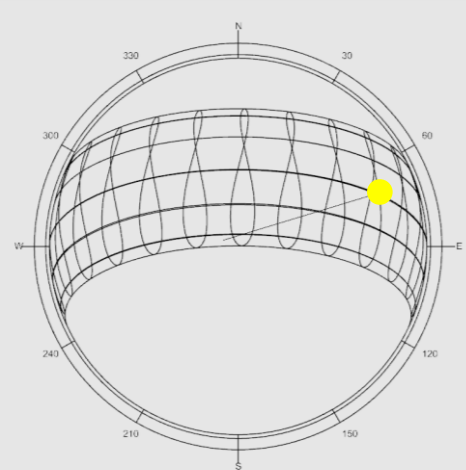
SOMBREAMENTO – PLUG-IN LADYBUG



TEMPO DE SOMBRA – PLUG-IN
LADYBUG

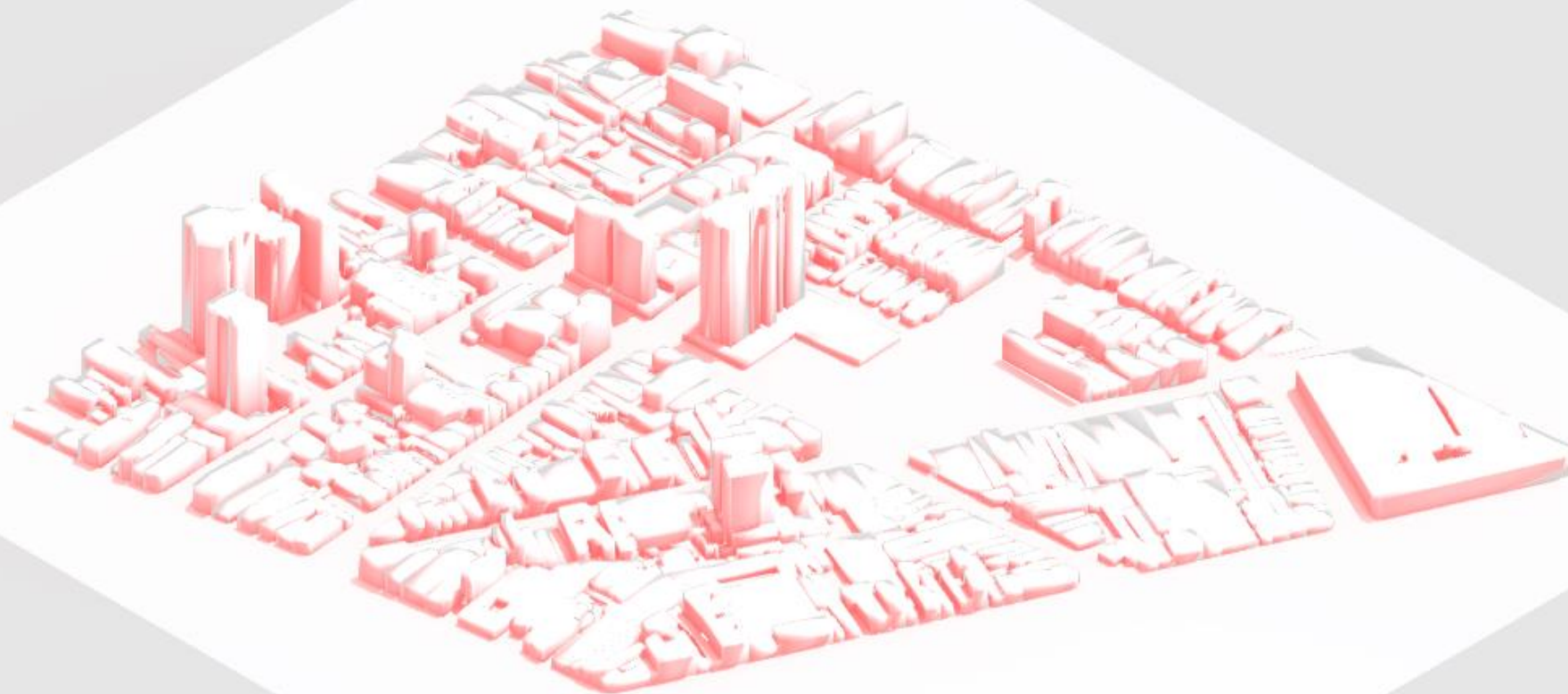
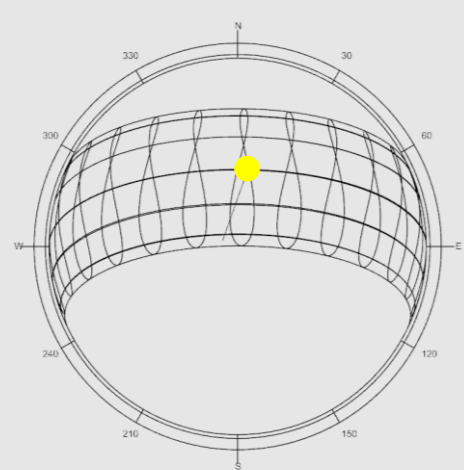
Outono – 21/03 – 24 horas do dia





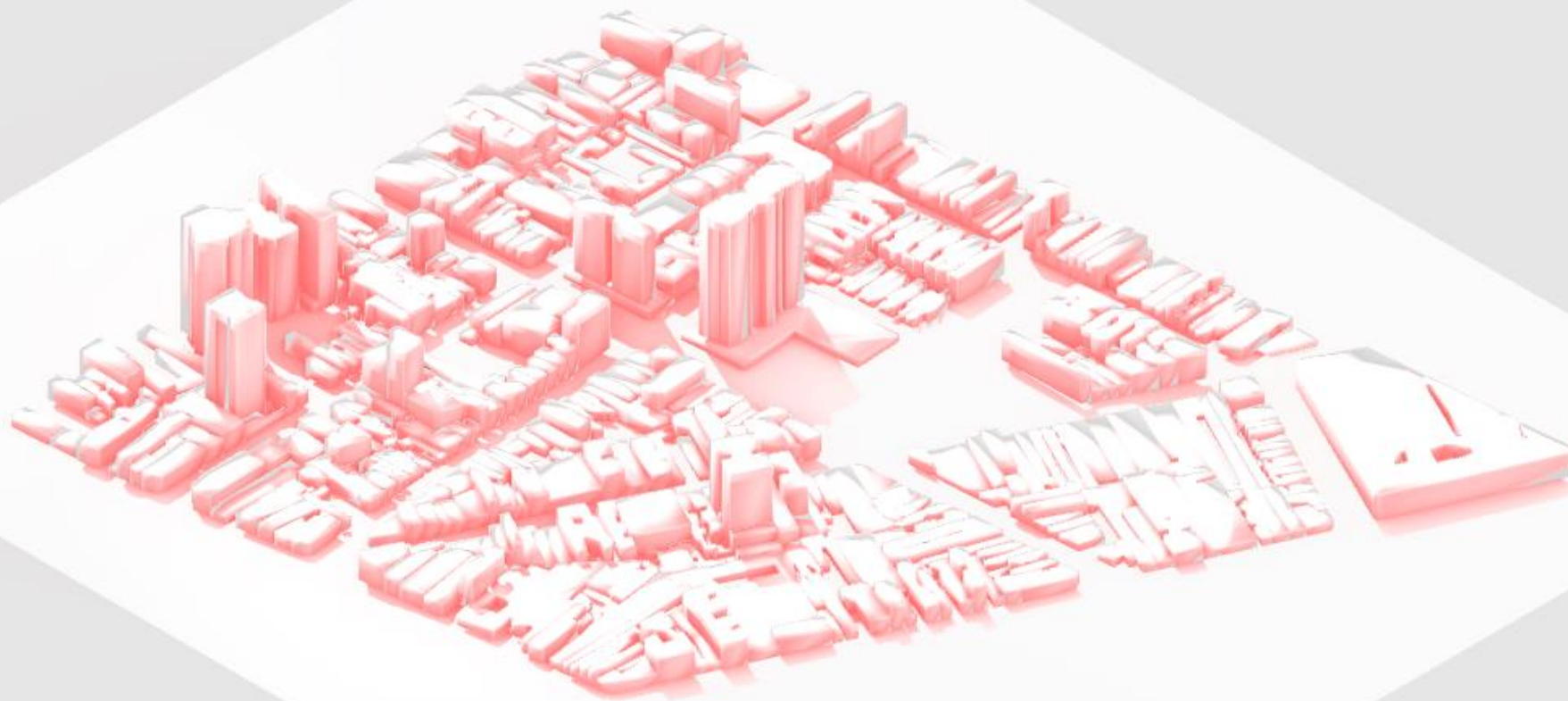
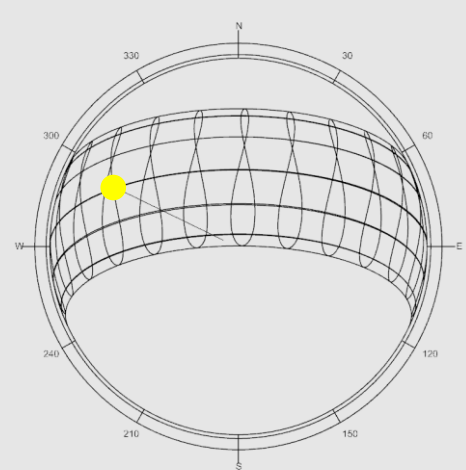
Outono – 21/03 – 09:00

SOMBREAMENTO – PLUG-IN LADYBUG



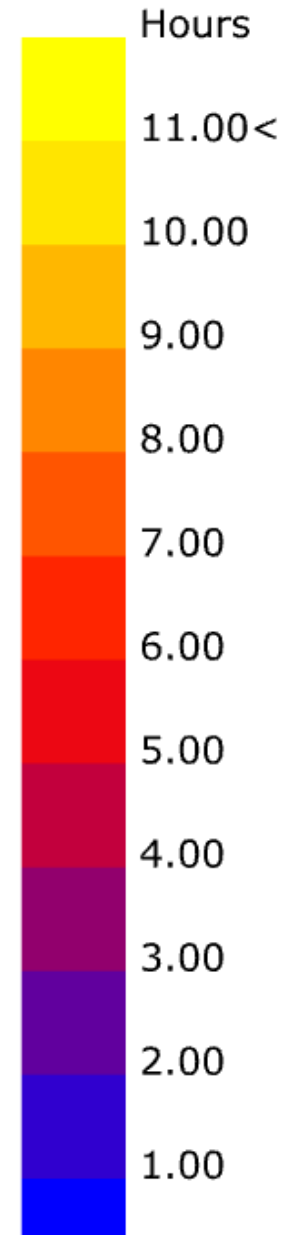
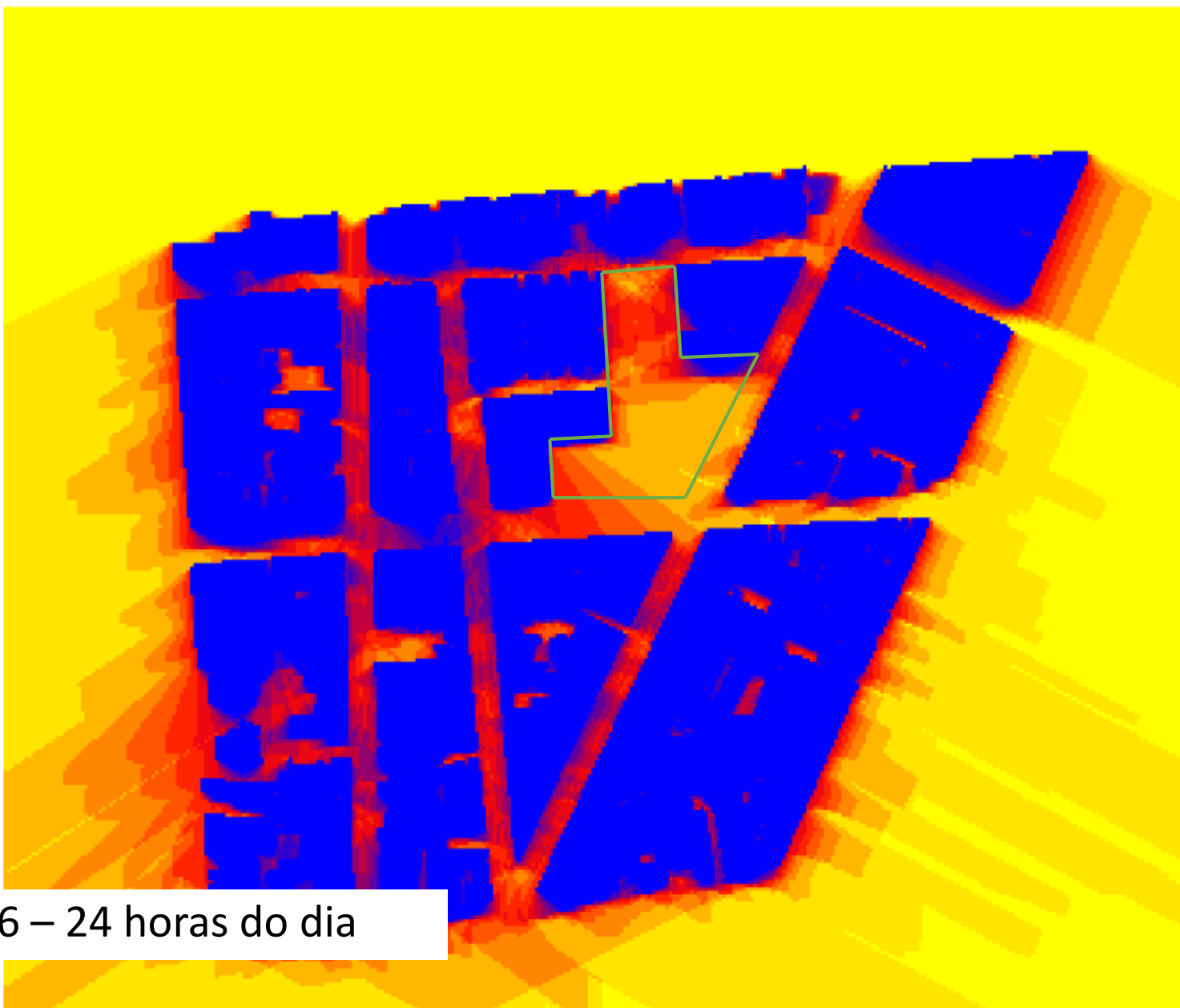
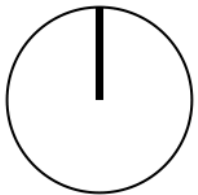
Outono – 21/03 – 12:00





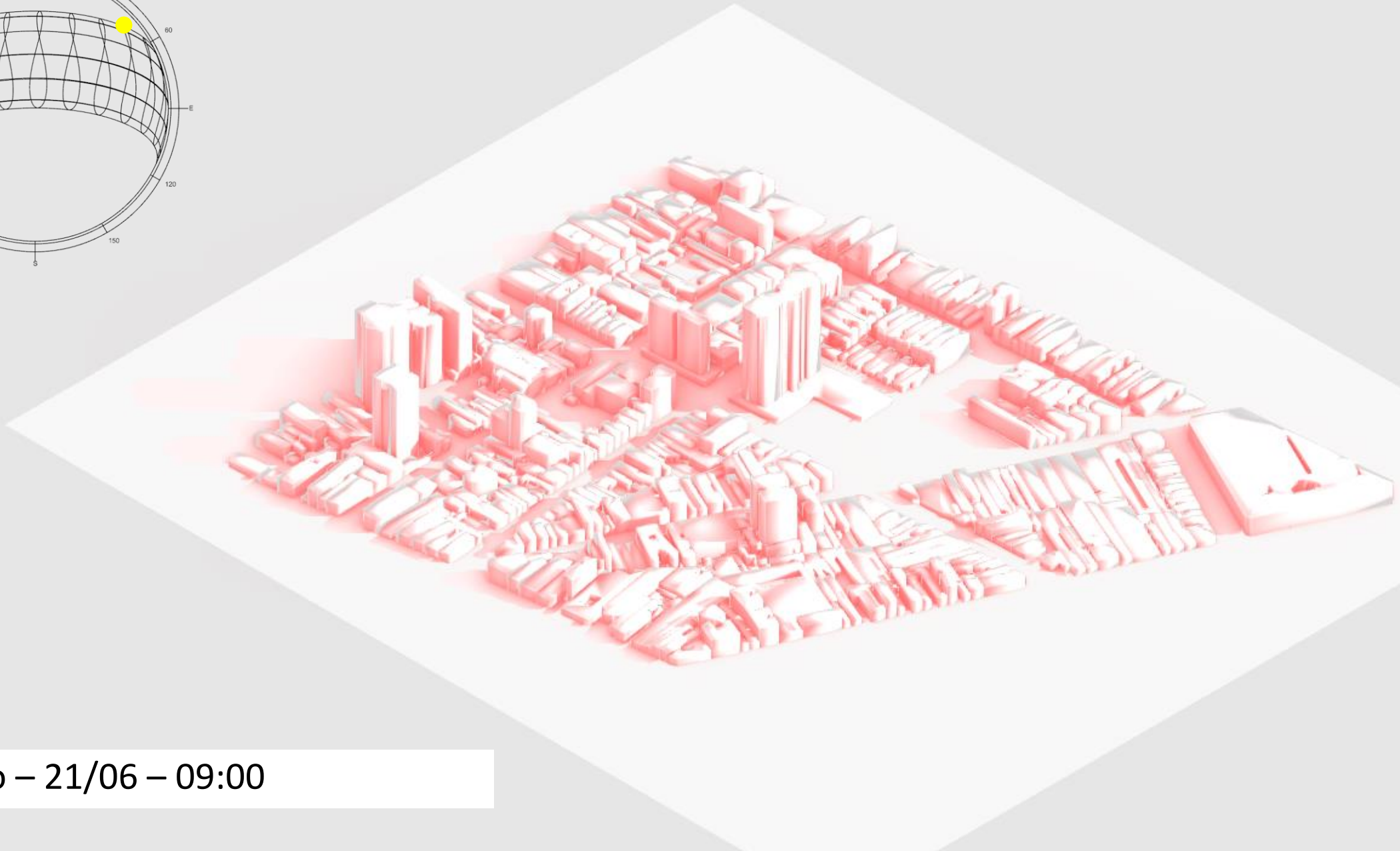
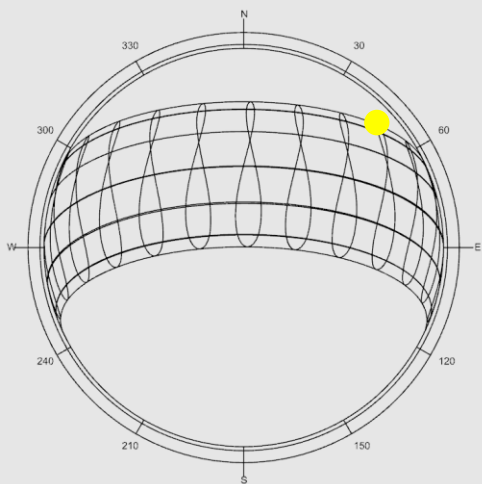
Outono – 21/03 – 15:00





TEMPO DE SOMBRA – PLUG-IN
LADYBUG

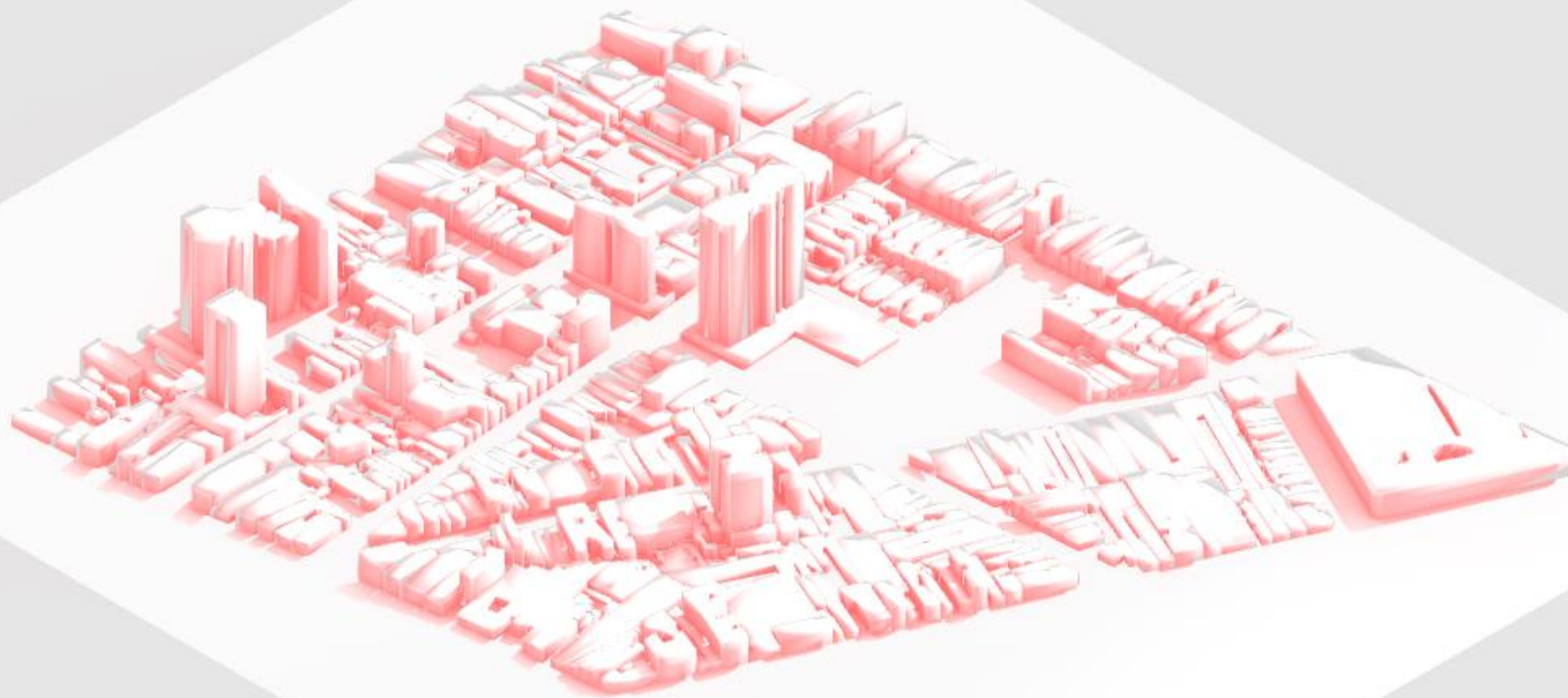
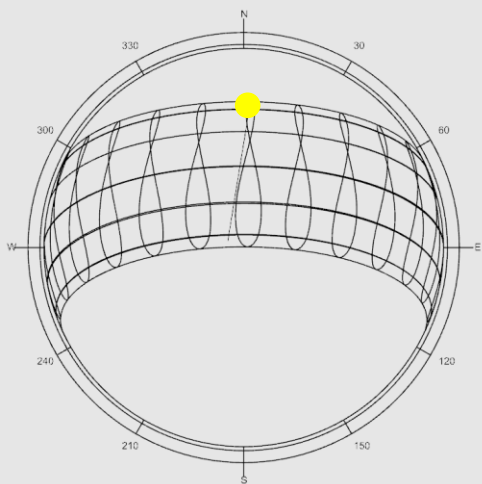
Inverno – 21/06 – 24 horas do dia



Inverno – 21/06 – 09:00

SOMBREAMENTO – PLUG-IN LADYBUG

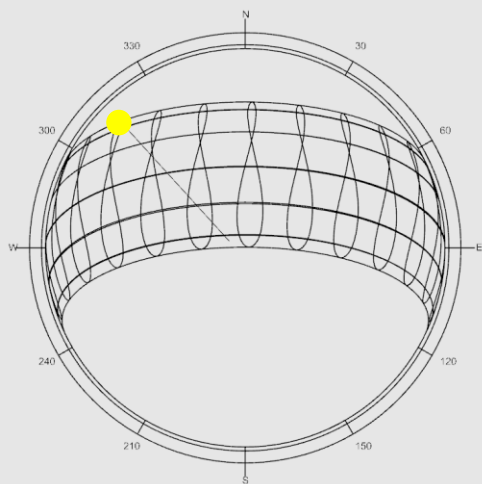




Inverno – 21/06 – 12:00

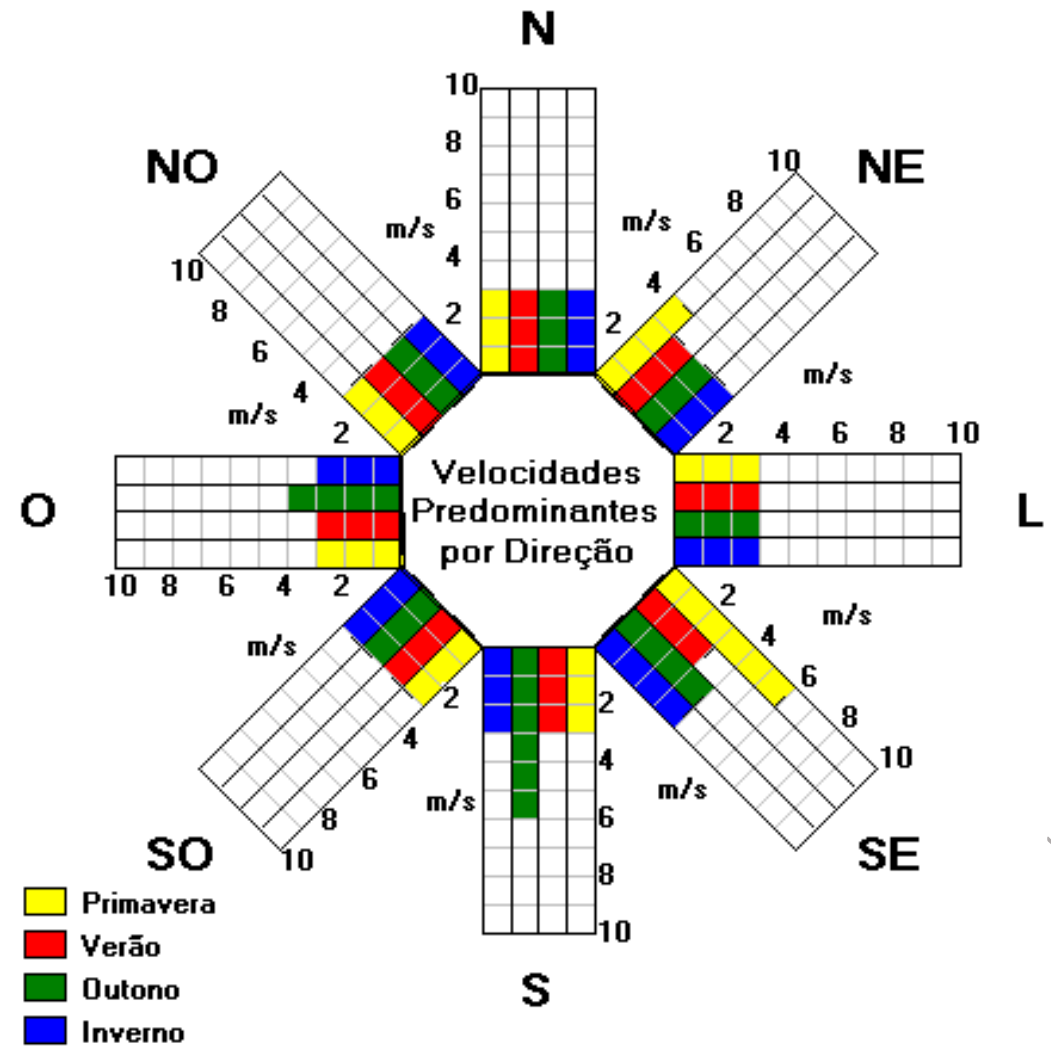
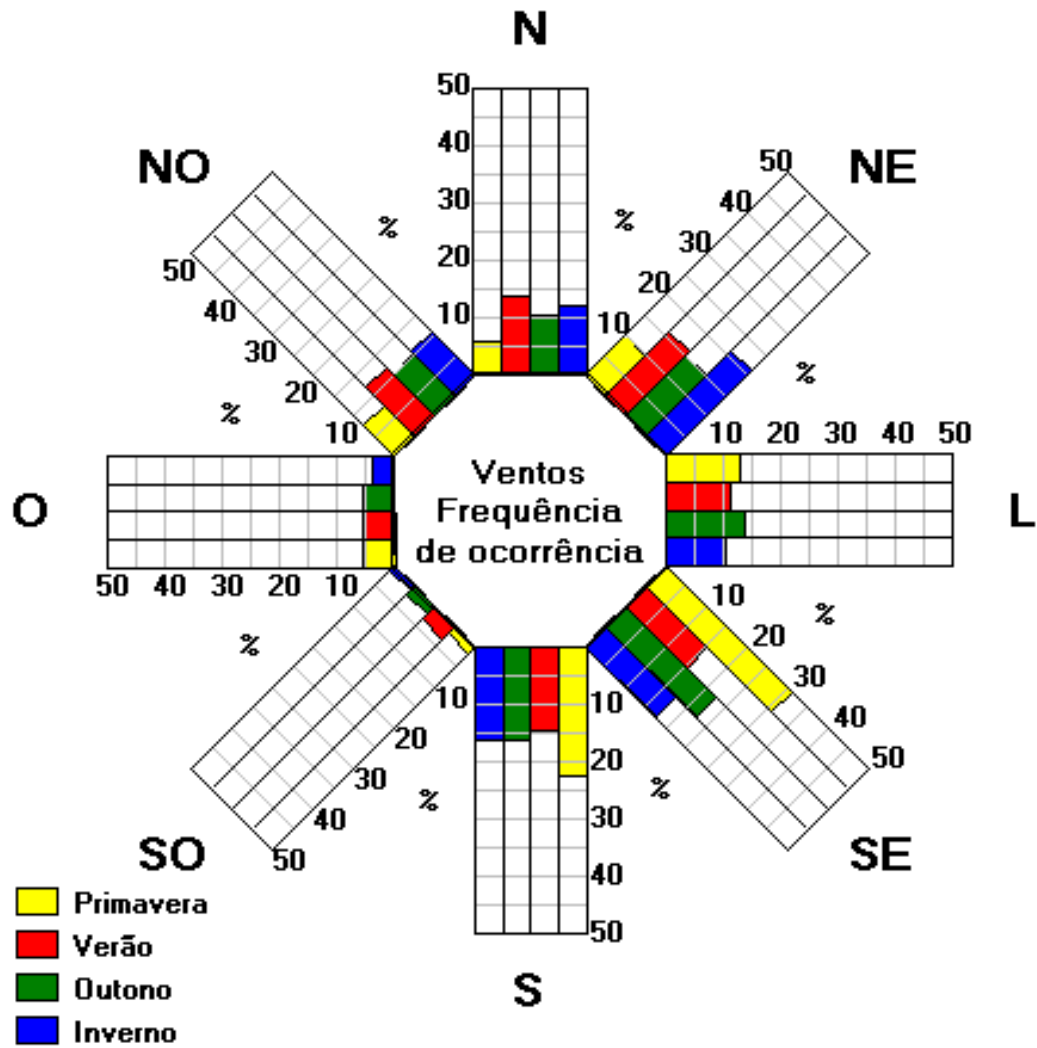
SOMBREAMENTO – PLUG-IN LADYBUG

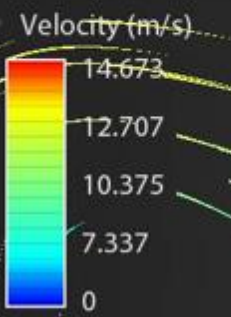
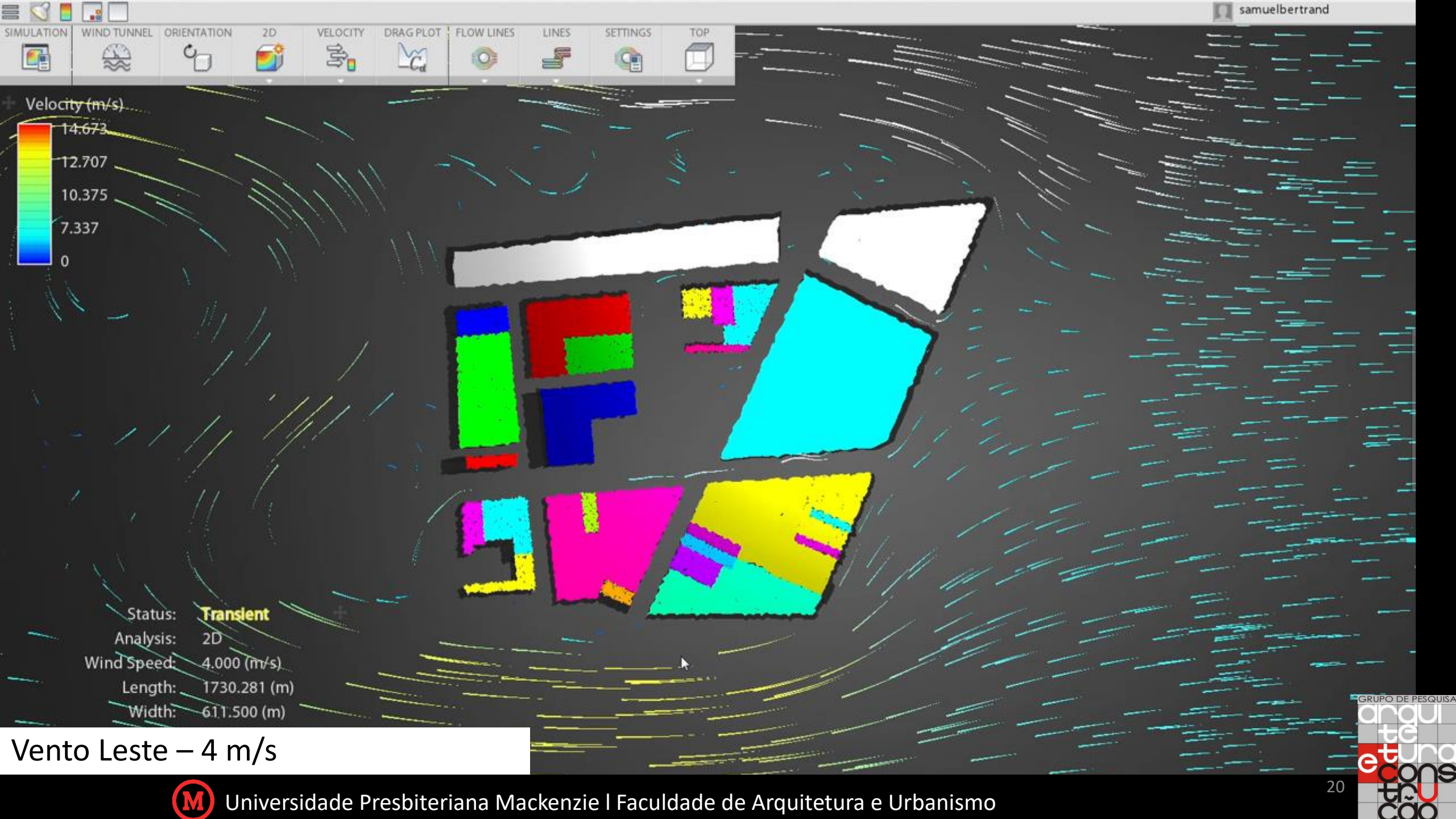




Inverno – 21/06 – 15:00

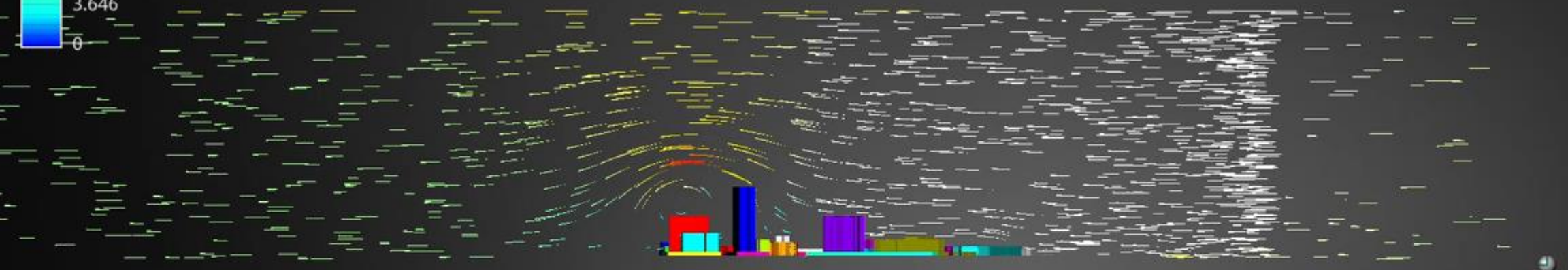
SOMBREAMENTO – PLUG-IN LADYBUG





Status: **Transient**
Analysis: 2D
Wind Speed: 4.000 (m/s)
Length: 1730.281 (m)
Width: 611.500 (m)

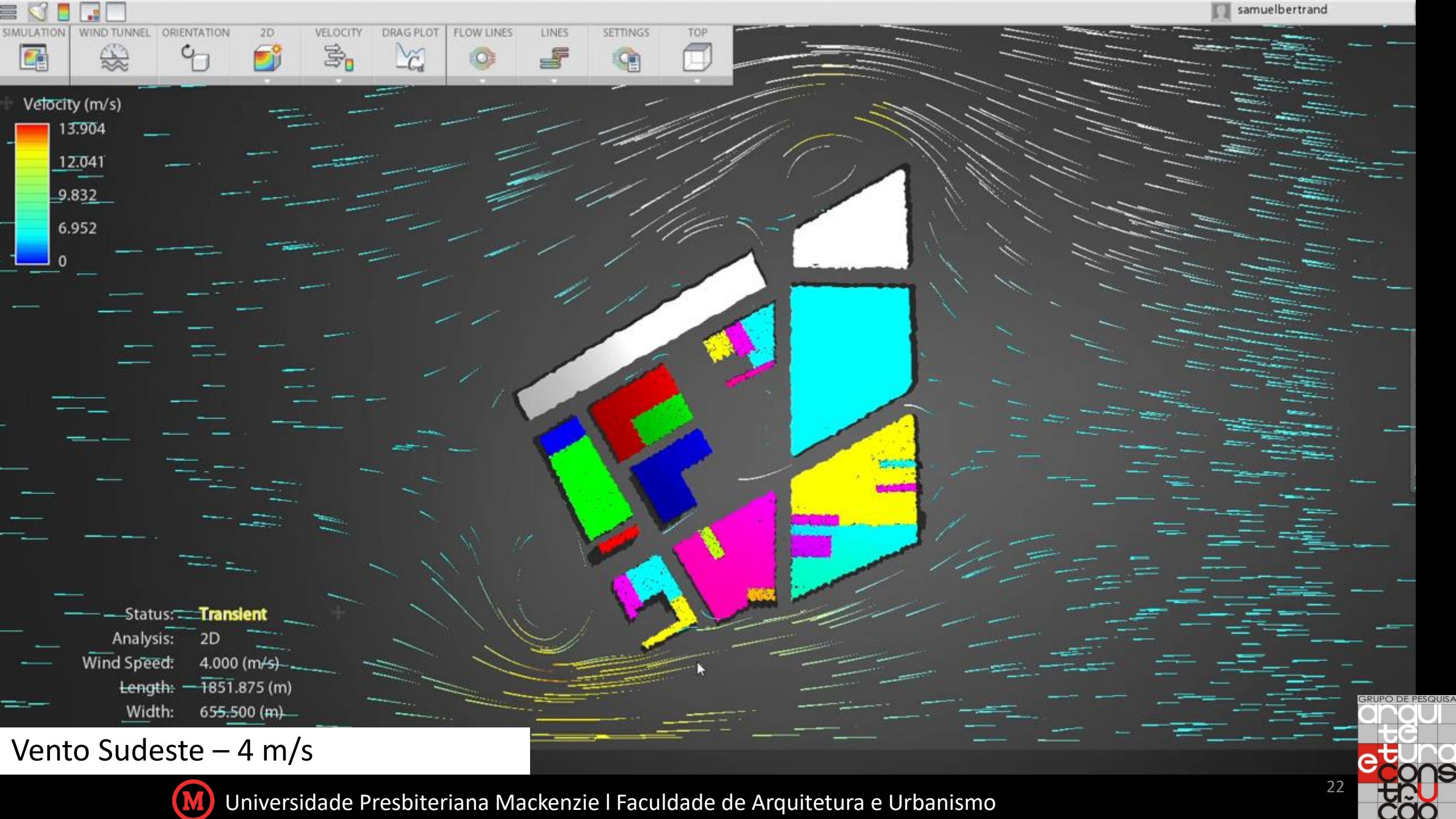
Vento Leste – 4 m/s



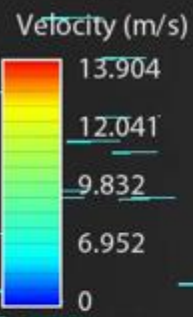
Status: **Transient**
Analysis: 2D
Wind Speed: 4.000 (m/s)
Length: 1730.281 (m)
Width: 611.500 (m)

Vento Leste – 4 m/s



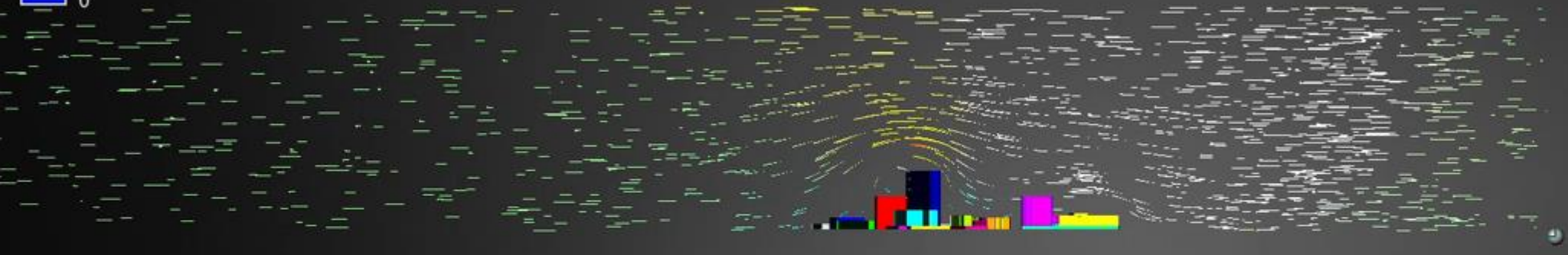
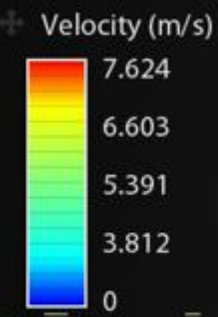


SIMULATION WIND TUNNEL ORIENTATION 2D VELOCITY DRAG PLOT FLOW LINES LINES SETTINGS TOP



Status: **Transient**
Analysis: 2D
Wind Speed: 4.000 (m/s)
Length: 1851.875 (m)
Width: 655.500 (m)

Vento Sudeste – 4 m/s



Status: **Transient** +
 Analysis: 2D
 Wind Speed: 4.000 (m/s)
 Length: 1851.875 (m)
 Width: 655.500 (m)

Vento Sudeste – 4 m/s



COMO REFERENCIAR

Nazareth, Samuel Bertrand Melo. **Projeto 4 – Análise Sombreamento e Ventilação Região da Liberdade – 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 4 – Análise Sombreamento e Ventilação Região da Liberdade - 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.labee.ufsc.br/downloads/software/analysis-sol-ar>

