



G Film

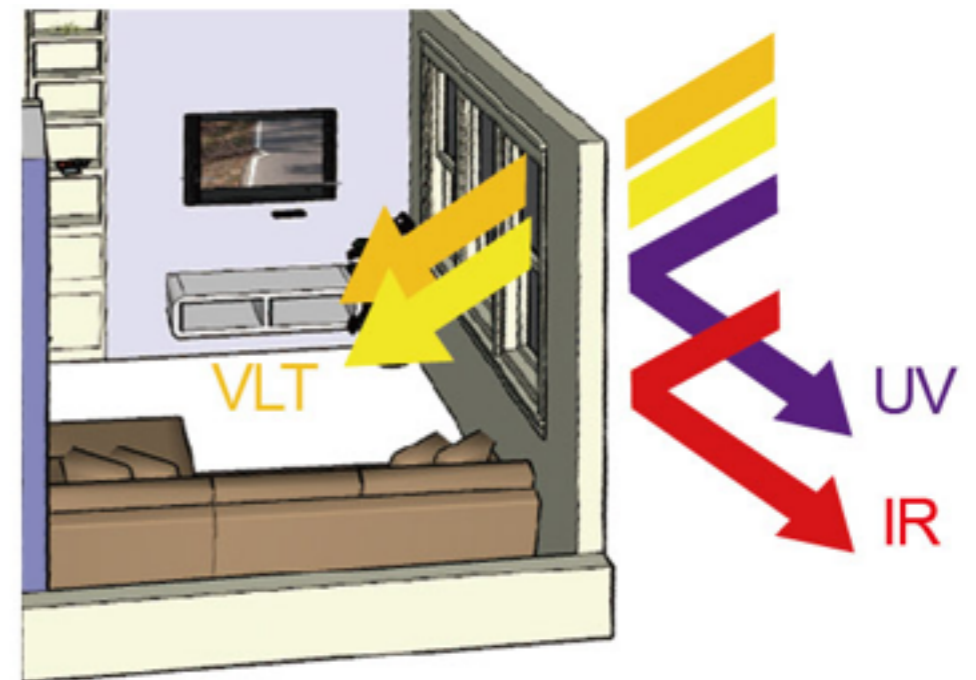
Energy Saving Film



What is G Film?

G Film energy saving film is using Nano-Ceramics coating technology. It can block Infrared and UV rays, let the sunlight enter in the same time.

Best for buildings window who cares for Natural Light and energy saving for comfort environment.





Why installed Film?

- Decrease heat
- Transparent
- Reduce fading & health risks
- Energy savings
- Increase safety

Anti-heat, High visible light, Low reflection





Case Study

In Taiwan, there is a coffee shop with four side windows as the owner try to attract customers by clear windows. However, no windows film stick on the windows. It makes the coffee shop keep received the heat source from the sunlight. By trying to keep the indoor cooler, the owner have to turn on the air condition and set up the degree as low as he can. Due to this situation, the spend of electric fee is increased.

Regarding to the above situation, this experiment is aiming to solve the problem by installing the G film (Energy Saving film). Not only test the effect of G film, but also help the coffee shop to reduce the cost of electric fee. In hence to reach the energy saving purpose.



Experiment Machine



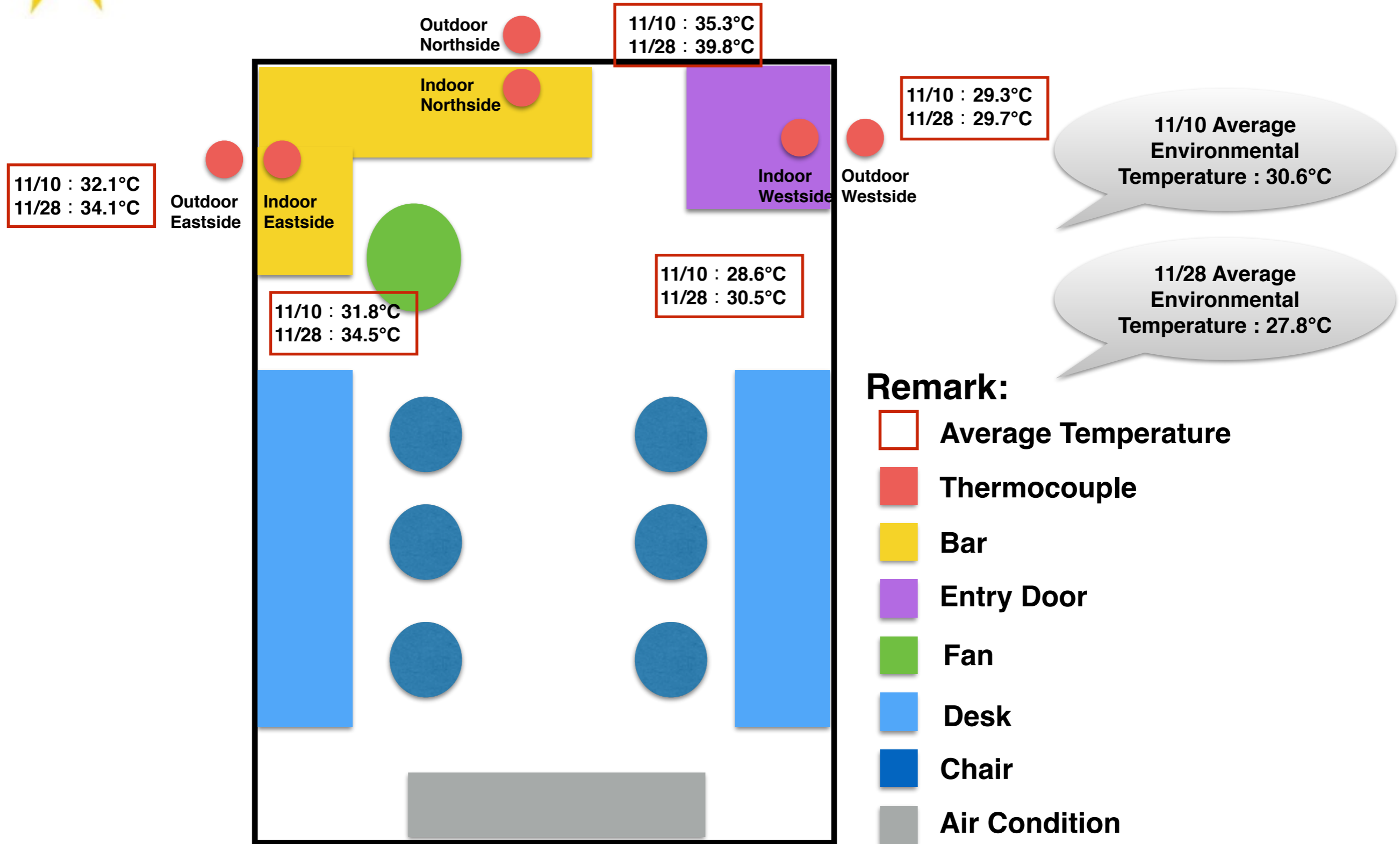


Experiment Step:

- Set up experiment machine
- Installation of thermocouple
- Turn on the experiment machine and start test
- Turn off the experiment machine when test finished
- Data collating
- Uninstall the experiment equipments



Coffee shop layout & Thermocouple arranging layout





Experiment Content (1)

- Experiment date: 2014/11/10
- Experiment parameters:
 1. Coffee shop **without** G Film
 2. Air Condition set up to 26°C
 3. In the morning, air condition set weak wind and dehumidify, electric stove open
 4. In the afternoon, air condition set strong wind in cold mode, electric stove shut down
- Experiment time: 09:45 - 17:00



Experiment Content (2)

- Experiment date: 2014/11/28
- Experiment parameters:
 1. Coffee shop **with** G Film
 2. Air Condition set up to 26°C
 3. In the morning, air condition set weak wind and dehumidify, electric stove open
 4. In the afternoon, air condition set strong wind in cold mode, electric stove shut down
- Experiment time: 09:20 - 17:00



Result & Discussion (1)

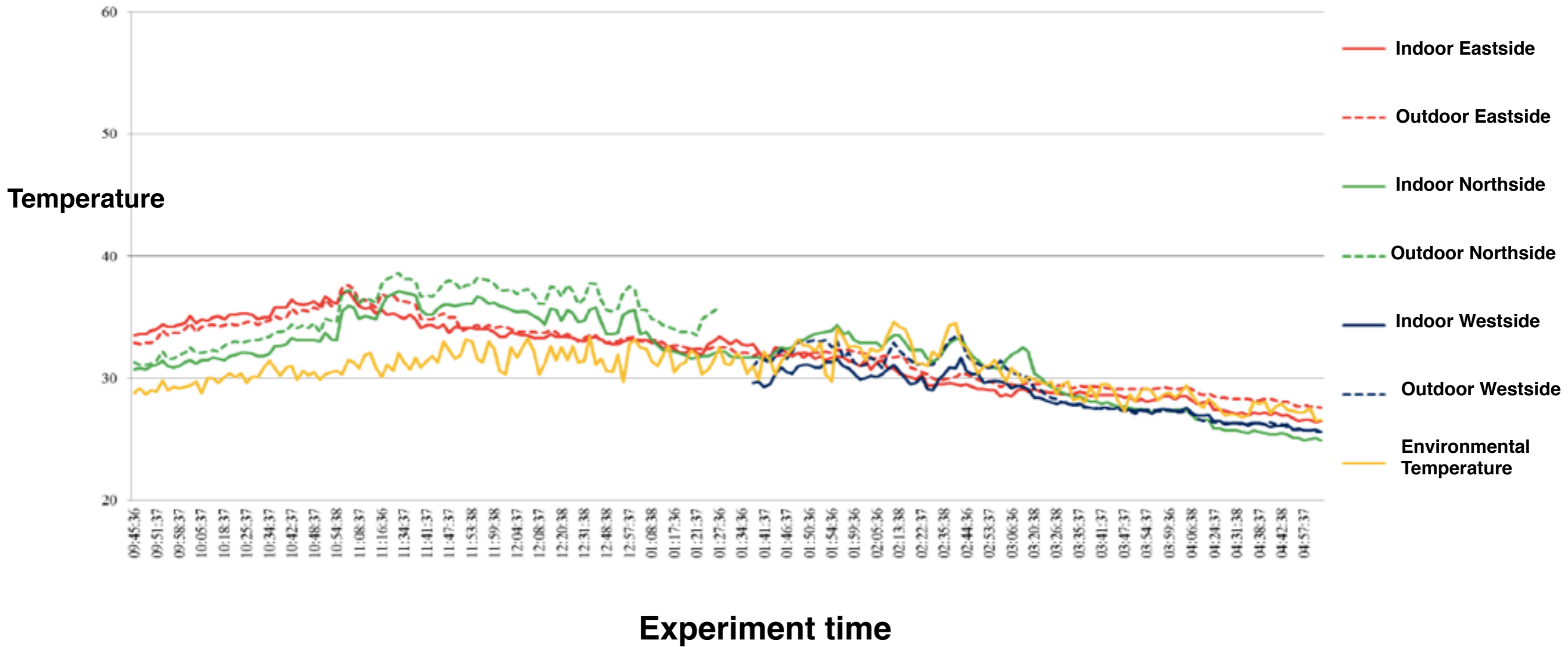
	2014/11/10 (A)	2014/11/28 (B)	Save
G Film	No	Yes	
Power Consumption (From 9:45-12:00)	3.5	2.2	Save 1.3 degree Save around 37.14% of power consumption
Power Consumption (From 12:00-17:00)	6.4	4.4	Save 2.0 degree Save around 31.25% of power consumption
Power Consumption (Whole Day)	9.9	6.6	Save 3.3 degree Save around 33.33% of power consumption
Environmental Temperature	30.6°C	27.8°C	

- **Formula of saving power : $(A-B)/B \times 100\%$**



Result & Discussion (2)

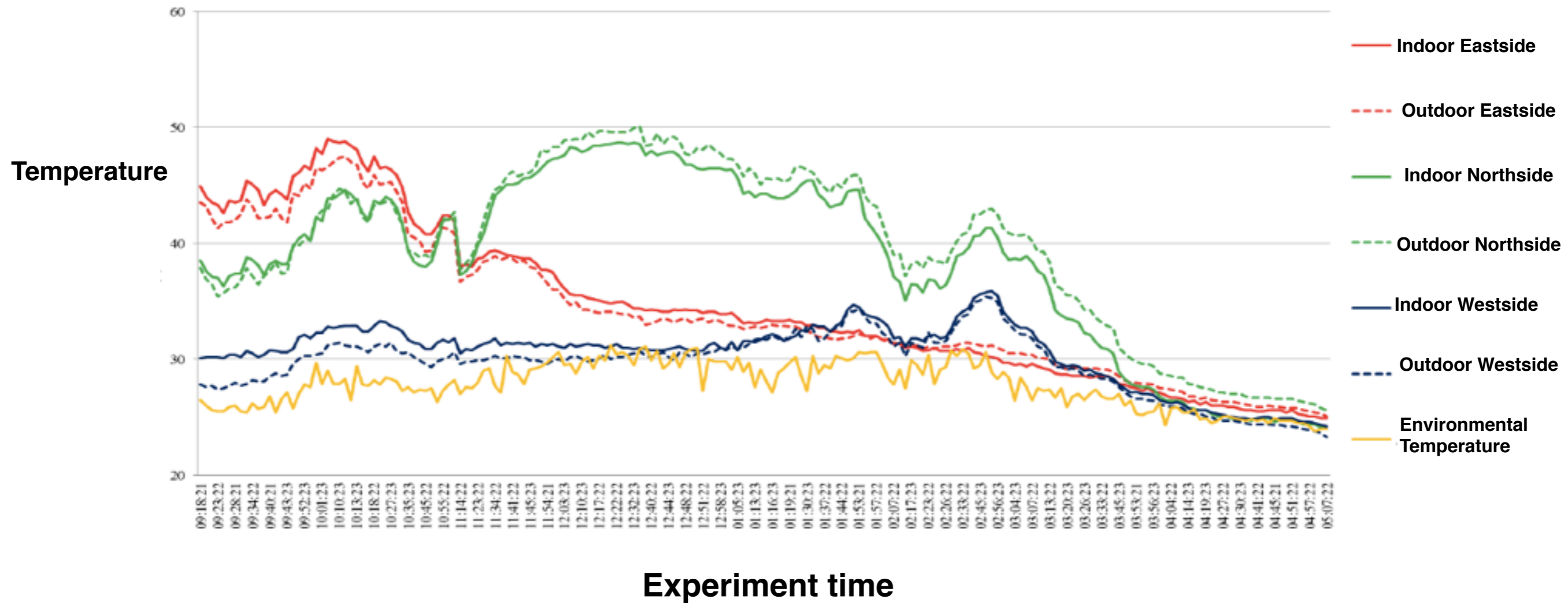
2014.11.10, the degree of coffee shop without G Film





Result & Discussion (3)

2014.11.28, the degree of coffee shop with G Film





Result & Discussion (4)

2014/11/10 Meter Degree

Time	Degree
09:45	123.1
12:03	126.6
17:00	133.0



Result & Discussion (5)

2014/11/28 Meter Degree

Time	Degree	Time	Degree
09:45	143.3	13:30	147.2
10:00	143.8	14:00	147.7
10:30	144.1	14:30	148.2
11:00	144.5	15:00	148.7
11:30	145.1	15:30	149.2
12:00	145.5	16:00	149.5
12:30	146.0	16:30	149.8
13:00	146.6	17:00	149.9



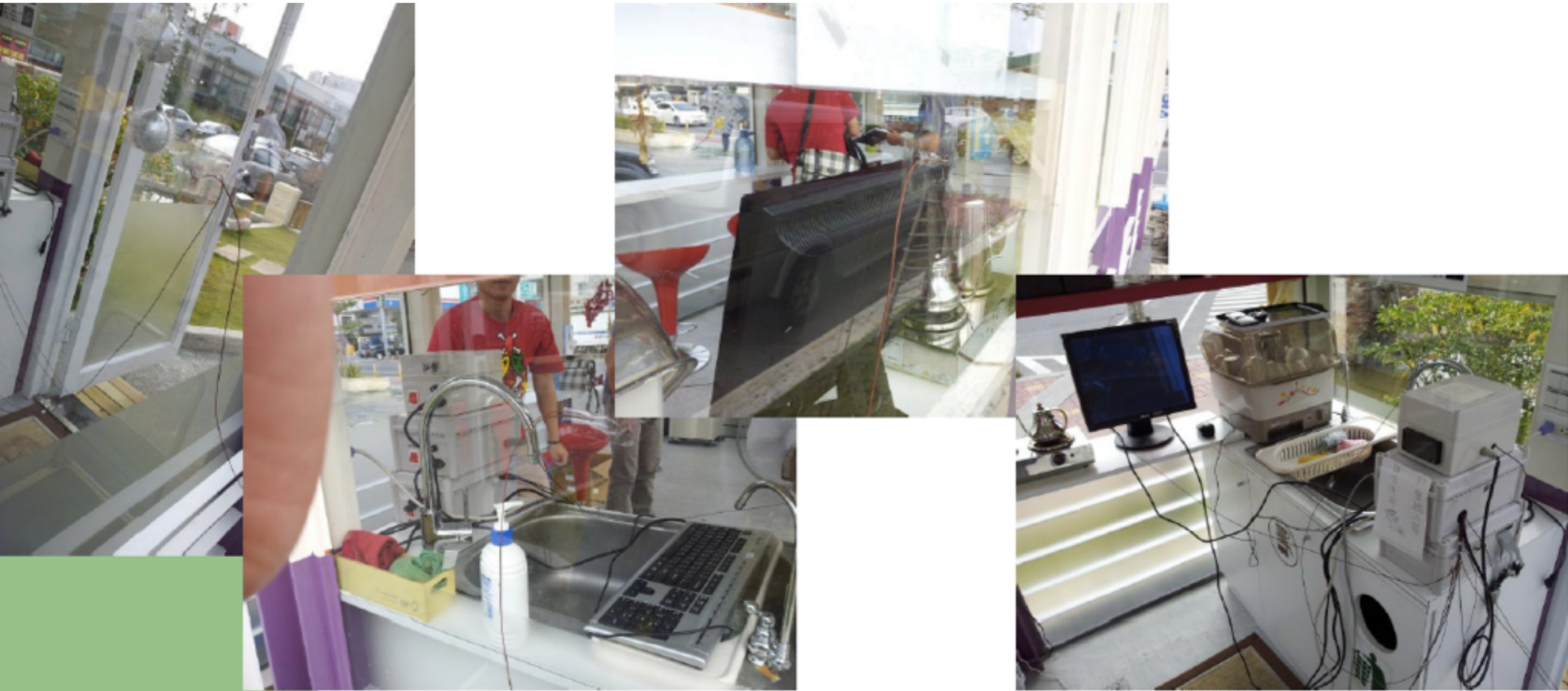
Item in Coffee Shop



Electric stove, Fan, Air remote



Experiment Photo (1)



Experiment machine & Thermocouple set up on 2014.11.10



Experiment Photo (2)



The photo of meter degree on 2014.11.10



Experiment Photo (3)



Experiment machine & Thermocouple set up on 2014.11.28



Experiment Photo (4)

Record Time: 09:45



Record Time: 10:00



Record Time: 10:30



Record Time: 11:00



Record Time: 11:30



Record Time: 12:00



Record Time: 12:30



Record Time: 13:00



The photo of meter degree on 2014.11.28



Experiment Photo (5)

Record Time: 13:30



Record Time: 14:00



Record Time: 14:30



Record Time: 15:00



Record Time: 15:30



Record Time: 16:00



Record Time: 16:30



Record Time: 17:00



The photo of meter degree on 2014.11.28



Other Case Photo

