

Loisos + Ubbelohde Associates

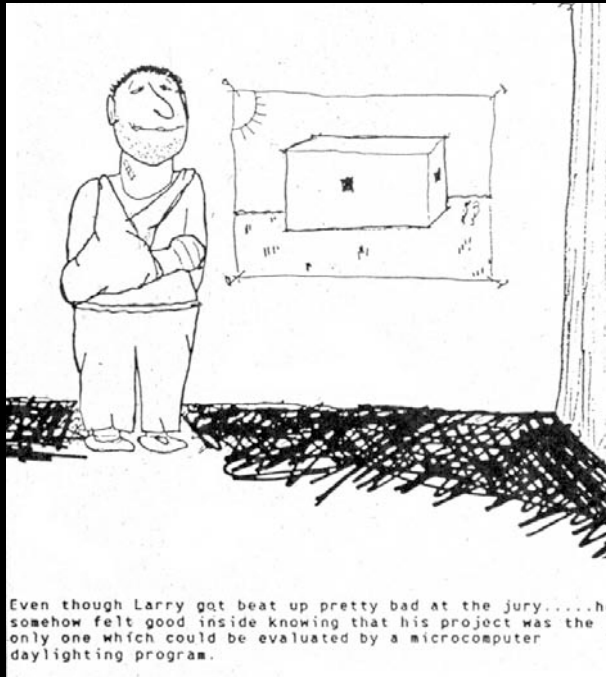
Architecture.Energy

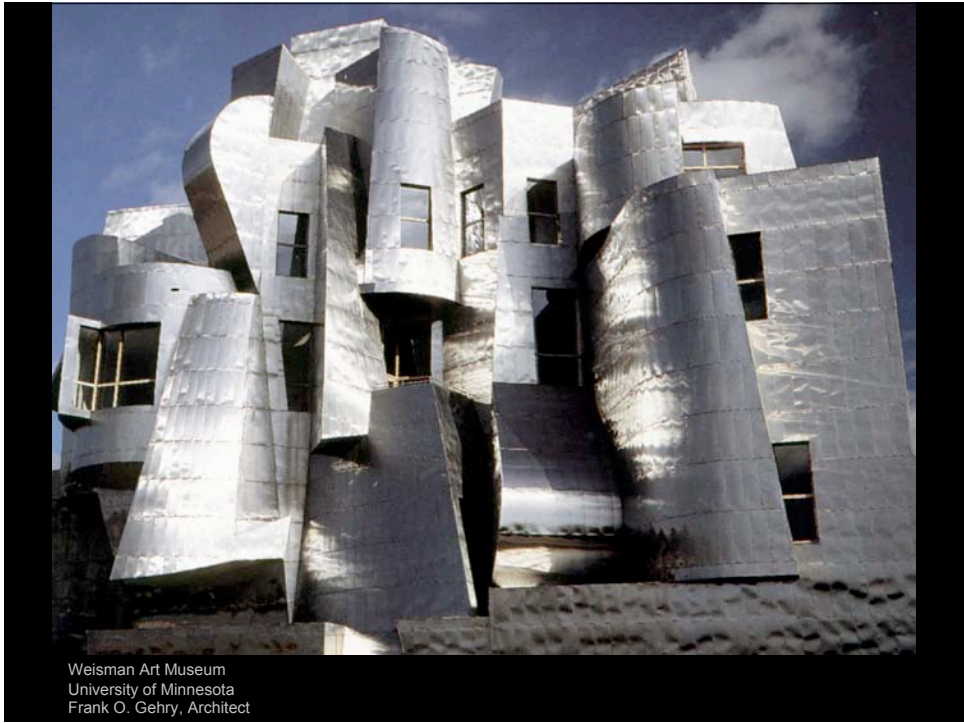
Alameda, CA

Thom Burnham
Susanna Douglas
Christian Humann
Brendon Levitt
Michael Martinez
Santosh Philip
David Scheer³
Stephan Wasilewski
Toben Windahl

&
Suki

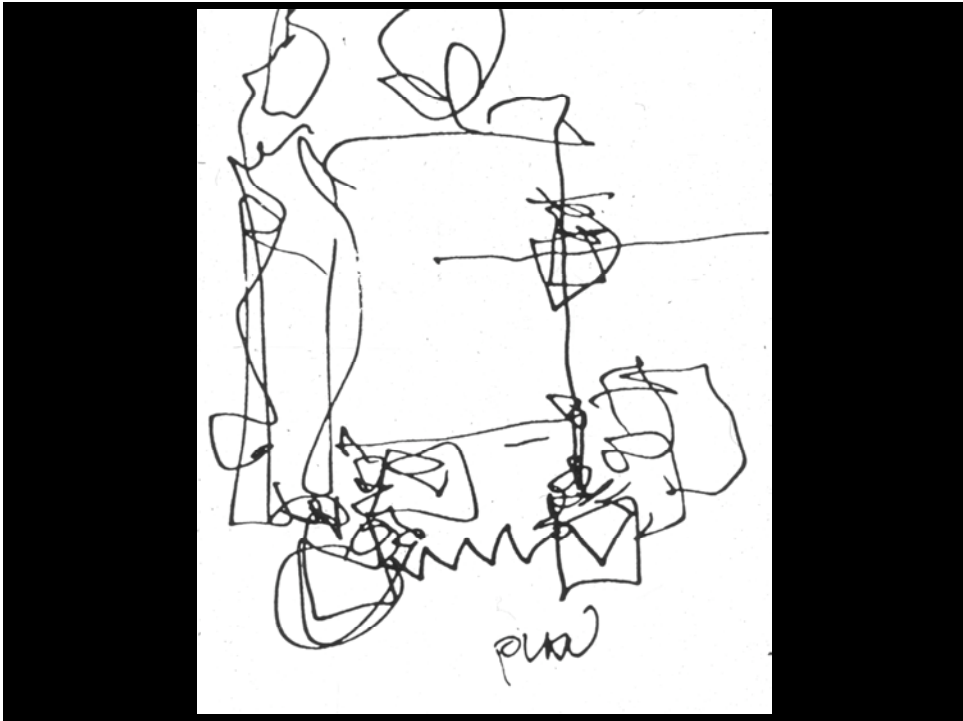
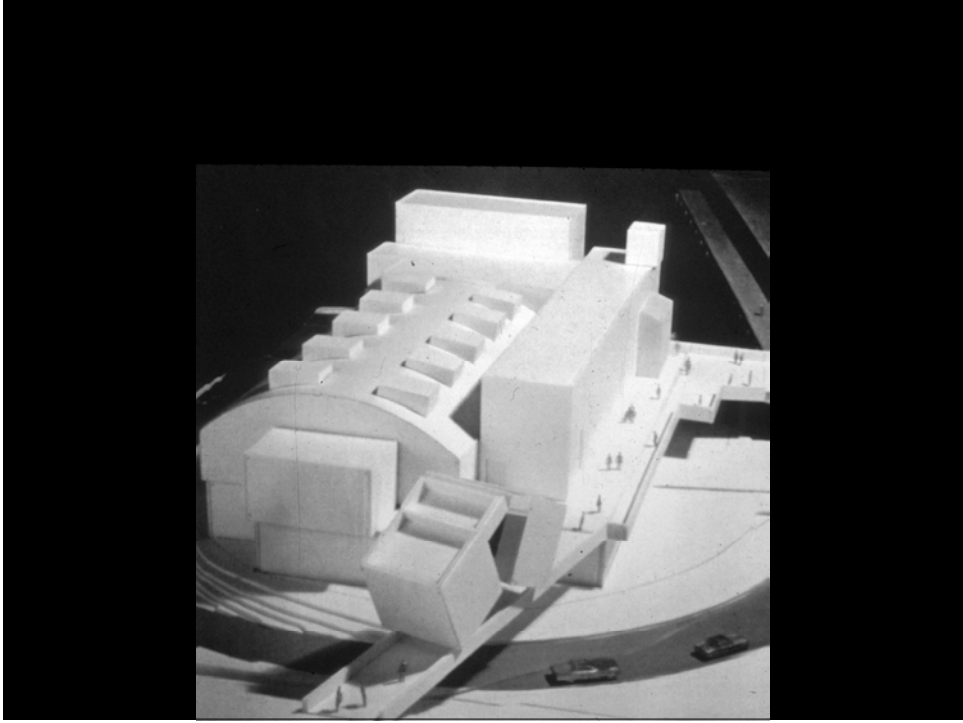
1987

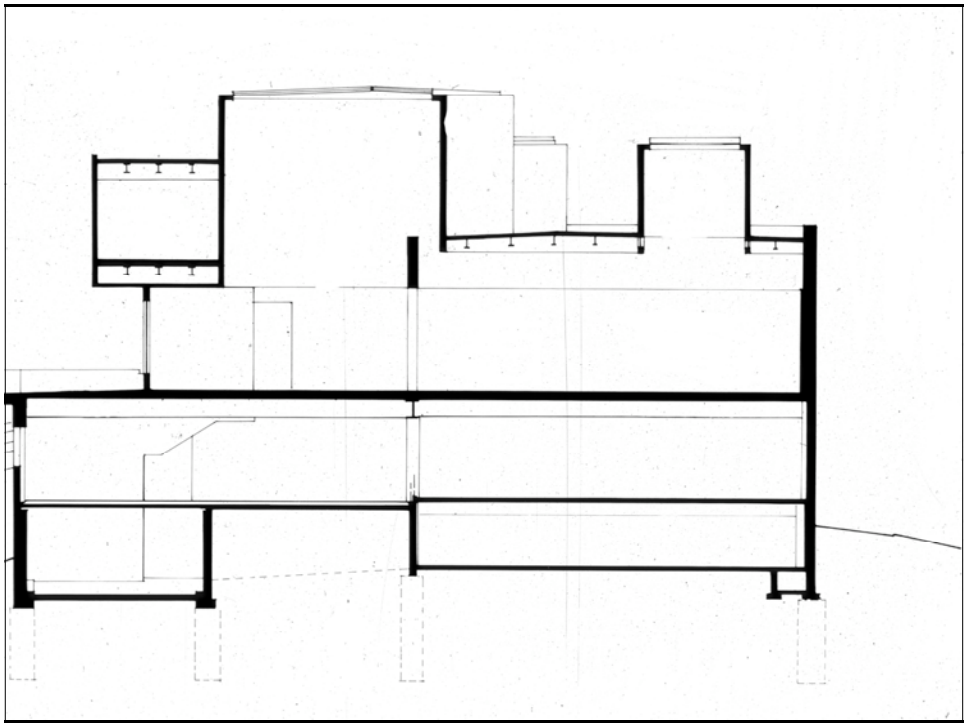


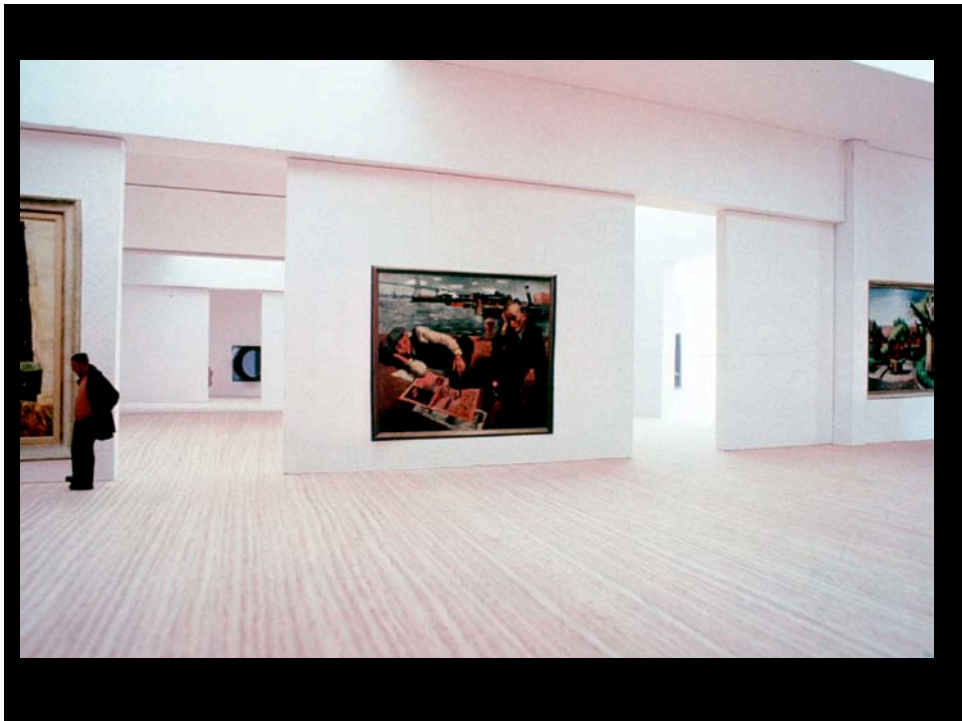


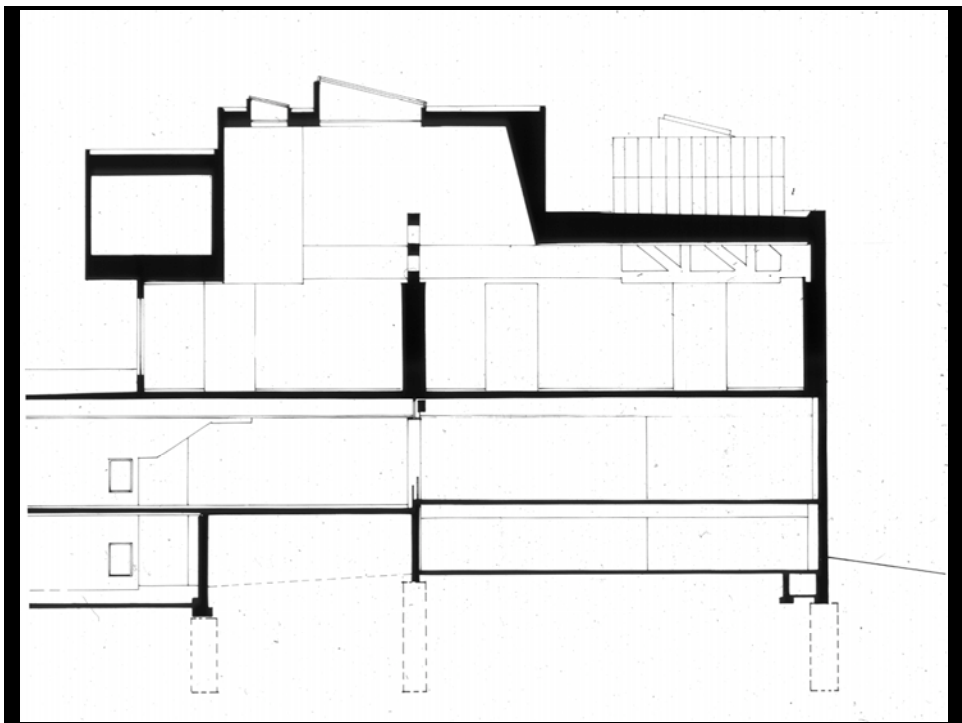
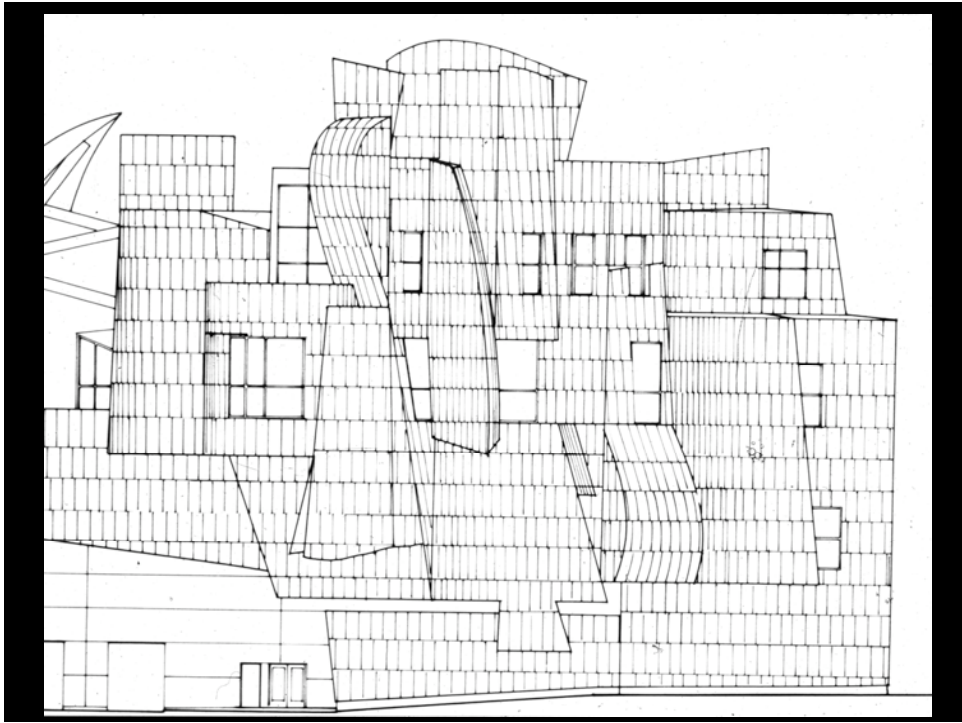
Weisman Art Museum
University of Minnesota
Frank O. Gehry, Architect

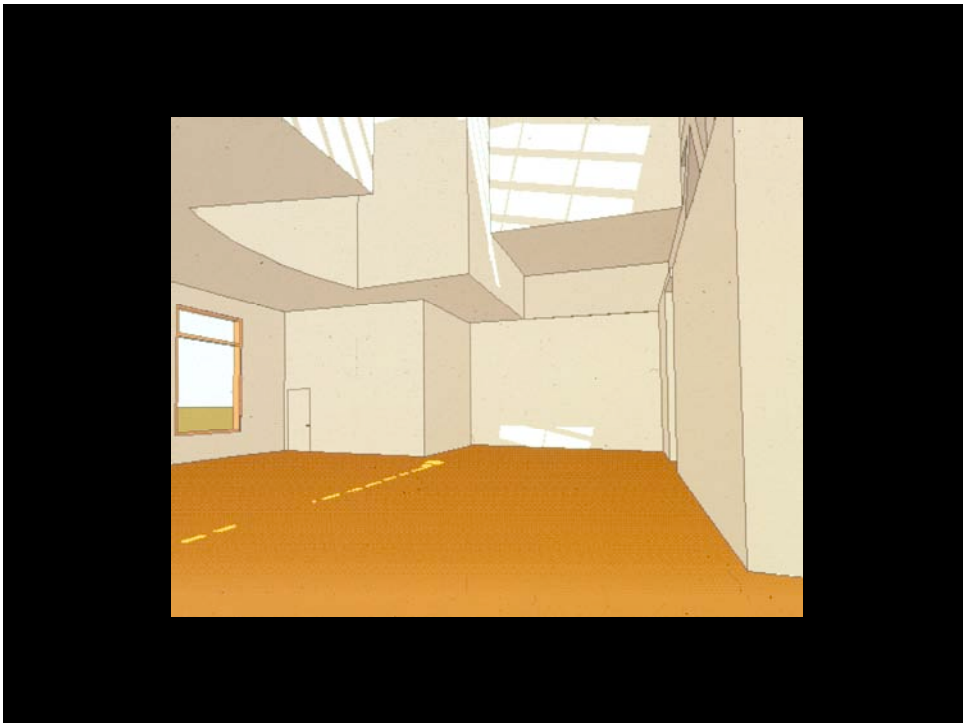




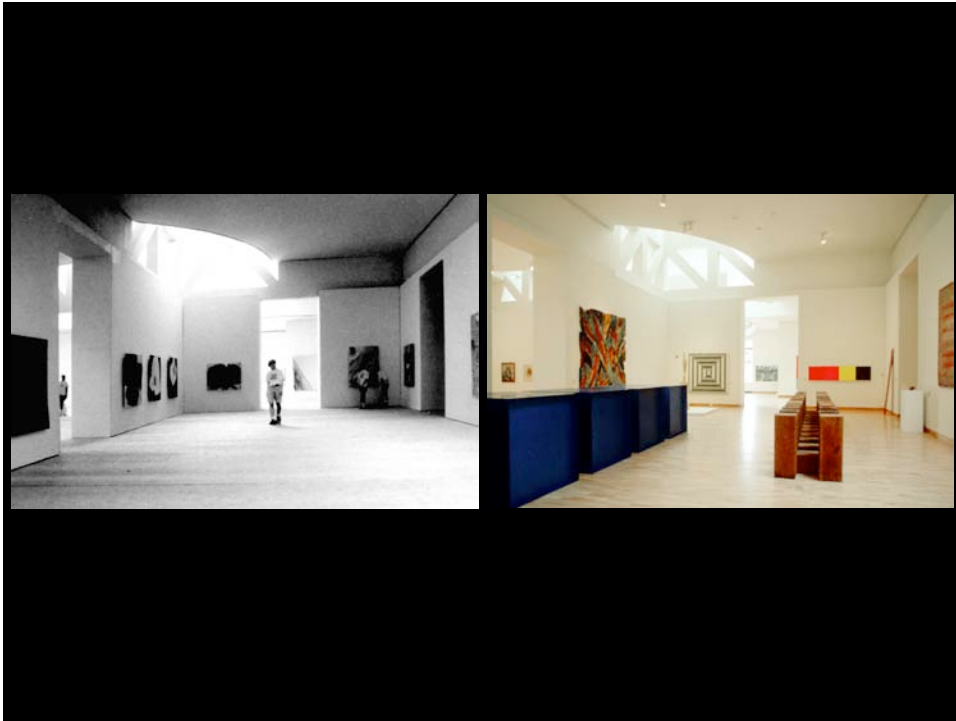








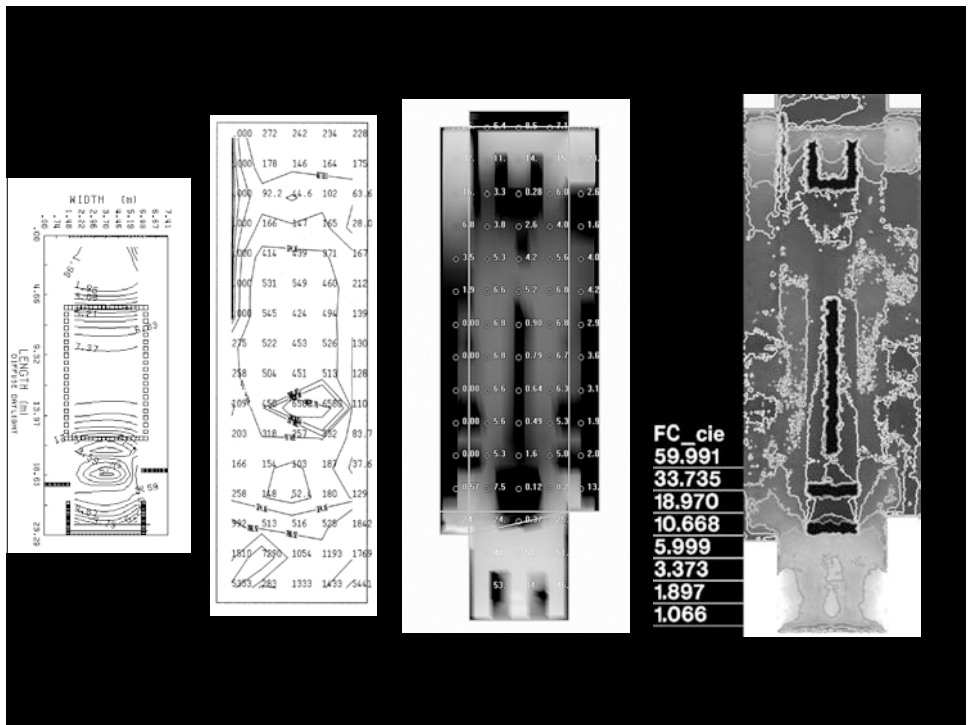
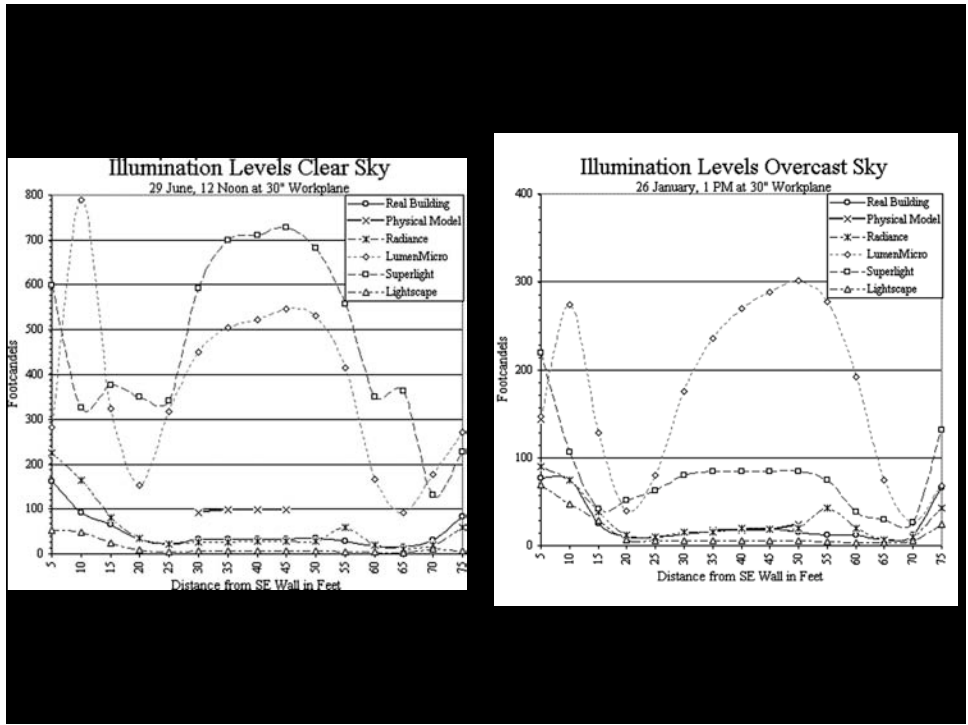


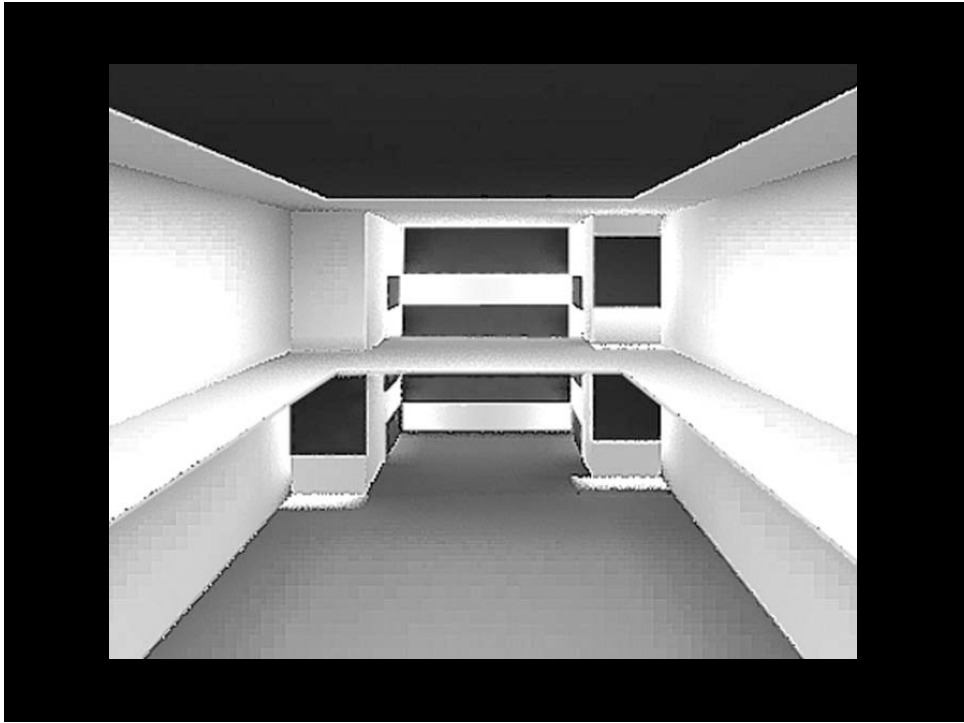


1997

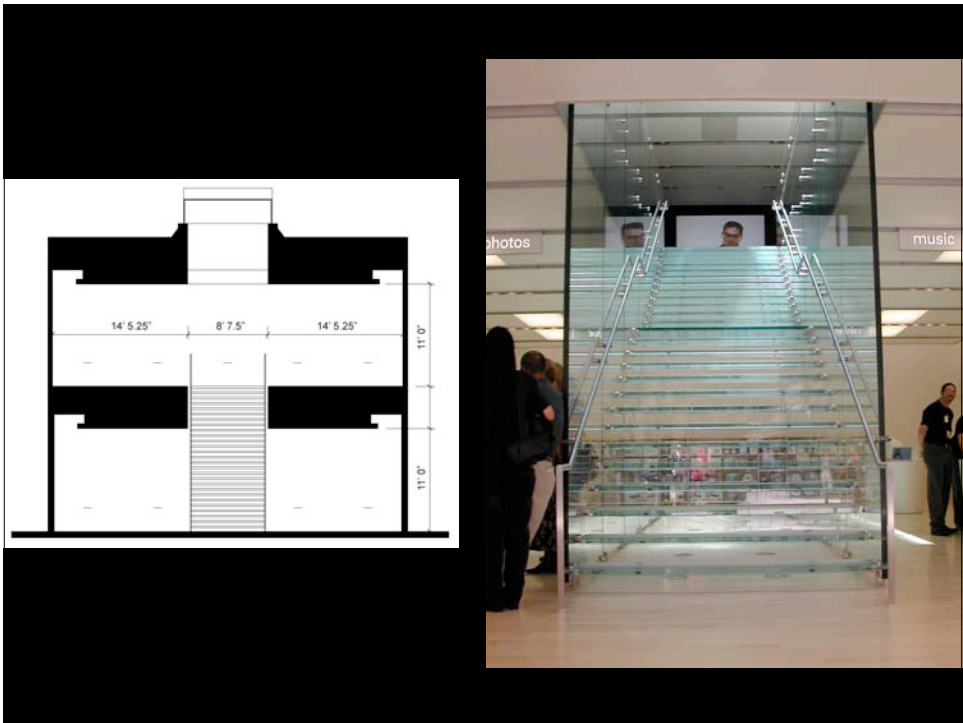
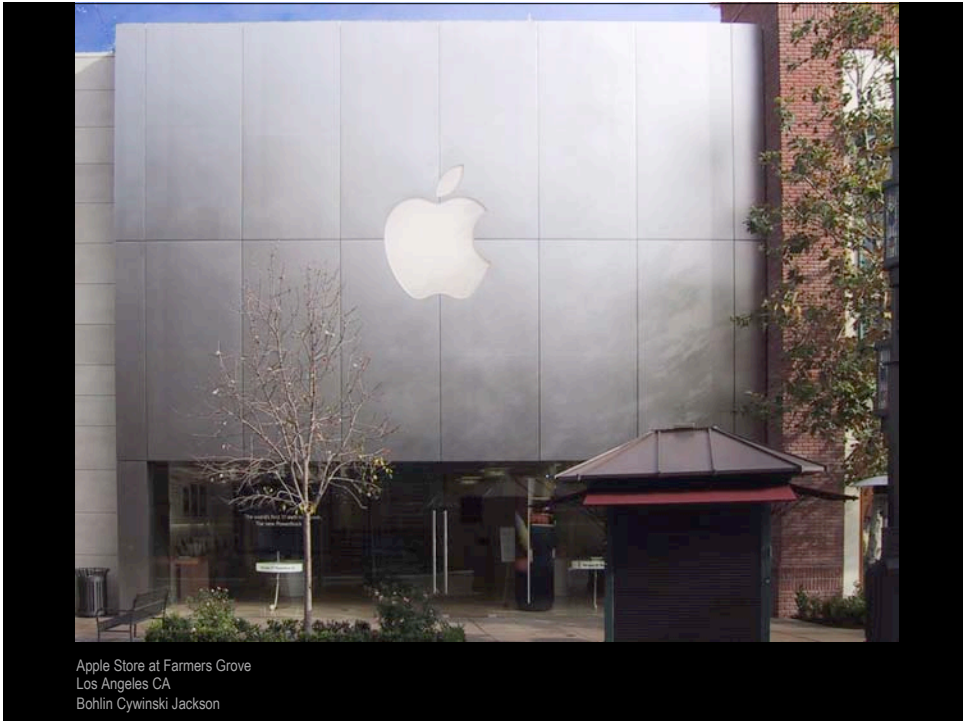


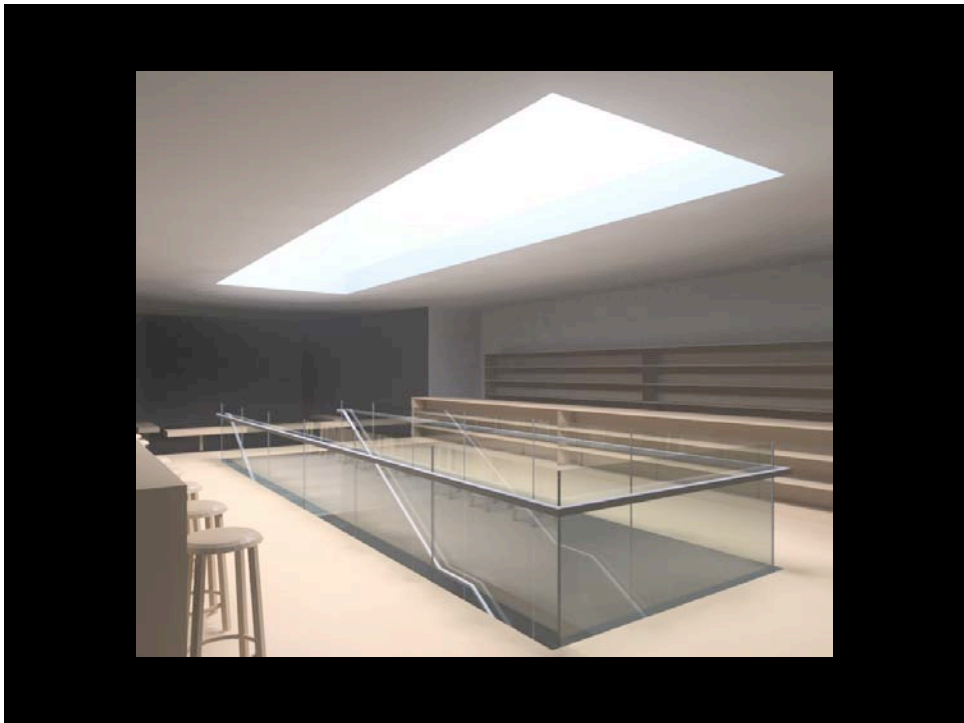
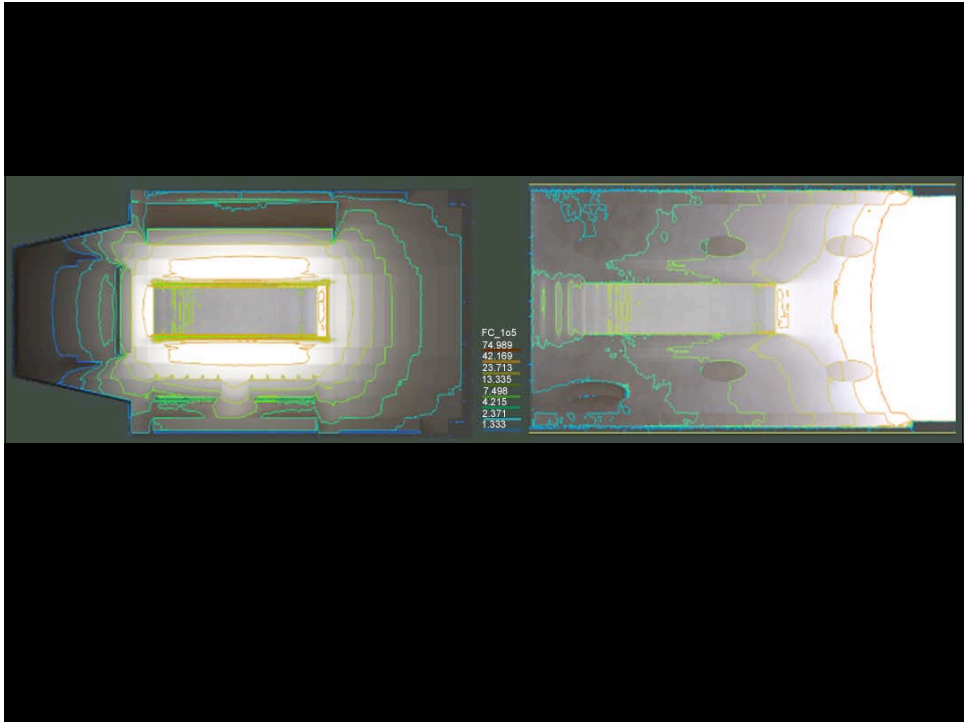
The office of Stanley Saitowitz in San Francisco

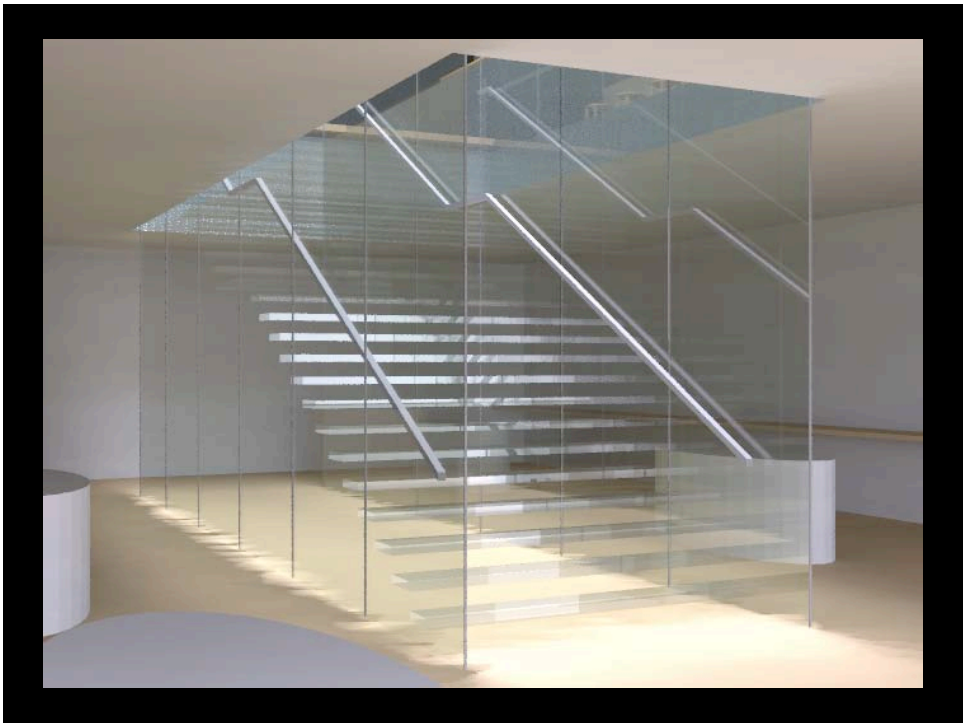
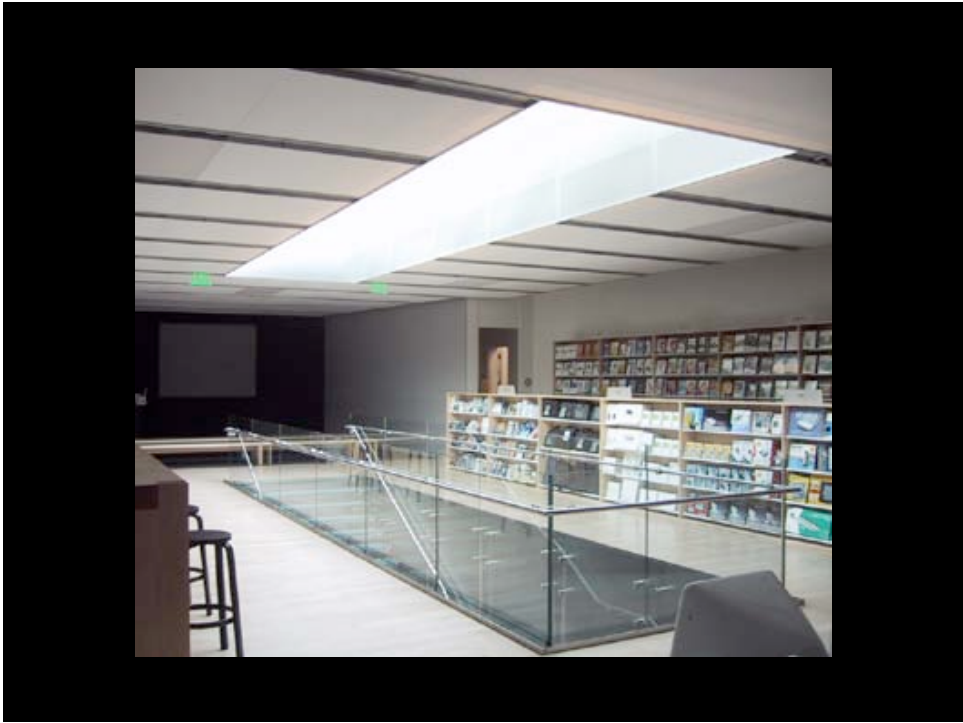


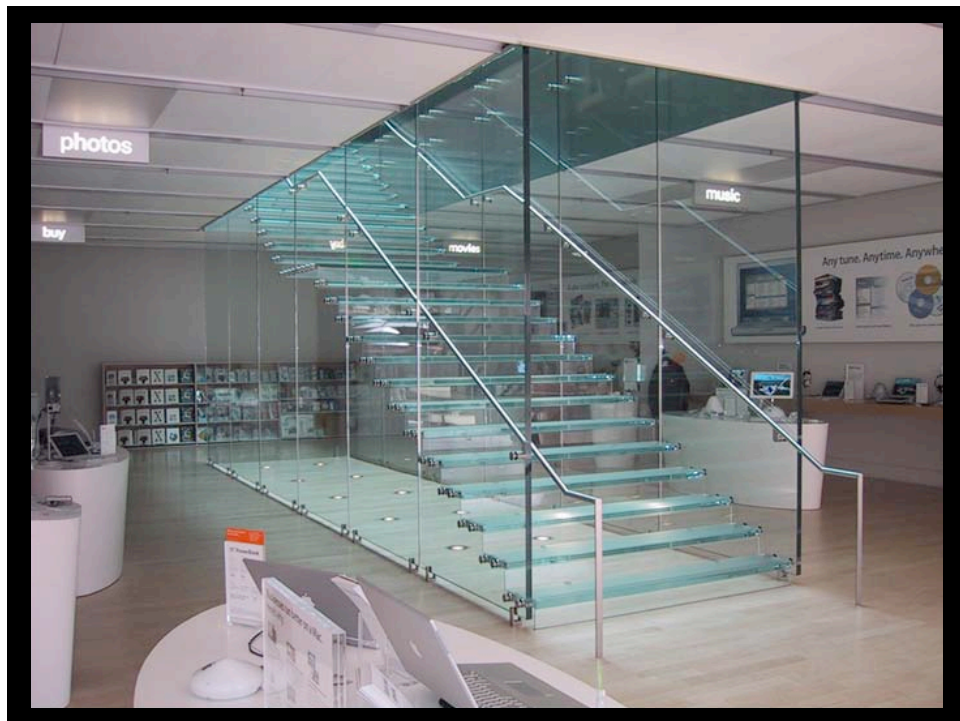
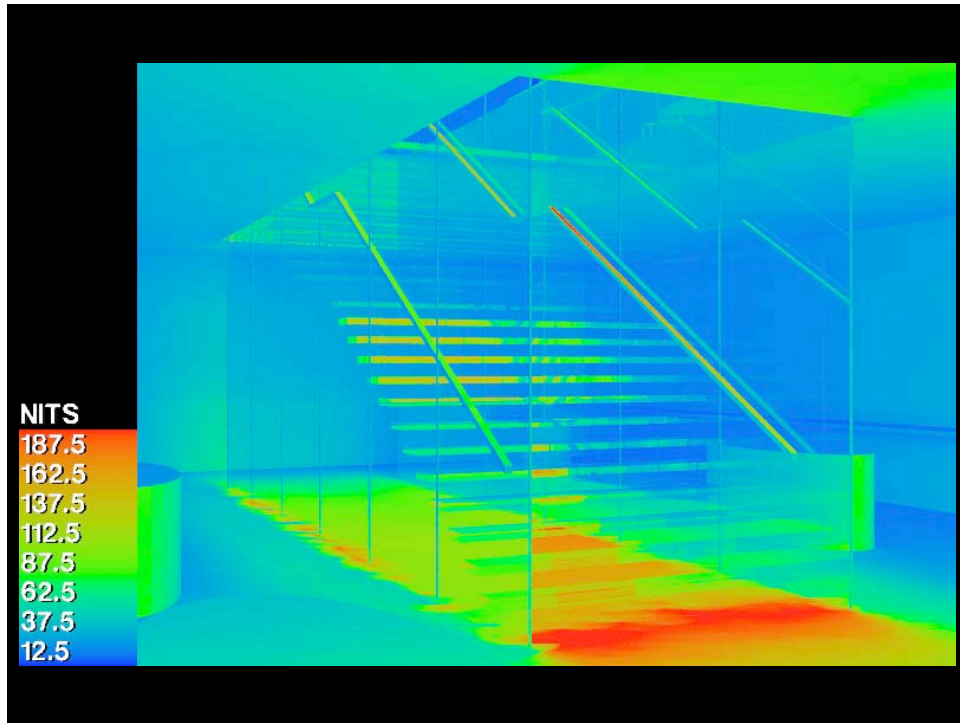






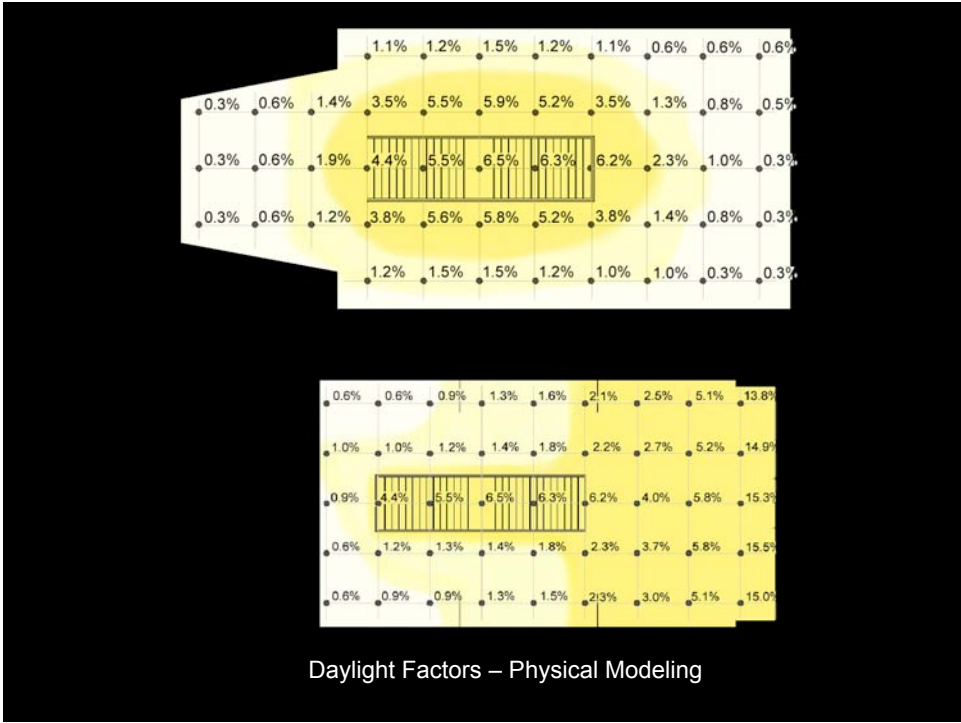


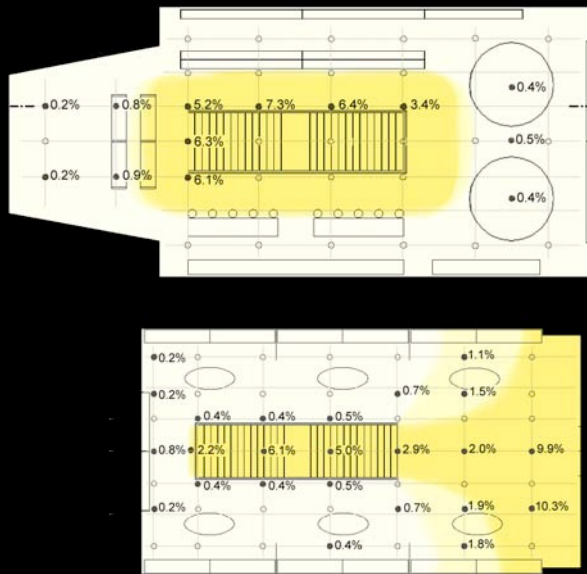




Physical Model

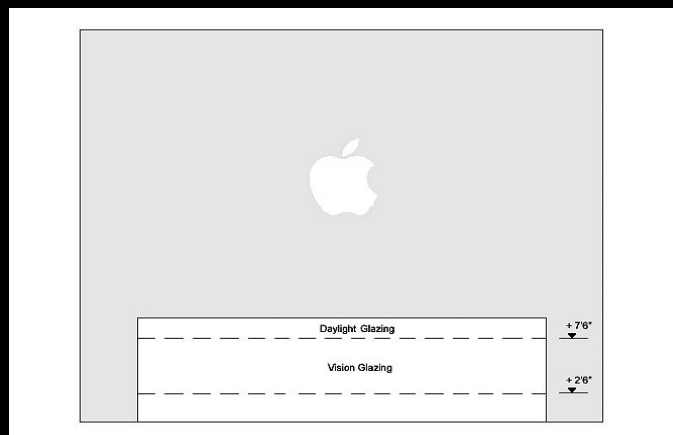






Daylight Factor – Field Measurements

LEED Spreadsheet Calculations



Floor Area ft ²	Glazing Area ft ²	Window Type	T (vis)	DF each	DF total
2465.9	178	Side-lighting: vision glazing	0.79	1.2%	4.6%
	66	Side-lighting: daylight glazing	0.79	0.4%	
	227	Top-lighting: stair	0.26	3.0%	

1st Floor Calculation

Floor Area ft ²	Glazing Area ft ²	Window Type	T (vis)	DF each	DF total
2530.6	227	Top-lighting: Skylight (horizontal plane)	0.31	3.5%	3.5%

2nd Floor Calculation

Hopkinson's Daylight Factor Rules of Thumb

Side-lighting:	DF min =	0.1	*	$\frac{\text{Net glazing area}}{\text{Floor area}}$	%
Vertical monitors:	DF avg =	0.2	*	$\frac{\text{Net glazing area}}{\text{Floor area}}$	%
Sloping shed + north lighting:	DF avg =	0.33	*	$\frac{\text{Net glazing area}}{\text{Floor area}}$	%
Horizontal glazing:	DF avg =	0.5	*	$\frac{\text{Net glazing area}}{\text{Floor area}}$	%

LEED™ Daylight Factor Calculator

Window Type	DF=	Geometry Factor	*	$\frac{\text{Window Area}}{\text{Floor Area}}$	*	$\frac{T(v)}{T(m)}$	*	Height Factor
Side-lighting (Vision Glazing): @ 2.5' to 7.5' height	DF =	0.1	*	$\frac{\text{Window Area}}{\text{Floor Area}}$	*	$\frac{T(v)}{0.4}$	*	0.8
Side-lighting (Vision Glazing): @ 7.5' and above	DF =	0.1	*	$\frac{\text{Window Area}}{\text{Floor Area}}$	*	$\frac{T(v)}{0.7}$	*	1.4
Top-lighting (Vertical Monitor):	DF =	0.2	*	$\frac{\text{Window Area}}{\text{Floor Area}}$	*	$\frac{T(v)}{0.4}$	*	1.0
Top-lighting (Sloped Monitor):	DF =	0.33	*	$\frac{\text{Window Area}}{\text{Floor Area}}$	*	$\frac{T(v)}{0.4}$	*	1.0
Top-lighting (Horizontal Skylight):	DF =	0.5	*	$\frac{\text{Window Area}}{\text{Floor Area}}$	*	$\frac{T(v)}{0.4}$	*	1.0

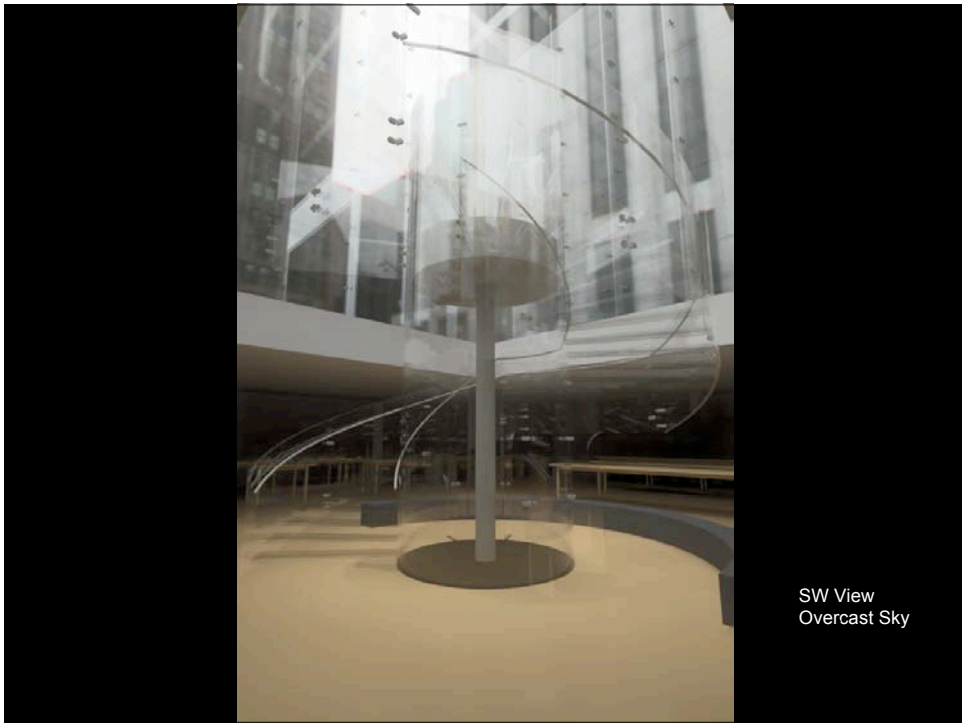
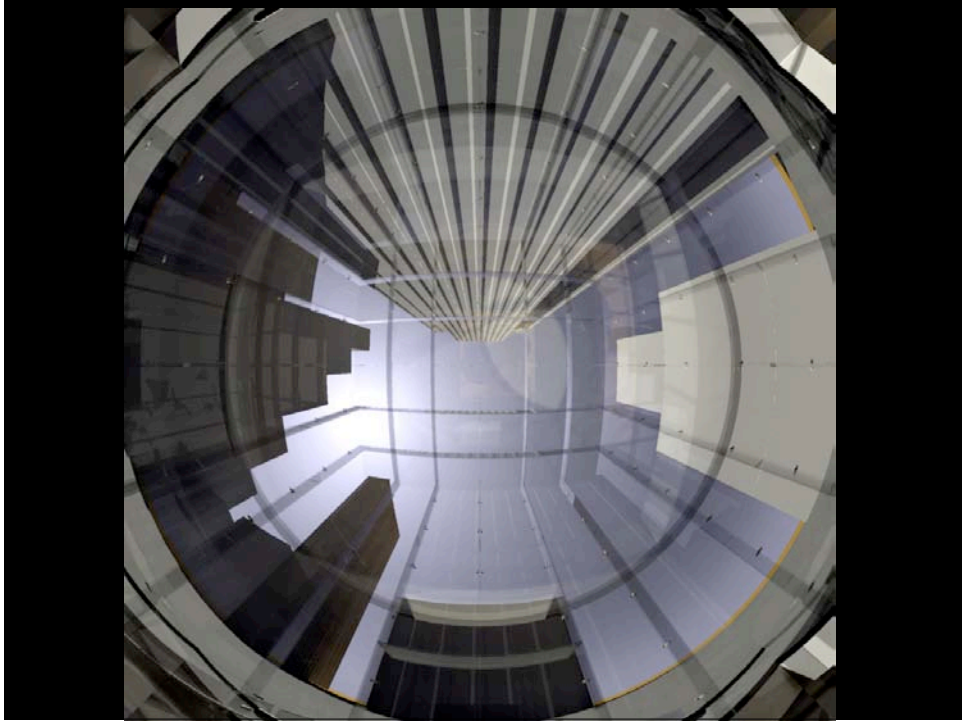


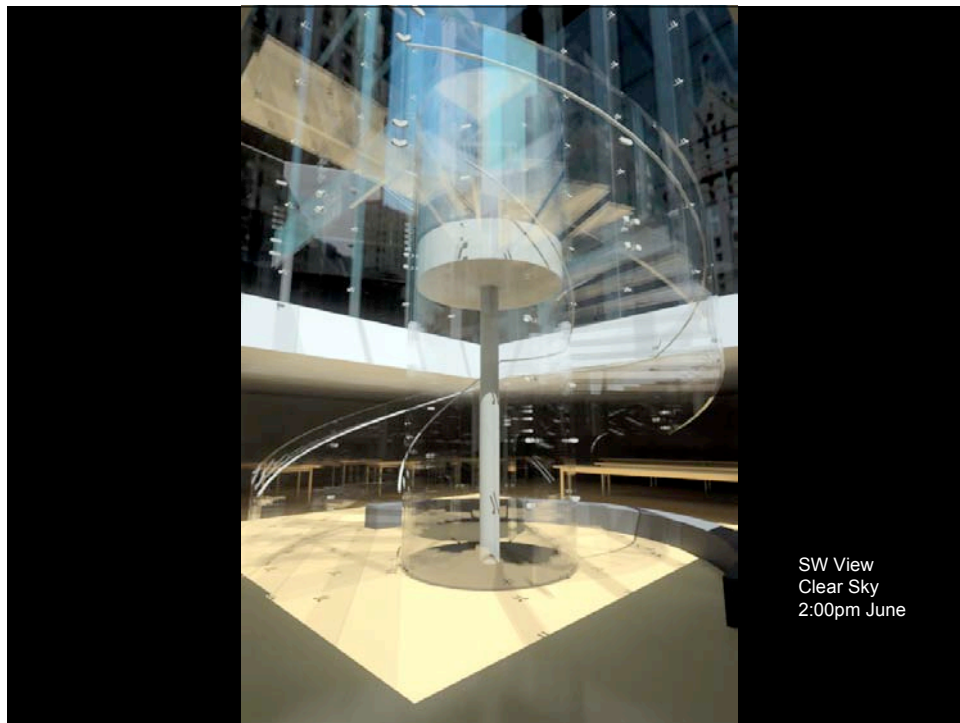
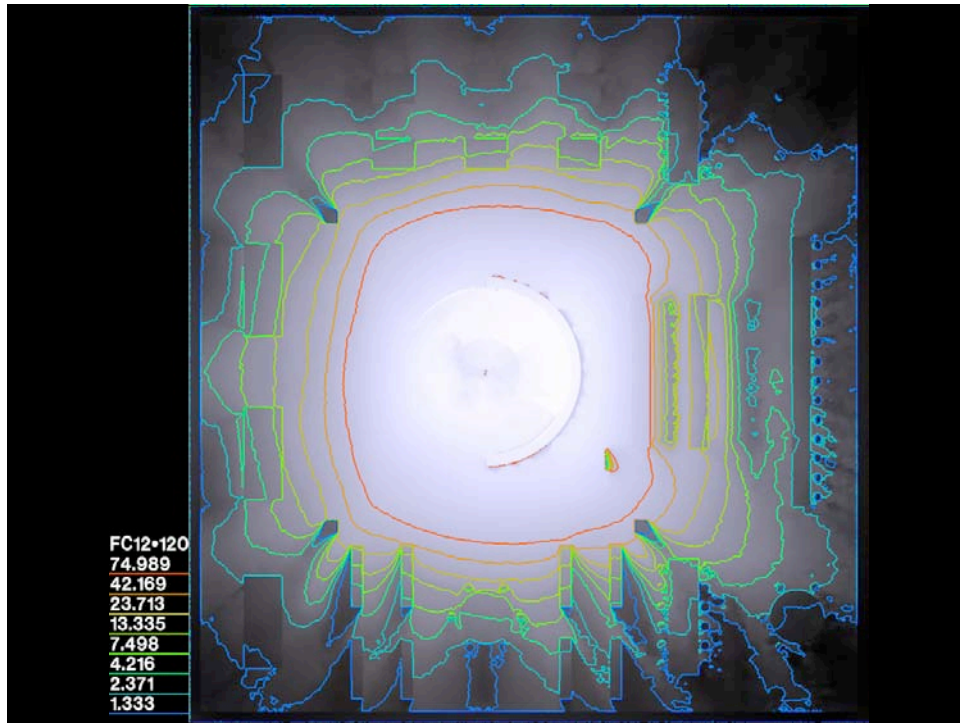
Apple Store Fifth Avenue
New York, New York
Bohlin Cywinski Jackson Architects

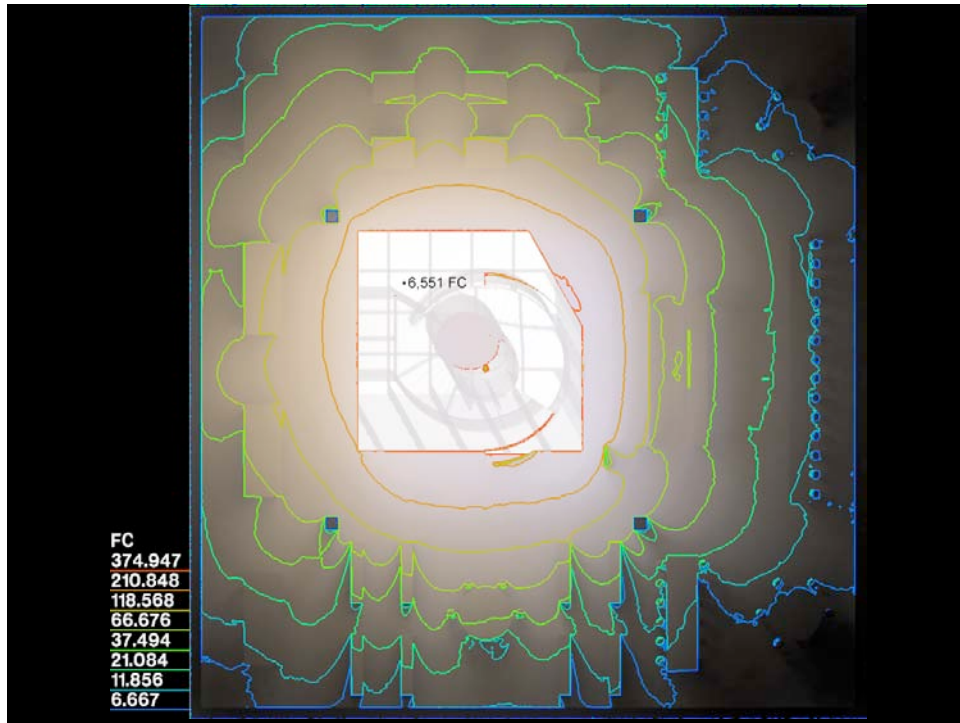


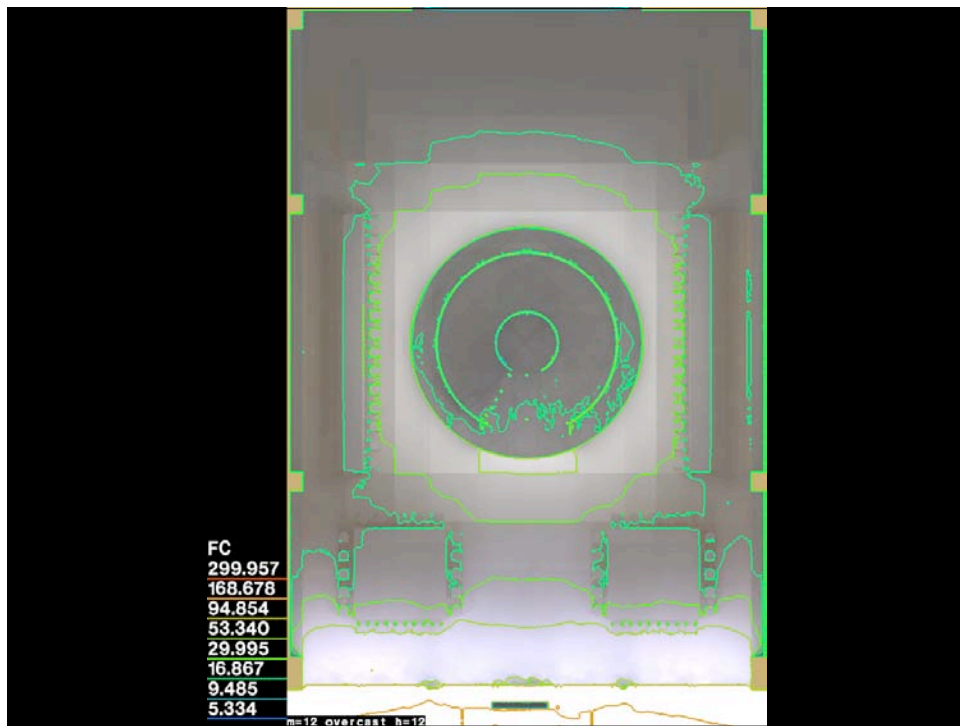


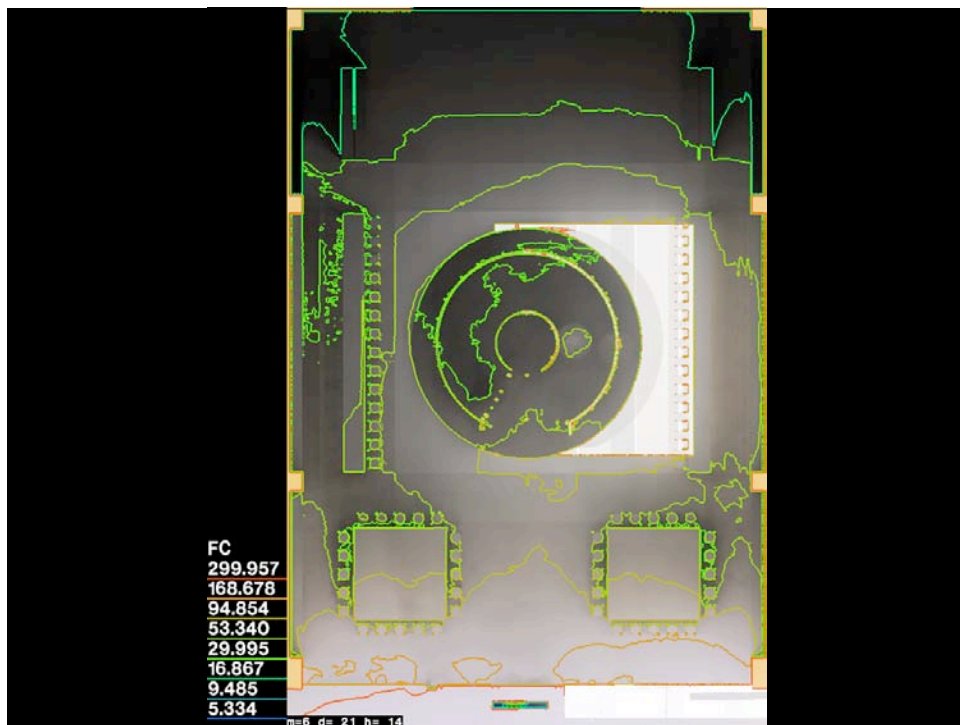
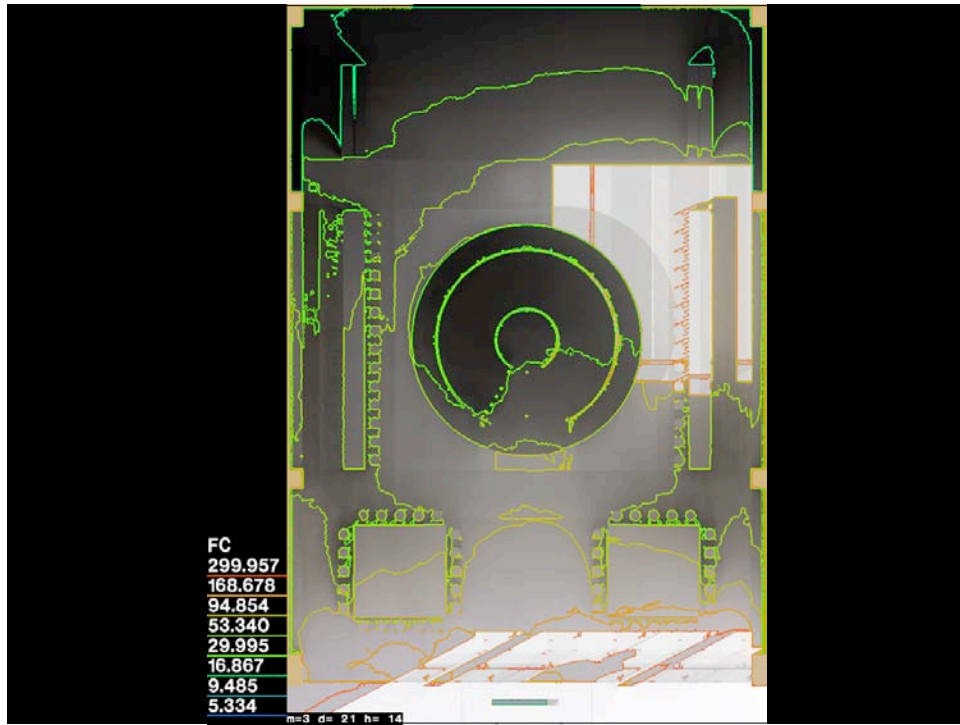


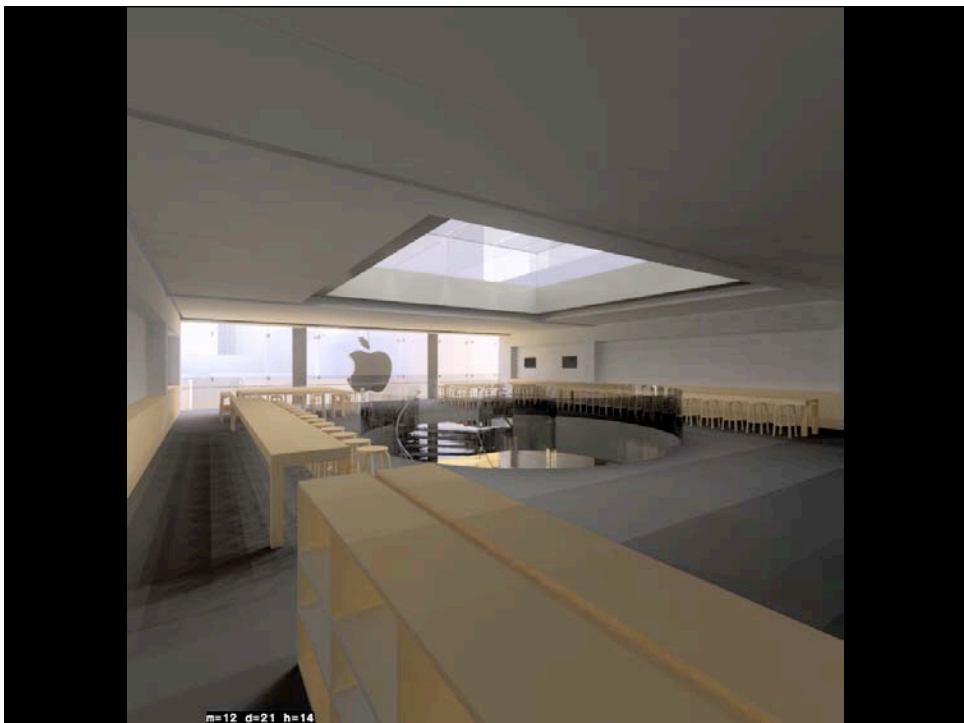


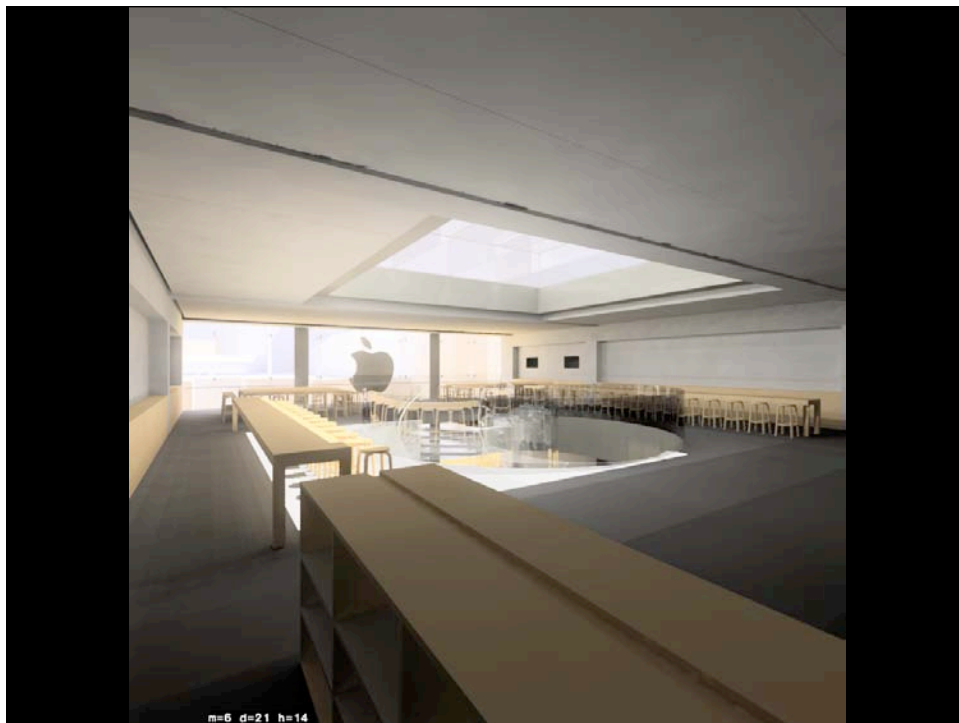
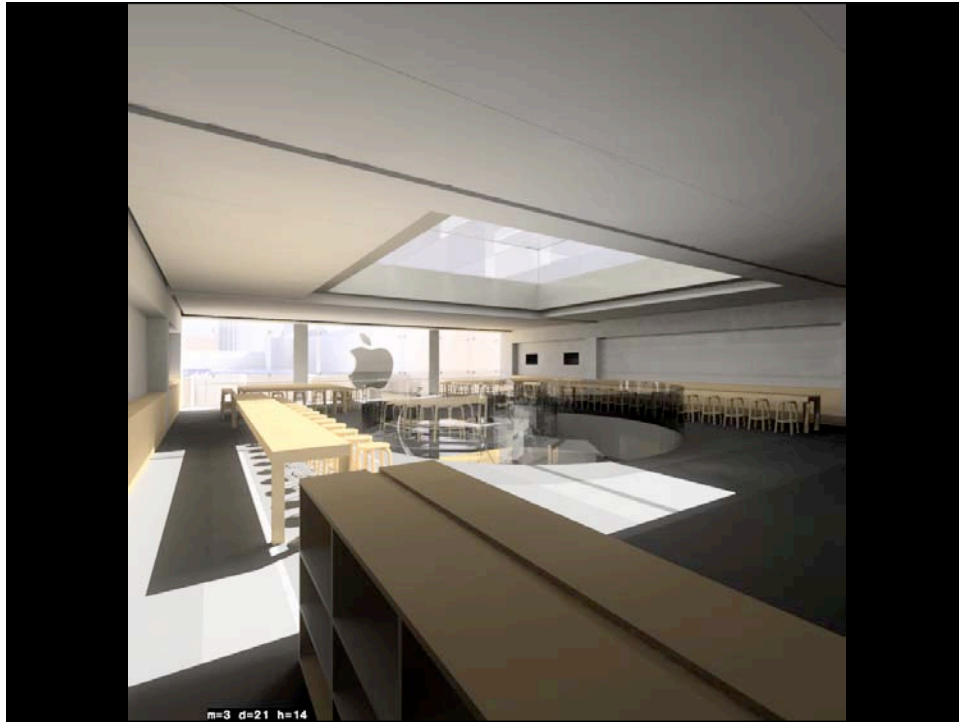




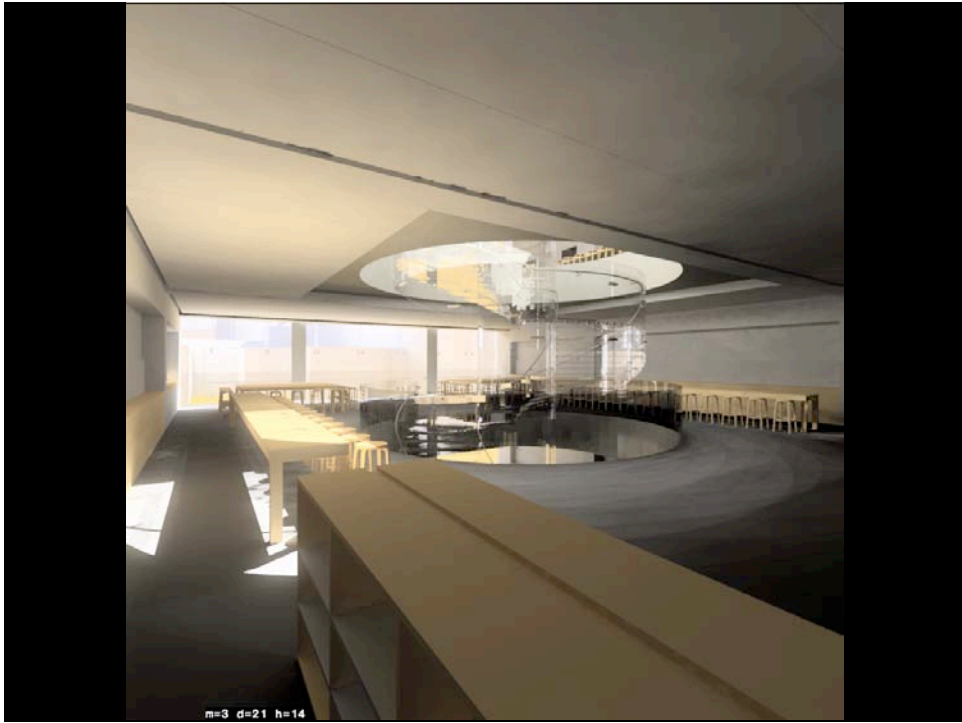


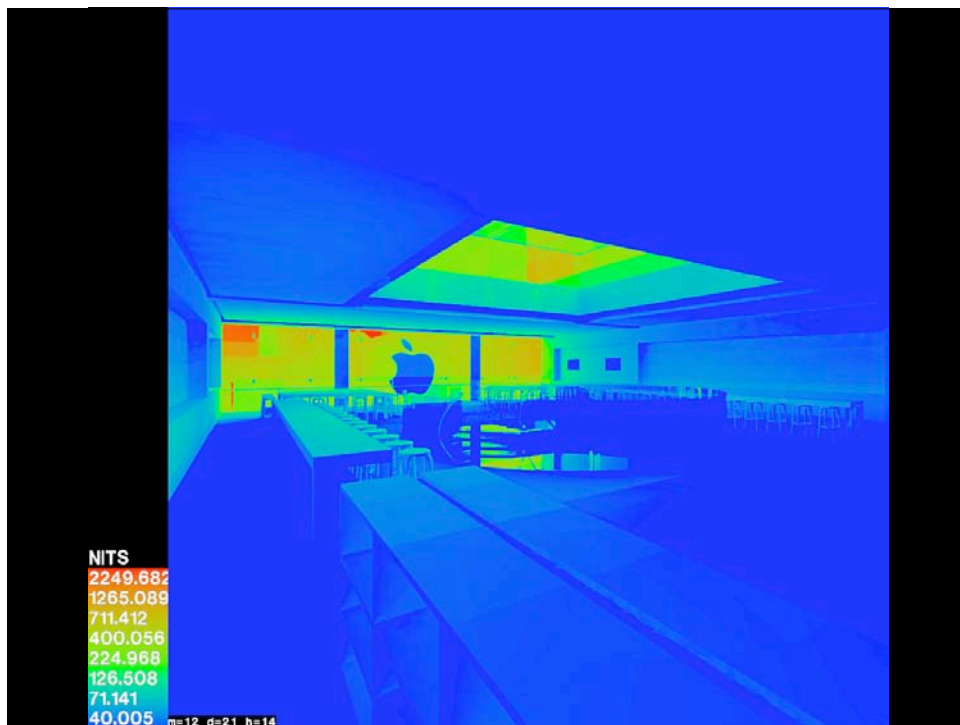
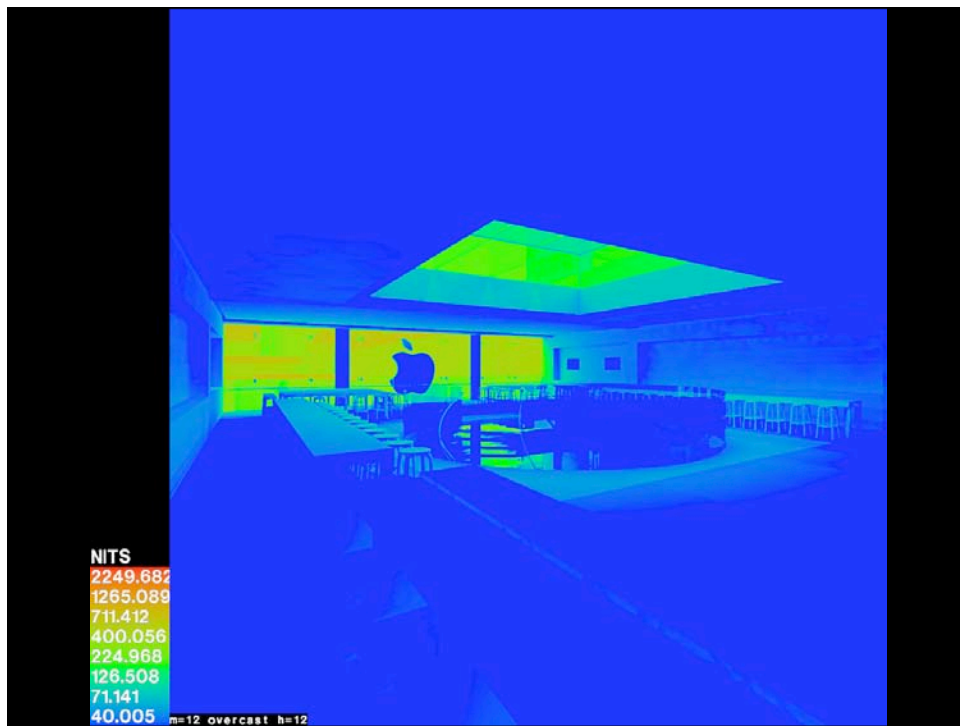


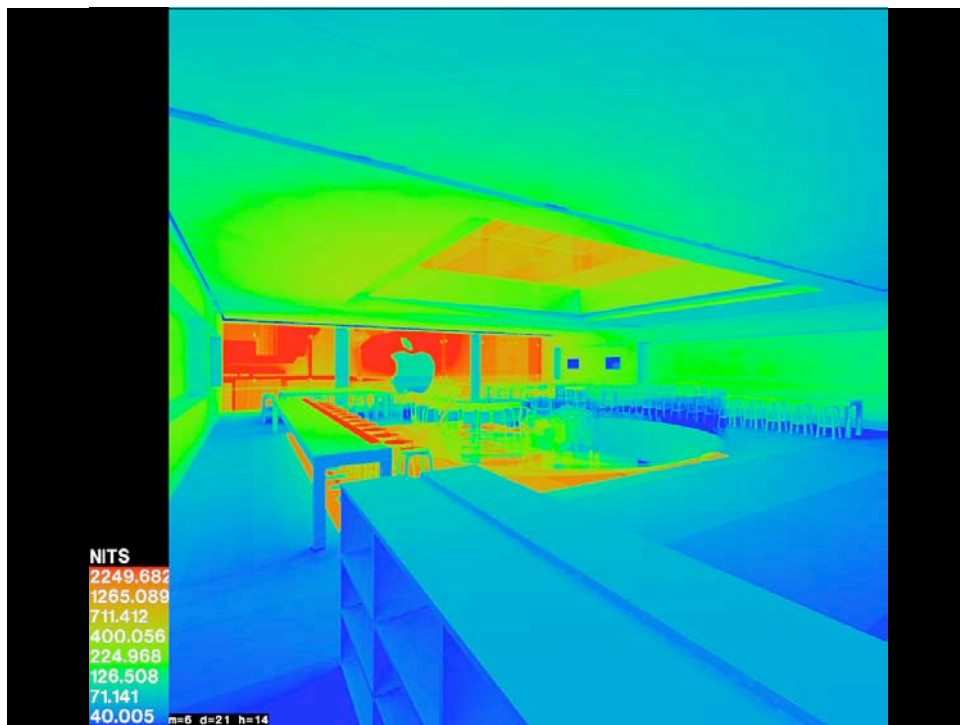
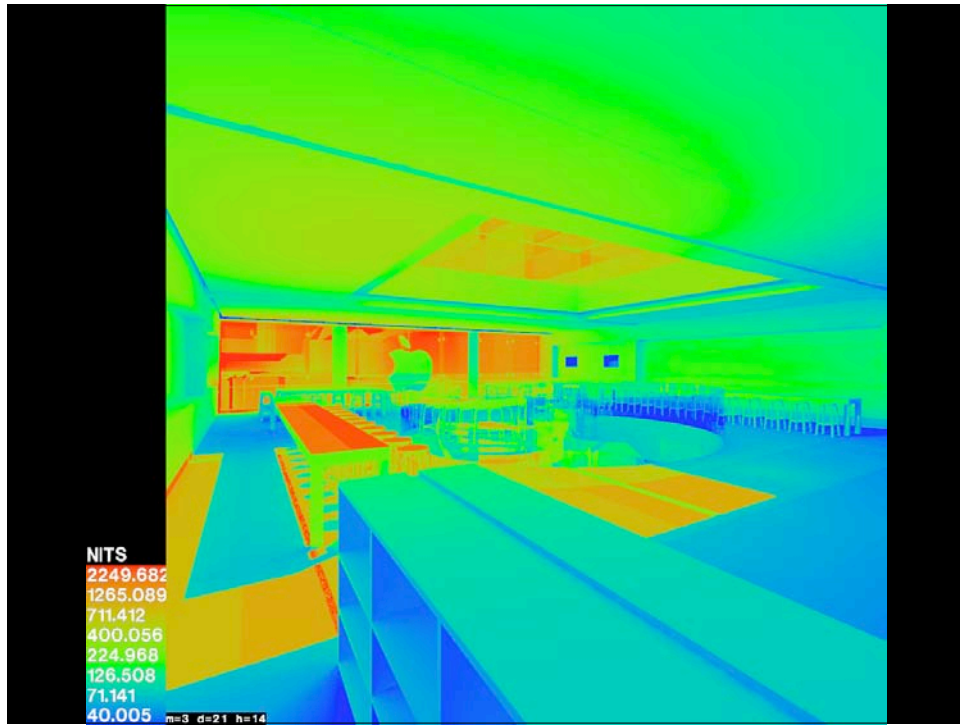










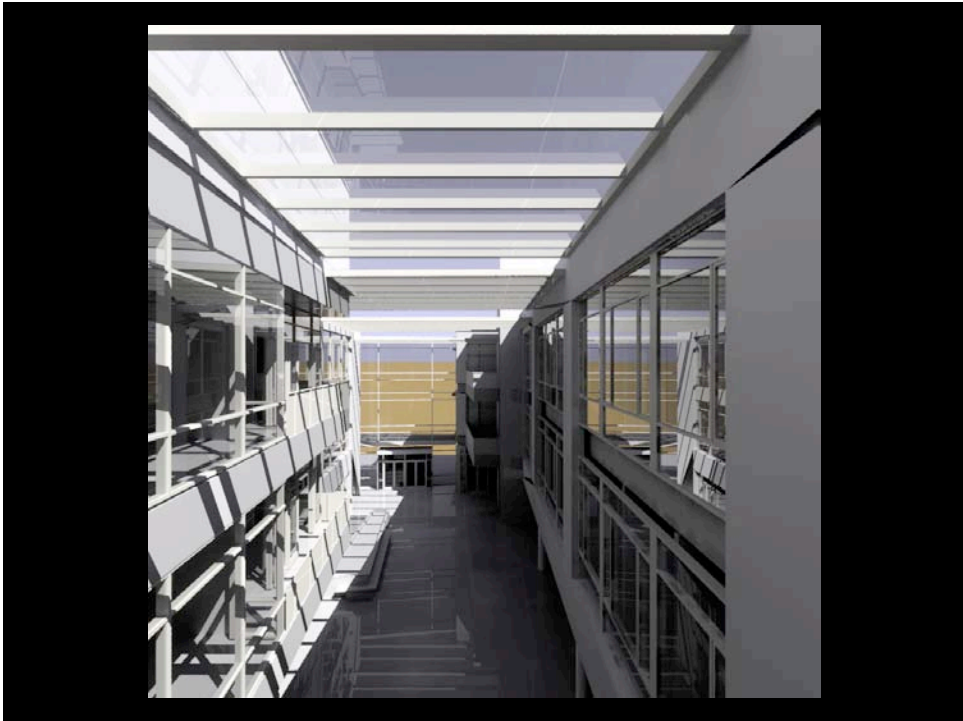


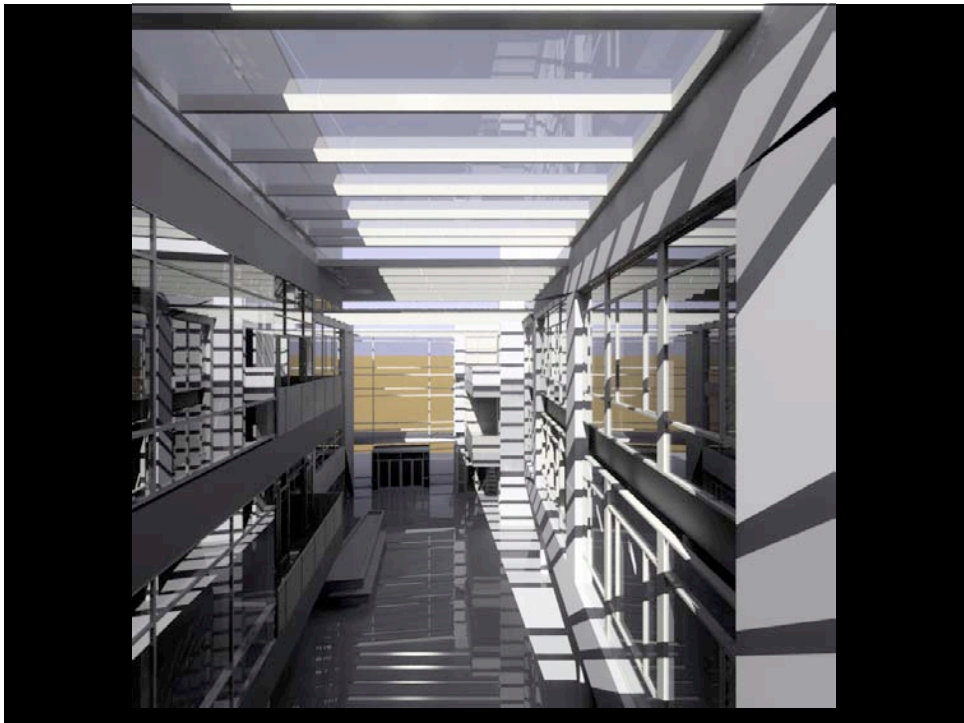
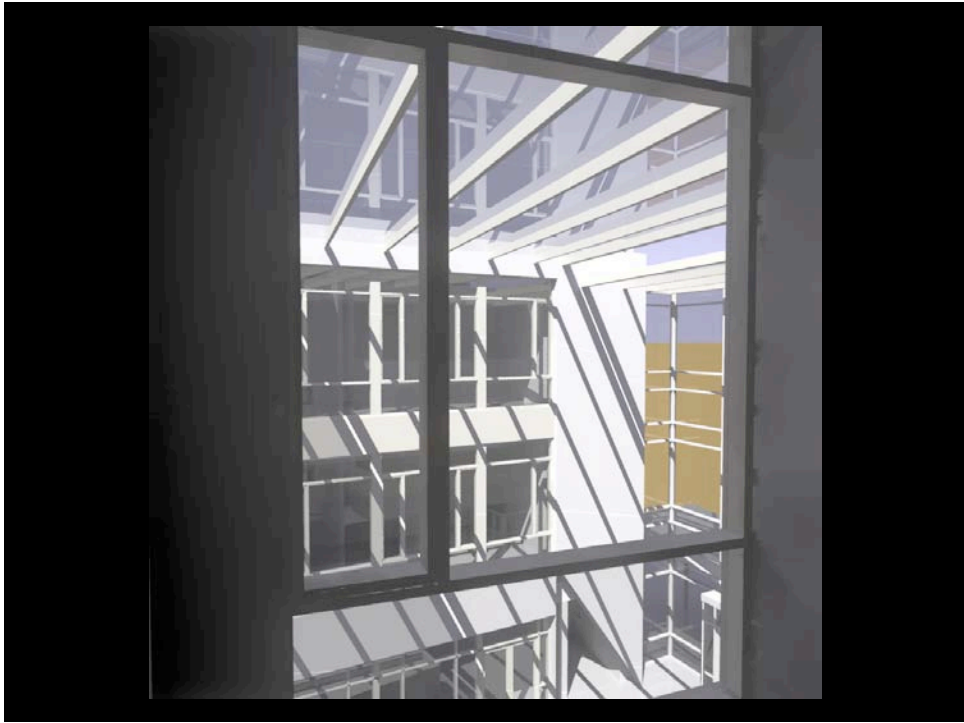


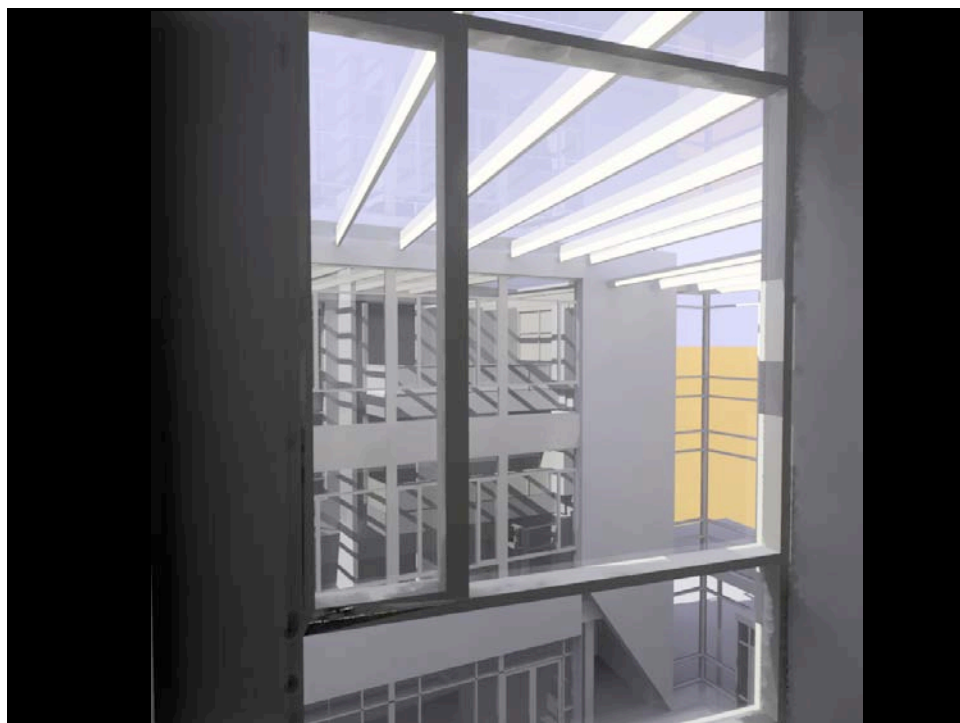
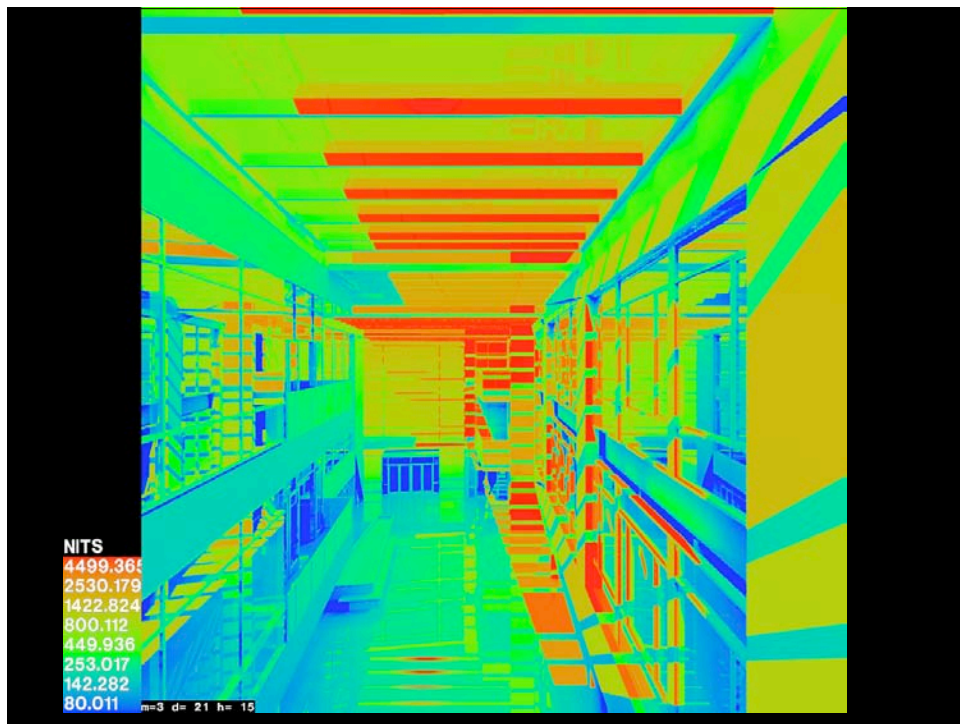
American University School of International Studies
Washington D.C.
Architect: William McDonough + Partners

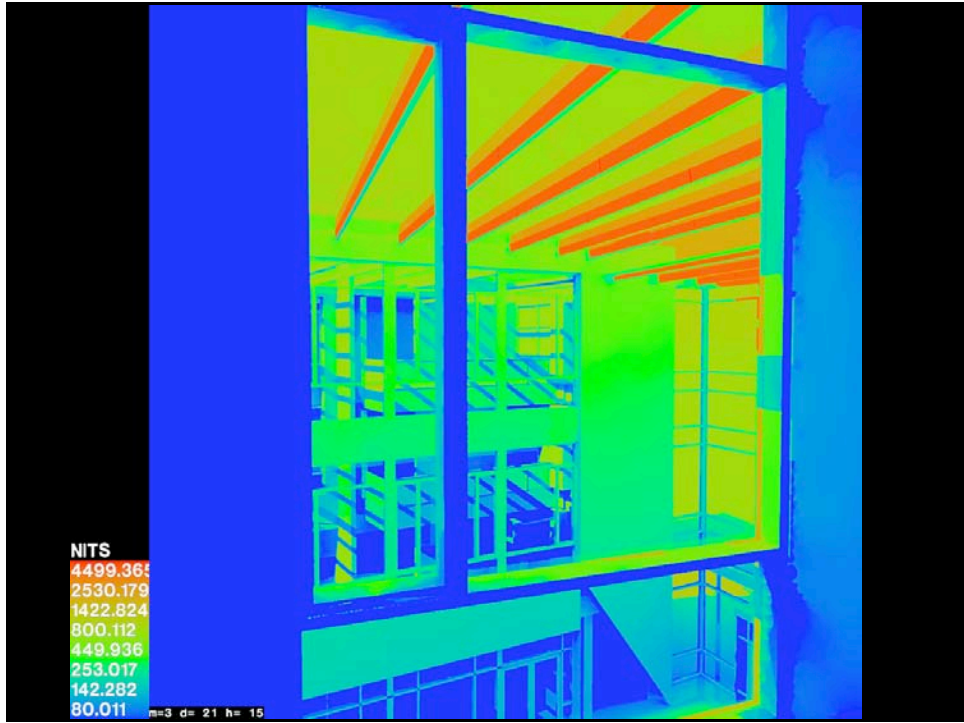


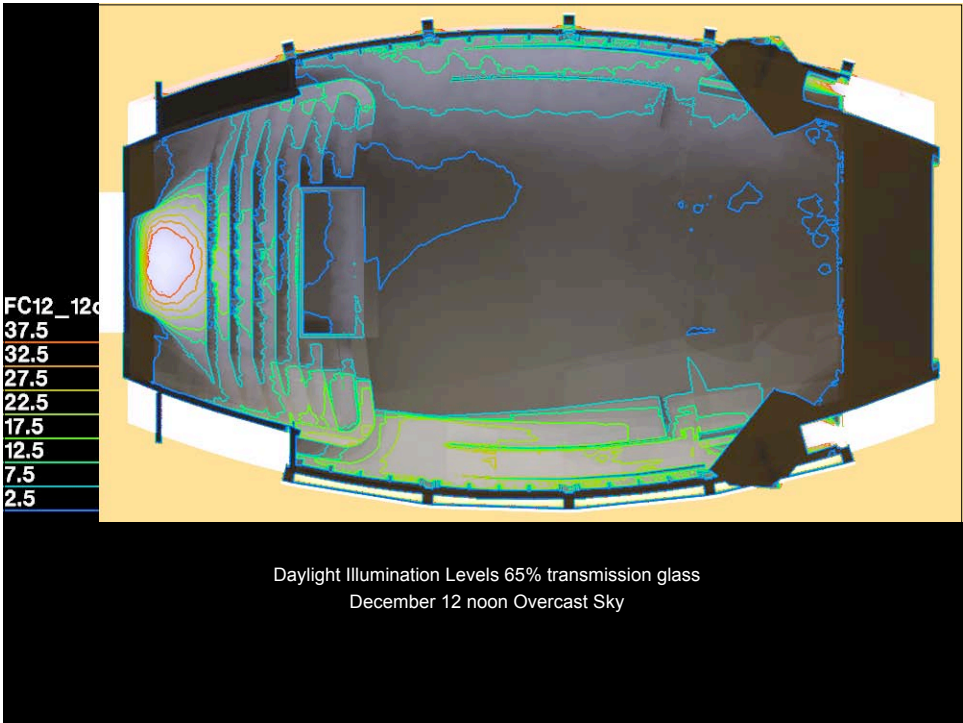


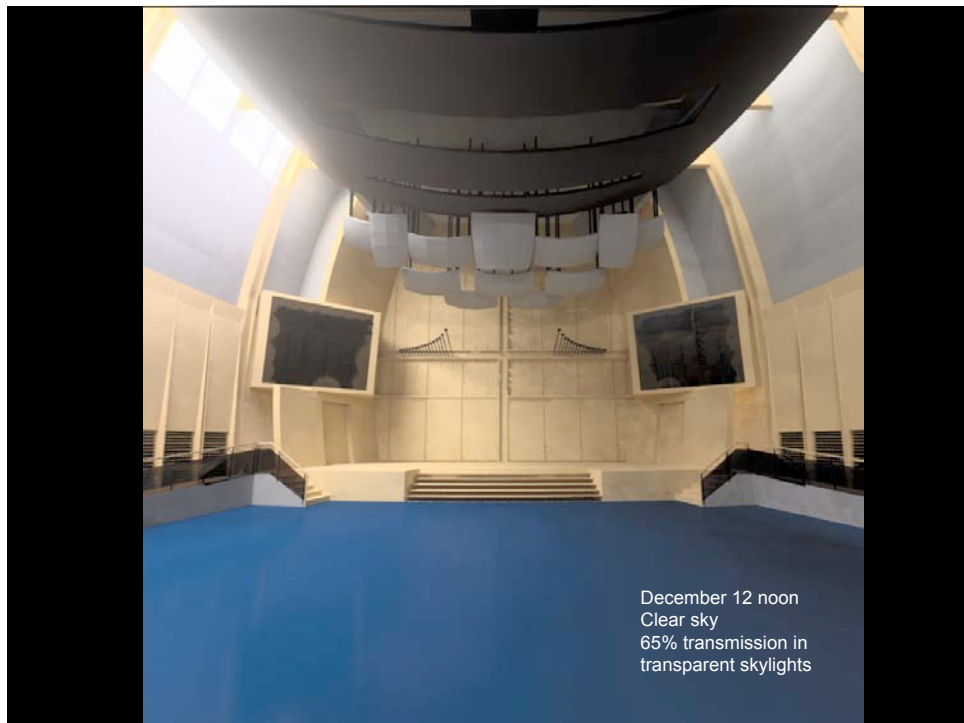
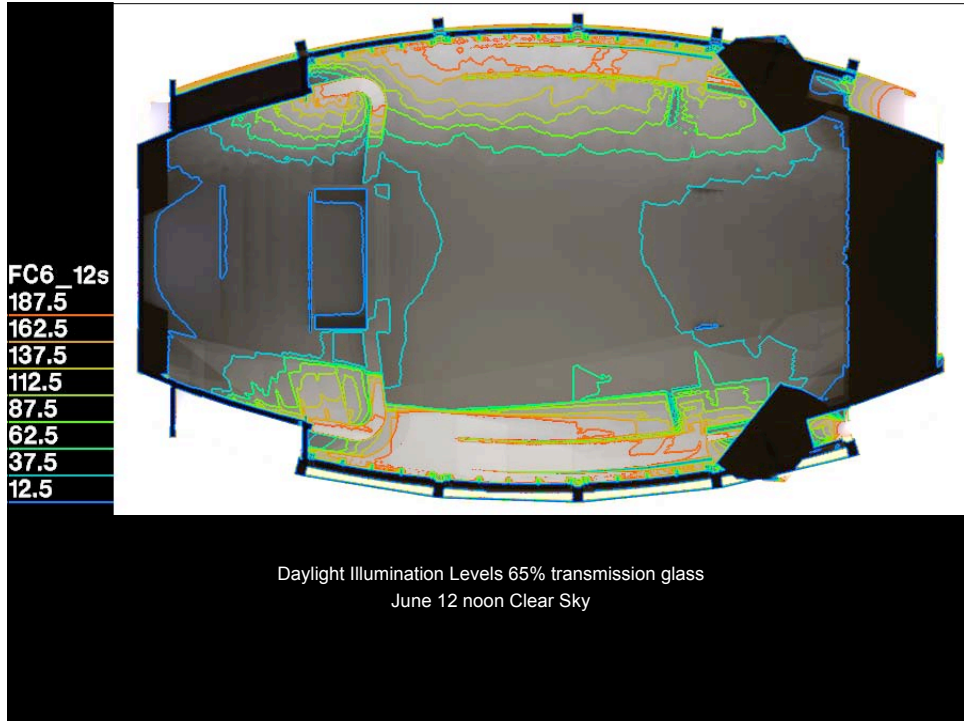


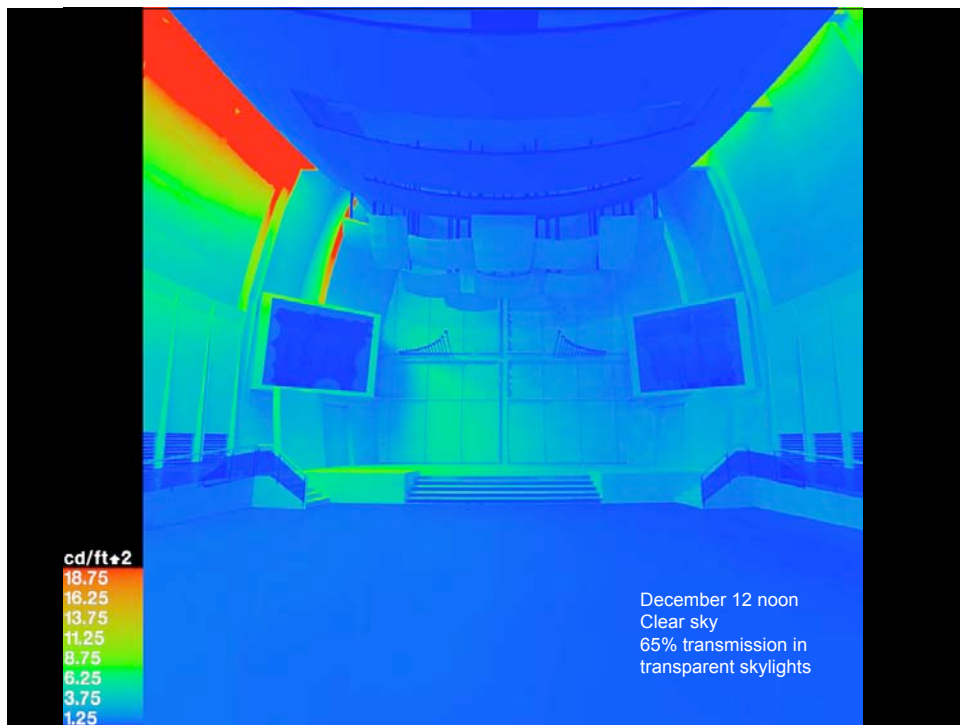
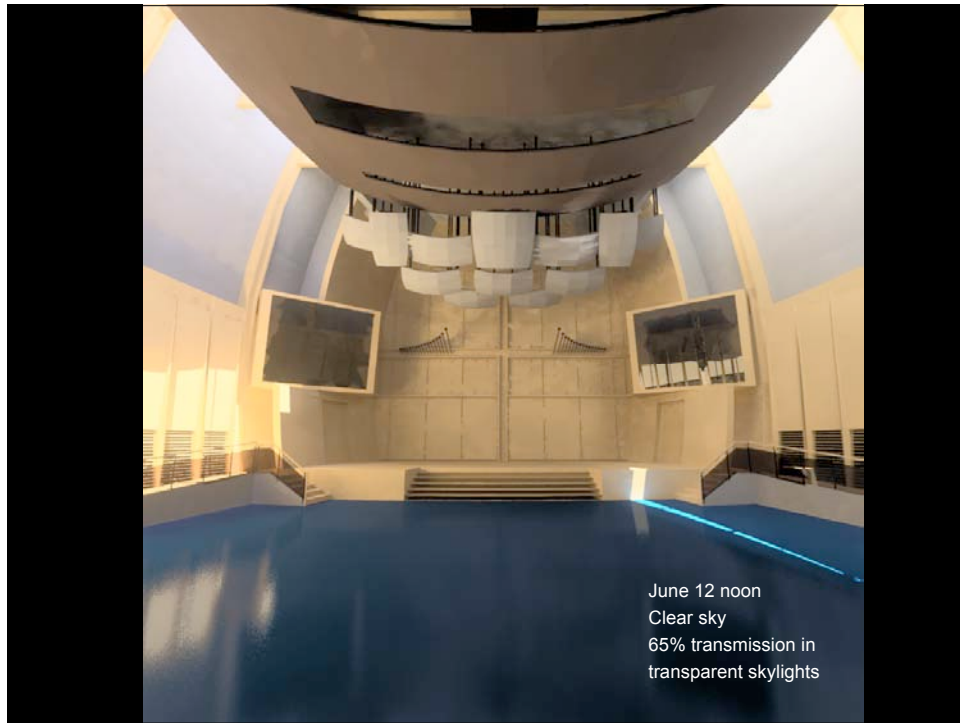


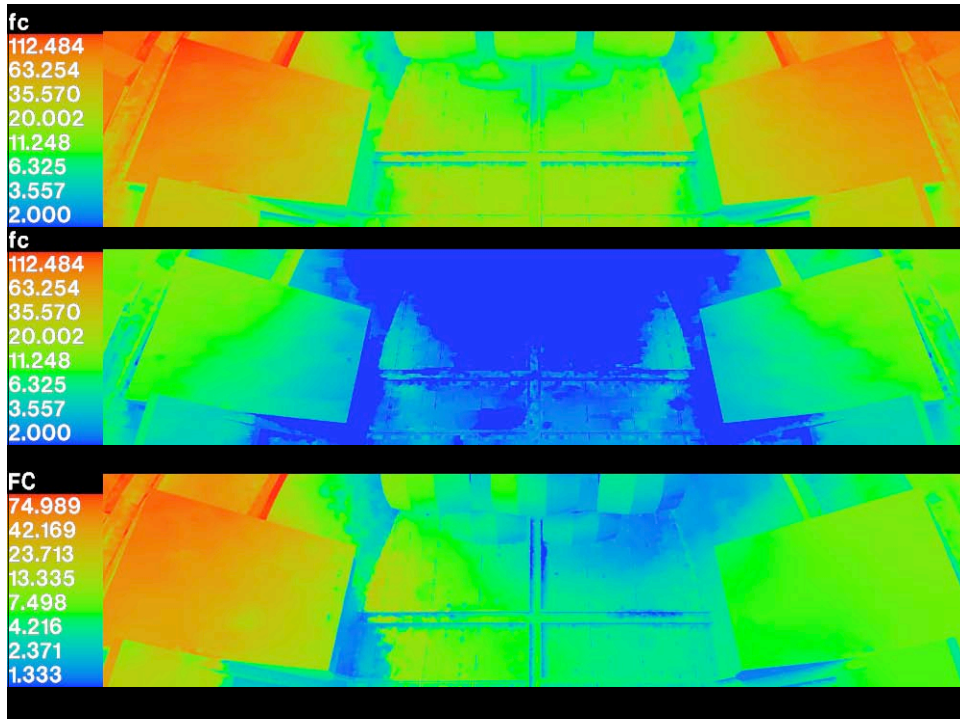
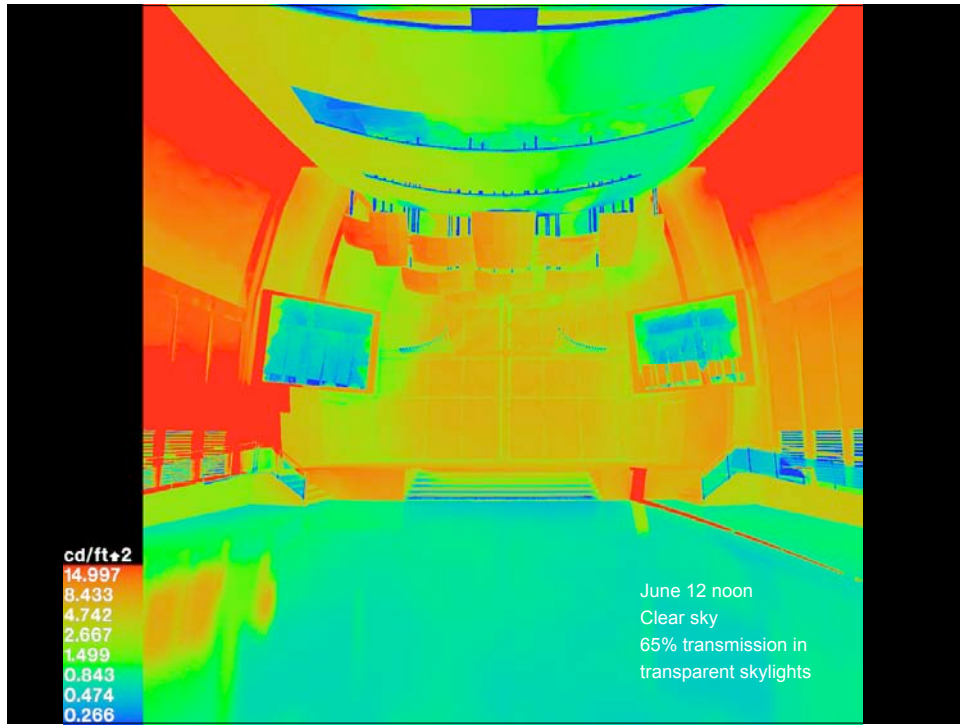














VM Ware Corporate Campus
Palo Alto CA William McDonough + Partners Architects

