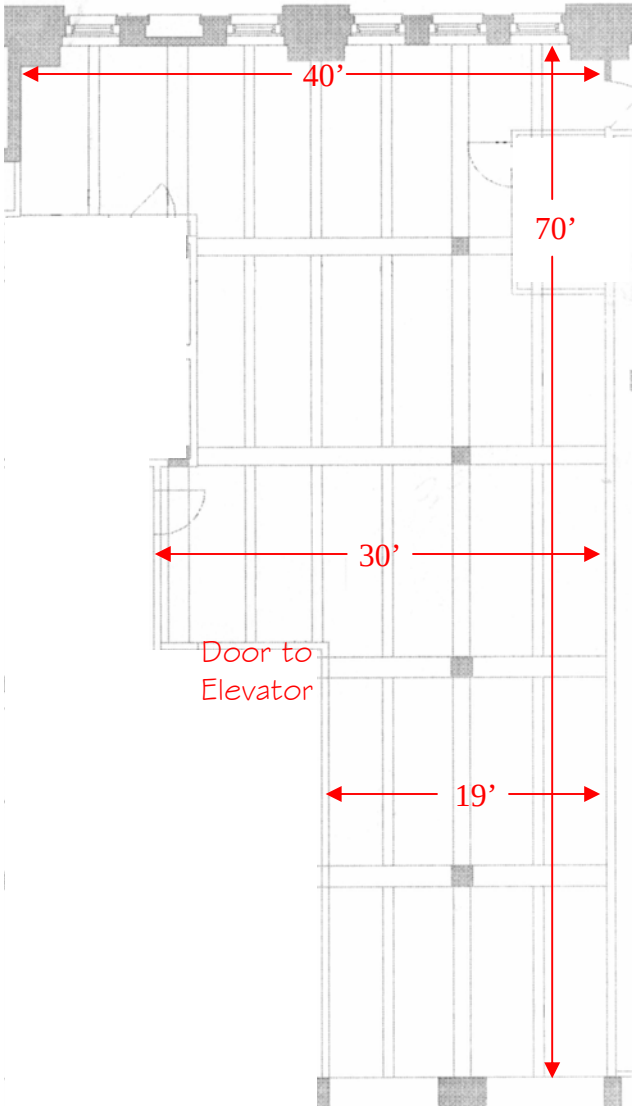
Audience Holding Area

Space Overview



Assumed Finishes:

Walls: White Paint, reflectance: 0.7
Ceiling and Columns: white painted concrete, reflectance: 0.77
North Wall: Brick, reflectance: 0.38
Windows: Uncoated Tinted Glass, transmittance: 44%
Floor: Hardwood, reflectance: 0.23

Furnishings:

As this space is primarily for circulation and waiting for short periods of time, there is no furniture.

Tasks:

Audience members convene prior to the taping of a show.
-Mingling
-Hors d'oeuvres

Design Criteria and Considerations

Goals:

-Act as an appetizer to the audience
-Create a good first impression of Food Network
-Cause excitement in audience members
-Induce interaction

Recommended Illuminances:

Horizontal: 10fc

Vertical: 5fc

Appearance of Space and Luminaire: (Very Important)

This is the first impression that the audience has of Food Network. The appearance of this space and the audience's reaction to it will form the basis of their experience.

Color Appearance: (Important)

The primary tasks in the area (socialization and eating hors d'oeuvres) require a pleasant appearance of skin and food to provide an appetizing experience for the audience.

Direct Glare: (Important)

Comfort and visibility are important and direct glare would hinder both and therefore must be avoided.

Light Distribution on Surfaces: (Important)

Avoiding distracting patterns and shadows as well as conforming to a good luminance ratio will improve the audiences perceptions by adding to comfort and visibility while ensuring a visually interesting space.

Luminances of Room Surfaces: (Important)

By supplying diffuse light from room surfaces in addition to direct light, nearly every other important design criteria is positively impacted.

Modeling of Faces or Objects: (Important)

As mentioned previously, socialization is an important function in this space. Good modeling of faces will enhance the communication between audience members. The food also must look appetizing to prepare the audience for an excellent experience.

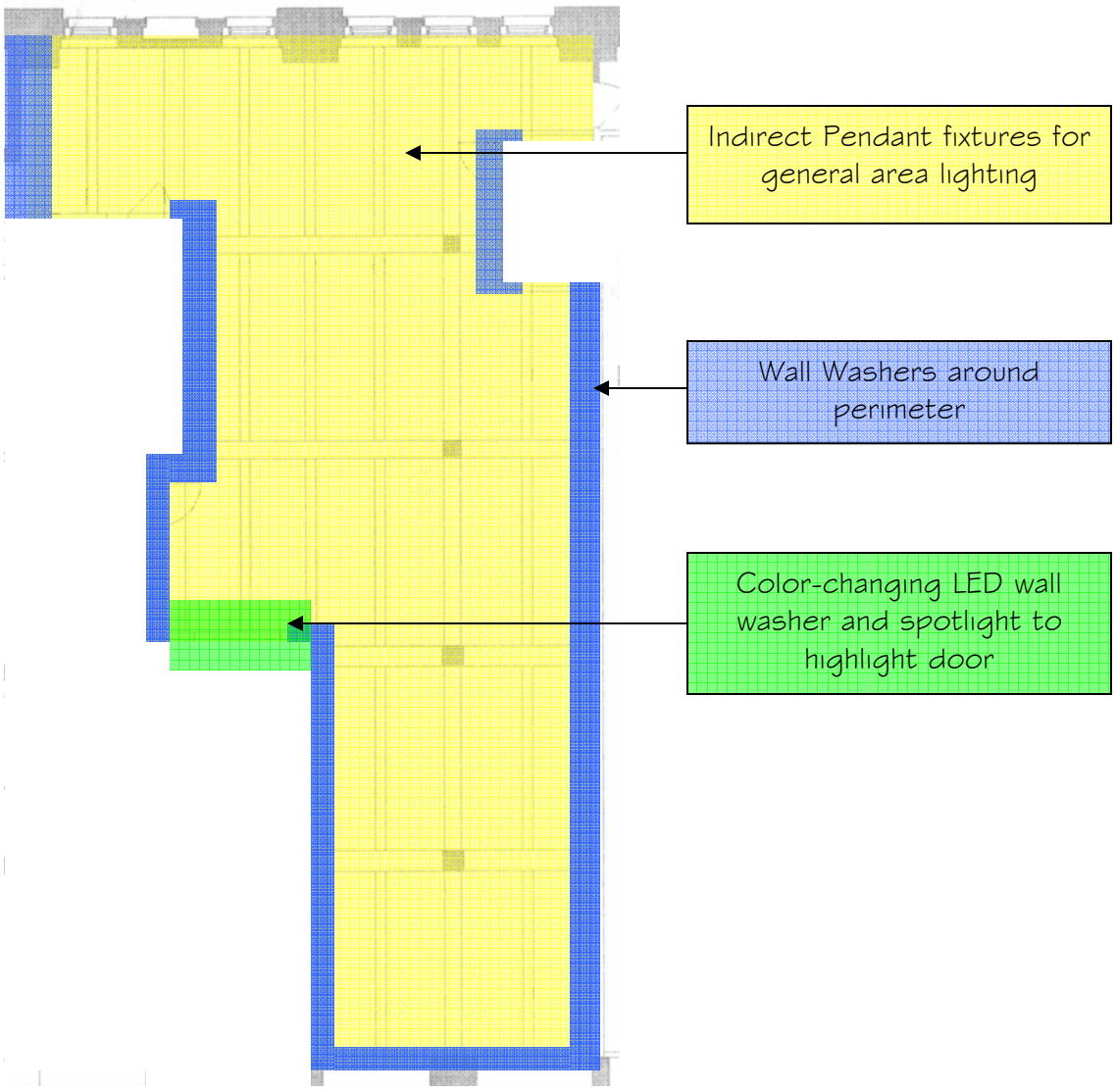
Surface Characteristics: (Important)

As the architecture of this space emphasizes the materials used, they are a source of visual interest. However, undesirable contrast between the luminaries and their background must be avoided.

ASHRAE 90.1 Power Allowance: 1.0 W/ft2

Note: "Where lighting equipment is specified to be installed for decorative appearances in addition to lighting equipment specified for general lighting and is switched or dimmed on circuits different from the circuits for general lighting, the smaller of the actual wattage of the decorative lighting equipment or 1.0W/ft2 times the area of the space that the decorative lighting equipment is in shall be added to the interior lighting power determined in accordance with this line item"

Basic Design Concept



Spot w. projection lens

Color-changing LED

Wall Wash Fixture

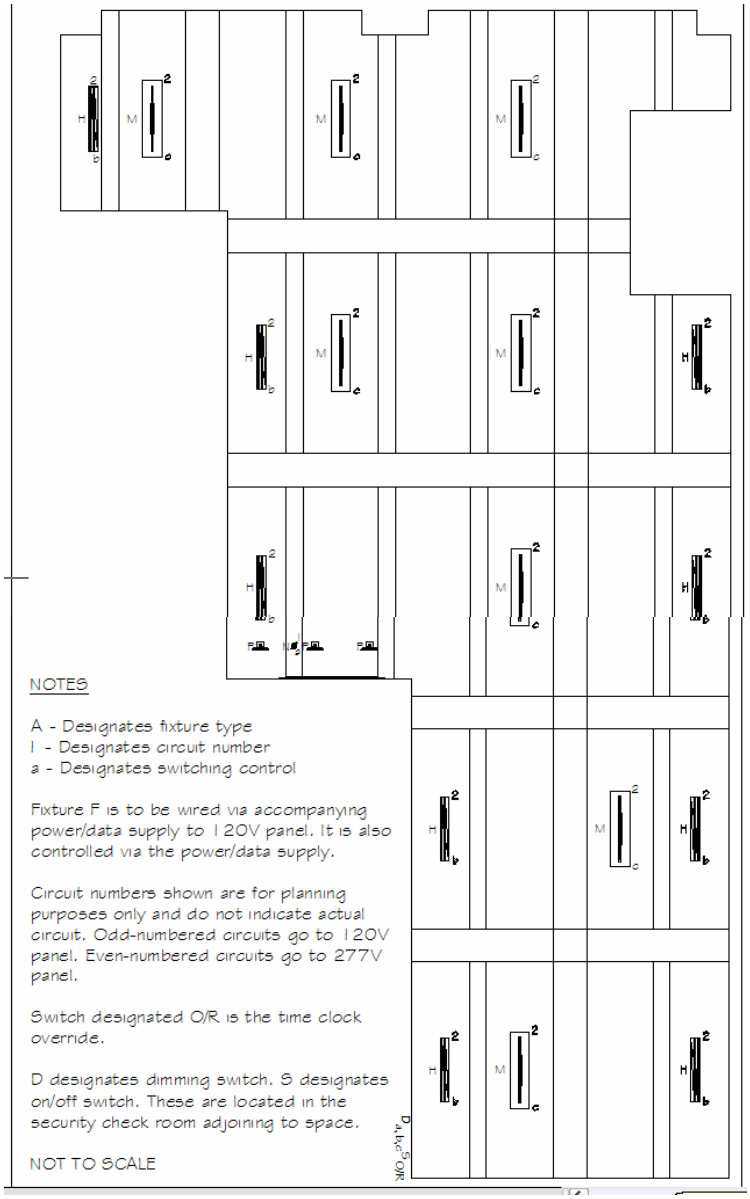
Direct/Indirect Pendant

Luminaire Schedule

Designation	Description	Lamp	Ballast	V	W	Amt
H	Erco Wall Washer	F28T5 28W Bipin	Electronic	277	30	9
M	Louis Poulsen "Plate" Indirect Pendant	54W T5 HO Fluorescent	Electronic	277	60	8
N	Erco "Pollux" Spotlight with Food Network Projection Lens	50W T4 Low voltage Halogen	Electronic	120	50	1
P	Color Kinetics "ColorBlast12" Color – changing LED, set to red.	36 LED's (12 Red, 12 Green, 12 Blue)	None	120	50	3

Please see Appendix for Cut Sheets

Lighting Plan



Controls

ASHRAE 90.1 requires that areas greater than 250 square feet in buildings larger than 5000 square feet have an automatic shutoff. Therefore, this area shall be connected to a time clock system with an override switch located in the security check area adjacent to the audience holding area. The fixtures are to be divided into 4 zones. Three are to be dimming, and the color-changing LED is managed via a power/data controller.

Panelboard Data

There is one 120V ciruit and one 277V circuit for the fixtures. The color-changing LED fixtures are powered via the power/data controller which in turn requires an additional 120V circuit. Please see the electrical section of this report for further details.

Light Loss Factors

Luminaire	Ballast Factor	Maintenance Category	Cleaning Interval	RSDD	LDD	LLD	Total LLF
H	1.0	IV	Clean, 24 Months	0.95	0.8	0.95	0.722
M	1.0	V	Clean, 24 Months	0.9	0.83	0.95	0.71
N	1.0	V	Clean, 24 Months	0.95	0.83	0.93	0.733
P	1.0	V	Clean, 24 Months	0.95	0.83	0.9	0.71

Power Density Calculation

9 H @ 30W	= 270W
8 M @ 60W	= 480W
1 N @ 50W	= 50W
3 P @ 50W	= 150W
Total	= 950W
Area	= 1812 sq. ft.
Power Density	= **0.524 W/ft^2**

This value is much less than the maximum power density allowed by ASHRAE 90.1 – OK.

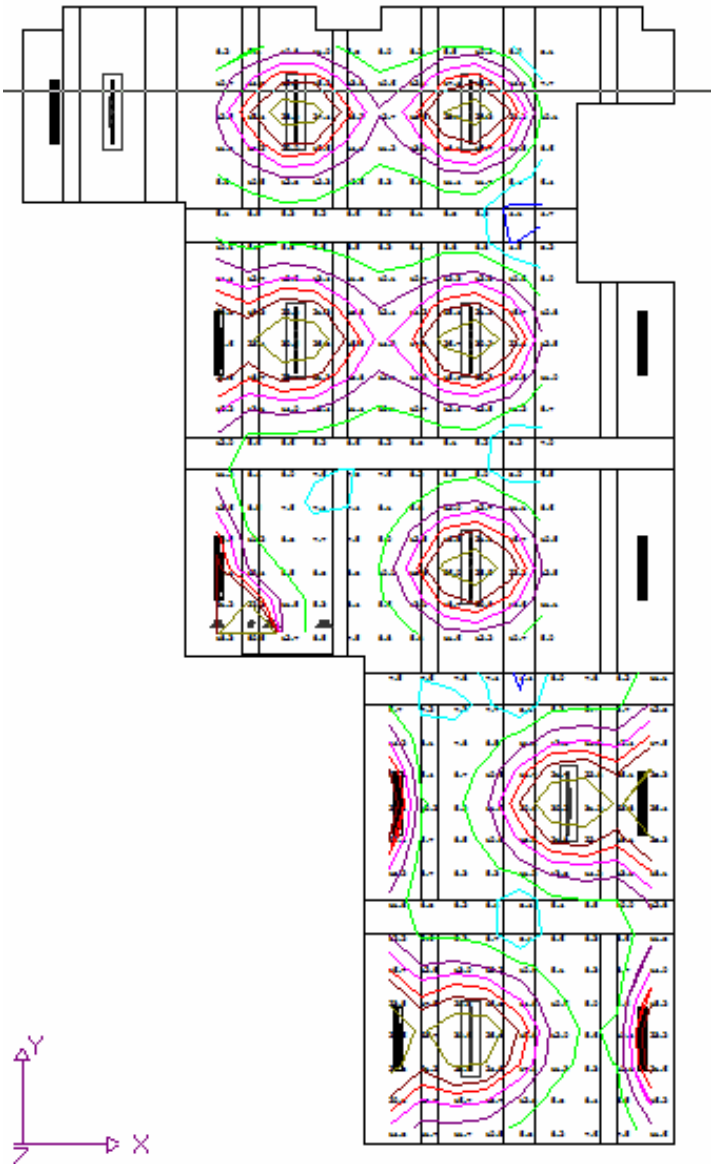
Illuminance Calculations

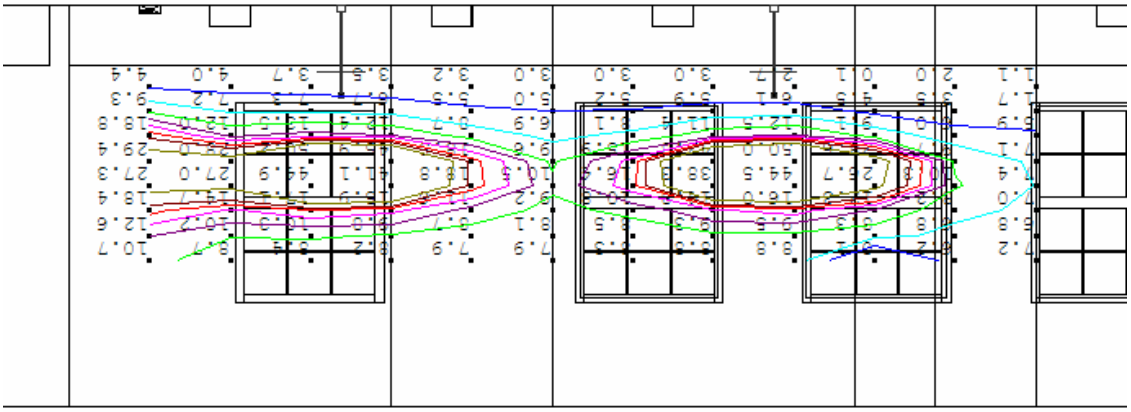
vert
Illuminance Values
(Fc)
Average=12.83
Maximum=50.2
Minimum=0.1
Avg/Min=128.30
Max/Min=502.00

general hor
Illuminance Values
(Fc)
Average=13.42
Maximum=80.9
Minimum=4.1
Avg/Min=3.27
Max/Min=19.73

general hor2
Illuminance Values
(Fc)
Average=13.77
Maximum=31.3
Minimum=4.4
Avg/Min=3.13
Max/Min=7.11

Value (Fc)	Color
5	
7.5	
10	
12.5	
15	
17.5	
20	
25	





Renderings


South East


food
network
Door to Elevator

Analysis and Conclusions

The primary goal of this space is to act as an "appetizer" to the audience members. It is important that they are excited for the show. It also should be noted that this space is the first that audience members will see of the Food Network areas, therefore it should create a good first impression. Finally, as the shows thrive on audience interaction, this should be induce here.

The "Plate" fixture provides an indirect, soft and diffuse illumination throughout the area. The concept of the glass plate as a floating reflector allows transmission of light both horizontally and vertically, defining the glass form and providing ambient illumination. The fixture is interesting and high quality, and is also not overly distracting.

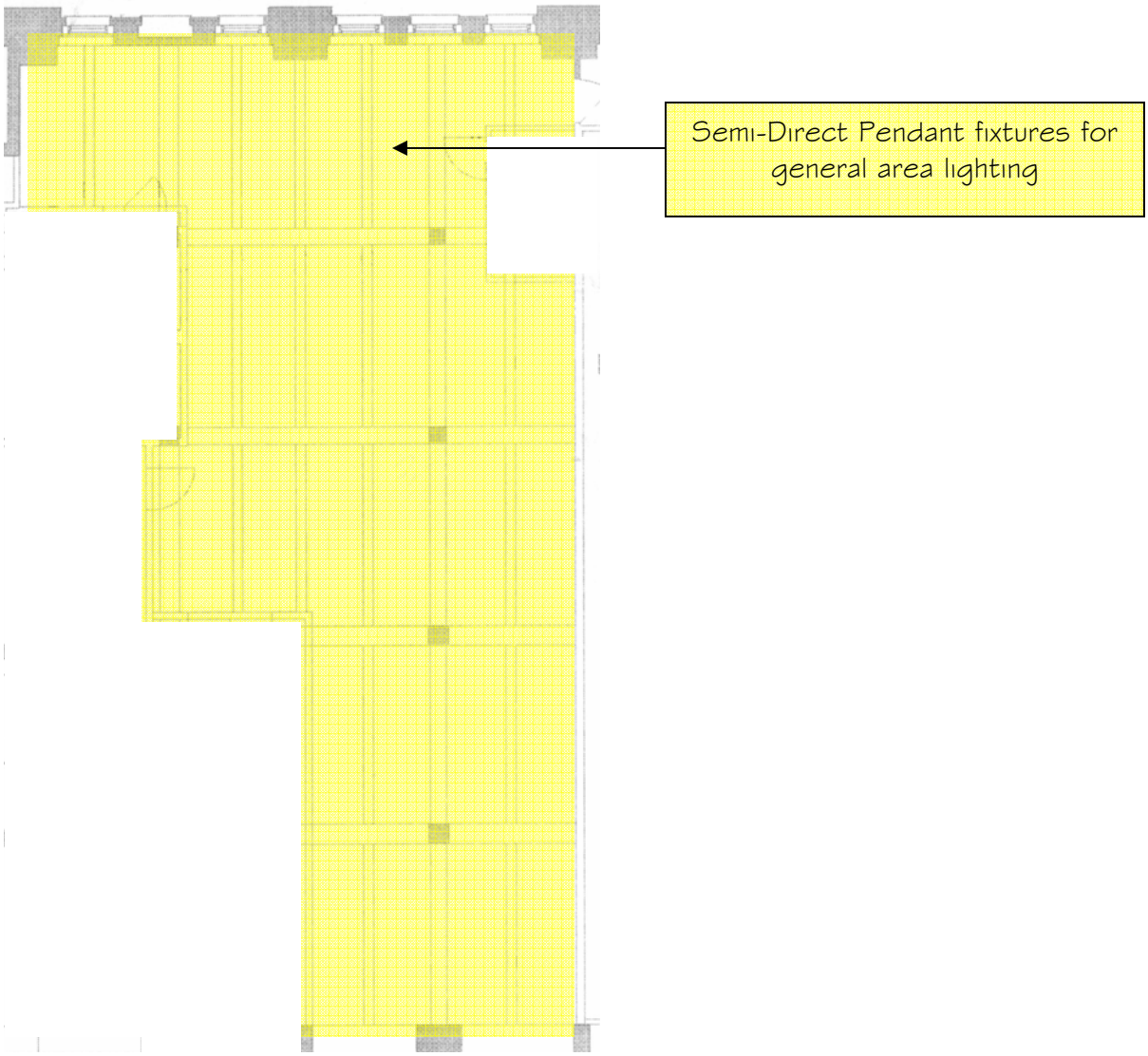
Washing the walls takes away from the tunnel feeling a narrow space like this may take on. It also increases the indirect portion of light, which fills in faces and creates a glowing ambience to the space.

Finally, the door leading to the elevator area that will bring the audience to the studio is highlighted to create anticipation. It is washed in red – a color thought to stimulate the appetite. A food network logo, in red and white, is also projected on this area, adding an extra pop.

The light levels are fairly even and are proportionate in the vertical and horizontal planes. The values are slightly higher than needed, but this is good as all fixtures are dimmable. Therefore, the levels can be reduced if too high, but also provides for those who prefer a bit brighter atmosphere. The area also falls well below power density allowances, which results in energy savings.

Audience Holding Area Alternative

Basic Design Concept



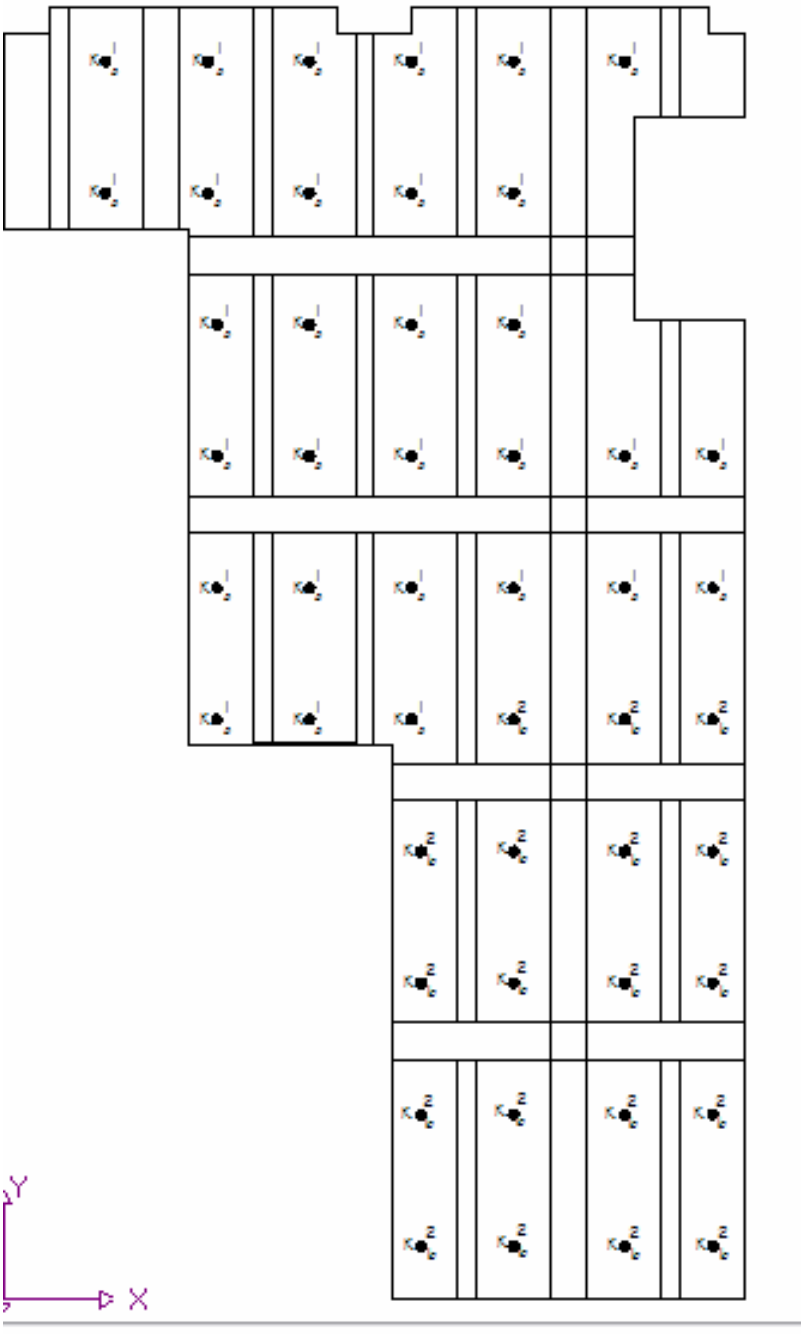
Pendant

Luminaire Schedule

Designation	Description	Lamp	Ballast	V	W	Amt
K	Erco "Starpoint" Pendant	50W T4 LV Halogen	Electronic	120	50	

Please see Appendix for Cut Sheets

Lighting Plan



Controls

ASHRAE 90.1 requires that areas greater than 250 square feet in buildings larger than 5000 square feet have an automatic shutoff. Therefore, this area shall be connected to a time clock system with an override switch located in the security check area adjacent to the audience holding area. The fixtures are to be controlled by dimming switches.

Panelboard Data

There are to be two 120V circuits for the fixtures.

Light Loss Factors

Luminaire	Ballast Factor	Maintenance Category	Cleaning Interval	RSDD	LDD	LLD	Total LLF
K	1.0	III	Clean, 24 Months	0.91	0.84	0.97	0.741

Power Density Calculation

49 K @ 50W = 2450W

Area = 1812 sq. ft.

Power Density = **1.35 W/ft^2**

This value is more than the maximum power density allowed by ASHRAE 90.1, however the fixtures are decorative and are dimmable as well, therefore – OK, as the power density is much less than the allowance with the decorative addition.

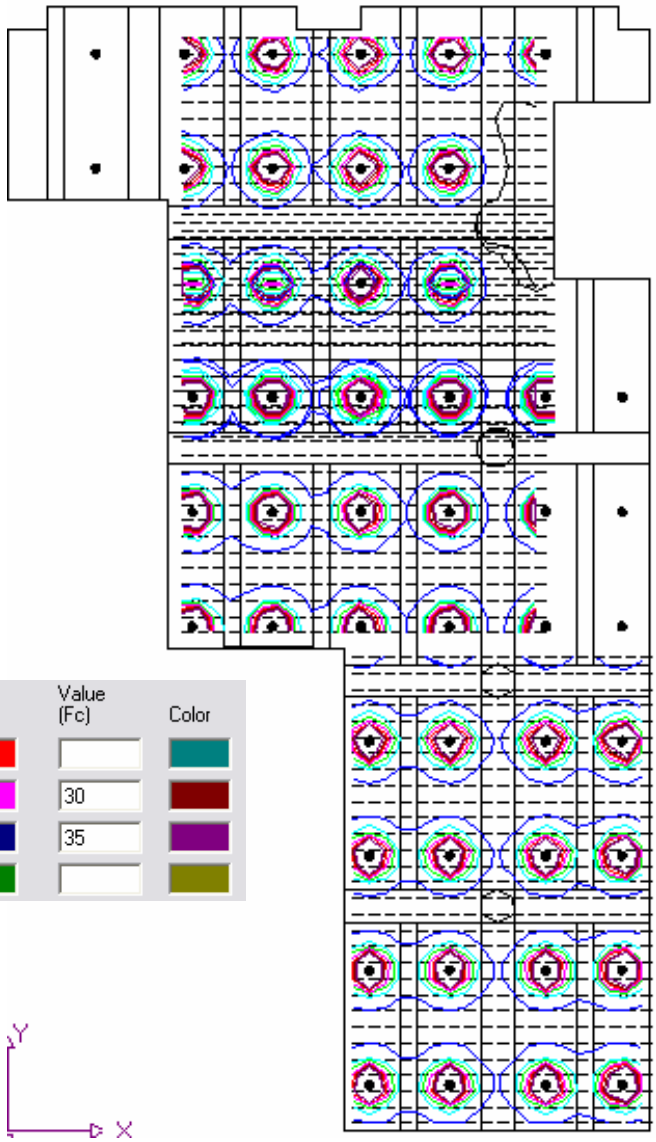
Illuminance Calculations

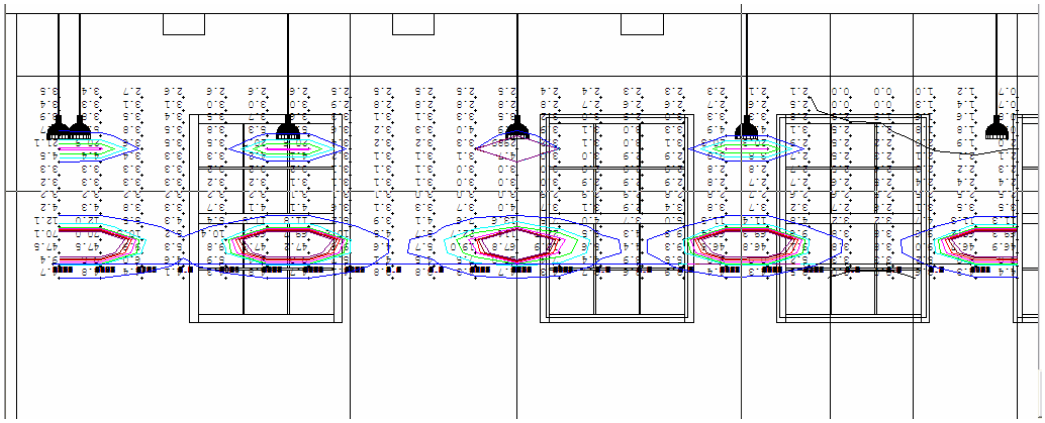
general hor
Illuminance Values (Fc)
Average=11.35
Maximum=131
Minimum=0.0
Avg/Min=0.00
Max/Min=0.00

vert
Illuminance Values (Fc)
Average=15.60
Maximum=2989
Minimum=0.0
Avg/Min=0.00
Max/Min=0.00

general hor2
Illuminance Values (Fc)
Average=11.83
Maximum=114
Minimum=0.0
Avg/Min=0.00
Max/Min=0.00

Value (Fc)	Color	Value (Fc)	Color	Value (Fc)	Color
2		25			
5		20		30	
15				35	
10					





Rendering

Analysis and Conclusions

This layout is simplistic yet interesting at the same time. The fixture provides not just downlight, but a soft glow around the semi-transparent housing. This creates a welcoming feeling of "home" The layout is even and clear. The halogen lamp provides warm pools of light and has good color rendering capabilities. This will make faces look healthy and induce interaction. This also will make any hors d'oeuvres look more appetizing.

Comparison

Although the second solution is warm and inviting, it also needs a great deal more fixtures and wattage. It will have a lower base and installation cost than the first solution. However, the higher power density results in more energy consumption over time. In addition, the first solution is primarily 277V and the second is all 120V. This results in an even greater amperage drawn in the second case. Halogen bulbs have a shorter life than fluorescent – this causes an increased maintenance cost.

In conclusion, although the second solution seems much more simplistic, it will result in much greater costs over time than the first. The first is more interesting, achieves the goal better, and is more efficient.