Gathering Space

Function and Orientation

The gathering space and reception area on the first floor is the first space you encounter upon entering the Westwood Community Church. As such, its purpose is more than just to hold people. It must also be a space that captures people’s attention and a space that leaves a good lasting impression on its patrons as they leave.

However, the emotional force behind this space is not its only function. The space also functions to contain large groups of people entering and leaving functions in the worship space.

In addition, the gathering space should assist newcomers to the church by pointing them in the direction they are looking to go. The reception desk just south of the space and counter north of the space reinforces this function.

Space Characteristics

In the AutoCAD drawing to the right, the reception desk and the countertop are shown in neon green. Both of these furnishings were designed with a Poplar wood counter surface atop a Mahogany base. Also, shown in red is an 8” lift in the ceiling of the gathering space.

The gathering space consists of not only the large space in the center of the above floor plan, but the hallways to the north and south as well.
Material Properties

The floor of the gathering space is covered with a broadloom carpet. The walls are painted and the ceiling is finished with 5/8” gypsum panels.

Furnishings in the gathering space are sparse because it is a space for people to move and gather uninhibited. However, to the top of the room lies a countertop where pamphlets and information will likely be kept. In addition, there is a reception/information desk located in a cove just south of the gathering space. It is also likely that there will be artwork of some sort located along either longitudinal wall.

Design Needs

The concept of the entire Westwood Community Church design is not to use grandiose architecture to create awe and inspire worship, but rather to use subtlety and comfort to let the Westwood congregation know that they are welcome in God’s house. The simplicity and familiarity of the church’s architecture is done to allow the congregation a place where they can gather, socialize and worship on their own without feeling threatened.

Because the gathering space is the first room encountered by guests entering the church, it is paramount that it reinforces these notions. Lighting design, in particular, is considered the medium for creating moods, and thus the lighting in the space is extremely important.

The lighting in the gathering space should do its best to create a non-threatening environment. It should be used to control the size of the space. It should not allow the ceiling to appear too low, but it should keep the room light so that people can gather without feeling unimportant.

Since the space is also used to greet guests, light should be used to show people areas of most importance. Light should be placed on the reception desk and countertop. Light should also unconsciously direct people toward the worship space.

Design Criteria  (as suggested by the IES handbook)

Direct Glare – Direct glare is to be prevented throughout the space for assured comfort. The area of most concern, however, is the reception desk. There is likely to be someone seated at the desk for lengthy periods of time and any problem with direct glare would be quite aggravating.

Light Distribution on Surfaces – Greatest concern regarding light distribution is to be placed on the horizontal surfaces in the space (the reception desk and the countertop). There, the distribution should be as close to uniform as possible.

Luminances of Room Surfaces – On the desk / countertop surfaces in the open office, the luminance should be kept within a brightness ratio of 3:1 and values should be between 50 and 100 footcandles. Wall illuminance in the room should be kept between 30 and 100 cd/m2.

Modeling of Faces and Objects – The gathering space is where people at church do most of their interacting. Modeling is extremely important for this space in order for people to be able to communicate effectively.
Design Criteria (cont.)

*Floor illuminance* – 10 fc
*Work plane illuminance* – 50 fc

**Existing Design**

The existing design for the Westwood Community church could not be any simpler: it consists fully of downlights. Compact fluorescent downlights with 6” apertures are placed around the perimeter of the room, as well as down both halls, while incandescent downlights with 8” apertures are placed in the center of the gathering space. Wall sconces were later added over the countertop.

This layout creates an even wash throughout the room and has a power density of 1.72 W/ft², within the 1.8 W/ft² limit.

As can be seen from the table below, the original system put plenty of light on the gathering space floor and reception desk. However, the light levels on the floor may be too high. The IES Lighting Handbook only requires 5 vertical footcandles for a circulation space.

**Lighting Values from AGI**

<table>
<thead>
<tr>
<th>Surface</th>
<th>Average Illuminance</th>
<th>Maximum Illuminance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>20.67 fc</td>
<td>82.20 fc</td>
</tr>
<tr>
<td>Reception Desk</td>
<td>41.20 fc</td>
<td>46.80 fc</td>
</tr>
<tr>
<td>Countertop</td>
<td>8.37 fc</td>
<td>9.50 fc</td>
</tr>
</tbody>
</table>

(countertop values taken before wall sconces were added)
Re-Design

The lighting design for the Westwood gathering space consists of four parts:

- Create a cove surface around the perimeter of the raised ceiling area.
- Place twenty-six T5 high output lamps in the cove.
- Use T8 wallwashers to wash the far wall (near the worship space) and the wall behind the countertop.
- Place compact fluorescent lamps over the reception desk and down both halls.

Lamp Photos

![Image of Cove](image1.png) ![Image of Downlight](image2.png) ![Image of Wallwasher](image3.png)

Controls

One half of the cove lamps (circuits A and D) and the hall downlights (circuits F and H) will be backed up with battery packs in the case of emergency.

Wallwashers will be placed on dimmable ballasts (circuit G) to control their impact on the room environment.

In addition, the downlights over the reception desk (circuit E) will also be placed on a dimmer switch in so that the receptionist can control his or her environment.

Circuiting is as shown in the picture to the right. The hallway lights (circuits F and H) will tie in to already existing circuits.
Cove Detail

Lighting Summary

The existing lighting design in the gathering space was simple and efficient, but it lacked energy and direction. The room seems particularly bland and guests to the space aren’t led to important portions of the room.

In addition, it did not seem to create the sense of comfort that the architect was originally planning for this room. The completely direct system makes the rooms occupants appear as if they are on stage.

The redesign of the space was designed to counter these problems. While there is surely a lower light level throughout the redesign, the main goals of the space have been met.

The wall wash along the far wall pulls people toward the worship space (obviously the main room in the Westwood Community Church) while creating a non-threatening visual stimulus. This wash also creates an ideal surface for bulletins and artwork. In addition, the wash behind the information counter and the downlights on the reception desk direct guests to where help and guidance can be found.

The gathering space’s comfort comes from the wood cove that was created in the raised ceiling. This cove indirectly casts light on occupants without making them aware of being under light. The cove also reinforces the natural, organic theme the architect was looking for in the overall design and helps to show off the room’s sole unique feature. Aside from the lamps over the reception desk, all light in the room is indirect, which improves facial modeling and helps the room seem a little less large than it actually is.
Renderings

View upon Entering Gathering Space

Looking back in to Gathering Space
Renderings (cont.)

View from hallway

View from Reception Desk
Important Light Levels

Reception Desk: Approximately 43 fc
Task lamp could be used to bring light level up to a more ideal 50 fc.

Information Table: Approximately 38 fc

Illuminance on floor varies from approximately 5 fc to 20 fc. While 10 footcandles is not present throughout the room, the light averages to above 10 fc. These calculations also do not include daylight coming in from the vestibule at the left. So while an overall greater illuminance value would be beneficial, it is not considered necessary for this space.
Lamp Schedule:

<table>
<thead>
<tr>
<th>Fixture Type</th>
<th>Lamp Type</th>
<th>CCT</th>
<th>CRI</th>
<th># of Lamps</th>
<th>Input Power</th>
<th>Ballast Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cove Light</td>
<td>T5 High Output</td>
<td>3500 K</td>
<td>85</td>
<td>1</td>
<td>59 W</td>
<td>Electronic</td>
</tr>
<tr>
<td>Wallwasher</td>
<td>T8 Fluorescent</td>
<td>3500 K</td>
<td>75</td>
<td>1</td>
<td>38 W</td>
<td>Electronic</td>
</tr>
<tr>
<td>Downlight</td>
<td>Compact Fluorescent</td>
<td>3500 K</td>
<td>82</td>
<td>2</td>
<td>52 W</td>
<td>Electronic</td>
</tr>
</tbody>
</table>

Power Density:

The original power density for the gathering space was 1.72 W/ft². The power density for the redesigned system is .79 W/ft², nearly a full watt less for each square foot of space.

<table>
<thead>
<tr>
<th>Fixture Type</th>
<th># of Fixture</th>
<th>Input Power</th>
<th>Total Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>28</td>
<td>59 W</td>
<td>1652 W</td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>38 W</td>
<td>418 W</td>
</tr>
<tr>
<td>C</td>
<td>10</td>
<td>52 W</td>
<td>520 W</td>
</tr>
</tbody>
</table>

Total Power = 2590 W

Area of Lobby Space: 3290 ft²
Power Density: 2590 W / 3290 ft² = .79 W/ft²

Appendices:

See Appendix for Light Loss Factors, Ballast Information, Dimensioned Power Plan and Cut Sheets