

A Preliminary Investigation of the

## Ratio of Ceiling to Floor Area in Retail Spaces

### **Authors:**

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**Hypothesis:** In retail spaces, the area of visible ceiling is greater than the area of visible floor.

**Methodology:** Select a newly constructed retail mall serving a middle-to upper middle-class clientele.

Select twelve retail outlets on a randomized basis and excluding food service establishments.

Take photographs from door to store. Point camera directly ahead at eye level to show the approximate field of vision a customer has upon entering store.

Measure visible areas of ceiling and floor. Subtract merchandise, store fixtures, and merchandising displays from floor area. Include overhead light fixtures, ductwork, and other building components in ceiling area.

Calculate ratio of visible ceiling area to visible floor area.

**Procedures:** Photographs were taken during May 2017 at “The Village” in Canoga Park, CA, a suburban shopping center owned by Westfield that opened in 2017.

A lens with an 18 mm focal length was used on a digital single lens reflex camera that requires a 1.5 multiplier to equal the field of view of a traditional 35 mm camera. While this results in an effective field of view slightly smaller than the typical human field of view, it includes the regions of greater acuity and is assumed to be the region that has the greatest impact on shoppers.

### **Data:**

See photographs.

**Findings:** The ceiling:floor ratio ranged from a high of 29.14 (nearly 30 times more visible ceiling than floor) to a low of 0.73 (ceiling area is about three fourths the floor area).

The average ceiling:floor ratio is 5.11. The median ratio approximately 2.00.

**Conclusion:** *Ceilings are more visible than floors in the retail spaces investigated.*

**Discussion:** The retail industry appears to give more attention to selection of floor products than to the selection of ceiling products. An indication of this the low number of advertisements for ceiling products in retail design trade publications.

This investigation suggests that store owners, brand and merchandising managers, and their design consultants may find it beneficial to reassess the relative importance of ceilings in creating the first impression a consumer has upon entering a store.

**Further Research:** The small sample in this preliminary study should not be considered definitive. A larger study can address the role of ceiling height, depth of room, merchandising strategies, and other features upon relative visibility of ceilings and floors.

In addition to a larger sample, the study can be expanded to include other types of retail facilities. For example, this preliminary study does not include “big box,” department stores, convenience stores, men’s clothing stores, etc. Stores in other regions of the country and in non-suburban areas may also yield different results.

Retail spaces can be compared to other building types such as offices, schools, restaurants, health care, and others.

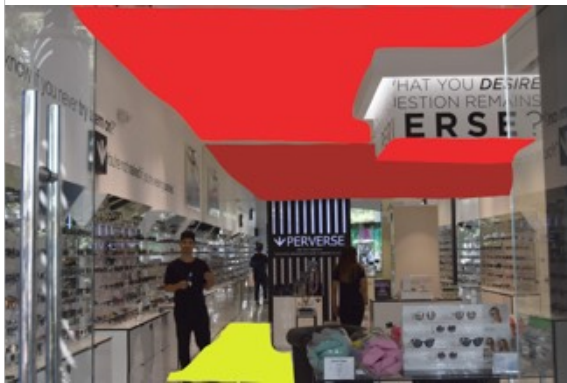
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### **Research Sponsor:**

Ceilume, [www.ceilume.com/pro](http://www.ceilume.com/pro).



Women's Clothing Store  
**29.14 Ceiling:Floor Ratio**



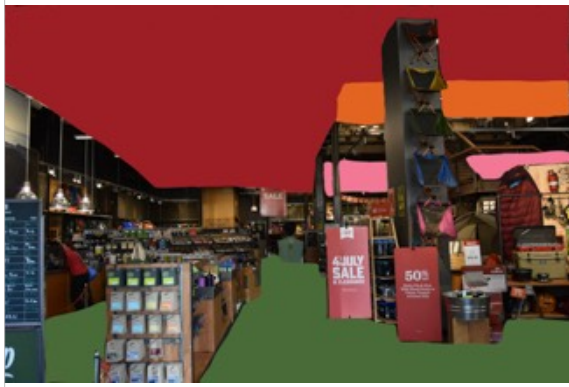

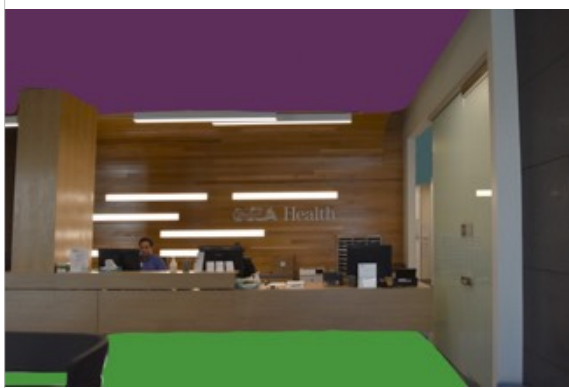

Sunglasses Store  
**10.00 Ceiling:Floor Ratio**



Mobile Phone Store  
**5.95 Ceiling:Floor Ratio**



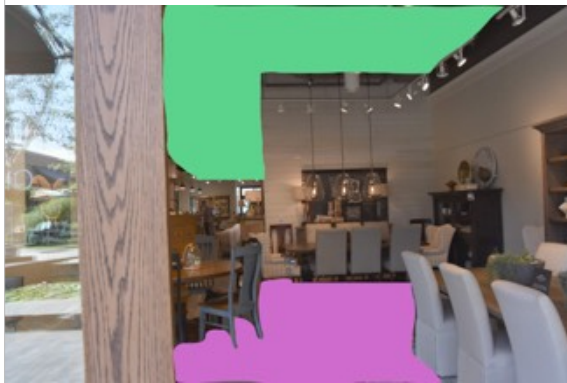
Gift Boutique Store  
**3.39 Ceiling:Floor Ratio**

	<p>Sport and Outdoor Recreation Store</p> <p><b>2.84 Ceiling:Floor Ratio</b></p>
	<p>Mobile Phone Store</p> <p><b>2.04 Ceiling:Floor Ratio</b></p>
	<p>Storefront Medical Office</p> <p><b>1.91 Ceiling:Floor Ratio</b></p>
	<p>Women's Clothing Store</p> <p><b>1.57 Ceiling:Floor Ratio</b></p>



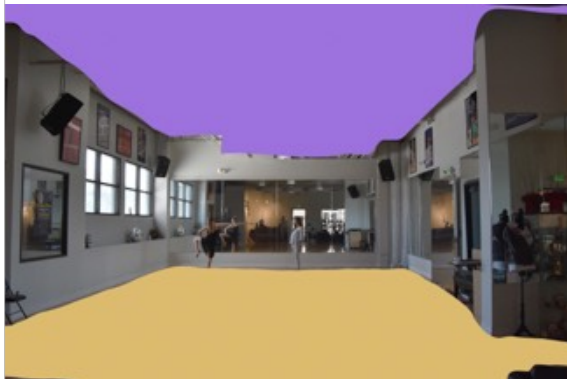
Tea Boutique

**1.56 Ceiling Floor Ratio**



Home Furnishings Store

**1.19 Ceiling:Floor Ratio**



Dance Studio

**0.94 Ceiling:Floor Ratio**



Women's Clothing Store

**0.73 Ceiling:Floor Ratio**