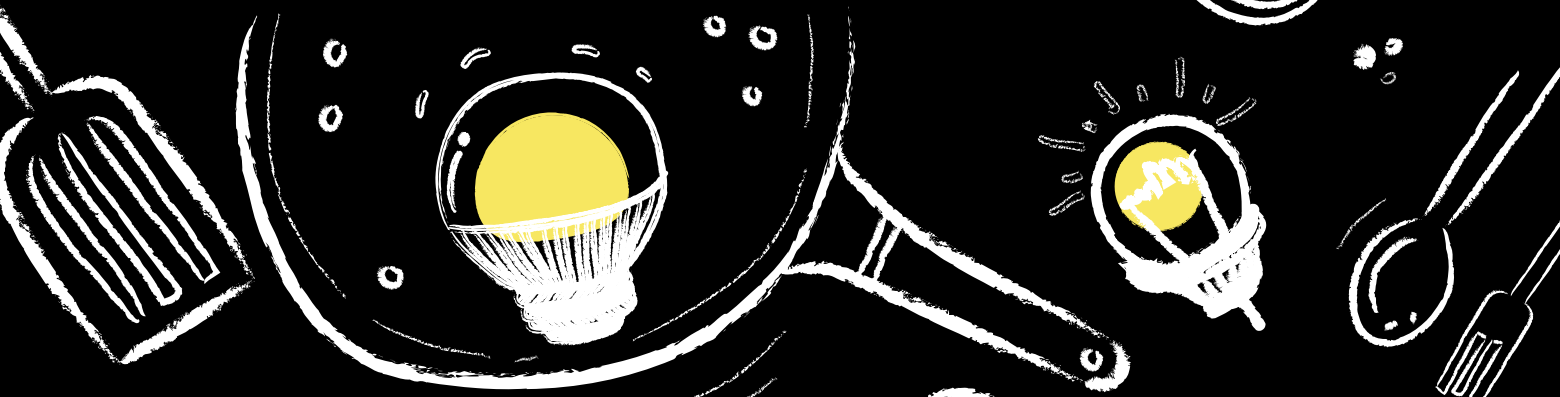


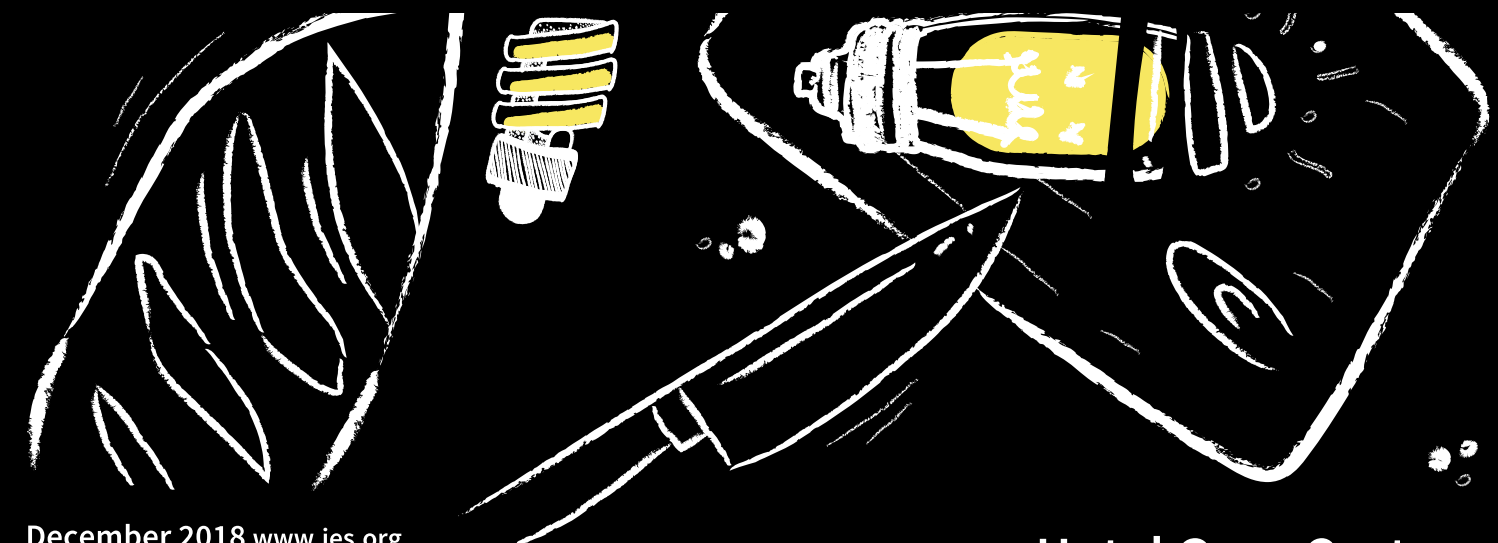
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Setting The Table

The Secret Recipe for Restaurant Lighting



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Hotel Goes Custom

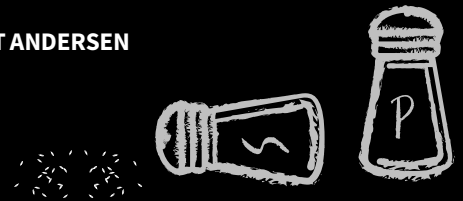
A Return to the '40s

Game On in Atlanta





The Secret Recipe for Restaurant Lighting

BY BRETT ANDERSEN



A pinch of this and a dash of that can create the ideal ambience.

After a survey of more than 50 Manhattan eateries, the author shares his formula



At Focus Lighting, we've been designing lighting for restaurants around the globe for over 30 years. While that is invaluable experience, last year I started to wonder if we could push ourselves even further. We always strive to make each restaurant experience a memorable one—but did we *really* understand what made them memorable? I was hungering for more than just our opinions; I wanted facts.

So we set out to broaden our understanding of the restaurant experience—and the important role lighting plays—through extensive research, in-house experimentation, and a systematic survey and analysis of actual restaurants. Thus began our ongoing quest to discover: what is the secret recipe?

Our research started with scouring multiple sources—textbooks, design monographs, the Internet—examining visual research on others' work, studying the history of restaurant lighting and reading many articles on the psychology of design. We also began experimenting with different lighting treatments in our light lab, aiming at understanding what worked, what didn't and why. But soon I began to worry that we were in too much of a bubble, only testing the things we had done or seen previously. That's when we decided to get out of the office and see with our own eyes what restaurant guests were experiencing. And, to make



Focus Lighting used many of the ingredients for successful restaurant lighting at Tao Downtown in New York City.

Photo: Warren Jagger

this information gathering truly useful, we decided to develop a standard method of surveying the lighting quality in each of the restaurants we visited. This was the genesis of our restaurant survey.

As we thought about how we would structure the survey, we first broke the restaurant experience down into three distinct events: 1) the first impression; 2) the dining experience; and 3) the inevitable trip to the restroom. Next, we thought about the influences affecting the overall quality of each of those experiences, and we developed survey questions reflecting those. The last question we asked arguably yielded the most interesting data—and we waited a month after our in-person surveys to ask it: *what did you remember most?*

We then had to select the restaurants. Our assumption was that the highest-rated restaurants would likely incorporate designed lighting. We looked to Zagat, Trip Advisor and Yelp, all of which use five-star rating systems driven by reviews from “regular” diners—the people for whom we design—not professional critics. Drawing on the restaurants that appeared in all three sites’ top rankings—and eliminating recently opened venues, whose scores might be influenced by being “new and hot”—we arrived at a list of over 50 Manhattan restaurants that we would visit.

We spent the next two months surveying these restaurants. Through this first-hand experience, we were able to identify the following as the ingredients that help to make a night out at a restaurant even more memorable.

Photo: Ryan Fischer



Start with a Great First Impression

Perhaps because of my experience in theatrical lighting, I've always believed in the power of a great first impression—like the moment the curtain rises in a theater. To me, it is where designers can have the most impact on a guest's overall experience. In an instant, they can introduce that restaurant's story, setting the tone for the entire evening. And while a majority of the restaurants received positive or at least neutral reactions, I was surprised that our team responded negatively over one-third of the time. We saw a number of major mistakes: In some restaurants, the arrival was totally divorced from the rest of the dining experience, to the point you weren't sure if you were walking into the right restaurant. Others were either too dark or put light on unimportant things. And I can't even tell you how many times the host stand wasn't lit at all.

Restaurants that did effectively take advantage of the first impression opportunity did so in different ways. Sometimes it was a single, striking design element. In other cases, it was a pleasing composition looking into the restaurant. And, yet others created a sense of surprise; one restaurant even created an operating pawn shop and used it as their entry vestibule.

These observations underscored research we had read



First impressions can elicit negative reactions via design inconsistencies (pictured here) or positive reactions with striking decor (above).

Photo: Brett Andersen

earlier, especially the work of Kaplan and Kaplan, as summarized in a 2013 white paper by Bob Davis. The Kaplans asserted that two environmental variables largely determine one's reaction to a space: *coherence* and *complexity*. So, if, on entering a restaurant, guests don't have enough light to understand the space and it therefore feels incoherent, they are likely to respond negatively. The response will be similar if the design is too regular or too bland. If, on the other hand, designers create an experience that guests can see and recognize, and it is sufficiently complex, they will be intrigued and engaged and will want to explore more. That is our goal as designers—to walk that fine line and find the perfect balance of coherence and complexity. And that makes the first impression the first key ingredient in our recipe.



Track heads, mono-points or recessed downlights may be necessary for reading menus.



Avoid the Danger Zone

The biggest lighting complaint we hear about in restaurants is that people can't read their menus. We saw people using flashlights or their phones in 18% of the restaurants we surveyed. However, considering many of our reservations were on the early side, when there are fewer guests and when lighting is usually at a brighter pre-set, the real number is likely closer to 40-50%.

So how much light do we really need? Well, the IES recommends between 3 and 6 footcandles at the dining table (depending on age)—but only 16% of restaurants reached this brightness—and most of those were deemed “too bright” by our surveyors. The vast majority of restaurants, 75%, had significantly lower illuminance levels—below 1.3 fc at the dining plate. No surprise here—restaurants are dark.

But how dark is too dark? As we examined variables in our data set, we began to see patterns when comparing scores on food appearance and the illuminance levels on the tables. This led us to define what I call the “Danger Zone”: anything under 0.4 fc. Below that level, even a 20- to 30-year-old cannot clearly see what they are eating (never mind read their menu)—unacceptable in my view.



Use a Tailored Accent

One easy way to deliver enough footcandles to a table is by utilizing overhead accents (track heads, mono-points or recessed downlights). But there's often debate about the merits of overhead accents—some people love them, some people hate them. Of the restaurants we surveyed, 29% (16 restaurants) didn't use them, relying instead on ambient light from surrounding sources. However, of those 16, 44% had light levels fall within the Danger Zone. This confirmed for us the clear role downlights can play in ensuring adequate light levels—and prompted us to work to identify the ideal downlight solution—what I call the “tailored accent.”

Based on our survey and experimentation—and having seen the pluses and minuses of all types of downlights—we consider the most effective option to be one where the fixture is centered over the table, with a beam that has a narrow falloff (~6 in.), with that falloff positioned at the middle of the plate. This lights the center of the table and the plates so the contrast levels between the two aren't too great and guests can see their food and their menu. And, a guest with their elbows on the table can lean in without getting light on their forehead (which causes unattractive bright spots and shadows).

Table Color Matters

Most restaurant designers recognize the benefit of a white tablecloth in softening the light on guests' faces. But because not all restaurants want that look, we decided to study exactly how much influence table color and finish had. We started by mocking up a "tailored accent" over a table with a black tablecloth, measuring the light bouncing up, hitting guest's

faces—only 0.2 fc. However, with a white tablecloth (with the same lighting) the illuminance jumped to 7.1 fc. That means a white tablecloth reflects 35 times more light than black. But, if the design demands black tables, all is not lost—by simply choosing white plates, the light level at guests' faces goes from 0.2 fc to 2.2 (or about 11 times).

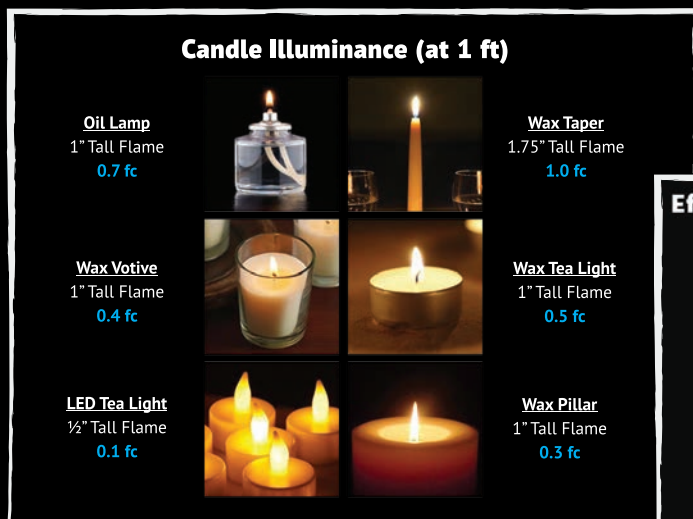


Figure 1

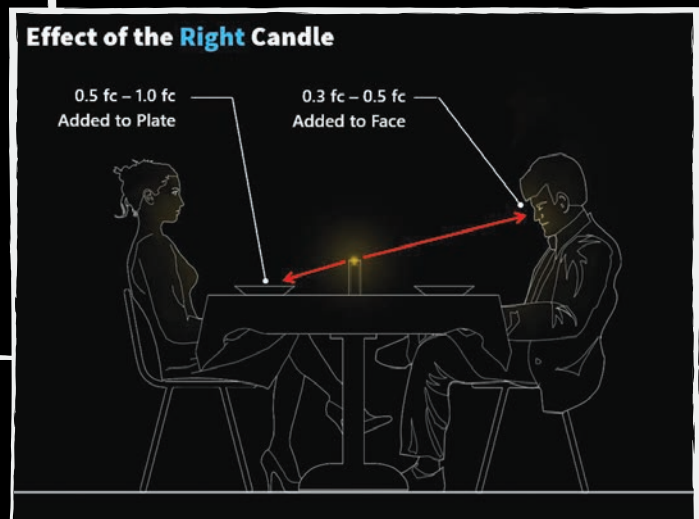


Figure 2

Choose the Right Candle

Of course, bouncing light off tablecloths isn't the only way to get light up onto guests' faces. Candles have been used on the dining table since the earliest restaurants. This is because they can make a substantial contribution to the dining experience, adding ambiance, creating focal points in the room and reducing reliance on perfectly aligned table accents. For my previous restaurant designs, I always pushed for them, but I never really thought of them as major contributors to the lighting at a table. But that all changed while surveying one restaurant which provided a tapered wax candle on every table. The light emitted from these little workhorses not only lit the table, but cast the most beautiful light on guests' faces and across the room.

This got us wondering just how much light candles actually give off. We had assumed a candle, 1 ft away, from say a plate, would deliver 1 fc. However, that logical assumption proved to be wrong. It turns out, not all candles are created equal (**Figure 1**).

Knowing very specifically the light output for each type of candle, we could determine that candles generally deliver between 0.5 to 1.0 fc to the plate, and between 0.3 and 0.5 onto a guest's face (**Figure 2**). Given that across all the restaurants we surveyed the average illuminance at the face was below 0.5 fc total, you can see that the inclusion of a well-chosen candle can make a huge difference.



Photo: Ryan Fisher

Layered lighting makes the dining experience in the Boston restaurant Yvonne's a memorable one.

Leverage the Glow of Perimeter and Ambient Lighting

While candles can't eliminate the need for flashlights, a good mix of ambient and perimeter lighting certainly can.

Though not usually meant to be primary sources of light in a restaurant, additional layers of perimeter and ambient lighting surrounding the dining table will often combine to create a level of light that can soften shadows from overhead lighting while making the guests' views more dramatic and visually interesting.

We found that perimeter and ambient lighting work best when you:

- Layer light to add richness and complexity
- Carefully balance light to create pleasing compositions
- Give everyone something interesting to see
- Create a sense of place

Use Controls

Based on the survey, I only have two words about lighting controls to share: use them. Small adjustments are incredibly important in restaurant lighting. When we're talking about creating a balance of light at the

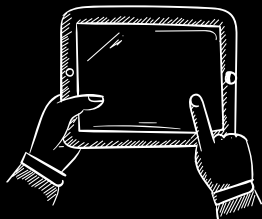


table from overhead, candles, and perimeter and ambient lighting—and all the light levels are below 1.5 fc combined—even a small bit of imprecision will ruin the look of a restaurant. The only way to set and repeat these very precise settings is with a computerized lighting control system—that's a must to get the secret recipe right.

Make the Restrooms Memorable

Based on our survey data, it's fair to say that of all the experiences, the trip to the restroom was the least memorable. Of the 250 memories collected a month after our surveys, only four were of the restroom. This points to a tremendous, often-missed opportunity to use design and lighting to tell another piece of the restaurant's story—whether by making the restrooms surprising, making a statement or having a little fun.

Obviously, there is a lot that goes into creating a memorable restaurant experience. Our research and experience do, though, recommend certain key ingredients. If you start with

those we have discussed here, you will be well on your way to successfully making this secret recipe your own. □

This article is based on a presentation delivered at LIGHTFAIR 2018. The author will present part two of this talk at LIGHTFAIR 2019.

THE AUTHOR



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