



PHILIPS

**Bring out the best
in your fresh food**

With our lighting & light recipes



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Which **color** is your perfect match?

There is abundant evidence that LED lighting enhances the appearance of fresh foods on your supermarket shelves and also helps to prevent discoloration. But what are the best choices to accompany your choice of bread, meat, fish and vegetables?

Fresh food LED lighting recipes can help make the difference in your fresh food departments in two, very important ways: presentation and quality.



Introduction

Lighting & light recipes

In this booklet you can read about our Fresh food LED lighting recipes. But there is more! Because what could be better than combining lighting recipes with... light recipes, tasty dishes that make healthy eating easy. Not only with lighting recipes, but also with light recipes it's all about the right balance between presentation and quality, and between taste and well-being.

So let yourself be inspired by our lighting and light recipes.

The fresh produce department

Where shopper loyalty is forged

Proof that **it pays**
to get your lighting right

+3.5%

increase in fruit
and vegetables
sales



In 2012 we conducted a study with the Independent Retail Institute in Cologne, Germany, which found that lighting can have a positive impact on sales in a supermarket's fresh produce department.

A balancing act for retailers

Creating the perfect ambiance in fresh food departments, however, is something of a balancing act for retailers. Shoppers want a sensory experience and creating the right atmosphere in the fresh food areas is key to achieving this. Consumers also demand a broad assortment of ultra-fresh foods as an important component of a healthier lifestyle.

Retailers want to meet these customer expectations by offering many fresh food products, but they also need to find ways to minimize losses and waste.

The fresh food section:
There's no better place for a retailer to showcase the level of service they provide and the quality of the produce they sell.

Online experiences can't compete with the pleasure of a well-stocked and beautifully presented produce department: the colors, the textures, the aromas. Shoppers naturally associate the look of fresh produce with its taste, and they know from experience that if food looks good, it will most likely taste good as well. For these reasons, the fresh food section is often the main reason why a shopper chooses to make a trip to the supermarket, or to choose one particular supermarket over another.



Take action in reducing food waste

According to a study commissioned by the Food and Agriculture Organization of the United Nations (FAO), roughly one third of the food produced for human consumption in the world every year – approximately 1.3 billion tons – is lost or wasted. Converted into calories, this means that about 1 in 4 calories intended for consumption is never actually eaten!



Fortunately, today's increasingly empowered, sustainability conscious consumer is no longer prepared to accept food waste on this scale, and an increasing number of retailers are joining forces with governments and other organizations to take action.

50%

Reduction in the amount of food waste promised by the UN and EU by 2025.

(Source: European retail forum)



Proven fact!

According to a study by the University of Leuven (KU Leuven, Belgium) on preference and memory color, people remember the color of fresh products such as meat as being more saturated than they really are. And when it comes to actually choosing a product, consumer preferences go even further – they want a color that's even slightly more saturated than what they remember.



“

Remember...
...light isn't the only
factor affecting
the quality of fresh
produce.

Besides light other parameters such as temperature, humidity, packaging, method of preparation and the usage of salt/additives can play an (even bigger) role.”

Simone Poort
Research scientist at Signify



Fresh thinking

The fresher food looks, the greater its appeal. Our portfolio of LED luminaires for fresh foods show your produce in its best light, bringing out bright colors and textures that you can almost taste. It's the kind of lighting that will entice your customers to browse longer and buy more.

On the following pages we will show you which lighting recipe can bring out the best in your specific food area.



Magnificent sliced meat

Research shows that customers prefer meat with a rich, saturated color. The challenge is that when you shine more light on meat, it discolors and loses its appeal faster. Our Fresh Food Rose LED luminaires have been specially developed in collaboration with retailers and meat specialists to enhance the redness of meat and slow down discoloration, which leads to increased sales and less waste.



Less meat discoloration

When sliced meats begin to turn brownish, your customers will be less likely to buy them. Not only will this affect their loyalty to your meat department, but it can have serious consequences for food wastage. The spectrum of LED Fresh Food Rose leads to less meat discoloration compared to the conventional White SON spectrum.

Fresh Food Rose

For a warm ambiance that reduces discoloration.

Fresh Food Meat

For a cool natural setting.



Lighting recipe 1

Fresh Food Rose

For a warm ambiance
that reduces discoloration.

Lighting recipe 2

Fresh Food Meat

For a cool natural setting.

Benefits

Limits discoloration of sliced
meat and perfectly matches
memory color and preference
color.

Dedicated Interact Retail schedule

Create an intensity schedule
based on the time of day and
visitor count. Store the meat as
much as possible in the dark
outside opening hours.

Ingredient

StyliD Evo projector



Or try one of our other projectors,
pendants or recessed luminaires.

Light recipe

Beef carpaccio with walnut pesto

Appetizer (serves 2)

Walnut pesto

Preheat the oven to 350°F (175°C). Spread the walnuts on a rimmed baking sheet and toast for 12 minutes, or until golden. Cool the walnuts and finely chop them.

In a mortar, mash the garlic with a pinch of crushed red pepper and salt until a paste forms. Add the walnuts and parsley and pound to a coarse paste. Slowly add the olive oil, pounding and stirring until blended. Stir in the grated Parmesan cheese and season with salt.

Carpaccio

Divide the slices of carpaccio between two plates and spread a few spoons of the walnut pesto onto the meat. Cut the cherry tomatoes in halves and divide the arugula and tomatoes between the two plates. Dress the plate with shavings of Parmesan cheese and season it with freshly ground pepper.

Ingredients

Carpaccio

5 oz (140 g) beef carpaccio
(from fresh meat department)
2 handfuls arugula
6 cherry tomatoes
2 teaspoons (10 g)
shaved Parmesan cheese

Walnut pesto

0.5 lb (220 g) walnut halves
2 cloves of garlic
crushed red pepper
coarse sea salt
4 teaspoons (5 g)
minced flat-leaf parsley
0.5 cup (125 ml) extra-virgin olive oil
1.5 oz (45 g) grated
Parmesan cheese

Light recipe | Sliced meat



Rich, creamy cheese

A curated selection of world cheeses – it's often a foodie's favorite spot in the supermarket. But how can you best display your wares while also maintaining freshness and peak quality? The answer lies in a lighting recipe that meets all expectations.



Preserve the **freshness**

While the fats in cheese are what gives this delicious food its richness, they're also problematic when it comes to properly lighting this area of the supermarket. When cheese is exposed to light, the fats (or lipids) begin to oxidize – first changing the cheese's appearance and then altering its taste and smell. This process occurs in only a few days. Light-induced discoloration and lipid oxidation can put customers off buying the product, and could influence their enjoyment of the cheese if they do decide to purchase it.

Fresh Food Champagne

Proven to light cheese
beautifully while also
preserving its quality.





Light recipe

Cheese fondue in roasted pumpkin

Festive main dish (serves 4)

Preheat the oven to 400°F (200°C). Cut the caps of the pumpkin and scoop out the seeds and guts. Put the pumpkin and the cap on the baking tray and grill in the oven for 30 minutes until tender and soft. In the meantime, prepare the cheese fondue.

Grate the cheeses. Heat the wine in a pot and add the lemon juice. Add the cheese in portions while stirring. In a cup, mix the cornstarch with 3 tablespoons of water, add it to the cheese fondue while stirring and keep stirring until it's smooth and creamy. Add the pressed garlic. Season with paprika, freshly ground nutmeg and pepper. Put the fondue in the pumpkin and put it in the oven for about 10 minutes. Serve with vegetables and fruits such as mushrooms, bell peppers, cucumbers, blanched cauliflower florets, grapes, radishes, asparagus tips, cherry tomatoes, apples, pineapples, etc. Dip your food in the cheese and place it on your plate.

Ingredients

1 pumpkin	Juice of 1 lemon
11 oz (300 g) Emmentaler light	1 tablespoon cornstarch
9 oz (250 g) Leerdammer light	1 tablespoon paprika
2 oz (50 g) Milner light	nutmeg
(from the fresh cheese department)	black pepper
3 cloves of garlic	vegetables and fruits
5 fl oz (1.5 dl) dry white wine	

Lighting recipe

Fresh Food Champagne

Proven to light up cheese beautifully while also preserving its quality.

Benefits

Limits lipid oxidation and creates the perfect fresh, rich and flavorful presentation of cheese.

Dedicated Interact Retail schedule

Tune intensity for optimal presentation.

Ingredient

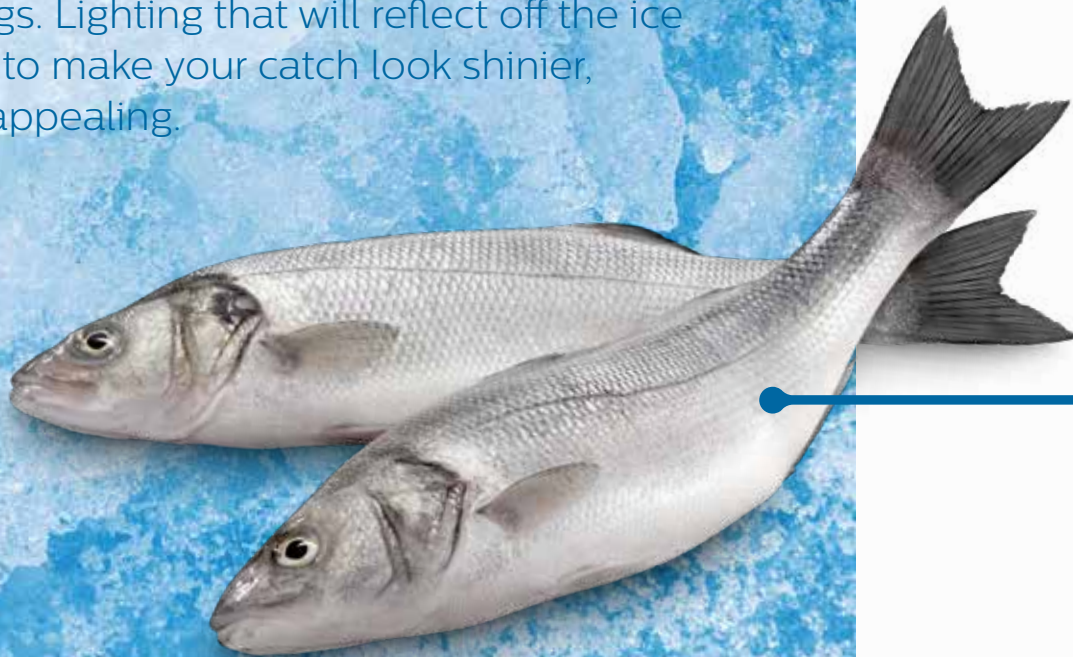
LuxSpace Accent



Or try one of our other projectors, pendants or recessed luminaires.

Fabulous fish

When it comes to fish, freshness is everything. Gleaming fish that looks slippery and wet, promises a juicy texture and flavor as if it has just been caught. That's the effect you can create with Fresh Food Frost LED lighting with natural, cool settings. Lighting that will reflect off the ice in your fish display to make your catch look shinier, fresher, and more appealing.



“Just caught” appeal

Customers demand the ultimate in freshness when choosing fish in your store. With the right lighting you can highlight its “just caught” appeal. And for this, LED lighting offers great possibilities. It's a fact that LEDs are at their best in cool environments.

Fresh Food Frost

A natural cool setting that's perfect for seafood.



Lighting recipe

Fresh Food Frost

A natural cool setting that's perfect for seafood.

Benefits

Enhances the fresh, hygienic, cool and "just caught" look of fresh fish.

Dedicated Interact Retail schedule

Tune intensity for optimal presentation.

Ingredient

CustomCreate pendant



Or try one of our other projectors, pendants or recessed luminaires.

Light recipe

Herring on toast

Lunch (serves 2)

Remove the crust from the slices of bread. Toast the bread in a toaster or oven until golden and let it cool. Remove any fish bones from the herring filets and slice them into equal-sized pieces. Slice the cucumber in thick slices and cut 3 stems of scallions into small pieces. In a small bowl, mix together yogurt, half of the dill, lemon zest and lemon juice.

Spread a thick layer of the yogurt mix on the toast. Top the toast with slices of cucumber and herring pieces, then dress with scallion, dill, salt, pepper and crushed red pepper.

Ingredients

2 herring filets
(from the fresh fish department)
4 slices of whole-wheat or rye bread
2 oz (60 g) of Greek yogurt
2 tablespoons chopped fresh dill
zest of 1 lemon

1 teaspoon lemon juice
1/4 cucumber
scallions
salt
black pepper
crushed red pepper

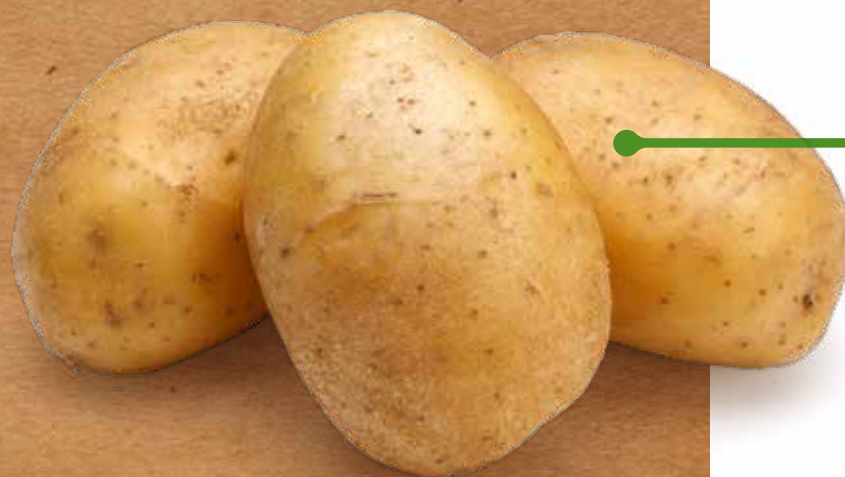
Recipe light | fish



Perfect potatoes

Mashed, baked, roasted or fried, potatoes are a popular food, high in fiber and rich in vitamins. But heat and light can influence the shelf life of fresh potatoes if they're not displayed in an ideal environment.

Presenting potatoes at their most attractive requires lower light levels with the right light spectrum.



Reduce greening

When potatoes are exposed to light, they can form a greenish pigmentation on their skins. This process is known as “greening.” Unfortunately, greening is not just unsightly, but it is also a warning sign that toxic species can be formed. Greening in potatoes is caused by the formation of chlorophyll, but solanine can also be formed at the same time. Chlorophyll is harmless, but solanine is poisonous. For supermarkets, therefore, potato greening means waste and loss of revenue. Your best bet for avoiding potato greening is to store them in the dark. But when you have to shine light on them, make sure it's the right light. We conducted several experiments to monitor the greening of potatoes. When we tested different white spectra, we discovered that our Champagne recipe causes less greening. Under a cool white spectrum, the potatoes greened about a day earlier.

Fresh Food Champagne

Creates a warm and cozy atmosphere and reduces greening in potatoes.





Light recipe

Sweet potatoes with yogurt dip

Side dish (serves 2)

Preheat oven to 425°F (220°C). Cut the sweet potatoes into fries and combine in a large bowl with olive oil, rosemary, salt and pepper. Place in a single layer on a baking sheet lined in parchment paper. Bake for 20 to 25 minutes, turning them halfway through.

Prepare dip while fries are baking. Combine all dip ingredients in a small bowl and set aside in the refrigerator until ready to use.

Ingredients

Potatoes

- 2 sweet potatoes
(from the fresh food department)
- 4 tablespoons olive oil
- 2 tablespoons rosemary, chopped
- 2 teaspoons salt
- 2 teaspoons black pepper

Greek yogurt dip

- 9 oz (250 g) plain Greek yogurt
- 1 tablespoon lime juice
- 1/4 teaspoon salt
- 1/4 teaspoon black pepper

Lighting recipe

Fresh Food Champagne

A traditional setting that creates a warm and cozy atmosphere and reduces greening in potatoes.

Benefits

Contributes to limiting the greening of potatoes and enhances a fresh and warm look.

Dedicated Interact Retail schedule

Dim considerably whenever possible and turn off fully outside opening hours.

Ingredient

GreenSpace Accent projector



Or try one of our other projectors, pendants or recessed luminaires.

Fantastic fruit & veggies

A rainbow of colorful fruit and vegetables is key to a healthy, nutritional diet. Authentic lighting that brings out the rich greens, reds, yellows and oranges of all your produce will give them a special appeal. Highlight the shiny skins of crunchy fruits and berries and everything will look freshly picked and bursting with flavor.



Preserve the freshness

Ripe, juicy and perfectly lit by LEDs, your fruits and vegetables gleam with freshness. And more than that, the right lighting will display your products in a way that aligns with how your customers expect to see them. Because people remember the colors of these foods as more saturated than they really are, good lighting can enhance the perception of this product and show it to its best effect.

Recently, we ran a series of tests to investigate how the use LED spectra affects the presentation of fruit, vegetables, and flowers in supermarkets. Twenty-three participants examined three comparisons for each of ten objects. The results of the tests show that for all objects, PremiumColor scored the best.

Fresh Food PremiumColor

The recipe preferred by
shoppers that brings out the
true colors in fresh produce.



Lighting recipe

Fresh Food PremiumColor

Making your fruit and vegetables
look better and taste better.

Benefits

Enhances the crisp, colorful and
healthy look of fresh fruit and
vegetables.

Dedicated Interact Retail schedule

Tune intensity for optimal
presentation.

Ingredient

GreenSpace Accent



Or try one of our other projectors,
pendants or recessed luminaires.

Light recipe

Carrot, mango and orange smoothie

Serves 2

Peel and dice the mango and carrot and squeeze the oranges. Peel and mince the ginger. Add all ingredients to a high-speed blender and blend on high until very smooth, ensuring that the carrots are fully incorporated. Check the thickness of the smoothie and add some ice water if needed.

Serve in 2 mason jar cups. Decorate with a festive straw and a leaf of fresh mint.

Ingredients

1 large carrot

1 large mango

2 oranges

1 inch (2 cm) fresh ginger

fresh mint leaves

*(all from the fresh food
department)*

1 cup (250 ml) ice water

Light recipe | Fruit and vegetables



Healthy herbs

We did research and concluded that basil plants last longer in light than in darkness, regardless of spectrum. We found only small differences among plants stored under different light treatments. Therefore, retailers can select light colors that enhance shopper perception and preference when displaying basil, rather than focusing solely on the influence of light on the plants. We therefore recommend the use of the Fresh Food PremiumColor recipe.



Extend the shelf life of herbs in-store

Our Fresh Food PremiumColor lighting recipe is the optimal choice for extending the shelf life of herbs in store.

Fresh Food
PremiumColor
Ensure the freshness and
quality of your potted
herbs, year round.





Light recipe

Zucchini noodles with pesto

Main dish (serves 4)

Pesto

Combine the basil and garlic in a food processor and pulse until coarsely chopped. Slowly add the olive oil in a constant stream while the food processor is on. Stop the machine and scrape down the sides of the food processor with a rubber spatula. Add the lemon juice and Parmesan cheese. Pulse until blended. Season with salt and pepper.

Noodles

Use a julienne peeler or mandolin to slice the zucchini into noodles. Set aside. Put the peas in a pot and add enough water to cover the peas. Bring the water to the boil. Cover the pot and let the peas to simmer for 3 minutes. Combine the zucchini noodles and pesto. Toss until zucchini noodles are well coated. Add the zucchini pesto noodles to a skillet and sauté them over medium heat for a few minutes. Put the noodles on a plate and top with the peas.

Ingredients

4 small zucchinis
1.8 oz (50 g) fresh basil leaves
2 cloves of garlic
(from the fresh food department)
4.5 oz (125 g) frozen baby peas
1/3 cup (80 ml) extra-virgin
olive oil

2 teaspoons fresh lemon juice
4.5 oz (125 g) freshly grated
Parmesan cheese
salt
black pepper

Lighting recipe

PremiumColor

Shows your herbs in their true colors while maintaining their freshness.

Benefits

Contributes to preserving the quality, nutrients and aromas of your fresh herbs.

Dedicated Interact Retail schedule

Boost intensity for optimal preservation and minimize the number of dark hours.

Ingredient

GreenSpace Accent projector



Or try one of our other projectors, pendants or recessed luminaires.

Beautiful bread & pastries



There's nothing like the smell of fresh bread and rolls, still warm from the oven. Lighting can give them even more appeal. Fresh Food Champagne LED luminaires makes bread look crisp, appetizing and impossible to resist.

Delightful area

Crusty loaves of fresh bread – the bakery is one of the most delightful areas in any supermarket. But when it comes to baked goods, customers demand the height of freshness – how can you move this perishable food off the shelves as quickly as possible? The best LED lighting can enhance the display of your baked goods so that you will have sold all your stock by the end of the day.

Fresh Food Champagne

A traditional setting that creates
a warm and cozy atmosphere.



Lighting recipe

Fresh Food Champagne

A traditional setting that creates a warm and cozy atmosphere.

Benefits

Enhances the crisp, warm and golden glow of “freshly baked” bread and pastries.

Dedicated Interact Retail schedule

Tune intensity for optimal presentation.

Ingredient

CustomCreate pendant



Or try one of our other projectors, pendants or recessed luminaires.

Light recipe

Whole-wheat bagel with avocado

Breakfast (serves 2)

Peel and slice the avocado. Cut the tomato in thin slices. Slice bagels in half. Place a non-stick skillet over medium heat. Add the bagels to the skillet with the flat side down. Let it toast a few minutes until golden, then flip and place on a plate, toasted side up. Let it cool. Spread some cheese on each half. Divide the avocado and tomato on both bottom halves and top with arugula. Season with freshly ground pepper and a drizzle of olive oil.

Ingredients

2 whole-wheat everything bagels <i>(from the fresh bread department)</i>	1 avocado
7 oz (200 g) cheese spread light	2 vine tomatoes
	1 handful arugula
	black pepper
	1 tablespoon olive oil

Light recipe | Bread and pastries



Interact Retail: Putting it **all** together



Dedicated
Interact Retail
schedule



Intensity
schedule based
on time of day and
visitor count. Keep as
much as possible
in the dark outside
opening hours.

Tune intensity
for optimal
presentation.

Dim considerably
whenever possible
and turn off fully
outside of opening
hours.

Boost intensity
for optimal
preservation and
adjustable to
opening hours.

Get the most out of your Fresh food LED lighting recipes by connecting them to our smart retail system Interact Retail. You can create dedicated zones in your supermarket and add schedules per zone to achieve optimal lighting.

The savings build as you add additional features like daylight harvesting, scheduling and presence detection.

Inspired by our lighting recipes?

Visit: www.philips.com/freshfood.



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