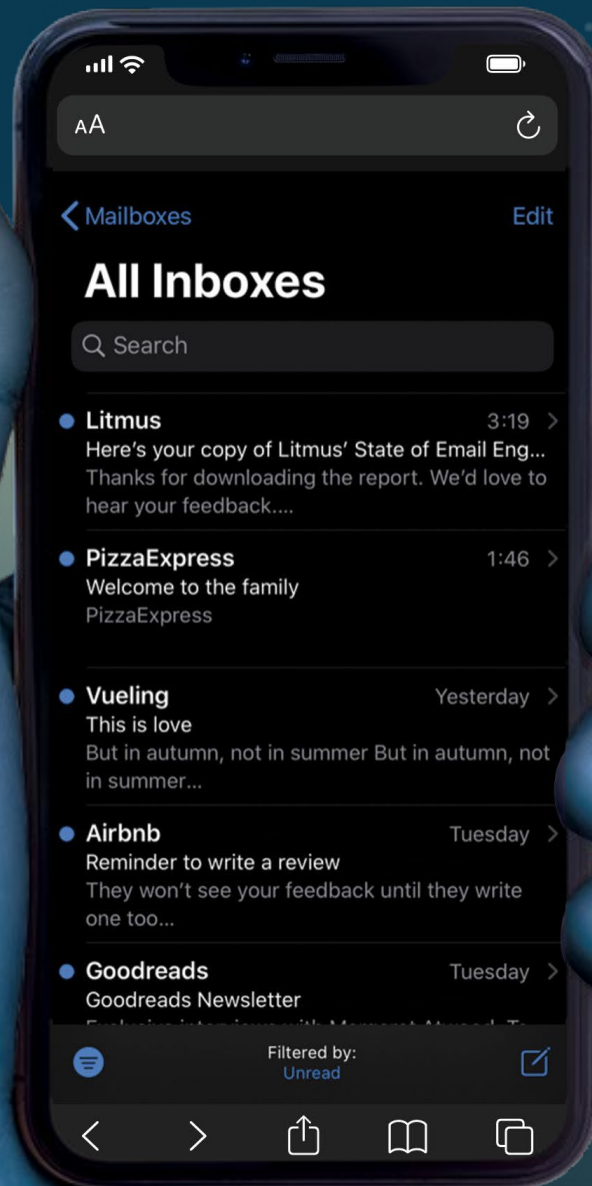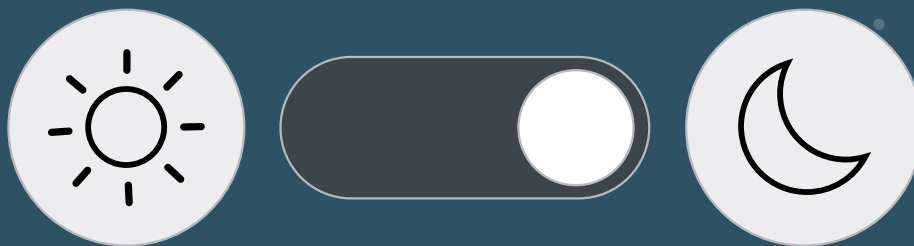# litmus

ULTIMATE GUIDE TO

Dark Mode Email

Introduction

If there's one thing email marketers are responsible for, it's tailoring their emails to subscriber preferences. That can mean a lot of things—like content and cadence—but one preference that seems to be on everyone's minds these days is Dark Mode.

While Dark Mode used to be the default state for interfaces in the 70s and 80s (thanks to the limitations of the CRT technology powering screens), users largely preferred lighter, more paperlike, interfaces throughout the 90s and 2000s. That all changed in 2019, though, when both Android and iOS introduced Dark Theme and Dark Mode, respectively. Seemingly overnight, two of the biggest operating systems in the world turned users onto the pleasures of the dark side. Major apps—like Facebook, Twitter, Gmail, Slack, and Microsoft Office—all embraced Dark Mode that year, too. And, as operating systems started offering both light and dark versions, email clients were quick to follow suit.

Fast forward to 2023, and Dark Mode is still one of the hottest topics in the email marketing world. Email marketers—always looking for ways to improve the subscriber experience—are trying to wrap their heads around what Dark Mode means for email design and development. But, the answer isn't straightforward.

Dark Mode is, like most things in email, not supported consistently across the dozens of email clients in popular use. Some email clients allow you to tailor your design to the darker interfaces, while others make design decisions for you (with sometimes disastrous results).

So, how can email marketers make the most of Dark Mode? Our Ultimate Guide to Dark Mode Email will teach you what you need to know to keep your campaigns on-brand, accessible, and engaging even when the digital lights are switched off.
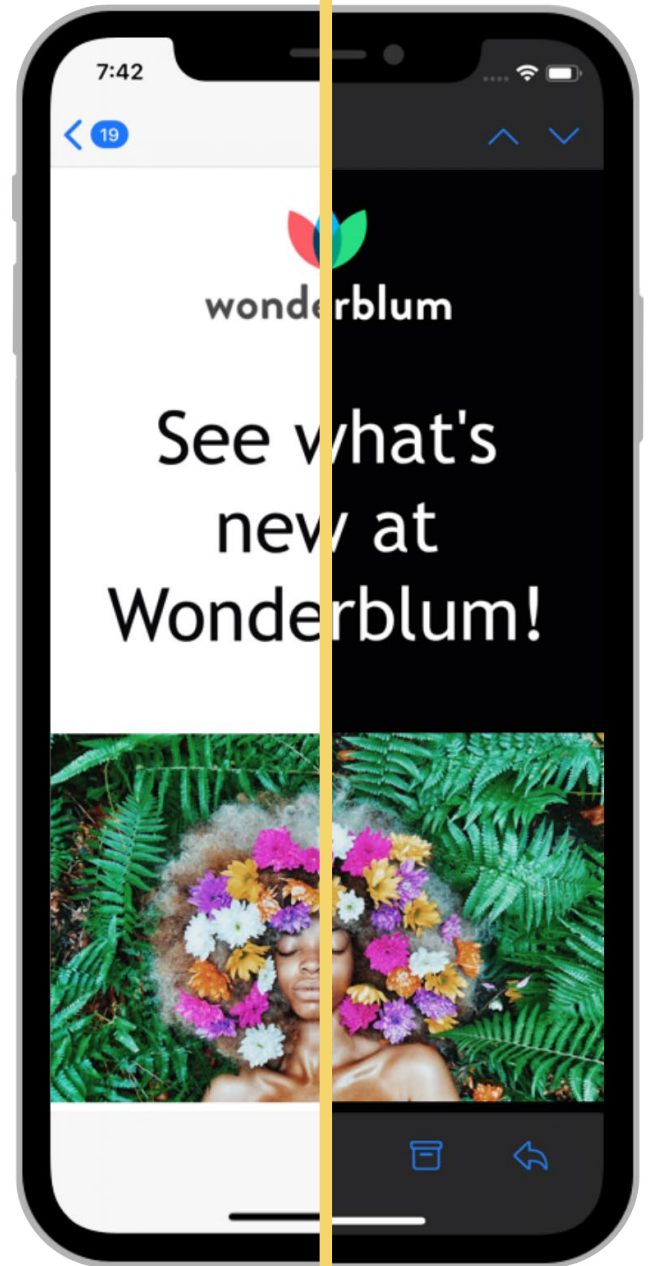
Why Dark Mode?

Dark Mode may just seem like another visual design fad, but there are actually a number of reasons why users would prefer a darker interface. According to a recent article from UX researchers from the Nielsen Norman Group, accessibility could play an important role in Dark Mode adoption. While light mode works well for people with normal or corrected vision, low vision users—specifically those with cataracts and similar afflictions—actually perform better with darker interfaces. They also noted that reading for longer periods of time in lighter environments could contribute to myopia, or nearsightedness.

Another important reason users adopt Dark Mode is tied to battery usage. Screens are dark to begin with. In Light Mode, devices are expending a lot of energy lighting up pixels. However, in Dark Mode, fewer pixels need to be activated, which could result in energy savings and longer battery life.

Finally, Dark Mode just looks cool. Yeah, we know that sounds silly… but devices are increasingly seen as fashion items and a way to express personal preferences. And a lot of people (including a bunch of us at Litmus) love the look of Dark Mode. Even if you don't, you can be certain that some of your subscribers do—so it's better to be safe than sorry by adapting your campaigns to Dark Mode situations.

Source: Really Good Emails

Dark Mode Usage

Although email marketers have access to all kinds of data, it's relatively hard to answer the question, "How many people are using Dark Mode?" Even outside of email, there's no consensus on Dark Mode usage across iOS, Android, Mac, or Windows.
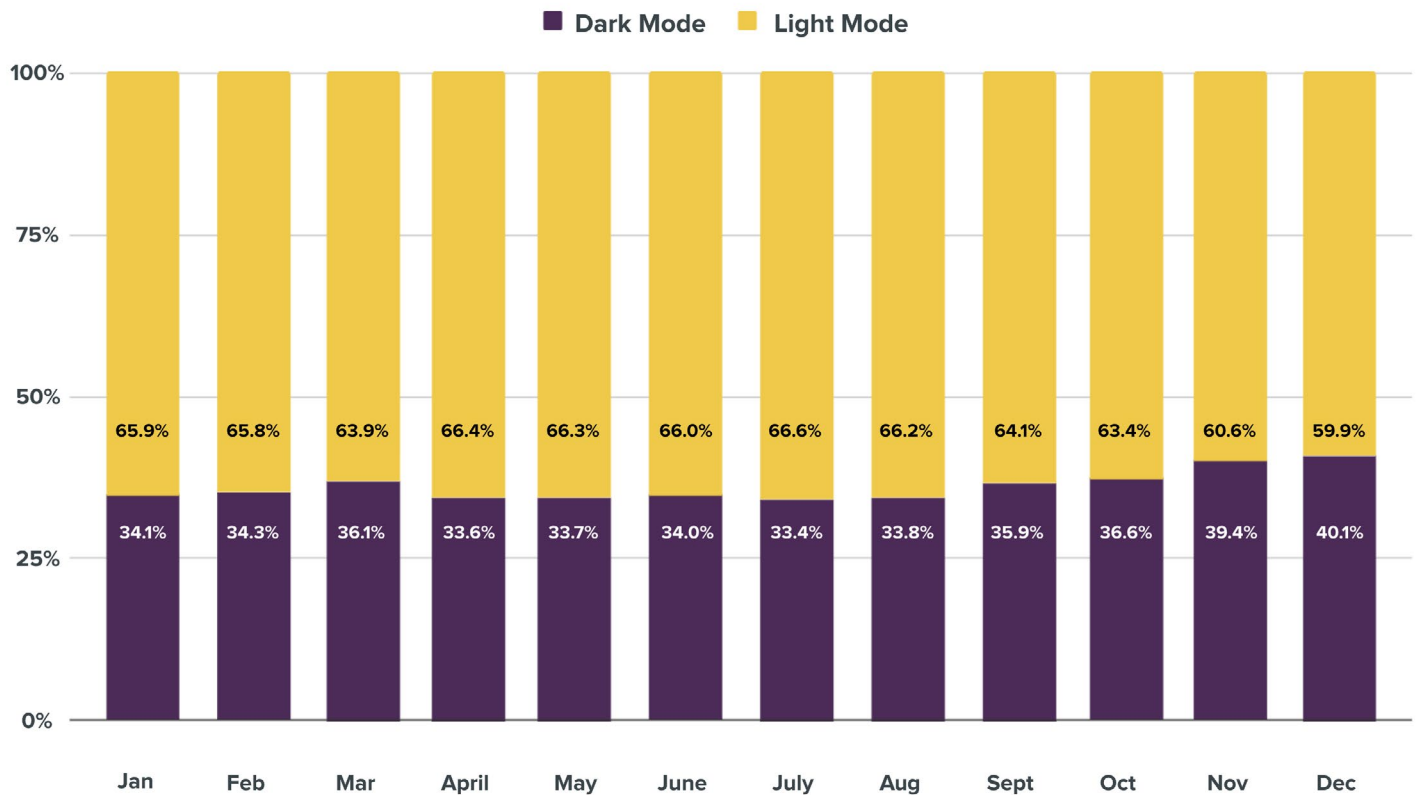
An early 2020 poll from Android Authority showed that nearly 82% of users preferred Android's Dark Theme. Another informal poll, this time from the Chromium Developer Team, showed that almost 83% of respondents used Dark Mode. But both of these polls are likely skewed in favor of Dark Mode due to their developer- and early adopter-centric audiences.

In researching, we were unable to find good statistics on how many users have adopted their operating system's darker interface. So you can imagine that the stats for email client Dark Mode usage are even harder to come by.

What we can share is what we've seen. We've been detecting Dark Mode in Litmus Email Analytics for several years, which allows marketers to see how many subscribers are opening in Apple Mail on both MacOS and iOS, as well as Outlook for Mac. What we've seen over the last few campaigns is that around 25% of our own subscribers prefer Dark Mode.

Aggregated results across all Litmus Email Analytics tracking showed out of the subscribers using MacOS and iOS and Outlook for Mac, 29% were using Dark Mode in 2020. That number has jumped to 40% by the end of 2022.

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Dark Mode **Light Mode**

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Light Mode	65.9%	65.8%	63.9%	66.4%	66.3%	66.0%	66.6%	66.2%	64.1%	63.4%	60.6%	59.9%
Dark Mode	34.1%	34.3%	36.1%	33.6%	33.7%	34.0%	33.4%	33.8%	35.9%	36.6%	39.4%	40.1%

While Dark Mode—and Dark Mode detection in email tracking—is still relatively new, there's a good chance that your subscribers have similar preferences. Which means that it's important to accommodate those preferences in your email campaigns.

See which subscribers prefer Dark Mode

With the latest enhancements to Litmus Email Analytics (EA), you can now see how many of your own subscribers prefer Dark Mode. All it takes is adding the new EA code to your email before sending your next campaign.

Try Dark Mode detection today →

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3 Dark Mode scenarios

If you've learned one thing in email marketing, it's probably that not all email clients are created equal. Each supports a different subset of HTML and CSS and, even when support for features are there, they can be implemented in wildly different ways and include more than a few bugs. Unfortunately, Dark Mode suffers from this same problem. Not every email client supports a Dark Mode experience and—even when they do—they do in very different ways. That being said, we've been able to categorize email clients into three categories for Dark Mode support, based on what they do to your email when in Dark Mode.

No changes

The first—and most basic—level of Dark Mode support is none whatsoever. That's right, these are the email clients that don't do anything to your email's design even when Dark Mode is turned on.

While emails with white or light backgrounds can be too bright and jarring for subscribers when opened in an otherwise dark interface, these clients are actually nice in that they don't make any extra demands of email marketers. You can rest assured that your email will display as intended without any additional work.

Currently, this consists mostly of desktop, web, and legacy mobile email clients.
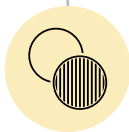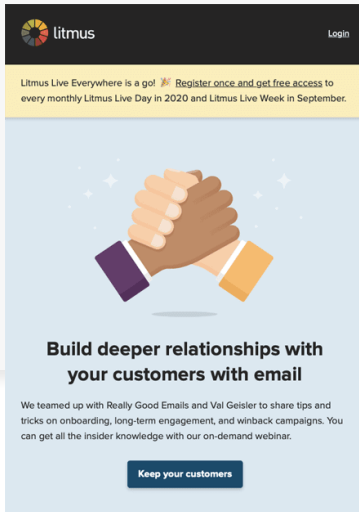
Color inversions

The second—and arguably most troublesome—level of Dark Mode support consists of clients that attempt to invert the colors in your email to create a dark version of your design.
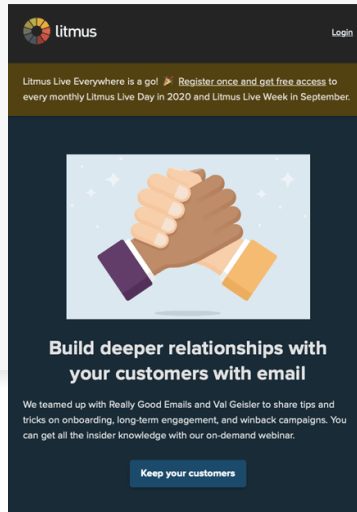
KNOW YOUR TERMS: COLOR INVERSION
When light colors in your email turn dark and vice versa in an attempt to keep emails readable in Dark Mode, usually by manipulating the hue, saturation, and brightness of those colors.
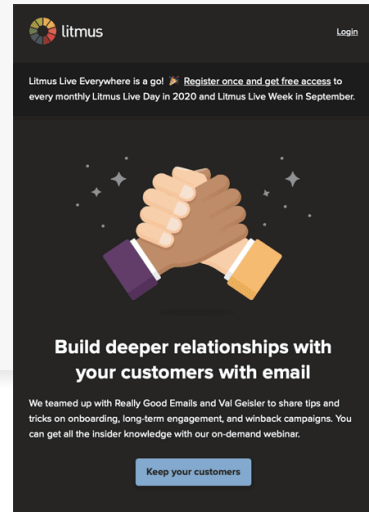
ORIGINAL LIGHT EMAIL	OUTLOOK.COM	WINDOWS
No Color Inversion	Partial Color Inversion	Full Color Inversion

Partial color inversions are typically helpful in that they keep as much of an email intact as possible, only inverting light background and dark text.

Full color inversions can be less helpful in that they will attempt to invert all of the colors in your email. Ironically, they can take an otherwise dark-themed email and make it light in Dark Mode, the opposite of what we want them to do!

Color inversions are great in that they do the work of transforming our emails for us. But the downsides are:

1. They don't allow for customization (at least not yet).

2. They force us to implement some design-related safeguards.

We'll look at how to safeguard our email designs after we talk about the final level of Dark Mode support. At the time of publication, color inversions occurred in Outlook.com, Outlook 2019 on both Mac and Windows, the Outlook apps on both iOS and Android, and the Gmail app on both iOS and Android.

Custom Dark Mode

The pinnacle of Dark Mode support can be seen in email clients like Apple Mail, which allow you to use CSS to customize the design of your campaign between Light and Dark Modes. Using specific HTML meta tags, CSS target, and updated properties, email marketers can do everything from change background and font colors to swapping out graphics for Dark Mode users.

We'll look at how that's accomplished in a few pages but, until then, know that custom Dark Mode is currently supported in the latest versions of Apple Mail on both MacOS and iOS, as well as the web version of Hey.com.

Design considerations

As you can imagine, Dark Mode requires us to rethink some aspects of our email designs. Especially in ones that perform partial or full color inversions, we need to account for scenarios where our content and creative will be seen in a different light (pun intended).

Since those clients will take care of updating the font and background colors in your HTML emails, we're left with figuring out how to make sure the images in our emails look good in the dark.

Image cropping

One of the best things you can do is to use transparent images—either PNGs or GIFs—as much as possible. These images inherit background colors when inverted and will naturally look good in both Dark and Light Modes.
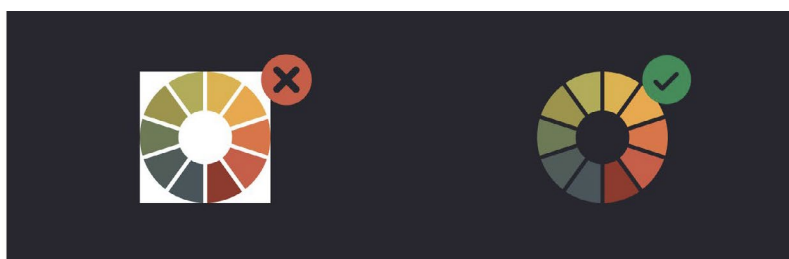
If you can't use transparent images, then make sure your images are thoughtfully cropped. In the example below, you can see a round avatar with a white background. In the top version, the image is cropped close to the avatar, which looks awkward when Dark Mode is toggled. The bottom version allows for more breathing room around the image, making it look intentional even when Dark Mode is enabled.
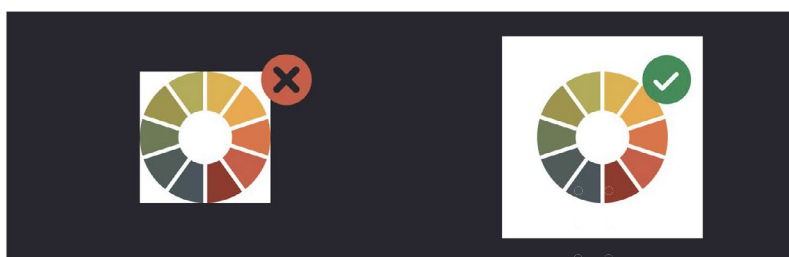
Image outlining

mage cropping is important, but a more critical concern is an image with text—especially dark text—viewed in Dark Mode. Let's take the Litmus logo as an example:

On the left is the logo in Light Mode. An unoptimized version can be seen in Dark Mode in the middle. It's not very legible, is it? But, by adding a white outline around the logo, it feels much more intentional and legible in the version on the right. You can use a stroke like the one above or something like a softer shadow or glow but, in both cases, the goal is to keep any images with dark text or vital graphics accessible when viewed in Dark Mode.

Beyond accounting for your images, you should—as always—strive to use enough contrast between text and background colors, combined with larger font sizes, to ensure that your email campaigns can be understood and used by subscribers, regardless of how their email client changes your design.

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Coding Dark Mode emails

In a few clients—like Apple Mail—you can add custom CSS to change how your email looks when viewed in Dark Mode. While the following techniques don't work everywhere, they will help you keep your emails accessible, on-brand, and engaging for Dark Mode users.

So, how do you do it? By following three steps:

1. Tell email clients that your email supports Dark Mode.

2. Target Dark Mode using CSS media queries.

3. Create custom CSS rules as needed.

Enable Dark Mode detection

The first thing you need to do is tell the email client that your email works in Dark Mode. This is accomplished by adding the following meta tags to the head of your email:

```
Code

<meta name="color-scheme" content="light dark">

<meta name="supported-color-schemes" content="light dark">
```

Without those meta tags, or by only including the "light" value, email clients will assume that you only have a Light Mode version of your campaign and will display it as-is. This includes in email clients like Outlook.com that support color inversions. It effectively triggers the basic, "no changes" level of Dark Mode support discussed earlier.

When you include the value "dark," you're telling email clients to enable their Dark Mode support—whether through color inversions or full customization. Without those meta tags and the "dark" value, none of the following techniques will work.

Target clients

The second step is to target those clients that support customization in Dark Mode with a media query in the head of your email's HTML.

Code	@media (prefers-color-scheme: dark) { }

Again, by default, styles included in your email are intended for Light Mode. The media query above checks whether or not the user prefers the "dark" color scheme and, if they do, it will trigger any CSS properties included in the curly braces of the media query. At the time of writing, the "prefers-color-scheme" method works in:

- **Apple Mail on Mac OS**

- **Apple Mail on iOS 13**+

- **Hey.com on the web**

- **And partially in:**
  Outlook.com
  Outlook 2019 for MacOS
  Outlook app on iOS

For both Outlook.com and the Outlook app on Android, there is another method for targeting and applying styles. While both have only partial support for "prefers-color-scheme," you can duplicate any styles and prefix them with [data-ogsc] like below:

Code	[data-ogsc] .dark-mode { display: block !important; }

That's all good to know but begs the question, "What styles should I update?"

Key style updates

There are a few styles you should look into updating for Dark Mode clients like Apple Mail. Perhaps the most important are the colors of your fonts and backgrounds. Typically, you'll be swapping dark text for light and light backgrounds for dark, which could look like this in your code:

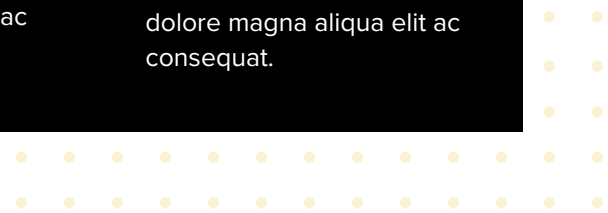| Code	`<td class="copy" style="background-color: #eaeaea; color: #222222; font-size: 16px; line-height: 18px; padding: 10px;">`
	　　　`<p style="margin: 0;">Lorem ipsum dolor sit amet.</p>`
	`</td>`
	
	`@media (prefers-color-scheme: dark) {`
	　　　`.copy {`
	　　　　　`background-color: #222222;`
	　　　　　`color: #eaeaea;`
	　　　`}`
	`}`

While the colors you choose will ultimately depend on your brand's preferences, there's a general consensus that you should avoid using pure white and black for foreground and background colors. High contrast is good between text and its background but too high a contrast can be fatiguing to the eye. Which of these looks more comfortable to read?

Pure Black

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Pure White

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Dark Grey

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Light Grey

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The same can be said for contrast in links and calls-to-action. Extremely high contrast can be tiring on the eyes, so you may need to adjust the saturation or brightness of your links from their typical values in Light Mode.

Light Mode Link

Lorem ipsum dolor sit amet consectetur adipiscing elit, sed do **eiusmod tempor** ut incididunt ut labore et nisi dolore magna aliqua elit ac consequat.

High Contrast Link

Lorem ipsum dolor sit amet consectetur adipiscing elit, sed do **eiusmod tempor** ut incididunt ut labore et nisi dolore magna aliqua elit ac consequat.

Lower Contrast Link

Lorem ipsum dolor sit amet consectetur adipiscing elit, sed do **eiusmod tempor** ut incididunt ut labore et nisi dolore magna aliqua elit ac consequat.

Beyond text and background colors, you could increase the size of text for Dark Mode to help users with darker screens read your email more easily. Targeting the same HTML above, we could add to the CSS like so...

Increasing both the font-size and line-height will make for a more comfortable reading experience for Dark Mode users.

Code

```
@media (prefers-color-scheme: dark) {
        .copy {
                background-color: #222222;
                color: #eaeaea;
                font-size: 20px;
                line-height: 24px;
        }
}
```

Finally, it can be useful to swap out specific content—especially images—for Dark Mode. Remember when we looked at outlining images like the Litmus logo? What if we could swap the dark text version with a white logo instead?

Since we know that custom Dark Mode is supported by modern clients that also support the display CSS property, this is actually quite simple. You include two versions of the logo in your HTML like so:

Code

```
<img class="light-img" src="logo-light.png" alt="">

<img class="dark-img" src="logo-dark.png" alt="" style="display: none;">
```

You can see that, by default, the dark logo is hidden using an inline style. To swap the two, you reverse their displays in the Dark Mode media query (or by targeting it with [data-ogsc]):

Code

```
@media (prefers-color-scheme: dark) {
        .light-img { display: none !important; }
        .dark-img { display: block !important; }
}
```

Simplify coding for Dark Mode

Make coding for Dark Mode easier by toggling on the "Dark Mode" experience in Litmus Builder. This is a great way to optimize the Dark Mode experience before your final pre-send testing on specific Dark Mode email clients and devices.

See what builder can do →

Now, we can go from our outlined logo to something that looks even nicer in Dark Mode:

There are a lot of different styles you could alter for Dark Mode but, no matter what you're styling, the method is consistent: Enable Dark Mode via meta tags, target Dark Mode use cases, and add whatever CSS you need.

With just a few simple techniques, you can get your emails looking good for subscribers that like to live life on the dark side.

Dark Mode requires testing

As we've seen, there are lots of different ways email clients handle Dark Mode. That's why it's so important to test your emails in Dark Mode. It's also why we've worked so hard to add Dark Mode support in Litmus. Whether you're testing while you code in Litmus Builder or sending around a final QA with Litmus Checklist, you can now see how your campaign looks in Dark Mode in the following clients:

- **Apple Mail 12 & 13 on MacOS**

- **Outlook Office 365 on MacOS & Windows**

- **Gmail on Android 10.0 & iOS 13**

- **Outlook.com in both Firefox and Google Chrome**

- **Apple Mail on iOS on the:**
  iPhone 11 Pro in iOS 13
  iPhone 11 in iOS 14
  iPhone 12 in iOS 14
  iPad (7th Generation) in iOS 13

Test in Dark Mode today

Make sure your campaigns look great in Dark Mode, whether clients are inverting your colors or you're coding custom Dark Mode themes. Test on real devices faster than ever.

Get started today →

Here at Litmus, we're passionate about everything email marketing. And our mission is to help brands access what they need to send better email, faster. Through our blog, Litmus Live conferences, ebooks, webinars, and more, we share best practices and trends to help your team stay at the forefront of the industry. Another thing we're into? Software that makes creating high-performing email easy. Marketers pair Litmus with existing email service providers (ESPs) to ensure a consistently great brand experience for every subscriber, work more efficiently, accelerate campaign performance, reduce errors, and stay out of the spam folder. With Litmus by your side, you'll have the tools and insights you need to provide your customers with an incredible email experience—and an incredible ROI.

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