



2025

Brand Guidelines

Table of Contents

About

This Manual	3
Our Identity	3

Logo

Color Variants	4
Logo: Placement and Padding	5
40 Years Logo	6
40 Year Logo Placement.....	7

Typography

Typeface and Headers.....	8
---------------------------	---

Color Palettes

Business Color Palette.....	9
Marketing Color Palette	10

Photography

Quality and Intention.....	12
Styling and Framing.....	13
Mistakes to Avoid	15
High-Res and Stock Photography	16

Iconography

Collections	17
-------------------	----

Tech Papers:

Styling	18
Photography and Art Style.....	19
Calls to Actions.....	20
Print and Digital Specifications	20

Data Sheets:

Format and Style Specifications.....	21
Basic Guidelines.....	22

Email

Guidelines and Formatting	22
---------------------------------	----

Website:

Palette and Typefaces	23
-----------------------------	----

Blogs:

Guidelines and Purpose	24
Technical Specifications.....	25

Video

Formatting Your Footage.....	26
Webinars	26
Tutorials, Knowledge Center and Promos.....	26
Video: Social Media Specifications	27

Our Identity

The Lighthouse Worldwide Solutions brand embodies several key components. We deliver out-of-the-box solutions tailored to the daily challenges of cleanroom operators and sterile manufacturers. Our products blend familiar, accessible technology with innovative features that are surprising and revolutionary. As industry leaders in cleanroom education we also offer straightforward courses and materials that simplify industry regulations, help you maximize your cleanroom operations, and provide sound advice on getting accurate data.

This foundation allows us to maintain a confident tone in all our media.

All media created within this brand should seek to communicate a modern and technological feel that guides the reader forward. Sharp, crisp imagery, with good contrast must be used – with careful attention to details.

Every photo, illustration, or communication needs to ensure that intent is accurate and portrayals show actual real world use of our products.

The key component of the LWS brand is to provide technological innovations that provide solutions to better mankind. All materials should speak to this, by presenting high quality dynamic imagery which positions us as innovators, guide, and masters of our field.

This Manual

The brand manual was created by the Lighthouse Worldwide Solutions marketing team. It was meant to guide you through understanding the styles and color choices that define our brand presence. These rules and guidelines must be followed when creating content, and all designs must be approved by the marketing department prior to release.

If you have any questions related to this document, please contact the marketing department.

Our Logo

The main Lighthouse Worldwide Solutions logo consists of the lighthouse mark and our word mark. The lighthouse mark is the important element to consider when determining which version of our main logo to use.

The light rays coming from the lighthouse must always be the lightest part of the logo, and the contrasting element of any design.

Always double check to ensure that the light rays have the proper contrast as shown.

Primary Logo for Standard Use



Standard **Full Color** Logo

Alternative Color Variants



Single Color Logo - **Black**



Single Color Logo - **Reversed** (White)

Logo Placement

On the left, top, and bottom sides of the Standard logo, there should be a space equal to $1/2$ of the logo height. To the right, there should be a horizontal space equal to that of the logo height. Do not place any design elements or text in the areas indicated in yellow.



Logo Padding within a Design or Document

When the Standard logo is used on a document or design, there should be a top spacing equal to $1/2$ of the logo height and a side spacing of the same distance depending on the orientation of the logo within the background. The logo should be left aligned or center aligned to the page. Beneath the logo no element should appear without proper space between.

40 Years Logo

The 40 years logo is sometimes used for promotions and giveaways.

This is a secondary logo, and should **only be used with prior approval.**

The light rays emitted from the lighthouse must be the lightest part of the logo on every occasion of use.

Ensure that the light rays have the proper contrast as shown.

Primary Use Color Logo - Gold

This logo was meant to be used on dark backgrounds only. Notice how the light rays are still lighter in contrast.



Alt Single Color Logo - Black

This logo was meant to be used on light backgrounds only. Notice how the light rays are still lighter in contrast and will show the background color.



40 Year Logo Placement

On the left, top, and bottom sides of the Standard logo, there should be a space equal to 1/2 of the logo height. To the right, there should be a horizontal space equal to that of the logo height. Do not place any design elements or text in the areas indicated in yellow. The 40 Year logo and the Lighthouse Worldwide Solutions should not appear together. Please use one or the other



Logo Padding within a Design or Document

When the 40 Year logo is used on a document or design, there should be a top spacing equal to 1/2 of the logo height and a side spacing of the same distance depending on the orientation of the logo within the background. The logo should be left aligned or center aligned to the page. Beneath the logo no element should appear without proper space between.

Primary

Avenir Black

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 12234567890
 !@#\$%^&*(),./:;[]\<>?:"'{}|

Secondary

Montserrat

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 12234567890
 !@#\$%^&*(),./:;[]\<>?:"'{}|

Tertiary

Roboto

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 12234567890
 !@#\$%^&*(),./:;[]\<>?:"'{}|

Avenir Black | 60pt
 97.08pt leading
 Optical -10 kerning

Montserrat | 36pt
 58.248pt leading
 Optical -10 kerning

Roboto | 24pt
 38.832pt leading
 Optical -10 kerning

Body Copy | 12pt
 Avenir Light
 19.416 leading
 Optical -10 kerning

Bullets & Numbers
 Optical -10 kerning
 Level 1 in Makena
 Level 2 in Galleon

Our header

Our subhead

Our tertiary header

We've implemented a golden ratio for our typography and headers. By applying this ratio's precisely calculated proportions and spacing to our layouts and typography, we're able to tap into an innate sense of ideal form that humans are hard-wired to perceive as beautiful.

- If your header point is 36:
 - Multiply 36 x 1.618 for a leading of 58.248
- 1.618 is your multiplication factor for all headers and body text.
 - If a decimal is present, be sure to use the a full number plus decimal

Please note: If you are in need of a full leading chart, please contact Marketing.	Font Point	Leading	em	em Leading
	10	10.18	0.833em	1.348em
	12	19.416	1em	1.618em
	14	22.652	1.167em	1.888em
	24	38.832	2em	3.236em
	36	58.248	3em	4.854em

Business Color Palette

This is Lighthouse’s primary palette and should be used extensively throughout all official company documents, tradeshow work, and communications such as web, email, and marketing materials. It was created to instill a sense of light in the dark – where a beacon is always within sight.




Fathom

C:100 M:59 Y:04 K:52
R:0 G:55 B:102
Hex: #003766

Envisions the deep waters of the northern sea and the history of ocean travelers, who often depended on the beacons of light to guide them.

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%




Beacon

C:0 M:15 Y:85 K:00
R:255 G:213 B:64
Hex: #FFD540

Evokes the visual of a lighthouse serving as a beacon of safety for travelers at night and in stormy weather.

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%



Nòir

C:71 M:67 Y:64 K:74
R:33 G:31 B:32
Hex: #201e1f

Only the darkest night allows for the brightest of guides - whether celestial stars, or man-made beacons to light the path ahead.

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%



Harbor

C:45 M:37 Y:37 K:2
R:146 G:146 B:147
Hex: #929292

Imagine the unwavering fortitude of a centuries old harbor – its stone walls and steel reinforcements offering strength and safety against the relentless tides.


10%	20%	30%	40%	50%
60%	70%	80%	90%	100%

Please note: You can contact marketing for brand approved Adobe Creative Cloud library files which contain our color palettes.

Illustrative Color Palette

Our Illustrative palette has been created for use where it's important to highlight various aspects of our products, features, and services.

This palette is used sparingly, and efforts are made to avoid dark, heavy communication materials. Our intent to create bright and light materials reflecting Lighthouse's continued effort to being a beacon of safety, guidance, and forward movement.



Cuan Glas
 C:86 M:39 Y:48 K:13
 R:25 G:114 B:120
 Hex: #197278

One of many Gaelic terms meaning "blue/green", often referred to when witnessing the the sheltered coastal inlets with blue-green waters around Ireland.


10%	20%	30%	40%	50%
60%	70%	80%	90%	100%



Galleon
 C:0 M:11 Y:64 K:25
 R:201 G:176 B:95
 Hex: #c8af5e

The ornate gilded decorations adorning the hulls of grand ships throughout history give inspiration for a regal dark gold called Galleon.

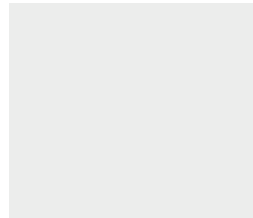
10%	20%	30%	40%	50%
60%	70%	80%	90%	100%



Makena
 C:76 M:40 Y:0 K:0
 R:57 G:133 B:198
 Hex: #3985C6

Makena originates from the Ōlelo Hawai'i word mak'ke for "many gathered", and is used to refer to this southwestern Maui coastal region with warm crystal blue waters.

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%



Pearl
 C:6 M:5 Y:5 K:0
 R:236 G:235 B:234
 Hex: #eceaee

Evokes the lustrous iridescence and natural beauty of precious pearls

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%



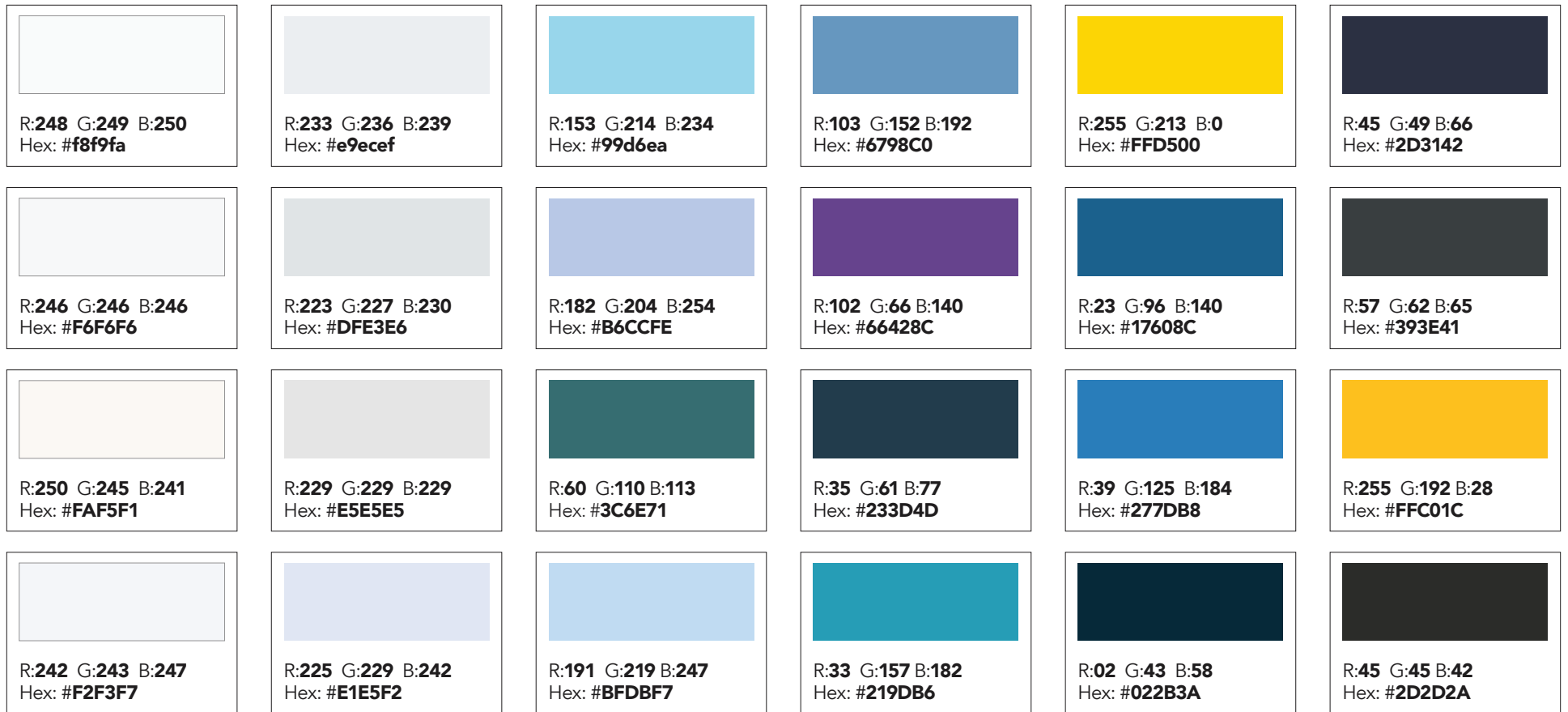
Tyrian
 C:73 M:88 Y:11 K:01
 R:102 G:66 B:140
 Hex: #66428b

An ancient purple dye derived from shellfish in the Mediterranean region. It was used in royal and imperial robes and was considered the apex of distinction of its time.

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%

Please note: You can contact marketing for brand approved Adobe Creative Cloud library files which contain our color palettes.

This brand palette is reserved specifically for marketing created projects, and should **not be used for business documents.**



This is our secondary illustrative color pallet, which can also be used when creating illustrations. When designing from scratch, or when modifying stock illustrations - these colors should be used to reinforce the look of our brand.

In an effort to remain consistent across illustrative projects, it is important to adhere to these color values.

Please note: This brand palette is reserved specifically for marketing created illustrations, and should **not be used for business documents.**

Quality and Intention

Whether a photo is taken, or a downloadable stock image, it should fit the quality of the images seen in this section.

Whenever possible our blue color-theme should be the focus. Selecting imagery or taking imagery focused toward blue hues will compliment our branding.

For cleanroom photos always ensure that any human subjects are wearing proper PPE and isolation gear. This leads to authenticity and shows knowledge of our customer's protocols and safety procedures.



Close to medium distance. Can either use a solid color background or be placed within a product appropriate setting.



Should feature at least top quarter of person and be using product in product appropriate environment.



Wider shots that clearly display the environments where our products are used.



Zoomed out photos that give a sense of the greater impact our products have on the world.

Product Photography

Frame the product as the center of attention – with either a plain color, transparent, or product appropriate background.

For some shots, specialty lenses and lighting can be used to set the tone and feel of the photo.

Dust and fingerprints should not be visible.

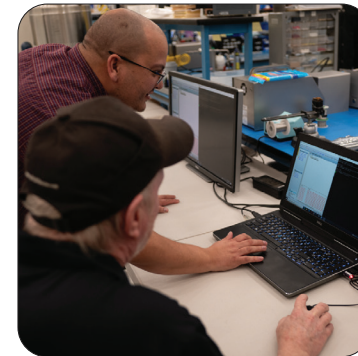


Photographing People

Photos should feature at least the top quarter of the person in the photo for shots involving our products or industry.

For employee focused photos, this rule does not apply.

Photos should have a purpose, be mindfully framed, and appropriately lit.



Location Photography

Wider, more zoomed out shots that primarily focus on areas where our products are used, as well as locations directly impacted by LWS' products.

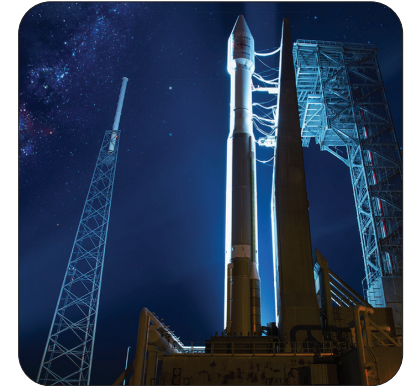
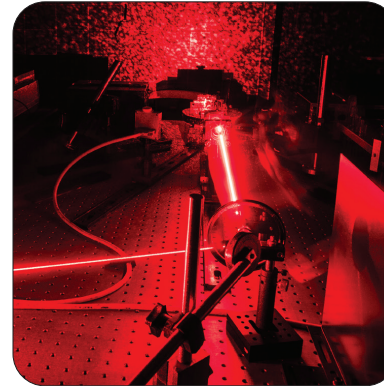
These can include cleanrooms, pharmacies, hospitals, data centers, etc.



Epic Photography

Almost exclusively from a distance, these photos need to focus on ways in which our products and services impact the world at large.

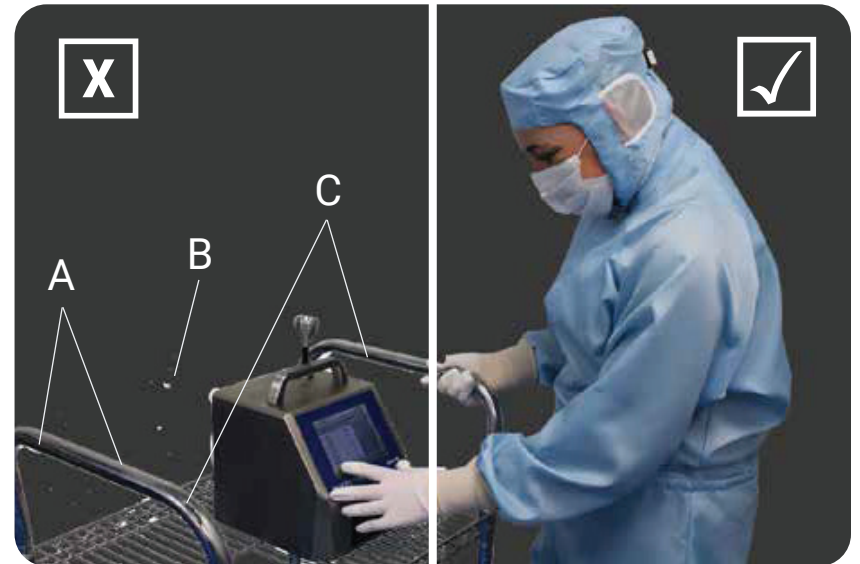
They should instill a sense of excitement or enthusiasm from the viewer.



Poorly Removed Backgrounds

Ensure that when removing backgrounds from photos that edges are clean and there are no remaining artifacts left in the removed space.

- A. Do not leave edges rough. Always smooth.
- B. Do not leave specs of original background.
- C. Do not leave sections with original background.



Color Overlays vs Color Grading

When adding color to a photo, use a solid or gradient overlay in either overlay or screen blend mode. Avoid bold colors and keep the overlay transparency as low as possible.

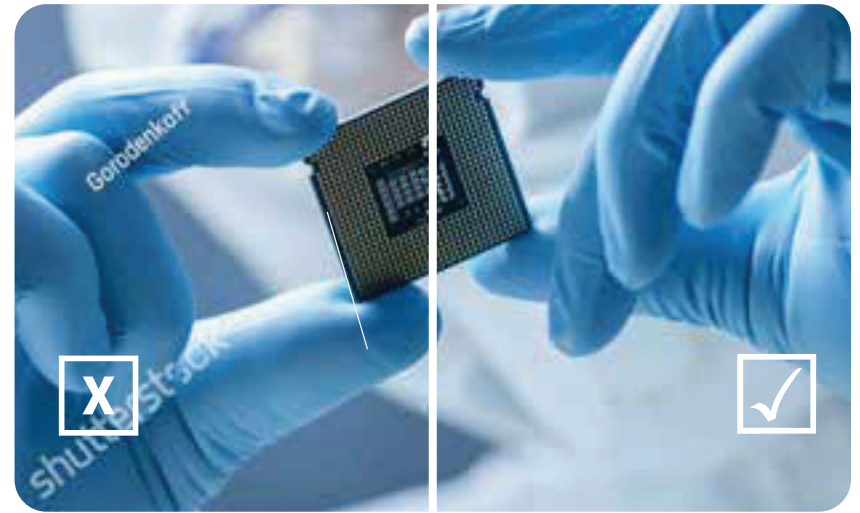
The top half uses a solid color overlay of LWS Blue set to screen mode with 75% transparency. This is the correct approach to recoloring photos for effect. The lower half uses a color grading effect and creates an unrealistic image that should not be used.



Do Not Use Unlicensed Stock Photography

When producing digital or print content, do not use unlicensed photos.

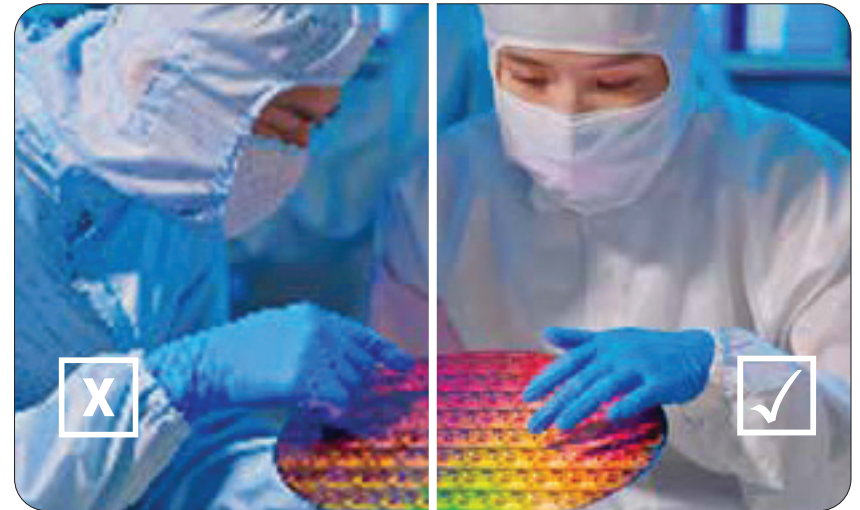
The left half is an **unlicensed photo** that should not be used. The same applies to photos taken directly from Google image search or other websites. On the right is a licensed copy of the photo from Shutterstock that is appropriate for use.



Avoid Low-Resolutions and Pixelated Photos

Do not use low resolution images or images that have visible pixelation as this conveys a lack of professionalism.

The left half is too pixelated due to being lower resolution. The right half is the correct quality.



Checking Image Resolution:

Windows:

- Right Click Image and Select Properties
- Click on the Details Tab
- Image resolution for print: 300dpi
- Image resolution for web: 72dpi min

Mac OSX:

- Open the image in Preview
- Click on the Inspector Panel
- Image resolution for print: 300dpi
- Image resolution for web: 72dpi min

Icon Collection

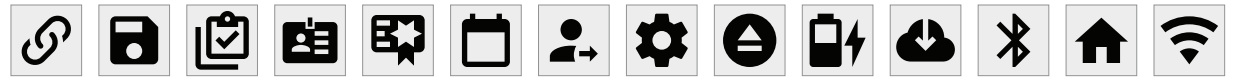
When possible, all icons for Lighthouse creations should be sourced from the material design library at:

 pictogrammers.com/library/mdi

If you have need for an icon that does not have a suitable download, contact the marketing department to have one created.

Important Reminders:

- All Icons should be within a container..
- Icons should be black on light to medium backgrounds.
- On dark background, icons should be on of two colors:
 - When on a blue background, our off white should be used.
 - When on black, white icons should be used.



Black iconography on off white.



Black iconography on gold



Off white iconography on blue



White iconography on black

Avenir Light | 48pt
Avenir Heavy | 24pt
Optical -10 kerning
Left Alignment

Title Line
Subhead should not exceed one line

Auto Created with
Paragraph style

Section Header

Auto Created with
Paragraph style

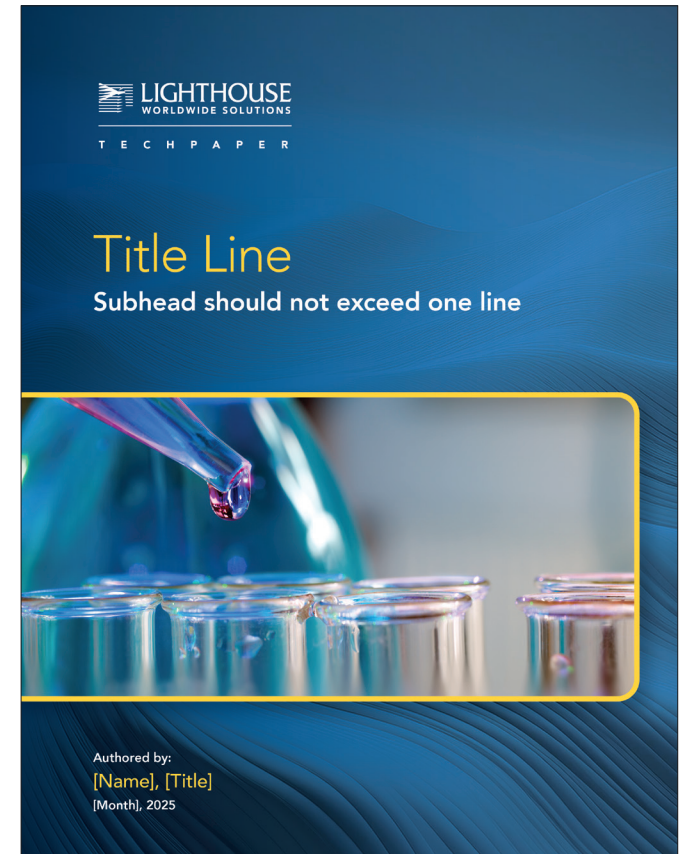
This is the Subhead

Body Copy | 12pt
Avenir Roman
19.416 leading
Optical -10 kerning
Left Alignment

Founded in 1982, Lighthouse Worldwide Solutions is the world's leading supplier of real time contamination monitoring systems and airborne particle counters. The Lighthouse Monitoring System and Lighthouse line of airborne particle counters have become the standard for many companies:

Bullets & Numbers
Auto Created with
Paragraph style
Lvl 1 in Secondary Blue
Lvl 2 in Dark Gold


- **Pharmaceutical Industry:**
 - Pfizer, Bayer, Novo Nordisk, and more.



Adobe InDesign Template located at:
<X:/Sales/Marketing/LWS/2025/Tech Papers and Blogs>

LIGHTHOUSE
WORLDWIDE SOLUTIONS
TECH PAPER

Title Line
Subhead should not exceed one line



Authored by:
[Name], [Title]
[Month], 2025



Overview

Ugit, te veliquo officiam re debet re, omnis estibust int officiam, quam lundae non consequatos mos nianti dolenime voluptiam volorempor sum quia eosant quaepro bero quiat as ut aliquaerum enimaioarei con excessimodi imint.

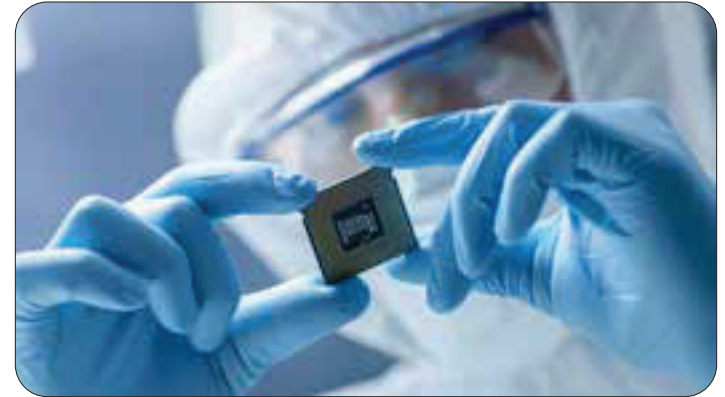
Occaborestis ut faccate ped mi, sum, corit et ut omnis quides qui sam quias si cusae prehentio dem abore mo voluptatecus volecum faciliq uaectaqui ipsuntia cum resequam reseces dolum explaudam in nat ant in re, tescate mi, utas quantur?

Ilhiam enihita num dolupta tendio

videlesedita volorest officur sime volupta tiuntibus earumquosam doluptatur, ius, omnium aut essequunt, officibus ped quia dolupta ssunducia aut et aceat quisqi con plitium dolendae lacepudae et aut undae volori cullanimi, estis ut laborrumqui ipsame quid mos as verro quis exces et reperum rerchitaquos

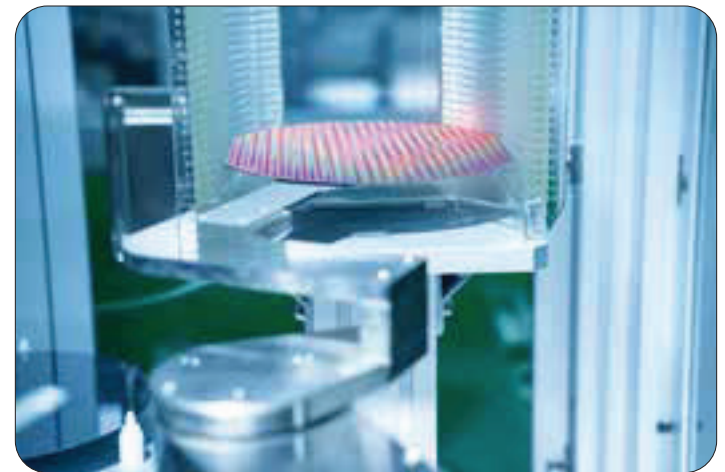
Occaborestis ut faccate ped mi, sum, corit et ut omnis quides qui sam

audit abo. Ore quae cum ullorehent rest occulparume veliqua nonem alit repella ndelectus enes acero bearchilit haritaret rehentí idelesit minullo rporemq uiducias dolestibus dolupis esciae es siminis apicia quodi omno etum sequi quis sunt ut fugiaer



Cover Page Photography

Photo on cover page must contain a person with related subject.



Overview Page Photography

Photo on introduction page must be object-focused without people.

Calls to Actions

Digital CTA

Visit our Knowledge Center for more information on Cleanroom Technology and its applications: golighthouse.com/knowledge-center

Print CTA

Visit our Knowledge Center for more information on Cleanroom Technology and its applications.



Note: Print CTAs requires a QR code for simplified user access. **All QR codes are to contain UTM tracking** which allows us to see what document or piece of material was scanned.

Please contact the marketing department if you are in need of a QR Code.

PDF Exports

Digital Export Settings

- Interactive PDF
- Digital has no notes
- Compression: Lossless
- Resolution: 300 dpi
- Leave CreateTagged PDF on

Print Export Settings

- Press Quality PDF
- All Pages (Including notes page)
- Compression: Leave the same
- Resolution: 300 dpi
- Marks and Bleeds: Use Document Bleed Settings
- Dont Bother Tagging (CreateTagged)

ApexZ
PORTABLE ENVIRONMENTAL MONITORING SYSTEM

The state-of-the-art portable **ApexZ** elevates your environmental monitoring programs with a comprehensive set of integrated features.

Its integrated self-diagnostics system ensures accurate, reliable performance along with a flexible data management system that streamlines analysis and reporting.

Weighing in as the lightest and smallest portable air particle counter on the market, **ApexZ** enhances mobility and multi-location recording; and its cutting edge technology serves as a timeless solution for contamination control strategies.

Features

- 0.3 - 10.0µm or 0.5 - 10.0µm Particle Size Channels
- 1.0 CFM or 100 LPM Available Flow Rates
- VHP Compatible Sensor and Housing
- Sealed Chemically Compatible Enclosure
- Bi-Directional Integration into LIMS EM Sys.
- Hot Swappable Smart Batteries
- Advanced Self-Diagnostics
- 21 CFR Part 11 Compliant
- Built-In Cleanroom Certification Reports
- 2 Year Warranty

golighthouse.com
info@golighthouse.com

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ApexZ
PORTABLE ENVIRONMENTAL MONITORING SYSTEM

	ApexZ23	ApexZ50
Minimum Size Detection	0.3µm	0.5µm
Standard 6 Channel Sizes	0.3µm 0.5µm 1.0µm 2.0µm 5.0µm 10.0µm	0.5µm 0.7µm 1.0µm 1.5µm 2.0µm 5.0µm 10.0µm
Flow Rate	1.0 CFM (28.3 LPM)	100 LPM (3.5 CFM)
Sample Inlet	3/8 inch Inlet Barb	1/2 inch Inlet Barb
Concentration Limits	1,000,000 Particles/ft ³ @ 10% (35,300,000/m ³) Coincidence loss suitable for ISO classes 1-8 cleanrooms	300,000 Particles/ft ³ @ 10% (10,590,000/m ³) Coincidence loss suitable for ISO classes 1-8 cleanrooms
Communication	Ethernet USB standard Wi-Fi (802.11 b/g/n)	
Data Storage Records	80,000 Records 2500 Locations 250 Groups 500 Presets 500 Sample Plans 500 Certifications 100 Reports 1000 Users	
Count Modes	Sample Concentration Beep Custom Recipes and Certification modes	
Printer	Embedded thermal printer, also available without printer; print wirelessly via a network printer	
Reports	ISO 14644 ISO 14644-1:1999 ISO 14644-2:2015 EU GMP 2022 Regulatory pass/fail reports on screen or printer	
Self-Diagnostics	Laser Power/Current/Supply Flow Out-of-Range No Flow PA Background/Supply/Health	
Alerts	User-configurable warnings and alarms	
Enclosure	Chemically resistant polycarbonate blend, conductive lining, VHP compatible	
Touch Screen Display	7.0 inch (8.89 cm), 1200 x 800 IPS color touch screen	
Speakers	2x adjustable up to 70 dB to indicate status and alerts	
Carry Handle	With RGB light pipe for status and alarms	
Power	External power supply: 24 VDC, 5 A max draw	
Light Source	Extreme Life Laser Diode	
Calibration	ISO 21501-4 Compliant and Accredited ISO 17025	
Zero Count Level	< 1 Count / 5 minutes (meets specifications of J5 B 9921 and reporting requirements of ISO 21501-4 Annex C)	
Dimensions	Imperial: 12.75" (h) x 6.23" (w) x 8.88" (d) Metric: 32.413" (h) x 15.824" (w) x 22.550" (d) cm	
Sample Output	Internally filtered to HEPA standards (>99.97% @ 0.3µm); w/ rotating exhaust fitting for directed flow	
Battery	Internal lithium, automatic flow control 2x Li-Ion battery slot capacity, removable/rechargeable, up to 11 hours nominal use, 50% duty cycle	
Temperature/Humidity	50°F to 100°F (10°C to 40°C), 20% to 95% relative humidity, non-condensing	
Weight	7.05 lbs (3.19 kg) without batteries, battery weight 1.35 lbs (0.61 kg)	
Languages	English Spanish Portuguese German French Italian Russian Chinese Korean Japanese Turkish Thai	
Environmental Sensors	Temperature/Relative Humidity probe: 0 to 150°F (-17.8 to 65.6°C) ±1.8°F (0.51°C), 0-100% ± 2% RH	
Supporting Software	LMS Express LMS Express RT LMS Pharma LMS Professional LMS XChange	
Includes:	USB flash drive with lamped, ISO profile 1 CFM (ApexZ), 100 LPM (ApexZ50), ESP clamp, zero count filter, 24 VDC, 5.0 amp power adapter and power cord, 10 feet of flexible tubing (3/8" to 1/2" ID) (ApexZ), 1/2" to 3/8" ID (ApexZ50), 1.5 liter smart battery included (2 battery slot capacity), 2x rolls of printer paper, Operator Manual on USB flash drive, Calibration Certificate	
Optional:	USB Barcode Scanner, Temperature & Humidity probe, 1 CFM outdoor sample probe, USB Wi-Fi Dongle, high pressure diffuser (direct or vented), 3.6v batteries, Beveline battery, external battery charger with power cord, printed operators manual, carry case.	
Distributed by:	UK EAC CE MADE IN USA	

Avenir Black | 50pt
52pt leading
Left Alignment
First half: LWS Black
Second Half: LWS Grey

Unit Name

Avenir Medium | 11pt
13pt leading
Optical +300 kerning
Left Alignment
LWS Blue

SUB HEADING

Body Copy | Avenir Book
Front Page 10pt
Data Page 8pt
15 leading
Left Alignment
Color: Black

Ost, quam qui ab ipsuntio quatet eum veribus es
cuptaep uditatur aliquo eos esciliqui consecteturiae
cus et, simporeriat. Optam inulla dem eturiam
faceratam voluptatem natio. Et aute verchillut
adias ne mos et as peristo cus et hilita delessum,
nest fuga. Genis

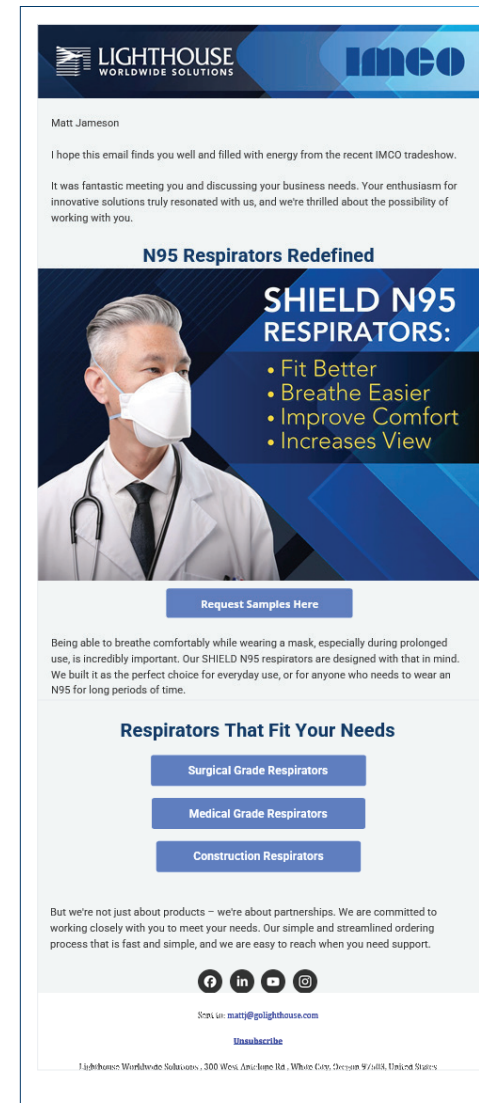
Ad magnimento magnienti bea sequis ma susande llaboribus
consequi doles rem fugia doloren derovit et venemporia
si tem il maximo molo con nullant volupta tatur, volestis
aspelestiam, od qui aut ut renda con endus des audis
pelique nem cusam expeditatum im que dellestis evelestis.

Basic Guidelines

Marketing emails serve multiple purposes and there are a number of categories they can fall into: drip campaigns following an opt-in, special marketing campaigns, company or product updates, emergency broadcasts (i.e. recalls), maintenance marketing emails, and webinar invites.

Emails should lead with a hook and apt headline. These should be creative and customer driven, but related to the ultimate topic of the email.

- No more than 300 words, unless absolutely necessary.
- All content should be in the email body, NOT as an attachment.
- Follow the “blog brand guidelines” in terms of language and tone.
- All creatives should be appropriately sized to load quickly and follow the appropriate brand guidelines.
- Drip campaigns should be no more than 6 emails.
- All emails should end with a CTA, even if the emphasis of the email is not on a sales message.
- CTAs include signing up for the knowledge center, talking to a sales person, learning more about a product, or signing up for a webinar.
- All emails should feel like LWS content in terms of style and content. The stylistic elements and logo usage should follow the appropriate brand guidelines.



Email Formatting

- Typeface: Roboto
- Header should ensure proper logo placement and padding
- Typographic Hierarchy
 - H1: 24pt
 - H2: 18pt
 - H3: 16pt
- Buttons: #5884EA bg with white text
- 3pt border radius

golighthouse.com

Because LWS does not use public subdomains, i.e., apexz.golighthouse.com, it is acceptable to use the singular golighthouse.com as the URL, as modern systems no longer rely on the http(s)://www prefix.



Avenir Medium
3em (Hero Header) — Header 1
1.9em (standard)

Avenir Light
2.4em — Header 2

Avenir Medium
1.6em — Header 3

Body Copy
Avenir Light
Left Alignment
Color: Black

Ost, quam qui ab ipsuntio quatet eum veribus es cuptaep uditatur alique eos esciliqui consecteturiae cus et, simporeriat. Optam inulla dem eturiam faceratem voluptatem natio.

Fathom
R:0 G:55 B:102
Hex: #003766

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%

Beacon
R:255 G:213 B:64
Hex: #FFD540

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%

Noir
R:33 G:31 B:32
Hex: #201e1f

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%

Harbor
R:146 G:146 B:147
Hex: #929292

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%

Makena
R:57 G:133 B:198
Hex: #3985C6

10%	20%	30%	40%	50%
60%	70%	80%	90%	100%

Basic Guidelines

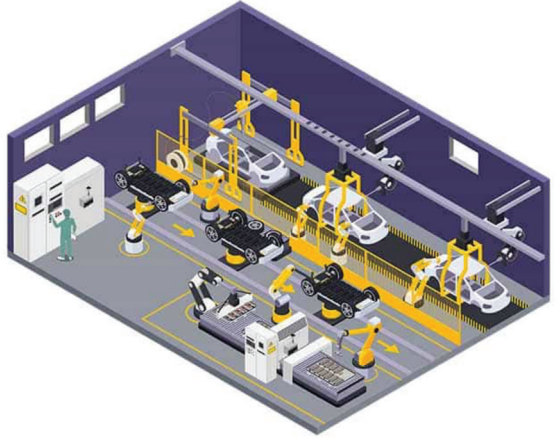
The primary goal of the blog should be to generate traffic to the website through useful and informative content that promotes industry knowledge. The overall tone of the blogs are informative, educational, and pointed, with underlying tones of helpfulness and concern about our customers success.

We do not reference or write about religion, politics, or other socially controversial topics that could be viewed as LWS taking a stance.

Each blog should focus on one topic that is relevant to the industries we serve or to our equipment. This topic should answer at least one commonly searched or asked question.

Every blog should include a cover image, as well as one additional image for use in the body of the blog.

Blog posts must be submitted for approval to the marketing manager before posting to the website.



UNMASKED: THE HIDDEN CHALLENGE OF EV BATTERIES

PREVIOUS | NEXT
Maximizing Cl... | Demystifying ...

Facebook | LinkedIn | Email | Twitter

As our world steadily moves towards a future dominated by electric vehicles (EVs), the safe and efficient manufacturing of EV batteries becomes increasingly critical. However, lurking within this crucial process lies a significant challenge: particle contamination. So, let's explore the implications of this hidden challenge in EV battery manufacturing and how it affects everything from safety and performance to efficiency and recycling.

Understanding the Risks

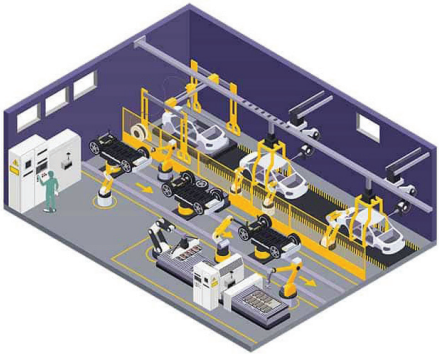
Particle contamination within EV batteries can lead to a range of safety hazards, from short circuits to thermal runaway — where the entire battery pack could ignite within seconds. These risks are exacerbated by the presence of conductive particles, which can penetrate separator layers and cause battery ignition or even explosions.

Extinguishing fires in electric vehicles (EVs), especially those involving lithium-ion batteries, presents unique challenges. These batteries can catch fire after a crash or mechanical failure and are known to reignite even after initial flames are extinguished. This is due to the thermal runaway process where one cell overheating can cause adjacent cells to also overheat and fail.

Table of Contents ^

1. Understanding the Risks
 - Trending and Baseline
 - 3.1. Establishment in Battery Manufacturing
2. Today's Challenges
3. Today's Solution
4. The Road to Tomorrow
5. Conclusion

Cover Image Format



Each cover image should be an illustration, as shown. Please refer to our illustration color palettes when creating or modifying a stock illustration.

- Dimensions should be 1000 x 900px.
- Export as 150dpi .jpg at quality 7 or 70%.

All images require alt text which appropriately describes the image and includes the SEO keyword if able.

Supporting Image Formatting



- Dimensions should be 1000px wide.
- Export as 150dpi .jpg at quality 7 or 70%.

All images require alt text which appropriately describes the image and includes the SEO keyword if able.

Technical Specifications

- Word count should range from 800 to 1,200.
- H1 heading and an appropriate number of H2 and H3 headings should be used to subdivide content for readability, navigation, and organization.
- No section should be longer than 300 words.
- Graphs and diagrams should be appropriately labeled and referenced in the text.
- Focus should always be on the readability for screen-readers and humans over keyword stuffing.
- SEO meta description and SEO title include the keyword. The H1 title on the page may be different from the SEO title if needed, but both should point towards the content of the blog.
- Include 2-3 relevant information links to point interested viewers toward further detail or elaboration.
- Always ensure at least one UTM enabled product link relevant to the subject. UTM tracking codes allow us to measure where our web traffic comes from and how relevant our content is.
- All blogs, images, and social posts should align with other relevant branding guidelines including – but not limited to – logo usage, social media guidelines, web, and image guidelines.
- Finally, always with a CTA to join the mailing list, sign up for webinars, go to a product page, or contact sales.

Tutorials, Knowledge Center and Promos

Sony a7 IV

- Resolution/framerate/bitrate: 4K @ 30p / 140 Mbps
- Picture Profile: PP8 (S-Log3, S-Gamut3.Cine)

Sony a7 IV + a7 III

- Resolution/framerate/bitrate: (a7 IV: 4K @ 30p / 140 Mbps)
(a7 III: 4K @ 30p / 100 Mbps)
- Picture Profile: (a7 IV: PP11 "Custom" Cine4, S-Gamut3.Cine)
- (a7 III: PP8 "Custom" Cine4, S-Gamut3.Cine)

Mobile: iPhone

- **Resolution:** 4K @ 30p
 - Record in Cinematic Mode if possible with 4K/30p
 - In Camera Settings, set format to "Most Compatible" with Apple ProRes turned on.
 - Always include a short clip with a white balance card if possible. If not, use a blank sheet of printer paper where the main subject will be.

Mobile: Android

- **Resolution:** 4K @ 30p with highest bitrate available
 - Don't use any built-in looks or presets.
 - If possible, set format to .mp4
 - Always include a short clip with a white balance card if possible. If not, use a blank sheet of printer paper where the main



Formatting Your Footage

The following tips for camera settings are intended to help ensure that our videos have a consistent quality in appearance. The settings recommended here ensure that your footage will have a polished look and professional feel.

Webinars

Sony a7 III, IV, a6000

- Resolution/framerate/bitrate: 1080p @ 30p / highest bitrate for resolution
- Picture Profile: (a7 IV: PP11 "Custom" Cine4, S-Gamut3.Cine) (a7 III / a6000: PP8 "Custom" Cine4, S-Gamut3.Cine)

Cameras

Sony a7 IV

- Resolution/framerate/bitrate: 4K @ 30p / 140 Mbps
- Picture Profile: PP8 (S-Log3, S-Gamut3.Cine)
- Record in portrait orientation

Sony a7 IV + a7 III

- Resolution/framerate/bitrate: (a7 IV: 4K @ 30p / 140 Mbps)
(a7 III: 4K @ 30p / 100 Mbps)
- Picture Profile: (a7 IV: PP11 "Custom" Cine4, S-Gamut3.Cine) (a7 III: PP8 "Custom" Cine4, S-Gamut3.Cine)
- Record in portrait orientation

Mobile Devices



iPhone

- **Resolution:** 4K @ 30fps
 - Record in portrait orientation
 - Record in Video Cinematic Mode, if available
 - In settings > camera, set format to "Most Compatible" with Apple ProRes turned on.
 - Always include a short clip with a white balance card if possible. If not, use a blank sheet of printer paper where the main subject will be.



Android

- **Resolution:** 4K @ 30fps with highest bitrate available
 - Record in portrait orientation
 - Don't use any built-in looks or presets.
 - If possible, set format to .mp4
 - Always include a short clip with a white balance card if possible. If not, use a blank sheet of printer paper where the main subject will be.

If you have questions related to the guidelines enclosed within this document, please contact Lighthouse Marketing:

communications@golighthouse.com

golighthouse.com
info@golighthouse.com



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