



Taylorbrite® CCF Lights

THE DIRECT BENEFITS OF USING TAYLORBRITE CCF MARINE AND RV LIGHTS ARE:

CCF lights need less electrical power to produce the same level of light.

1. CCF draw very little power for the light they deliver. CCFs produce up to 80 lumens per watt. Halogen lights typically produce 15-18 lumens per watt, and the most efficient white LEDs on the market produce 23 lumens per watt.

The TIR lens enhances CCF efficiency. With the TIR lens, the CCF s provide peak illumination 4 to 8 times that of halogen and incandescent sources (of equivalent power draw). Furthermore, the Surface Mount CCFs have an equivalent peak illumination of typical hot-cathode fluorescent lights that consume 50-75% more power.

This significantly reduced power requirement means that:

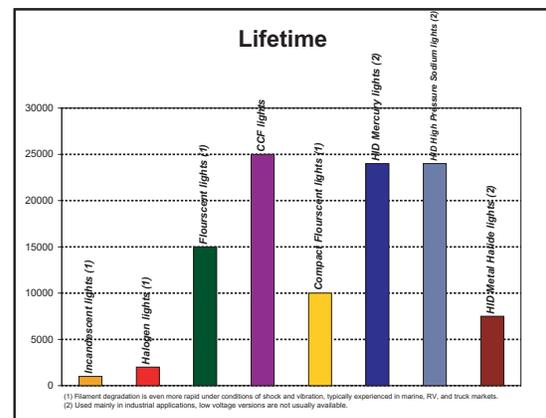
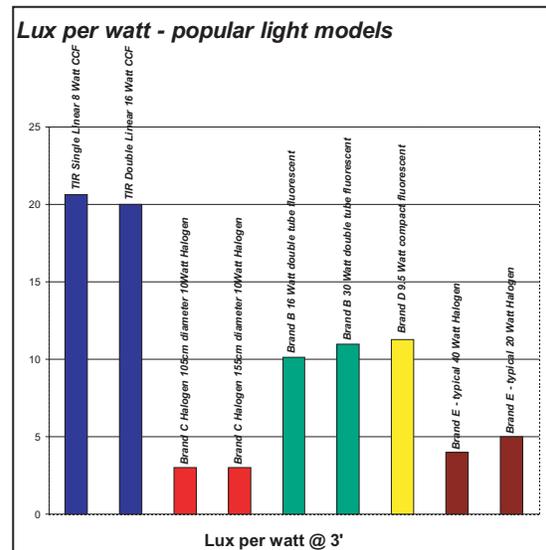
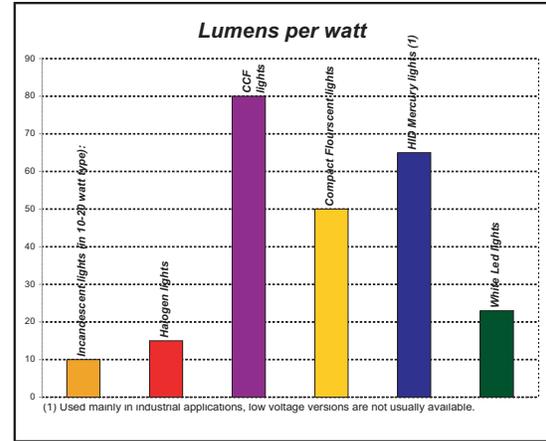
- More lights can be run for longer periods on batteries before recharging
- Quieter ship/vehicle operation (no need to run the generator because lights are on)
- The electrical system (batteries, alternator, charger/converter, gauge of wire for lighting circuits) can be downsized

2. CCF lights operate at a much lower fixture temperature. Increased efficiency means you are generating more light for the power you consume; this is essential when considering you have limited power capabilities on a boat, RV, or truck. Because more power is converted into light and not dissipated as heat, CCF lights operate at a much lower fixture temperature (50°C versus 160°C for halogens), making them safer to install in all areas, drastically reducing ambient heat, demands on cooling systems, nor do they create fire hazards, or cause harm from accidental contact.

3. CCF lights provide up to 25,000 hours of service life and unlimited starts. The CCFs are similar in construction to neon lights, and because of this you receive the long-life you would expect with this light source. The CCFs are rated at 25,000 hours of life, which exceeds the operating lifetime of most boats and RVs. This translates into less time, expense, and hassle associated with changing bulbs.

4. CCFs have unmatched durability. The CCFs are very durable due to their tube and ballast construction, and hold up under shock and vibration typically experienced in the commercial and recreational marine, RV, and truck markets. These components are also built to operate under varying degrees of electrical power, and endure voltage spikes and drops without any damage. Furthermore, the bezels are stainless steel-based, and clear coated (brass and gold versions) to ensure that all finishes stand up to corrosive elements.

5. Energy saving dimming capability is incorporated into the CCF Lights. Dimming is rare if not impossible with typical hot-cathode fluorescent lights, as this substantially erodes the thin wire filament and degrades the tube even further (which is already significantly reduced under conditions of shock and vibration). Not only is this possible with CCF s, you actually reduce power consumption and thus draw on the batteries as you dim the lights. Using our proprietary pulse group modulation, you can control light output and reduce current draw proportionately, thus dim efficiently. This benefit is especially useful at night, when you may desire a low light level without drawing down you battery capacity. Our double linear is available in red or red/white combinations; convenient and effective for not disrupting vision while navigating at night. A single Taylorbrite dimmer can control as many CCF s as required.



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Or visit us at our website at: www.Taylorbrite.com



Taylorbrite® CCF Surface Mount Lights

Surface Mount CCFs- Specific Applications

Marine Market

Commercial Marine: The durability of the CCFs make this market a natural for the Surface Mount CCFs. Our lights can withstand the constant vibration and significant shocks experienced with this craft on the open water. Because of the low power draw, the CCFs make for great emergency lights. The low heat and low profile make them perfect in work areas where space is limited and cramped. The lack of heat is especially important when there is a risk of contact when performing tasks. In addition, the low power requirement of the Surface Mount CCFs can reduce the weight of a boat by downsizing electrical components such as generators, and charger/converters, in addition to eliminating headliner space needed to recess a typical light.

Recreational Marine (Power): The Surface Mount CCFs are perfect in work areas that require significant light such as galleys and engine rooms. The surface mount features and sealed electronics are conducive for areas in which there is no headliner (under cabinets, and hardtops) and wet location areas such as in heads. Furthermore, the lack of heat make them essential for closets and lazarets, where lamps frequently come in contact with clothing or boxes. Navigation stations and helms would greatly benefit from the dual red/white combination CCF where you can easily switch from white light (normal ambient lighting) to red light (required for preservation of night vision) for operating at night.

Sailboats: Sailboats have limited power capabilities. Because of the desire to sail efficiently, weight is minimized on these boats. This typically means that there are little or no headliner areas, and a general downsizing of electrical components (as compared with power boats) such as smaller generators, converter/chargers, battery banks, etc. The Surface Mount CCFs address all these concerns, and are a perfect solution to problems in this market. Sailors across the globe know about our CCFs, and how they truly enhance performance.

Aftermarket/Refit: The Surface Mount CCFs are very conducive for this market segment, by virtue of the surface mount feature. This enables easy replacement of fixtures since you can simply cover the hole where the previous light was. In turn you are getting a more efficient and durable light that will most likely last the life of the boat. *You may never have to replace your interior lights again!*

Recreational Vehicle

New Construction: When designing a new RV, the Surface Mount CCFs solve many of the problems manufacturers (particularly designers and engineers) struggle with. Because RVs are frequently self-sustaining, with no access to shore power, hot cathode fluorescent lights have evolved into the staple in coaches because of their low power draw. The Surface Mount CCFs offer superior features and benefits, while providing more efficient operation. These include: the ability to dim (and save battery capacity concurrently) and to set the mood in areas such as dining areas or staterooms; a pleasingly-warm color temperature (3,000°K similar to incandescent and halogens, therefore there is no competing color temperatures with the halogen lights typically used underneath cabinets and valences); longer life (25,000 hours of operation versus 5,000 hours with hot cathode fluorescent lights); superior ability to endure shock and vibration; and more attractive packaging. Finally, the surface mount feature can reduce relief spaces or headliners, thereby removing weight and increasing vehicle efficiency.

Aftermarket/Refit: The Surface Mount CCFs are very conducive for this market segment, by virtue of the surface mount feature. This enables easy replacement of fixtures since you can simply cover the hole where the previous light was. In turn you are getting a more efficient and durable light that will most likely last the life of the RV. *You may never have to replace your interior lights again!*

Truck/Sleeper Cab Market

New Construction: When designing a new truck or sleeper cab, the Surface Mount CCFs solve many of the problems manufacturers struggle with. Because Trucks are frequently self-sustaining, with no access to shore power, fluorescent lights have evolved into the staple in trucks and sleeper cabs because of their low power draw. The Surface Mount CCFs offer superior features and benefits, while providing more efficiency. These include the ability to dim (and save battery capacity concurrently), a pleasingly warm color temperature (3,000°K similar to incandescent and halogens), longer life (25,000 hours versus 5,000 with hot cathode fluorescent lights), superior ability to endure shock and vibration, and more attractive packaging. Finally, the surface mount feature can reduce relief spaces or headliners, thereby reducing weight and increasing vehicle efficiency.

Aftermarket/Refit: The Surface Mount CCFs are very conducive for this market segment, by virtue of the surface mount feature. This enables easy replacement of fixtures since you can simply cover the hole where the previous light was. In turn you are getting a more efficient and durable light that will most likely last the life of the truck or sleeper cab. *You may never have to replace your interior lights again!*

Specializing in high efficiency lighting systems for the Marine, RV and Trucking Industries.



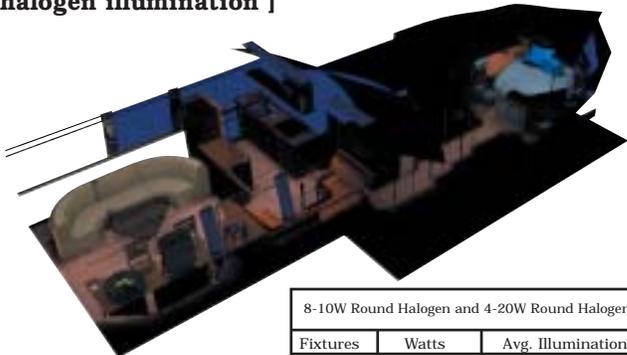
Taylorbrite® CCF Surface Mount Lights

Photometric Data

Interior Lighting Field Study

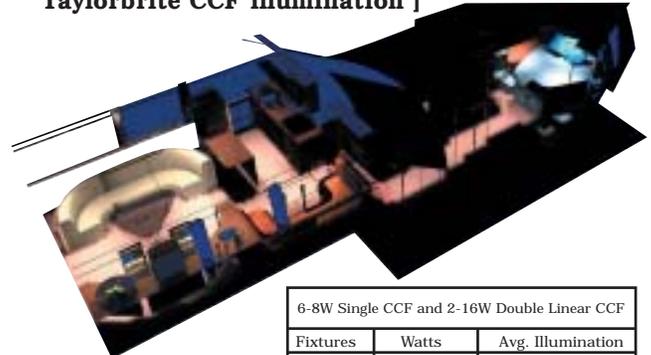
This actual field study is an example of how we validate our theoretical calculations. Installation of Taylorbrite CCF lights reduced total power consumption by 50% (80 watts vs. 160 watts), reduced the number of fixtures by 33% while nearly doubling the level of maximum illumination (140 lux vs. 250 lux).

[Case Study: 45' cruiser salon with halogen illumination]



8-10W Round Halogen and 4-20W Round Halogen		
Fixtures	Watts	Avg. Illumination
12	160	140 lux

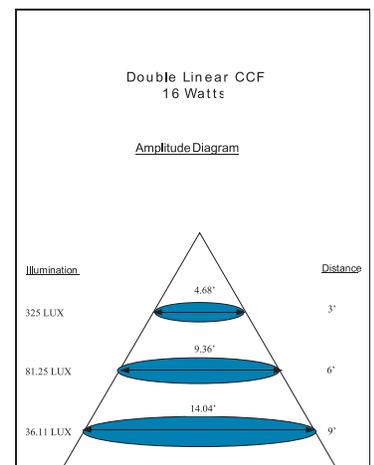
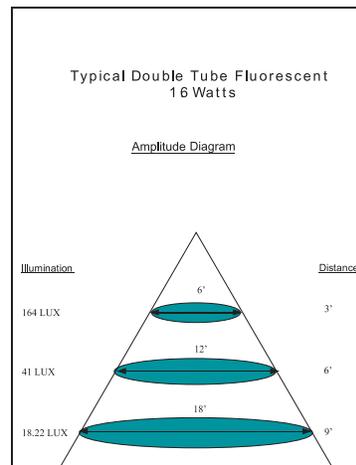
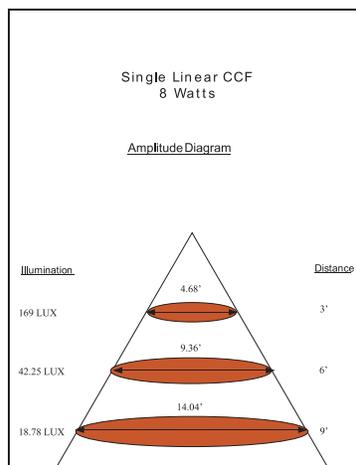
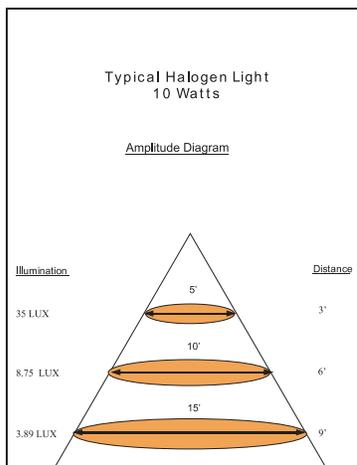
[Case Study: 45' cruiser salon with Taylorbrite CCF illumination]



6-8W Single CCF and 2-16W Double Linear CCF		
Fixtures	Watts	Avg. Illumination
8	80	250 lux

Amplitude Graphs

The following amplitude diagrams further illustrate the superior efficiency of the TIR CCFs to typical fluorescent and halogen lights. Once again, we see that the illumination levels for the Taylorbrite TIR CCFs exceed traditional lights that consume significantly more power.



Certifications

All Taylorbrite CCF Series Lights have been tested and certified to meet or fulfill the following standards:

IEC 945- International Maritime Safety Standard **EN55015**- European Electro Magnetic Interference (EMI) Standards.

UL Listed- Underwriters Laboratory Standards **CE**- International Laboratory Listing **USCG**- United States Coast Guard Maritime Standards. Meets the Ignition Proof Test requirements of the USGG, stated in title 33 CFR 183.410.

ABYC- American Boat & Yacht Council **NMMA**- National Marine Manufacturers Association.

FCC- Federal Communications Commission Rules 47 CFR Part 15 Class B- **UL1149** - (Low Voltage Marine Lighting Fixtures)-

UL234- (Low Voltage RV Lighting Fixtures)- **UL1012**- **UL746**

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Taylorbrite® CCF Surface Mount Lights

NEW GENERATION HIGH-OUTPUT CCF LIGHTS

Surface Mount CCFs

The Single and Double Linear Surface Mount CCFs are terrific lights that not only look good, they have a wide variety of features and benefits conducive for users in the marine, RV, and truck markets. Furthermore, they are durable enough to hold up under shock and vibration, as well as other environmental elements causing corrosion.

Low profile/ surface mounting: The ultra thin CCF tube (6mm) and TIR lens combine to form an ultra thin light (.9 in height) with no recessed parts. This enables these lights to be mounted in constrained spaces (for example: under cabinets, etc.). Surface mounting is particularly conducive to refit/replacement situations, and applications where no headliner is installed on the boat, resulting in greater headroom for occupants.

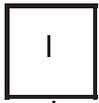
Attractive Packaging: The CCFs have attractive bezels that feature white powder coating, gold, chrome, and brass plating over a stainless steel base surface. These fixtures, combined with a warm color temperature (3,000°K similar to halogen and incandescent), not only look good, but they make you and your interiors look good also.



TAYLORBRITE FAMILY OF SURFACE MOUNT CCF'S

Part Numbering

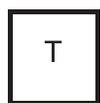
Example: I4TM001C = Single linear, TIR, Med lamp, 12VDC, w/Switch, Chrome Bezel



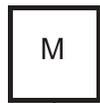
I=Interior
CCF



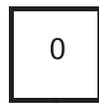
Model
4 = Single
5 = Double



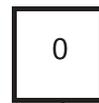
Lens Type
T = TIR
D = Diffused



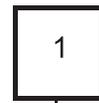
Lamp 1 Color
M = Med. White
R = Red



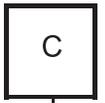
Lamp 2 Color
0 = None
M = Med. White
R = Red



Voltage
0 = 12VDC
1=24VDC



Switches
0 = No switch
1 = on/off
2 = 3-way
(Double linear only)



Bezel Color
B—Brass
C— Chrome
G—Gold
W—White



Taylorbrite® CCF Surface Mount Lights

CCF Options:



Single linear, Diffused Lens, Chrome Bezel



Single linear, TIR Lens, Gold Bezel



Single linear, Red Lens, White Bezel



Single linear, Chrome, Cross-Sectional View

Surface Mount Single Linear

Dimensions: 19.39 x .884 x 4.027

Weight: 2lbs. 1 oz.

Power Consumption: 7.5 Watts

Input Voltage/ Current Draw:

.625A@12VDC .313A@24VDC

Illumination: 23 lux per watt @ 3

Switch Options: Switched/Non-Switched
(check availability)

Bezel options:

●Gold ○White ○Chrome ●Brass

Lens options:



TIR Clear

TIR Red

Diffused

Taylorbrite dimming system compatible

Surface Mount Double Linear

Dimensions: 19.39 x .884 x 6.206

Weight: 2lbs. 15 oz.

Power Consumption: 15.5 Watts

Input Voltage/ Current Draw:

1.25A@12VDC .625A@24VDC

Illumination: 23 lux per watt @ 3

Switch Options: Switched(2-way or 3-way)
/Non-Switched (check availability)

Bezel options:

●Gold ○White ○Chrome ●Brass

Lens options:



TIR Clear

TIR Red

Diffused

Taylorbrite dimming system compatible



Double linear, Diffused Lens, Gold Bezel



Double linear, TIR Lens, Chrome Bezel



Double linear, Red/White Lens, White Bezel



Double linear, Gold, Cross-Sectional View



Taylorbrite® CCF Lights

Taylorbrite Reading Light Specifications:

Power Consumption: 6.6 Watts
 Current Draw / Input Voltage: .550A@12VDC .275A@24VDC
 Weight: Euro: 13.0 oz.
 Futura: 15.2 oz.
 Dimensions: Euro: 2.5" outer diameter / 5" high
 Futura: 2.5" outer diameter / 6" high
 Bezel options: ● Gold ○ White ○ Chrome ● Brass



TAYLORBRITE CCF EURO READING LIGHT

Part Numbering:

Example: R1DM001W = Reading Light, Euro Diff, Med lamp, 12VDC, W/Switch, White Bezel



R = Reading Light	Model 1=Euro 2=Futura	Lens Type D=Diff.	Lamp Color M=Med White	Lamp 2 Color N/A	Voltage 0=12VDC 1=24VDC	Switch Option 1=On/Off	Bezel Color W=White C=Chrome G=Gold B=Brass
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Note: All Reading lights have diffused lens and come with a switch



TAYLORBRITE CCF FUTURA READING LIGHT

Taylorbrite 6" Recessed Round Light Specifications:

Power Consumption: 7.5 Watts
 Current Draw / Input Voltage: .640A@12VDC .320A@24VDC
 Weight: 13.0 oz.
 Dimensions: 6" outer diameter / 1.5" deep
 Bezel options: ● Gold ○ White ○ Chrome ● Brass

Taylorbrite dimming system compatible

Part Numbering:

Example: I6DM000C = Recessed Round, Diff, Med lamp, 12VDC, W/O Switch, Chrome Bezel



I = Interior CCF	Model 6=6" Round	Lens Type D=Diff.	Lamp Color M=Med White	Lamp 2 Color N/A	Voltage 0=12VDC 1=24VDC	Switch Option N/A	Bezel Color W=White C=Chrome G=Gold B=Brass
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Note: All recessed lights have diffused lens, lamp is 6000⁰ and do not have a switch option.



TAYLORBRITE CCF 6" RECESSED ROUND LIGHT



Taylorbrite® Dimming System

CCF DIMMING SYSTEM

Background

Some light sources are easy to dim. Incandescent lamps are dimmed by simply reducing the voltage applied, either directly or by various electrical wave-shaping techniques. However, hot filament based discharge lamps, like fluorescents or halogens, require a certain constant power level to keep the filament(s) hot. Certain pulse shaping techniques can be used to provide at least partial dimming for these kinds of lamps, but there is a price to pay in terms of reduced life. A hot filament lamp running partially dimmed may operate for less than half of its normal lifetime! Fortunately, CCF lamps, with their robust electrodes, do not suffer from these drawbacks.

Operation

Taylorbrite's dimming system uses a technique known as Pulse Group Modulation, or PGM. CCF lamps are best excited by AC voltages in the 20kHz to 50kHz range. The ideal wave shape is a "sine" wave, similar to the AC voltage wave shape found at a typical wall outlet. This wave shape is preferred because it generates the least amount of radio frequency interference (RFI). For the purposes of this discussion, we will refer to one cycle of the sine wave shape as a 'pulse'. Since the frequency of these pulses is fixed, say at 20kHz, then one pulse will occur every 50uS (micro-seconds = 1/1000000 second). This is very fast. So fast that if we were to remove one pulse, the eye would never notice it, right? Not exactly. In fact, the brain will average the pulses of light and will cause us to 'see' a brightness level lower than what we normally perceive to be full-on.

The process of removing pulses from groups is called "Modulation". Hence the term PGM means 'removing pulses from groups'. As long as the pulse removal process continues to occur fast enough, the eye and brain will continue to average the result. Very effective dimming can be obtained down to 1% of full brightness!

In order for this system to function, the lamp's power supply must be designed to implement this modulation technique. Consequently, a third wire is supplied for the modulation control signal. This signal is generated by the Taylorbrite dimmer module.

Benefits

The true benefit of this system is the ability to dim efficiently, without generating heat. Furthermore, dimming does not impede the life of the electrode, nor does it create RFI. Because a "signal" is sent from the dimmer that alters the frequency of the sine wave, power draw of the CCF lights is reduced in proportion to the light output. This is ideal for maintaining battery capacity at night, when full brightness is not necessary, but a slight amount of light may be desired.



**TAYLORBRITE
SLIM CCF DIMMERS**



**TAYLORBRITE
DELUXE CCF DIMMERS**

Product Specifications:

Style	Part Number	Dimensions (inches)			Style	Part Number	Dimensions (inches)		
		Depth	Width	Height			Depth	Width	Height
<i>Slim bezel</i>									
Gold	ADD10SMB	1.5	1.563	3.125	<i>Deluxe bezel</i>				
Chrome	ADD10SMC	1.5	1.563	3.125	Gold	ADD101MB	1.5	3.438	3.125
White	ADD10SMW	1.5	1.563	3.125	Chrome	ADD101MC	1.5	3.438	3.125
					White	ADD101MW	1.5	3.438	3.125

Specializing in high efficiency lighting systems for the Marine, RV and Trucking Industries.



Taylorbrite® 3" LED Recessed Round Light

Introduction

Taylorbrite's 3" LED Recessed Round Light combines the features and benefits of light state-of-the-art LED (light emitting diode) technology with the rich aesthetics of high-end European-style light fixtures. Taylorbrite LED lights deliver more light per Watt of power than typical incandescent or halogen lights, last substantially longer, operate cooler and are dimmable. Furthermore, they are designed to hold up under shock and vibration, and resist elements causing corrosion.



Features and Benefits

Low Power Draw: LED lighting technology is preferred over Halogen because of its increased efficiency allowing you to generate more light for the power you consume; this is essential when considering you have limited power capacity on a boat, RV, or truck.

This significantly reduced power requirement means that:

- More lights can be run for longer periods on batteries before recharging
- Quieter ship/vehicle operation (no need to run the generator because lights are on)
- The electrical system (batteries, alternator, charger/converter and lighting circuit wire gauge) can be downsized.

Low heat / Efficient Operation: Because more power is converted into light and not dissipated as heat, LED lights operate at a much lower fixture temperature (50°C versus 160°C for halogen). This makes them safer to install in all areas, drastically reducing ambient heat and demands on cooling systems. The ballast for our LED fixture is electronic and is more properly referred to as a regulator. The regulator allows our unique LED lights to be operated from 8 Volts to 32 Volts DC, effectively covering both 12V and 24V systems with one version and maintains virtually constant light output over the entire operating voltage range. The components are built to endure voltage spikes and drops without any damage. These lights are fully filtered and shielded; therefore there is no concern for EMI interference.

Dimming/ Lamp Color: Not only is dimming possible with LEDs - you actually reduce power consumption and thus draw on the batteries as you dim the lights. Using our proprietary modulation technique, you can control light output while reducing current draw proportionately and thus dim efficiently. This benefit is especially useful at night, when you may desire a low light level without drawing down your battery capacity.

The 1 Watt LED produces a warm white color temperature (3300°K which is similar to a halogen or incandescent lamp) and the 2.5 Watt version supplies more of a daylight color temperature rated around 6500°K.

Long-Life: The LEDs are rated in excess of 50,000 hours of life, which exceeds the operating lifetime of most boats and RVs. This translates into less time, expense, and hassle associated with changing bulbs. You may never have to replace your interior lights again!

Attractive packaging: The LED lights have attractive bezels that feature white powder coating, gold, chrome, and brass plating over a stamped brass surface.

Taylorbrite 3" LED Recessed Round Light Specifications:

Power Consumption:	1.2 Watt	2.5 Watt	Weight / Dimensions:
Current Draw/Input Voltage:	.15A@12VDC	.30A@12VDC	.37lb 3.15" outer diameter/1.4" deep
	.075A@24VDC	.15A@24VDC	Bezel Options: ○ Chrome ● Brass

Taylorbrite dimming system compatible

Specializing in high efficiency lighting systems for the Marine, RV and Trucking Industries.