



opulent  
americas

## Cree High Power Starboards

Power of Cree in Standard and Custom LED Starboards

## Data Sheet

Version 1.1

### Lean & Fast. Made Smarter.

**Superior Performance** – Stay current with the highest intensity LEDs

**Design Faster** – Use industry standard starboards to shorten development time

**Maximum Flexibility** – Design to your exact specifications using Opulent Americas' starboards

**Rapid Innovation** – Work with Opulent Americas on your custom solution

### Primary Applications



Prototyping

Flashlight

Downlight

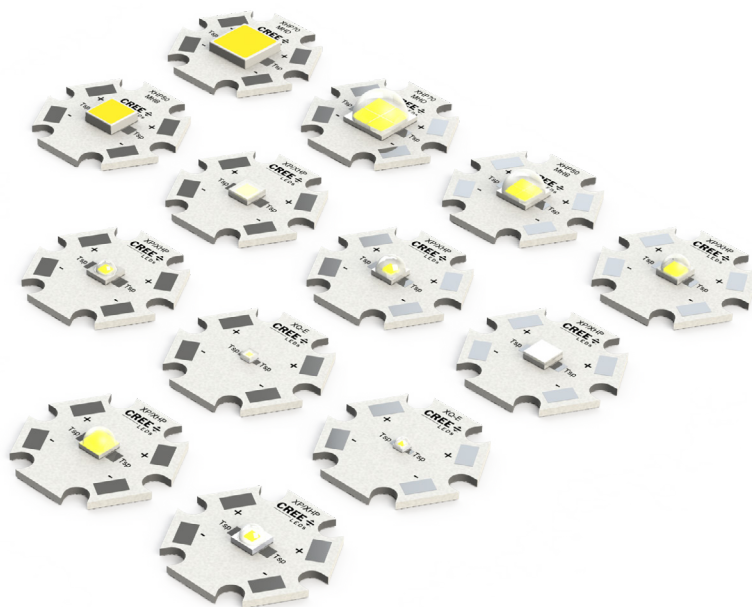
Architectural

Directional

Horticulture

Portable

Vehicle



### Custom Solutions

Opulent Americas operates facilities globally with ISO certifications for the LED lighting, automotive and medical industries. Our North Carolina based office provides quick engineering & sales support with a R&D lab for prototype development and custom solutions. Our in-house global manufacturing capabilities allow for both building in the United States as well as overseas at scale.

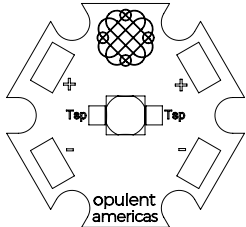
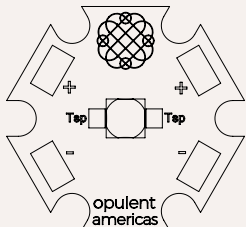
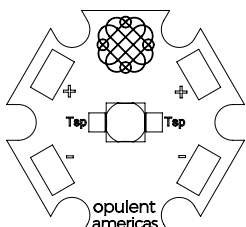
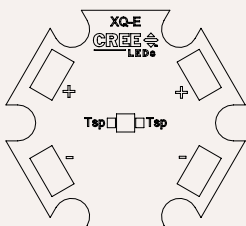
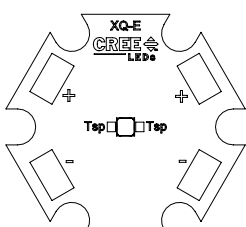
### About Opulent Americas

Opulent Americas accelerates the adoption of LED technology through simple, modular products and custom designs. Through 30 years of experience, state of the art manufacturing, full traceability and advanced quality controls, Opulent offers leading solid state lighting components, modules and custom solutions. Opulent customers get to market faster, with less resources, at lower costs. Visit [opulent-americas.com](http://opulent-americas.com) for more information.

Last Modified: 09/17/19

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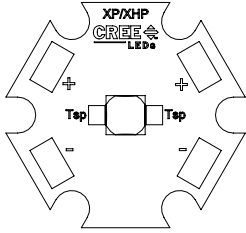
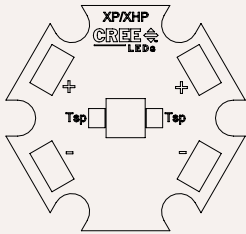
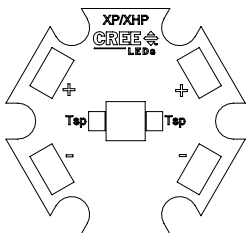
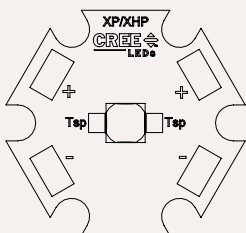
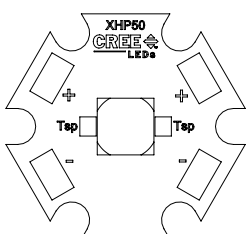
## White Product Selection Guide

| Link to Cree Datasheet                                                                                                               | Part Number                   | CCT   | CRI | Luminous Flux (lm) |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------|-----|--------------------|
|  <p><b>New</b><br/><a href="#">XP-G2 HE</a></p>     | LSTI-01C49-2780-00            | 2700K | 80  |                    |
|                                                                                                                                      | LSTI-01C49-4070-00            | 4000K | 70  |                    |
|                                                                                                                                      | LSTI-01C49-6570-00            | 6500K | 70  |                    |
|  <p><b>New</b><br/><a href="#">XP-G3 S-Line</a></p> | LSTI-01C50-2780-00            | 2700K | 80  |                    |
|                                                                                                                                      | LSTI-01C50-4070-00            | 4000K | 70  |                    |
|                                                                                                                                      | LSTI-01C50-6570-00            | 6500K | 70  |                    |
|  <p><b>New</b><br/><a href="#">XHP35.2</a></p>     | LSTI-01C48-2780-00            | 2700K | 80  |                    |
|                                                                                                                                      | LSTI-01C48-4070-00            | 4000K | 70  |                    |
|                                                                                                                                      | LSTI-01C48-6570-00            | 6500K | 70  |                    |
|  <p><b>XQ-E HI</b></p>                            | XQEAWT-H0-0000-00000HDE8-SB01 | 2700K | 80  | 93.9               |
|                                                                                                                                      | XQEAWT-H0-0000-00000LEE5-SB01 | 4000K | 75  | 114                |
|                                                                                                                                      | XQEAWT-H0-0000-00000BFE1-SB01 | 6500K | 70  | 122                |
|  <p><b>XQ-E HD</b></p>                            | XQEAWT-00-0000-00000HBE8-SB01 | 2700K | 80  | 93.9               |
|                                                                                                                                      | XQEAWT-00-0000-00000HDE5-SB01 | 4000K | 80  | 107                |
|                                                                                                                                      | XQEAWT-00-0000-00000BFE1-SB01 | 6500K | 70  | 122                |

Product performance at binning current  $T_c = 85^\circ\text{C}$ .  
CRI and Flux values are minimum.

# Cree High Power Starboards

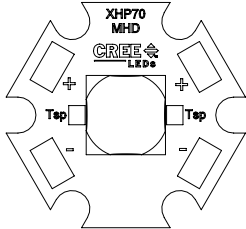
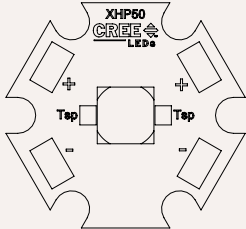
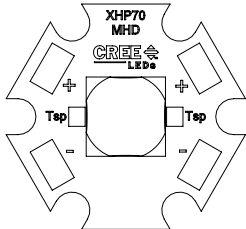
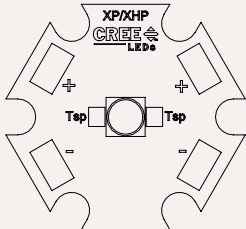
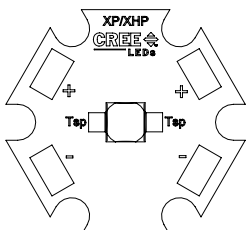
## White Product Selection Guide

| Link to Cree Datasheet                                                                                    | Part Number                   | CCT   | CRI | Luminous Flux (lm) |
|-----------------------------------------------------------------------------------------------------------|-------------------------------|-------|-----|--------------------|
|  <p><b>XHP35 HD</b></p>  | XHP35A-00-0000-0D0BD430E-SB01 | 3000K | 70  | 550                |
|                                                                                                           | XHP35A-00-0000-0D0BE240E-SB01 | 4000K | 70  | 590                |
|                                                                                                           | XHP35A-00-0000-0D0BE450E-SB01 | 5000K | 70  | 635                |
|  <p><b>XHP35 HI</b></p>  | XHP35A-H0-0000-0D0BC230E-SB01 | 3000K | 70  | 440                |
|                                                                                                           | XHP35A-H0-0000-0D0BC440E-SB01 | 4000K | 70  | 475                |
|                                                                                                           | XHP35A-H0-0000-0D0BC450E-SB01 | 5000K | 70  | 475                |
|  <p><b>XP-L HI</b></p>  | XPLAWT-H0-0000-000HU40F8-SB01 | 2850K | 80  | 340                |
|                                                                                                           | XPLAWT-H0-0000-000BV20E5-SB01 | 4000K | 70  | 400                |
|                                                                                                           | XPLAWT-H0-0000-000BV20E1-SB01 | 6500K | 70  | 400                |
|  <p><b>XP-L HD</b></p> | XPLAWT-00-0000-000HU60E8-SB01 | 2700K | 80  | 380                |
|                                                                                                           | XPLAWT-00-0000-000BV50E5-SB01 | 4000K | 70  | 460                |
|                                                                                                           | XPLAWT-00-0000-0000V60E1-SB01 | 6500K | 65  | 480                |
|  <p><b>XHP50</b></p>   | XHP50A-00-0000-0D0BH430E-SB01 | 3000K | 70  | 970                |
|                                                                                                           | XHP50A-00-0000-0D0BJ440E-SB01 | 4000K | 70  | 1120               |
|                                                                                                           | XHP50A-00-0000-0D0BJ450E-SB01 | 5000K | 70  | 1120               |

Product performance at binning current  $T_c = 85^\circ\text{C}$ .  
CRI and Flux values are minimum.

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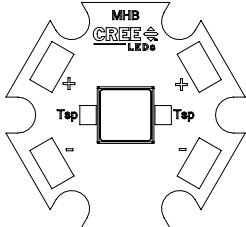
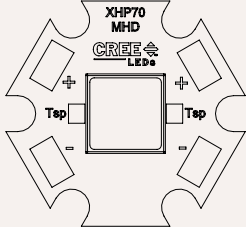
## White Product Selection Guide

| Link to Cree Datasheet                                                                               | Part Number                   | CCT   | CRI | Luminous Flux (lm) |
|------------------------------------------------------------------------------------------------------|-------------------------------|-------|-----|--------------------|
| <br><b>XHP70</b>    | XHP70A-00-0000-0D0BM430E-SB01 | 3000K | 70  | 1485               |
|                                                                                                      | XHP70A-00-0000-0D0BN240E-SB01 | 4000K | 70  | 1590               |
|                                                                                                      | XHP70A-00-0000-0D0BN450E-SB01 | 5000K | 70  | 1710               |
| <br><b>XHP50.2</b>  | XHP50B-00-0000-0D0HH227G-SB01 | 2700K | 80  | 900                |
|                                                                                                      | XHP50B-00-0000-0D0BJ440E-SB01 | 4000K | 70  | 1120               |
|                                                                                                      | XHP50B-00-0000-0D0BJ40CB-SB01 | 6500K | 70  | 1120               |
| <br><b>XHP70.2</b> | XHP70B-00-0000-0D0HM427G-SB01 | 2700K | 80  | 1485               |
|                                                                                                      | XHP70B-00-0000-0D0BP240E-SB01 | 4000K | 70  | 1830               |
|                                                                                                      | XHP70B-00-0000-0D0BN40E1-SB01 | 6500K | 70  | 1710               |
| <br><b>XP-G3</b>  | XPGDWT-H1-0000-00HE8-SB01     | 2700K | 80  | 139                |
|                                                                                                      | XPGDWT-B1-0000-00L5E-SB01     | 4000K | 70  | 164                |
|                                                                                                      | XPGDWT-01-0000-00LE1-SB01     | 6500K | 70  | 164                |
| <br><b>XP-L2</b>  | XPLBWT-00-0000-000HV227G-SB01 | 2700K | 80  | 400                |
|                                                                                                      | XPLBWT-00-0000-000BV640E-SB01 | 4000K | 70  | 480                |
|                                                                                                      | XPLBWT-00-0000-000BV50CB-SB01 | 6500K | 70  | 460                |

Product performance at binning current  $T_c = 85^\circ\text{C}$ .  
CRI and Flux values are minimum.

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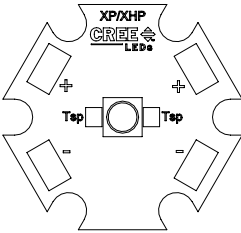
## White Product Selection Guide

| Link to Cree Datasheet                                                                         | Part Number                  | CCT   | CRI | Luminous Flux (lm) |
|------------------------------------------------------------------------------------------------|------------------------------|-------|-----|--------------------|
|  <b>MHB-B</b> | MHBBWT-0000-000C0HC427G-SB01 | 2700K | 80  | 475                |
|                                                                                                | MHBBWT-0000-000C0BE240E-SB01 | 4000K | 70  | 590                |
|                                                                                                | MHBBWT-0000-000C0BE265E-SB01 | 6500K | 70  | 590                |
|  <b>MHD-G</b> | MHDCWT-0000-000N0HK427G-SB01 | 2700K | 80  | 1290               |
|                                                                                                | MHDCWT-0000-000N0BM440E-SB01 | 4000K | 70  | 1485               |
|                                                                                                | MHDCWT-0000-000N0BN265E-SB01 | 6500K | 70  | 1590               |

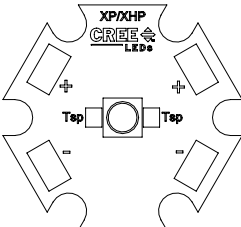
Product performance at binning current  $T_c = 85^\circ\text{C}$ .  
CRI and Flux values are minimum.

# Cree High Power Starboards

## Color Product Selection Guide

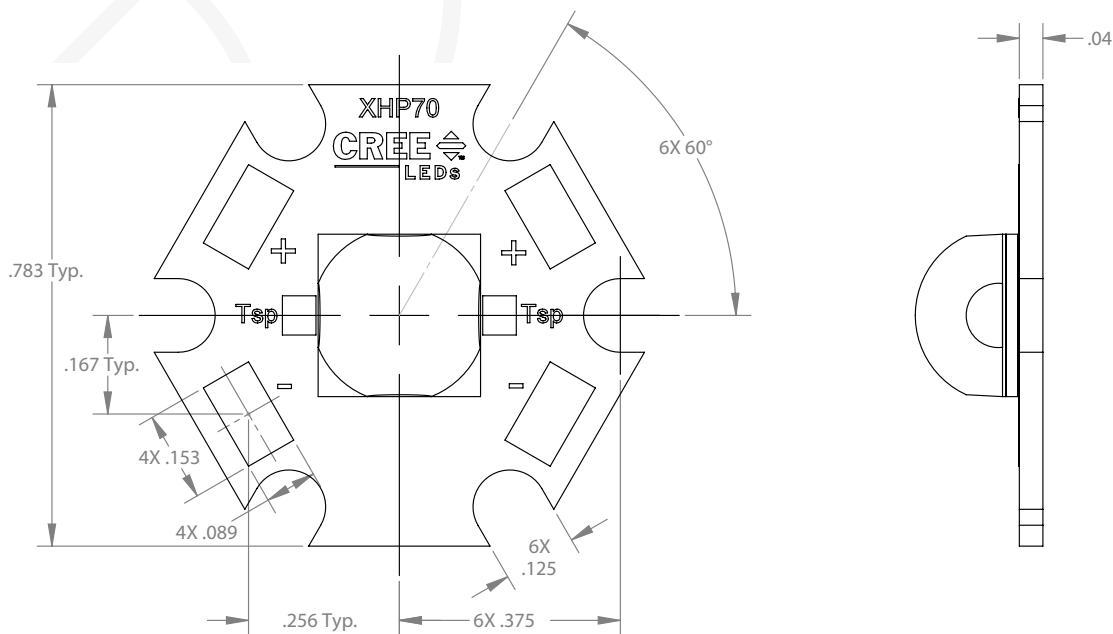
| Link to Cree Datasheet                                                            | Part Number            | Color                     | DW/Bin   | Luminous Flux (lm) |      |
|-----------------------------------------------------------------------------------|------------------------|---------------------------|----------|--------------------|------|
|  | <a href="#">XPEBAM</a> | XPEBAM-L1-0000-00901-SB01 | Amber    | 585-595            | 80.6 |
|                                                                                   | <a href="#">XPEBBL</a> | XPEBBL-L1-0000-00301-SB01 | Blue     | 465-485            | 45.7 |
|                                                                                   | <a href="#">XPEBGR</a> | XPEBGR-L1-0000-00G01-SB01 | Green    | 520-535            | 130  |
|                                                                                   | <a href="#">XPEBGR</a> | XPEBGR-L1-0000-00F03-SB01 | Green    | 525-535            | 122  |
|                                                                                   | <a href="#">XPEBRD</a> | XPEBRD-L1-0000-00901-SB01 | Red      | 620-630            | 80.6 |
|                                                                                   | <a href="#">XPEBPA</a> | XPEBPA-L1-0000-00D01-SB01 | PC Amber | Y2                 | 107  |

## Specialty Color Product Selection Guide

| Link to Cree Datasheet                                                              | Part Number            | Color                     | DW/Bin       | Radiant Flux (mW) |      |
|-------------------------------------------------------------------------------------|------------------------|---------------------------|--------------|-------------------|------|
|  | <a href="#">XPEFAR</a> | XPEFAR-L1-0000-00601-SB01 | Far Red      | 720-740           | 210  |
|                                                                                     | <a href="#">XPEPHR</a> | XPEPHR-L1-0000-00901-SB01 | Photo Red    | 650-670           | 350  |
|                                                                                     | <a href="#">XPEBRY</a> | XPEBRY-L1-0000-00R01-SB01 | Royal Blue   | 450-465           | 625  |
|                                                                                     | <a href="#">XPEBRD</a> | XPERDO-L1-0000-00A01-SB01 | Red Orange   | 610-620           | 87.4 |
|                                                                                     | <a href="#">XPGDRY</a> | LST1-01C32-RYL1-00        | Royal Blue   | 440-455           | 730  |
|                                                                                     | <a href="#">XQEROY</a> | LST1-01C40-RYL1-00        | Royal Blue   | 450-465           | 600  |
|                                                                                     | <a href="#">XQEEPR</a> | LST1-01C40-PRD1-00        | HE Photo Red | 650-670           | 375  |

Product performance at binning current  $T_c = 85^\circ\text{C}$ .  
Flux values are minimum.

# Opulent Americas Starboard Mechanical



## MCPCB Fabrication

- 2oz copper
- 5052 Al
- White solder mask
- Lead free Immersion Gold

Intended for connection to a class 2 power source with a maximum operating voltage of 50 Vdc.

## Maximum Ratings

See Cree's Datasheets [HERE](#)

## Max Solder Point Verse Drive Current

See Cree's Datasheets [HERE](#)

## Thermal Interface Guidance

Current derating must be observed to maintain junction temperature below the maximum, see Cree's application note for additional information on thermal management guidelines [HERE](#)