

Cree® XLamp® XB Family LEDs



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INTRODUCTION

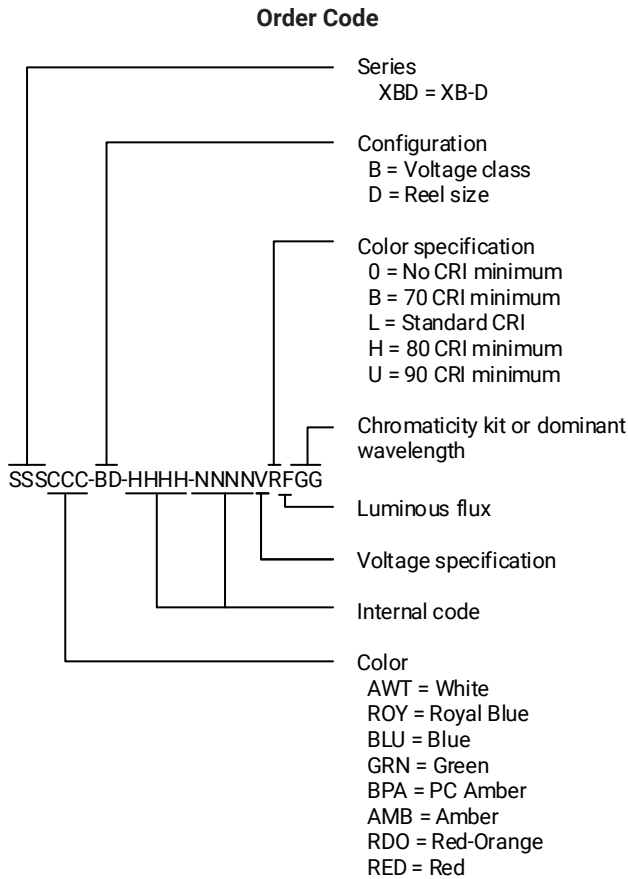
This document describes the product nomenclature required to select and order Cree’s XLamp® XB family LEDs. XLamp XB family LEDs are tested and sorted into bins which are then combined into orderable kits, identified by an order code.

All XLamp LEDs are tested and sorted by color and brightness into a unique bin. Each bin contains LEDs from only one color and brightness group and is uniquely identified by a bin code. White XLamp LEDs are sorted by chromaticity (color) and luminous flux (brightness). Color XLamp LEDs are sorted by dominant wavelength (color) and luminous or radiant flux (brightness). LEDs are shipped in reels containing LEDs from a single bin and labeled with the corresponding bin code. XLamp LED packaging details are provided in product data sheets.

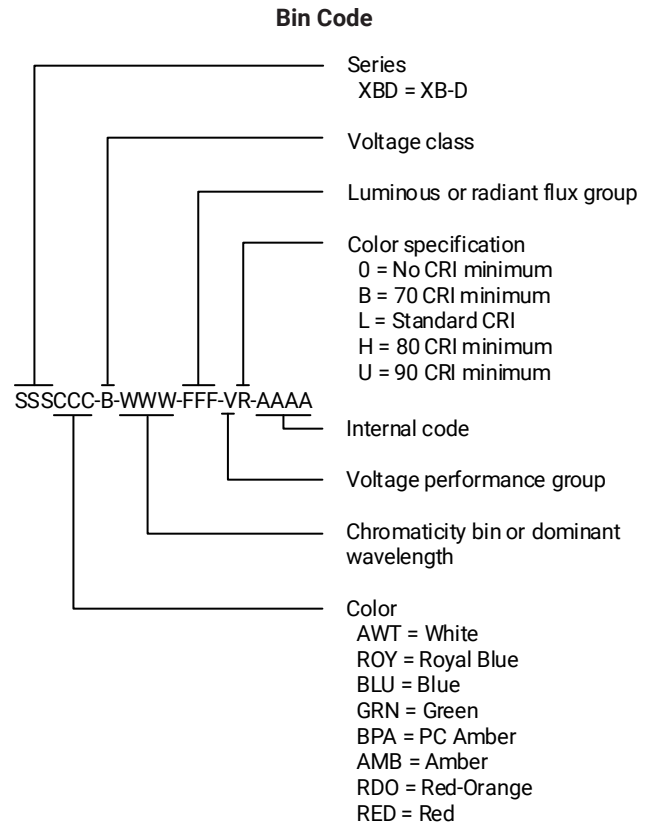
Kits contain LEDs from a number of similar bins and are fully defined by their order codes. A full explanation of the order codes for XLamp XB family LEDs, as well as a list of standard order codes, is provided in this document.

BIN AND ORDER CODE FORMATS

Bin codes and order codes for XB-D LEDs are configured in the following manner:



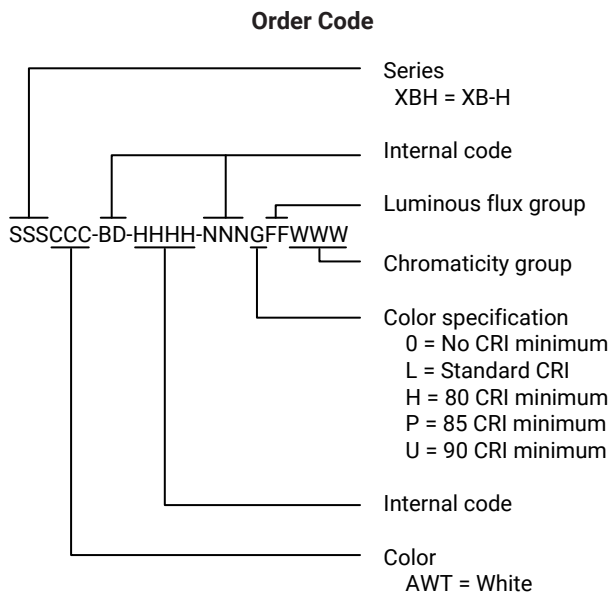
Example Order Code: XBDAWT-00-0000-0000HAE7



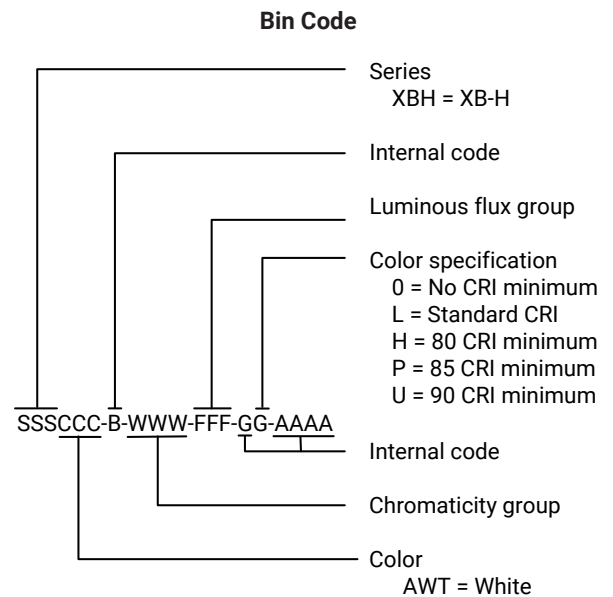
Example Bin Code: XBDAWT-0-7A3-Q20-0H-0001

BIN AND ORDER CODE FORMATS - CONTINUED

Bin codes and order codes for XB-H LEDs are configured in the following manner:



Example Order Code: XBHAWT-00-0000-000HT20E7



Example Bin Code: XBHAWT-0-7A3-T20-0H-0001

PERFORMANCE GROUPS – LUMINOUS FLUX

XLamp XB-D LEDs, except royal blue, are tested for luminous flux and placed into one of the following luminous-flux groups. These groups, appended with a 0, are used in the Bin Code “Luminous or radiant flux group.”

| Group Code | Minimum Luminous Flux (lm) @ 350 mA | Maximum Luminous Flux (lm) @ 350 mA |
|------------|--|--|
| P4 | 80.6 | 87.4 |
| Q2 | 87.4 | 93.9 |
| Q3 | 93.9 | 100 |
| Q4 | 100 | 107 |
| Q5 | 107 | 114 |
| R2 | 114 | 122 |
| R3 | 122 | 130 |
| R4 | 130 | 139 |
| R5 | 139 | 148 |

XLamp XB-H LEDs are tested for luminous flux and placed into one of the following luminous-flux groups. These groups, appended with a 0, are used in the Bin Code “Luminous or radiant flux group.”

| Group Code | Minimum Luminous Flux (lm) @ 700 mA | Maximum Luminous Flux (lm) @ 700 mA |
|------------|--|--|
| S4 | 164 | 172 |
| S5 | 172 | 182 |
| S6 | 182 | 200 |
| T2 | 200 | 220 |
| T3 | 220 | 240 |
| T4 | 240 | 260 |
| T5 | 260 | 280 |
| T6 | 280 | 300 |
| U2 | 300 | 320 |

PERFORMANCE GROUPS – RADIANT FLUX

Royal blue XLamp XB-D LEDs are tested for radiant flux and sorted into one of the following radiant-flux bins.

| Group | Minimum Radiant Flux (mW) @ 350 mA | Maximum Radiant Flux (mW) @ 350 mA |
|-------|---------------------------------------|---------------------------------------|
| 34 | 550 | 575 |
| 35 | 575 | 600 |
| 36 | 600 | 625 |
| 37 | 625 | 650 |
| 38 | 650 | 675 |
| 39 | 675 | 700 |

PERFORMANCE GROUPS – DOMINANT WAVELENGTH

Color XLamp XB-D LEDs are tested for dominant wavelength (DWL) and sorted into one of the DWL bins defined below.

| Color | DWL Group | Minimum DWL (nm) @ 350 mA | Maximum DWL (nm) @ 350 mA |
|------------|-----------|------------------------------|------------------------------|
| Royal Blue | D36 | 450 | 452.5 |
| | D37 | 452.5 | 455 |
| | D46 | 455 | 457.5 |
| | D47 | 457.5 | 460 |
| | D56 | 460 | 462.5 |
| | D57 | 462.5 | 465 |
| Blue | B3 | 465 | 470 |
| | B4 | 470 | 475 |
| | B5 | 475 | 480 |
| | B6 | 480 | 485 |
| Green | G2 | 520 | 525 |
| | G3 | 525 | 530 |
| | G4 | 530 | 535 |
| Amber | A2 | 585 | 590 |
| | A3 | 590 | 595 |
| Red-Orange | O3 | 610 | 615 |
| | O4 | 615 | 620 |
| Red | R2 | 620 | 625 |
| | R3 | 625 | 630 |

PERFORMANCE GROUPS – FORWARD VOLTAGE

Amber, red-orange, red and royal blue XLamp XB-D LEDs are tested for forward voltage and sorted into one of the forward voltage bins defined below.

| Forward Voltage Group | Minimum Forward Voltage @ 350 mA | Maximum Forward Voltage @ 350 mA |
|-----------------------|----------------------------------|----------------------------------|
| B | 1.75 | 2.0 |
| C | 2.0 | 2.25 |
| D | 2.25 | 2.5 |
| E | 2.5 | 2.75 |
| F | 2.75 | 3.0 |
| G | 3.0 | 3.25 |
| H | 3.25 | 3.5 |

PERFORMANCE GROUPS – CHROMATICITY

| Region | x | y | Region | x | y | Region | x | y | Region | x | y |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0A | 0.2950 | 0.2970 | 0B | 0.2920 | 0.3060 | 0C | 0.2984 | 0.3133 | 0D | 0.2984 | 0.3133 |
| | 0.2920 | 0.3060 | | 0.2895 | 0.3135 | | 0.2962 | 0.3220 | | 0.3048 | 0.3207 |
| | 0.2984 | 0.3133 | | 0.2962 | 0.3220 | | 0.3028 | 0.3304 | | 0.3068 | 0.3113 |
| | 0.3009 | 0.3042 | | 0.2984 | 0.3133 | | 0.3048 | 0.3207 | | 0.3009 | 0.3042 |
| 0R | 0.2980 | 0.2880 | 0S | 0.2895 | 0.3135 | 0T | 0.2962 | 0.3220 | 0U | 0.3037 | 0.2937 |
| | 0.2950 | 0.2970 | | 0.2870 | 0.3210 | | 0.2937 | 0.3312 | | 0.3009 | 0.3042 |
| | 0.3009 | 0.3042 | | 0.2937 | 0.3312 | | 0.3005 | 0.3415 | | 0.3068 | 0.3113 |
| | 0.3037 | 0.2937 | | 0.2962 | 0.3220 | | 0.3028 | 0.3304 | | 0.3093 | 0.2993 |
| 1A | 0.3048 | 0.3207 | 1B | 0.3028 | 0.3304 | 1C | 0.3115 | 0.3391 | 1D | 0.3130 | 0.3290 |
| | 0.3130 | 0.3290 | | 0.3115 | 0.3391 | | 0.3205 | 0.3481 | | 0.3213 | 0.3373 |
| | 0.3144 | 0.3186 | | 0.3130 | 0.3290 | | 0.3213 | 0.3373 | | 0.3221 | 0.3261 |
| | 0.3068 | 0.3113 | | 0.3048 | 0.3207 | | 0.3130 | 0.3290 | | 0.3144 | 0.3186 |
| 1R | 0.3068 | 0.3113 | 1S | 0.3005 | 0.3415 | 1T | 0.3099 | 0.3509 | 1U | 0.3144 | 0.3186 |
| | 0.3144 | 0.3186 | | 0.3099 | 0.3509 | | 0.3196 | 0.3602 | | 0.3221 | 0.3261 |
| | 0.3161 | 0.3059 | | 0.3115 | 0.3391 | | 0.3205 | 0.3481 | | 0.3231 | 0.3120 |
| | 0.3093 | 0.2993 | | 0.3028 | 0.3304 | | 0.3115 | 0.3391 | | 0.3161 | 0.3059 |
| 2A | 0.3215 | 0.3350 | 2B | 0.3207 | 0.3462 | 2C | 0.3290 | 0.3538 | 2D | 0.3290 | 0.3417 |
| | 0.3290 | 0.3417 | | 0.3290 | 0.3538 | | 0.3376 | 0.3616 | | 0.3371 | 0.3490 |
| | 0.3290 | 0.3300 | | 0.3290 | 0.3417 | | 0.3371 | 0.3490 | | 0.3366 | 0.3369 |
| | 0.3222 | 0.3243 | | 0.3215 | 0.3350 | | 0.3290 | 0.3417 | | 0.3290 | 0.3300 |
| 2R | 0.3222 | 0.3243 | 2S | 0.3196 | 0.3602 | 2T | 0.3290 | 0.3690 | 2U | 0.3290 | 0.3300 |
| | 0.3290 | 0.3300 | | 0.3290 | 0.3690 | | 0.3381 | 0.3762 | | 0.3366 | 0.3369 |
| | 0.3290 | 0.3180 | | 0.3290 | 0.3538 | | 0.3376 | 0.3616 | | 0.3361 | 0.3245 |
| | 0.3231 | 0.3120 | | 0.3207 | 0.3462 | | 0.3290 | 0.3538 | | 0.3290 | 0.3180 |
| 3A | 0.3371 | 0.3490 | 3B | 0.3376 | 0.3616 | 3C | 0.3463 | 0.3687 | 3D | 0.3451 | 0.3554 |
| | 0.3451 | 0.3554 | | 0.3463 | 0.3687 | | 0.3551 | 0.3760 | | 0.3533 | 0.3620 |
| | 0.3440 | 0.3427 | | 0.3451 | 0.3554 | | 0.3533 | 0.3620 | | 0.3515 | 0.3487 |
| | 0.3366 | 0.3369 | | 0.3371 | 0.3490 | | 0.3451 | 0.3554 | | 0.3440 | 0.3427 |
| 3R | 0.3366 | 0.3369 | 3S | 0.3381 | 0.3762 | 3T | 0.3480 | 0.3840 | 3U | 0.3440 | 0.3428 |
| | 0.3440 | 0.3428 | | 0.3480 | 0.3840 | | 0.3571 | 0.3907 | | 0.3515 | 0.3487 |
| | 0.3429 | 0.3307 | | 0.3463 | 0.3687 | | 0.3551 | 0.3760 | | 0.3495 | 0.3339 |
| | 0.3361 | 0.3245 | | 0.3376 | 0.3616 | | 0.3463 | 0.3687 | | 0.3429 | 0.3307 |
| 4A | 0.3530 | 0.3597 | 4B | 0.3548 | 0.3736 | 4C | 0.3641 | 0.3804 | 4D | 0.3615 | 0.3659 |
| | 0.3615 | 0.3659 | | 0.3641 | 0.3804 | | 0.3736 | 0.3874 | | 0.3702 | 0.3722 |
| | 0.3590 | 0.3521 | | 0.3615 | 0.3659 | | 0.3702 | 0.3722 | | 0.3670 | 0.3578 |
| | 0.3512 | 0.3465 | | 0.3530 | 0.3597 | | 0.3615 | 0.3659 | | 0.3590 | 0.3521 |
| 4R | 0.3512 | 0.3465 | 4S | 0.3571 | 0.3907 | 4T | 0.3668 | 0.3957 | 4U | 0.3590 | 0.3521 |
| | 0.3590 | 0.3521 | | 0.3668 | 0.3957 | | 0.3771 | 0.4034 | | 0.3670 | 0.3578 |
| | 0.3567 | 0.3389 | | 0.3641 | 0.3804 | | 0.3736 | 0.3874 | | 0.3640 | 0.3440 |
| | 0.3495 | 0.3339 | | 0.3548 | 0.3736 | | 0.3641 | 0.3804 | | 0.3567 | 0.3389 |

PERFORMANCE GROUPS – CHROMATICITY (CONTINUED)

| Region | x | y | Region | x | y | Region | x | y | Region | x | y |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 5A1 | 0.3670 | 0.3578 | 5A2 | 0.3686 | 0.3649 | 5A3 | 0.3744 | 0.3685 | 5A4 | 0.3726 | 0.3612 |
| | 0.3686 | 0.3649 | | 0.3702 | 0.3722 | | 0.3763 | 0.3760 | | 0.3744 | 0.3685 |
| | 0.3744 | 0.3685 | | 0.3763 | 0.3760 | | 0.3825 | 0.3798 | | 0.3804 | 0.3721 |
| | 0.3726 | 0.3612 | | 0.3744 | 0.3685 | | 0.3804 | 0.3721 | | 0.3783 | 0.3646 |
| 5B1 | 0.3702 | 0.3722 | 5B2 | 0.3719 | 0.3797 | 5B3 | 0.3782 | 0.3837 | 5B4 | 0.3763 | 0.3760 |
| | 0.3719 | 0.3797 | | 0.3736 | 0.3874 | | 0.3802 | 0.3916 | | 0.3782 | 0.3837 |
| | 0.3782 | 0.3837 | | 0.3802 | 0.3916 | | 0.3869 | 0.3958 | | 0.3847 | 0.3877 |
| | 0.3763 | 0.3760 | | 0.3782 | 0.3837 | | 0.3847 | 0.3877 | | 0.3825 | 0.3798 |
| 5C1 | 0.3825 | 0.3798 | 5C2 | 0.3847 | 0.3877 | 5C3 | 0.3912 | 0.3917 | 5C4 | 0.3887 | 0.3836 |
| | 0.3847 | 0.3877 | | 0.3869 | 0.3958 | | 0.3937 | 0.4001 | | 0.3912 | 0.3917 |
| | 0.3912 | 0.3917 | | 0.3937 | 0.4001 | | 0.4006 | 0.4044 | | 0.3978 | 0.3958 |
| | 0.3887 | 0.3836 | | 0.3912 | 0.3917 | | 0.3978 | 0.3958 | | 0.3950 | 0.3875 |
| 5D1 | 0.3783 | 0.3646 | 5D2 | 0.3804 | 0.3721 | 5D3 | 0.3863 | 0.3758 | 5D4 | 0.3840 | 0.3681 |
| | 0.3804 | 0.3721 | | 0.3825 | 0.3798 | | 0.3887 | 0.3836 | | 0.3863 | 0.3758 |
| | 0.3863 | 0.3758 | | 0.3887 | 0.3836 | | 0.3950 | 0.3875 | | 0.3924 | 0.3794 |
| | 0.3840 | 0.3681 | | 0.3863 | 0.3758 | | 0.3924 | 0.3794 | | 0.3898 | 0.3716 |
| 5R | 0.3670 | 0.3578 | 5S | 0.3771 | 0.4034 | 5T | 0.3916 | 0.4127 | 5U | 0.3783 | 0.3646 |
| | 0.3783 | 0.3646 | | 0.3916 | 0.4127 | | 0.4064 | 0.4221 | | 0.3898 | 0.3716 |
| | 0.3743 | 0.3502 | | 0.3869 | 0.3958 | | 0.4006 | 0.4044 | | 0.3848 | 0.3565 |
| | 0.3640 | 0.3440 | | 0.3736 | 0.3874 | | 0.3869 | 0.3958 | | 0.3743 | 0.3502 |
| 6A1 | 0.3889 | 0.3690 | 6A2 | 0.3915 | 0.3768 | 6A3 | 0.3981 | 0.3800 | 6A4 | 0.3953 | 0.3720 |
| | 0.3915 | 0.3768 | | 0.3941 | 0.3848 | | 0.4010 | 0.3882 | | 0.3981 | 0.3800 |
| | 0.3981 | 0.3800 | | 0.4010 | 0.3882 | | 0.4080 | 0.3916 | | 0.4048 | 0.3832 |
| | 0.3953 | 0.3720 | | 0.3981 | 0.3800 | | 0.4048 | 0.3832 | | 0.4017 | 0.3751 |
| 6B1 | 0.3941 | 0.3848 | 6B2 | 0.3968 | 0.3930 | 6B3 | 0.4040 | 0.3966 | 6B4 | 0.4010 | 0.3882 |
| | 0.3968 | 0.3930 | | 0.3996 | 0.4015 | | 0.4071 | 0.4052 | | 0.4040 | 0.3966 |
| | 0.4040 | 0.3966 | | 0.4071 | 0.4052 | | 0.4146 | 0.4089 | | 0.4113 | 0.4001 |
| | 0.4010 | 0.3882 | | 0.4040 | 0.3966 | | 0.4113 | 0.4001 | | 0.4080 | 0.3916 |
| 6C1 | 0.4080 | 0.3916 | 6C2 | 0.4113 | 0.4001 | 6C3 | 0.4186 | 0.4037 | 6C4 | 0.4150 | 0.3950 |
| | 0.4113 | 0.4001 | | 0.4146 | 0.4089 | | 0.4222 | 0.4127 | | 0.4186 | 0.4037 |
| | 0.4186 | 0.4037 | | 0.4222 | 0.4127 | | 0.4299 | 0.4165 | | 0.4259 | 0.4073 |
| | 0.4150 | 0.3950 | | 0.4186 | 0.4037 | | 0.4259 | 0.4073 | | 0.4221 | 0.3984 |
| 6D1 | 0.4017 | 0.3751 | 6D2 | 0.4048 | 0.3832 | 6D3 | 0.4116 | 0.3865 | 6D4 | 0.4082 | 0.3782 |
| | 0.4048 | 0.3832 | | 0.4080 | 0.3916 | | 0.4150 | 0.3950 | | 0.4116 | 0.3865 |
| | 0.4116 | 0.3865 | | 0.4150 | 0.3950 | | 0.4221 | 0.3984 | | 0.4183 | 0.3898 |
| | 0.4082 | 0.3782 | | 0.4116 | 0.3865 | | 0.4183 | 0.3898 | | 0.4147 | 0.3814 |
| 6R | 0.3889 | 0.3690 | 6S | 0.4054 | 0.4191 | 6T | 0.4217 | 0.4273 | 6U | 0.4017 | 0.3751 |
| | 0.4017 | 0.3751 | | 0.4217 | 0.4273 | | 0.4382 | 0.4356 | | 0.4147 | 0.3814 |
| | 0.3957 | 0.3596 | | 0.4146 | 0.4089 | | 0.4299 | 0.4165 | | 0.4077 | 0.3652 |
| | 0.3840 | 0.3540 | | 0.3996 | 0.4015 | | 0.4146 | 0.4089 | | 0.3957 | 0.3596 |

PERFORMANCE GROUPS – CHROMATICITY (CONTINUED)

| Region | x | y | Region | x | y | Region | x | y | Region | x | y |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 7A | 0.4221 | 0.3985 | 7B | 0.4299 | 0.4165 | 7C | 0.4430 | 0.4212 | 7D | 0.4342 | 0.4028 |
| | 0.4342 | 0.4028 | | 0.4430 | 0.4212 | | 0.4562 | 0.426 | | 0.4465 | 0.4071 |
| | 0.4260 | 0.3853 | | 0.4342 | 0.4028 | | 0.4465 | 0.4071 | | 0.4373 | 0.3893 |
| | 0.4147 | 0.3814 | | 0.4221 | 0.3985 | | 0.4342 | 0.4028 | | 0.4260 | 0.3853 |
| 7A1 | 0.4147 | 0.3814 | 7A2 | 0.4183 | 0.3898 | 7A3 | 0.4242 | 0.3919 | 7A4 | 0.4203 | 0.3833 |
| | 0.4183 | 0.3898 | | 0.4221 | 0.3984 | | 0.4281 | 0.4006 | | 0.4242 | 0.3919 |
| | 0.4242 | 0.3919 | | 0.4281 | 0.4006 | | 0.4342 | 0.4028 | | 0.4300 | 0.3939 |
| | 0.4203 | 0.3833 | | 0.4242 | 0.3919 | | 0.4300 | 0.3939 | | 0.4259 | 0.3853 |
| 7B1 | 0.4221 | 0.3984 | 7B2 | 0.4259 | 0.4073 | 7B3 | 0.4322 | 0.4096 | 7B4 | 0.4281 | 0.4006 |
| | 0.4259 | 0.4073 | | 0.4299 | 0.4165 | | 0.4364 | 0.4188 | | 0.4322 | 0.4096 |
| | 0.4322 | 0.4096 | | 0.4364 | 0.4188 | | 0.4430 | 0.4212 | | 0.4385 | 0.4119 |
| | 0.4281 | 0.4006 | | 0.4322 | 0.4096 | | 0.4385 | 0.4119 | | 0.4342 | 0.4028 |
| 7C1 | 0.4342 | 0.4028 | 7C2 | 0.4385 | 0.4119 | 7C3 | 0.4449 | 0.4141 | 7C4 | 0.4403 | 0.4049 |
| | 0.4385 | 0.4119 | | 0.4430 | 0.4212 | | 0.4496 | 0.4236 | | 0.4449 | 0.4141 |
| | 0.4449 | 0.4141 | | 0.4496 | 0.4236 | | 0.4562 | 0.4260 | | 0.4513 | 0.4164 |
| | 0.4403 | 0.4049 | | 0.4449 | 0.4141 | | 0.4513 | 0.4164 | | 0.4465 | 0.4071 |
| 7D1 | 0.4259 | 0.3853 | 7D2 | 0.4300 | 0.3939 | 7D3 | 0.4359 | 0.3960 | 7D4 | 0.4316 | 0.3873 |
| | 0.4300 | 0.3939 | | 0.4342 | 0.4028 | | 0.4403 | 0.4049 | | 0.4359 | 0.3960 |
| | 0.4359 | 0.3960 | | 0.4403 | 0.4049 | | 0.4465 | 0.4071 | | 0.4418 | 0.3981 |
| | 0.4316 | 0.3873 | | 0.4359 | 0.3960 | | 0.4418 | 0.3981 | | 0.4373 | 0.3893 |
| 8A | 0.4465 | 0.4071 | 8B | 0.4562 | 0.4260 | 8C | 0.4687 | 0.4289 | 8D | 0.4582 | 0.4099 |
| | 0.4582 | 0.4099 | | 0.4687 | 0.4289 | | 0.4813 | 0.4319 | | 0.4700 | 0.4126 |
| | 0.4483 | 0.3918 | | 0.4582 | 0.4099 | | 0.4700 | 0.4126 | | 0.4593 | 0.3944 |
| | 0.4373 | 0.3893 | | 0.4465 | 0.4071 | | 0.4582 | 0.4099 | | 0.4483 | 0.3918 |
| 8A1 | 0.4373 | 0.3893 | 8A2 | 0.4418 | 0.3981 | 8A3 | 0.4475 | 0.3994 | 8A4 | 0.4428 | 0.3906 |
| | 0.4418 | 0.3981 | | 0.4465 | 0.4071 | | 0.4523 | 0.4085 | | 0.4475 | 0.3994 |
| | 0.4475 | 0.3994 | | 0.4523 | 0.4085 | | 0.4582 | 0.4099 | | 0.4532 | 0.4008 |
| | 0.4428 | 0.3906 | | 0.4475 | 0.3994 | | 0.4532 | 0.4008 | | 0.4483 | 0.3919 |
| 8B1 | 0.4465 | 0.4071 | 8B2 | 0.4513 | 0.4164 | 8B3 | 0.4573 | 0.4178 | 8B4 | 0.4523 | 0.4085 |
| | 0.4513 | 0.4164 | | 0.4562 | 0.4260 | | 0.4624 | 0.4274 | | 0.4573 | 0.4178 |
| | 0.4573 | 0.4178 | | 0.4624 | 0.4274 | | 0.4687 | 0.4289 | | 0.4634 | 0.4193 |
| | 0.4523 | 0.4085 | | 0.4573 | 0.4178 | | 0.4634 | 0.4193 | | 0.4582 | 0.4099 |
| 8C1 | 0.4582 | 0.4099 | 8C2 | 0.4634 | 0.4193 | 8C3 | 0.4695 | 0.4207 | 8C4 | 0.4641 | 0.4112 |
| | 0.4634 | 0.4193 | | 0.4687 | 0.4289 | | 0.4750 | 0.4304 | | 0.4695 | 0.4207 |
| | 0.4695 | 0.4207 | | 0.4750 | 0.4304 | | 0.4813 | 0.4319 | | 0.4756 | 0.4221 |
| | 0.4641 | 0.4112 | | 0.4695 | 0.4207 | | 0.4756 | 0.4221 | | 0.4700 | 0.4126 |
| 8D1 | 0.4483 | 0.3919 | 8D2 | 0.4532 | 0.4008 | 8D3 | 0.4589 | 0.4021 | 8D4 | 0.4538 | 0.3931 |
| | 0.4532 | 0.4008 | | 0.4582 | 0.4099 | | 0.4641 | 0.4112 | | 0.4589 | 0.4021 |
| | 0.4589 | 0.4021 | | 0.4641 | 0.4112 | | 0.4700 | 0.4126 | | 0.4646 | 0.4034 |
| | 0.4538 | 0.3931 | | 0.4589 | 0.4021 | | 0.4646 | 0.4034 | | 0.4593 | 0.3944 |

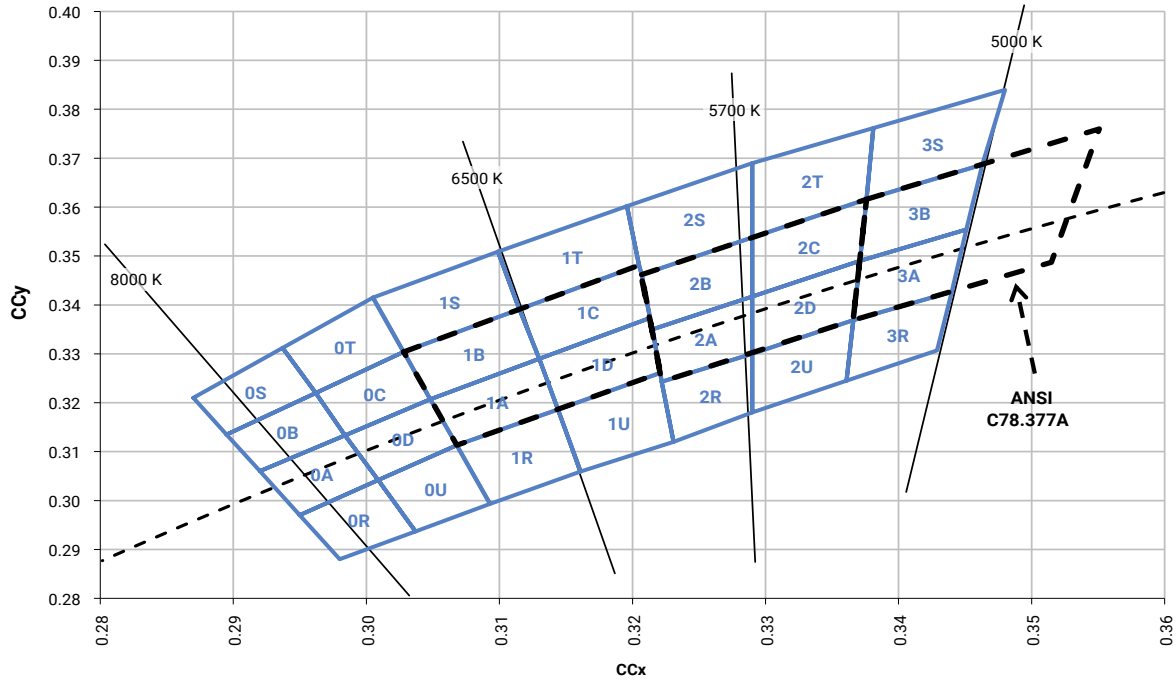
PERFORMANCE GROUPS - CHROMATICITY (CONTINUED)

XLamp XB-D PC amber LEDs are placed into the region defined by the following bounding coordinates.

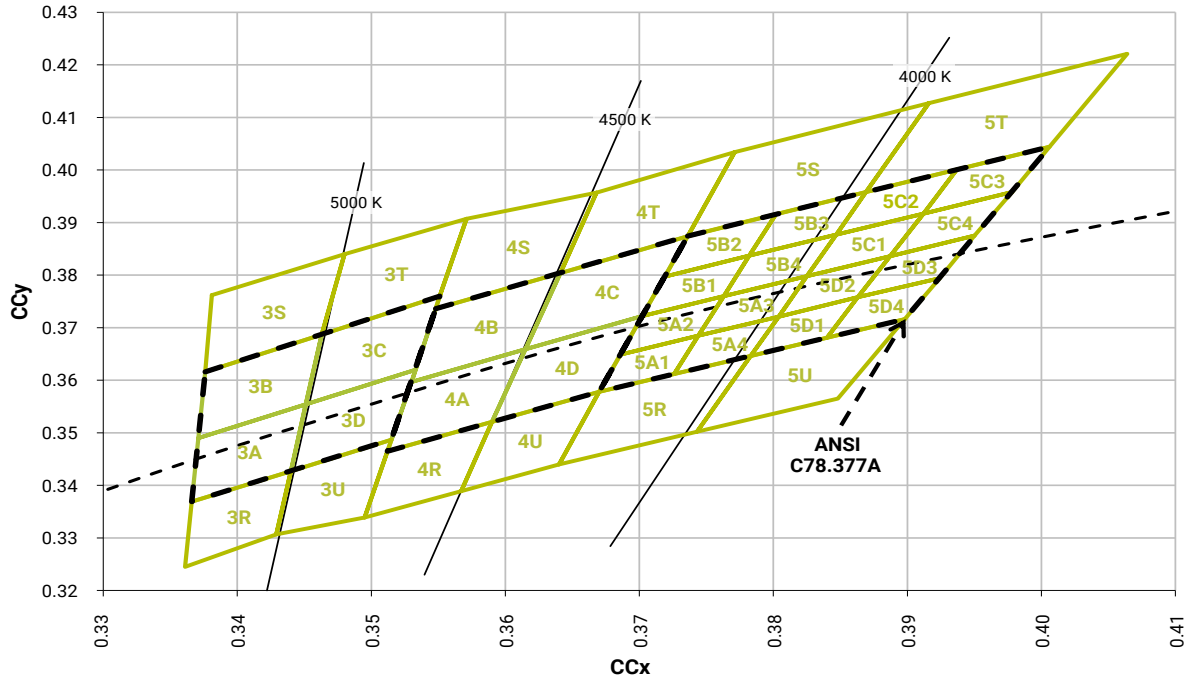
| Region | x | y |
|--------|--------|--------|
| Y2 | 0.5469 | 0.4249 |
| | 0.5700 | 0.4100 |
| | 0.5900 | 0.4100 |
| | 0.5610 | 0.4390 |

CREE'S STANDARD CHROMATICITY REGIONS PLOTTED ON THE 1931 CIE CURVE

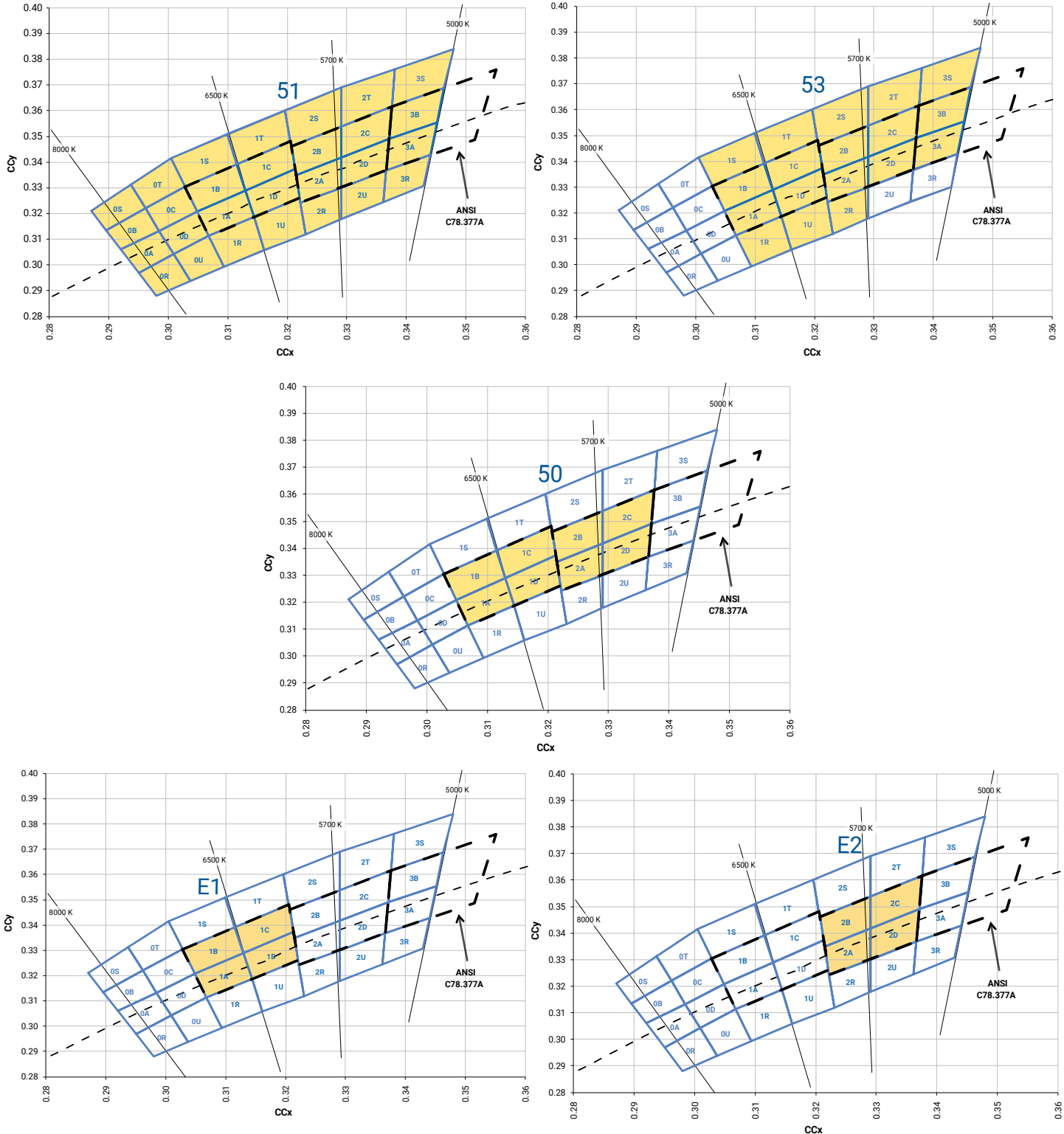
ANSI Cool White



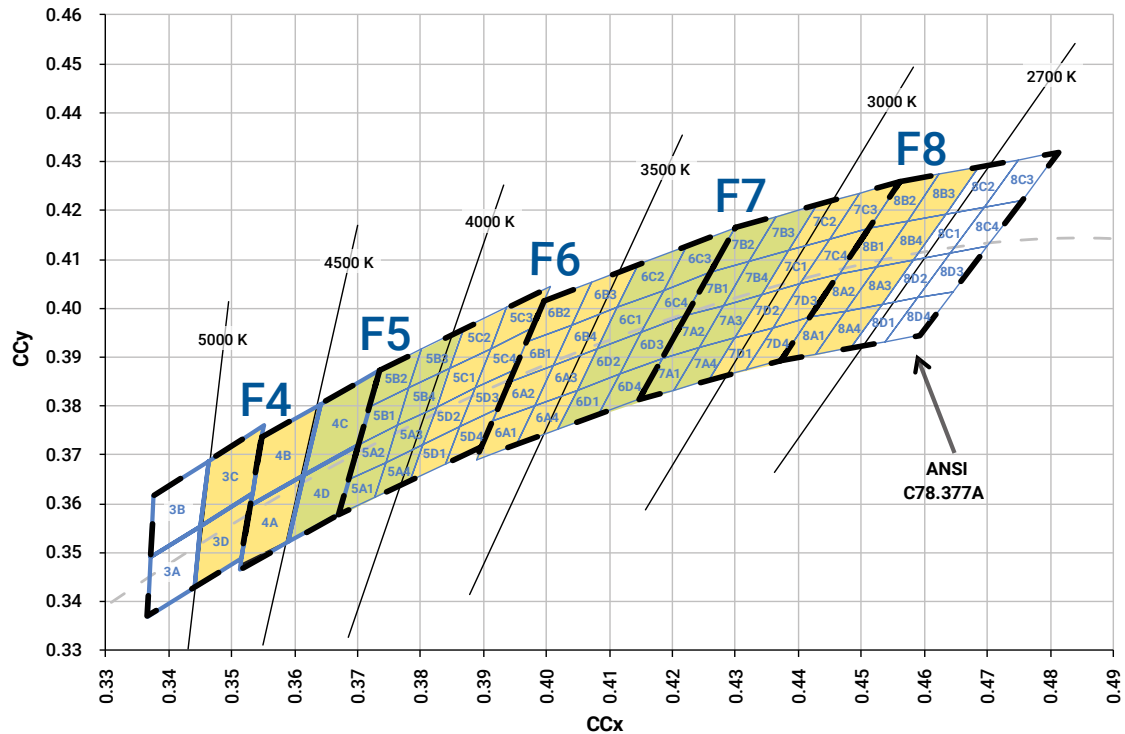
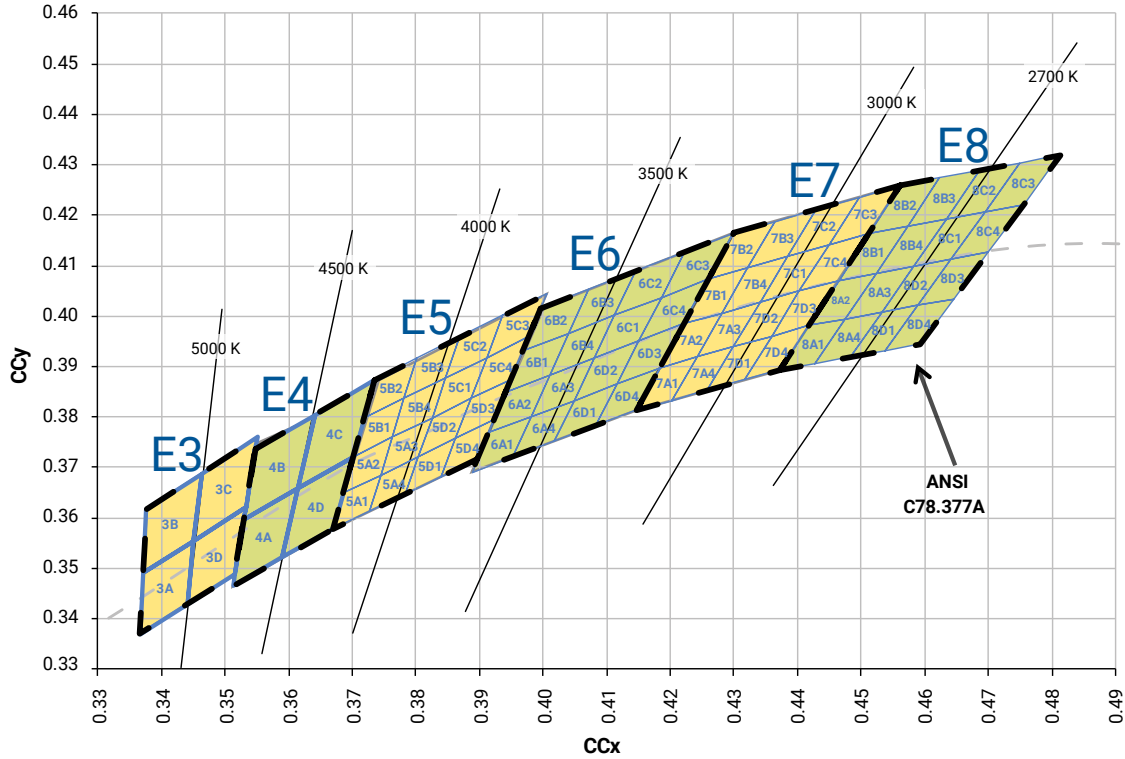
Outdoor White



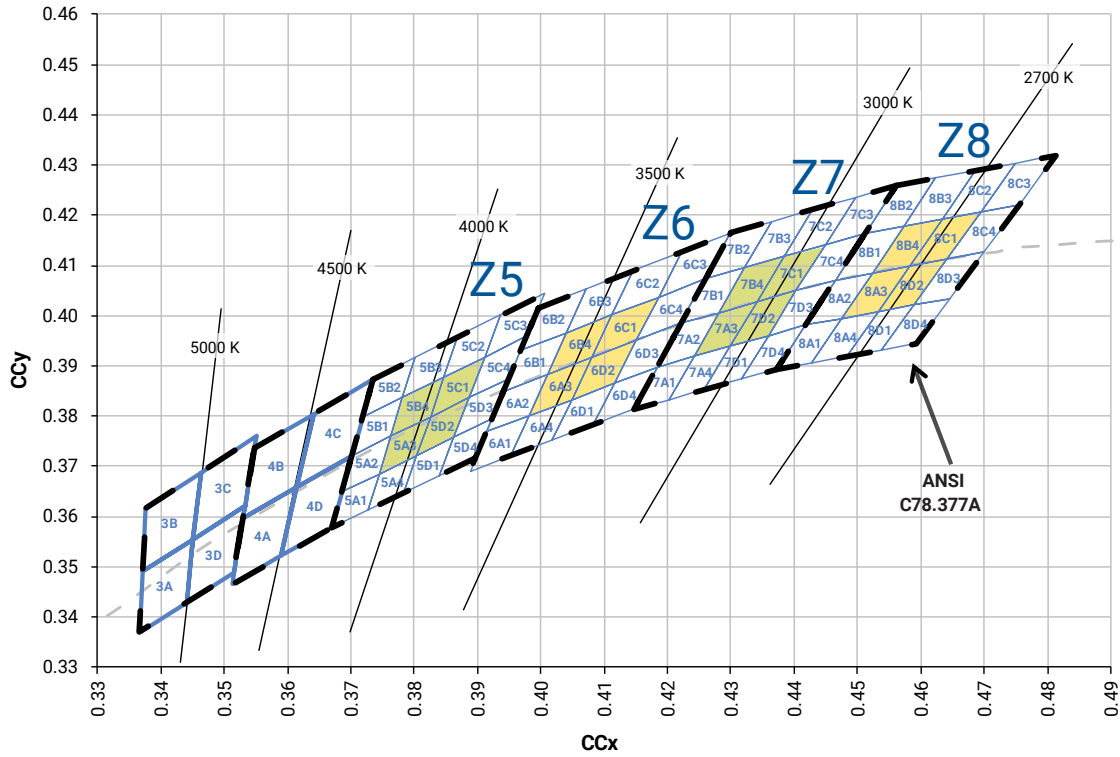
CREE'S STANDARD COOL WHITE KITS PLOTTED ON ANSI STANDARD CHROMATICITY REGIONS



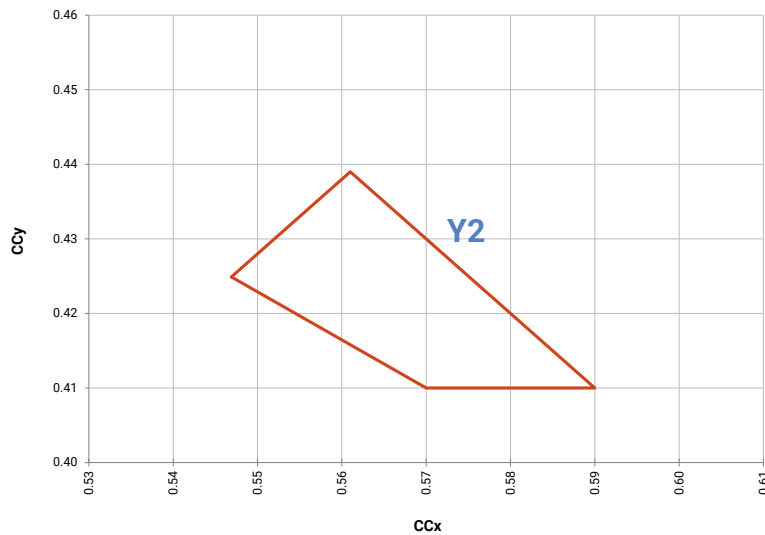
CREE'S STANDARD WARM AND NEUTRAL WHITE KITS PLOTTED ON ANSI STANDARD CHROMATICITY REGIONS



CREE'S STANDARD WARM AND NEUTRAL WHITE KITS PLOTTED ON ANSI STANDARD CHROMATICITY REGIONS - CONTINUED



CREE'S PC AMBER KIT PLOTTED ON THE 1931 CIE CURVE



CREE'S STANDARD CHROMATICITY KITS

The following table provides the chromaticity bins associated with chromaticity kits, which are specified as part of the order code.

| Color | Kit | Chromaticity Bins |
|---------------|-----|--|
| Cool White | 51 | 0A, 0B, 0C, 0D, 0R, 0S, 0T, 0U, 1A, 1B, 1C, 1D, 1R, 1S, 1T, 1U, 2A, 2B, 2C, 2D, 2R, 2S, 2T, 2U, 3A, 3B, 3R, 3S |
| | 53 | 1A, 1B, 1C, 1D, 1R, 1S, 1T, 1U, 2A, 2B, 2C, 2D, 2R, 2S, 2T, 3A, 3B, 3S |
| | 50 | 1A, 1B, 1C, 1D, 2A, 2B, 2C, 2D |
| | E1 | 1A, 1B, 1C, 1D |
| | E2 | 2A, 2B, 2C, 2D |
| Neutral White | E3 | 3A, 3B, 3C, 3D |
| | F4 | 3C, 3D, 4A, 4B |
| | E4 | 4A, 4B, 4C, 4D |
| | F5 | 4C, 4D, 5A1, 5A2, 5A3, 5A4, 5B1, 5B2, 5B3, 5B4 |
| | E5 | 5A1, 5A2, 5A3, 5A4, 5B1, 5B2, 5B3, 5B4, 5C1, 5C2, 5C3, 5C4, 5D1, 5D2, 5D3, 5D4 |
| | Z5 | 5A3, 5B4, 5C1, 5D2 |
| Warm White | F6 | 5C1, 5C2, 5C3, 5C4, 5D1, 5D2, 5D3, 5D4, 6A1, 6A2, 6A3, 6A4, 6B1, 6B2, 6B3, 6B4 |
| | E6 | 6A1, 6A2, 6A3, 6A4, 6B1, 6B2, 6B3, 6B4, 6C1, 6C2, 6C3, 6C4, 6D1, 6D2, 6D3, 6D4 |
| | Z6 | 6A3, 6B4, 6C1, 6D2 |
| | F7 | 6C1, 6C2, 6C3, 6C4, 6D1, 6D2, 6D3, 6D4, 7A1, 7A2, 7A3, 7A4, 7B1, 7B2, 7B3, 7B4 |
| | E7 | 7A1, 7A2, 7A3, 7A4, 7B1, 7B2, 7B3, 7B4, 7C1, 7C2, 7C3, 7C4, 7D1, 7D2, 7D3, 7D4 |
| | Z7 | 7A3, 7B4, 7C1, 7D2 |
| | F8 | 7C1, 7C2, 7C3, 7C4, 7D1, 7D2, 7D3, 7D4, 8A1, 8A2, 8A3, 8A4, 8B1, 8B2, 8B3, 8B4 |
| | E8 | 8A1, 8A2, 8A3, 8A4, 8B1, 8B2, 8B3, 8B4, 8C1, 8C2, 8C3, 8C4, 8D1, 8D2, 8D3, 8D4 |
| | Z8 | 8A3, 8B4, 8C1, 8D2 |

The following tables of order codes list flux minimums and chromaticity regions for the various categories of XLamp XB family LEDs. For other flux and chromaticity combinations, contact Cree or an authorized distributor.

STANDARD ORDER CODES AND BINS (XB-D ANSI COOL WHITE, $T_j = 85^\circ\text{C}$)

| XLamp XB-D LED Standard Kit Codes - White | | | | | | |
|---|--------|--------------------------------------|-----------|--------------------------|--------------------------|--------------------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | 70 CRI Minimum | 80 CRI Mimimum |
| ANSI Cool White (5000 K – 8300 K) | | | | | | |
| 51 | 6200 K | R4 | 130 | XBDAWT-00-0000-000000G51 | XBDAWT-00-0000-00000BG51 | |
| | | R3 | 122 | XBDAWT-00-0000-000000F51 | XBDAWT-00-0000-00000BF51 | XBDAWT-00-0000-00000HF51 |
| | | R2 | 114 | XBDAWT-00-0000-000000E51 | XBDAWT-00-0000-00000BE51 | XBDAWT-00-0000-00000HE51 |
| 53 | 6000 K | R4 | 130 | XBDAWT-00-0000-000000G53 | XBDAWT-00-0000-00000BG53 | |
| | | R3 | 122 | XBDAWT-00-0000-000000F53 | XBDAWT-00-0000-00000BF53 | XBDAWT-00-0000-00000HF53 |
| | | R2 | 114 | XBDAWT-00-0000-000000E53 | XBDAWT-00-0000-00000BE53 | XBDAWT-00-0000-00000HE53 |
| 50 | 6200 K | R4 | 130 | XBDAWT-00-0000-000000G50 | XBDAWT-00-0000-00000BG50 | |
| | | R3 | 122 | XBDAWT-00-0000-000000F50 | XBDAWT-00-0000-00000BF50 | XBDAWT-00-0000-00000HF50 |
| | | R2 | 114 | XBDAWT-00-0000-000000E50 | XBDAWT-00-0000-00000BE50 | XBDAWT-00-0000-00000HE50 |
| E1 | 6500 K | R4 | 130 | XBDAWT-00-0000-000000GE1 | XBDAWT-00-0000-00000BGE1 | |
| | | R3 | 122 | XBDAWT-00-0000-000000FE1 | XBDAWT-00-0000-00000BFE1 | XBDAWT-00-0000-00000HFE1 |
| | | R2 | 114 | XBDAWT-00-0000-000000EE1 | XBDAWT-00-0000-00000BEE1 | XBDAWT-00-0000-00000HEE1 |
| E2 | 5700 K | R4 | 130 | XBDAWT-00-0000-000000GE2 | XBDAWT-00-0000-00000BGE2 | |
| | | R3 | 122 | XBDAWT-00-0000-000000FE2 | XBDAWT-00-0000-00000BFE2 | XBDAWT-00-0000-00000HFE2 |
| | | R2 | 114 | XBDAWT-00-0000-000000EE2 | XBDAWT-00-0000-00000BEE2 | XBDAWT-00-0000-00000HEE2 |

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-D NEUTRAL WHITE, T_j = 85 °C)

| XLamp XB-D LED Standard Kit Codes - White | | | | | | | |
|---|--------|--------------------------------------|-----------|--------------------------|---------------------------|---------------------------|---------------------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes | | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | 70 CRI Minimum | Standard CRI | 80 CRI Minimum |
| ANSI Neutral White (3700 K – 5000 K) | | | | | | | |
| E3 | 5000 K | R4 | 130 | XBDAWT-00-0000-000000GE3 | XBDAWT-00-0000-000000BGE3 | | |
| | | R3 | 122 | XBDAWT-00-0000-000000FE3 | XBDAWT-00-0000-000000BFE3 | | XBDAWT-00-0000-000000HFE3 |
| | | R2 | 114 | XBDAWT-00-0000-000000EE3 | XBDAWT-00-0000-000000BEE3 | XBDAWT-00-0000-000000LEE3 | XBDAWT-00-0000-000000HEE3 |
| | | Q5 | 107 | | | XBDAWT-00-0000-000000LDE3 | |
| | | Q4 | 100 | | | XBDAWT-00-0000-000000LCE3 | |
| F4 | 4750 K | R4 | 130 | XBDAWT-00-0000-000000GF4 | XBDAWT-00-0000-000000BGF4 | | |
| | | R3 | 122 | XBDAWT-00-0000-000000FF4 | XBDAWT-00-0000-000000BFF4 | | XBDAWT-00-0000-000000HFF4 |
| | | R2 | 114 | | | XBDAWT-00-0000-000000LEF4 | XBDAWT-00-0000-000000HEF4 |
| | | Q5 | 107 | | | XBDAWT-00-0000-000000LDF4 | XBDAWT-00-0000-000000HDF4 |
| | | Q4 | 100 | | | XBDAWT-00-0000-000000LCF4 | |
| E4 | 4500 K | R4 | 130 | XBDAWT-00-0000-000000GE4 | XBDAWT-00-0000-000000BGE4 | | |
| | | R3 | 122 | XBDAWT-00-0000-000000FE4 | XBDAWT-00-0000-000000BFE4 | | XBDAWT-00-0000-000000HFE4 |
| | | R2 | 114 | | | | XBDAWT-00-0000-000000HEE4 |
| | | Q5 | 107 | | | XBDAWT-00-0000-000000LDE4 | XBDAWT-00-0000-000000HDE4 |
| | | Q4 | 100 | | | XBDAWT-00-0000-000000LCE4 | |
| F5 | 4250 K | R3 | 122 | XBDAWT-00-0000-000000FF5 | XBDAWT-00-0000-000000BFF5 | | |
| | | R2 | 114 | XBDAWT-00-0000-000000EF5 | XBDAWT-00-0000-000000BEF5 | | XBDAWT-00-0000-000000HEF5 |
| | | Q5 | 107 | | | XBDAWT-00-0000-000000LDF5 | XBDAWT-00-0000-000000HDF5 |
| | | Q4 | 100 | | | XBDAWT-00-0000-000000LCF5 | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-000000LBF5 | |
| E5 | 4000 K | R3 | 122 | XBDAWT-00-0000-000000FE5 | XBDAWT-00-0000-000000BFE5 | | |
| | | R2 | 114 | XBDAWT-00-0000-000000EE5 | XBDAWT-00-0000-000000BEE5 | | XBDAWT-00-0000-000000HEE5 |
| | | Q5 | 107 | | | XBDAWT-00-0000-000000LDE5 | XBDAWT-00-0000-000000HDE5 |
| | | Q4 | 100 | | | XBDAWT-00-0000-000000LCE5 | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-000000LBE5 | |

- Typical (Standard) CRI for Neutral White, 3700 K - 5000 K CCT is 75.

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-D WARM WHITE, $T_j = 85\text{ }^\circ\text{C}$)

| XLamp XB-D LED Standard Kit Codes - White | | | | | | | | |
|---|--------|--------------------------------------|-----------|-------------------------|--------------------------|--------------------------|--------------------------|----------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes | | | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | 70 CRI Minimum | Standard CRI | 80 CRI Minimum | 90 CRI Minimum |
| ANSI Warm White (2700 K - 3750 K) | | | | | | | | |
| F6 | 3750 K | R3 | 122 | XBDAWT-00-0000-00000FF6 | XBDAWT-00-0000-00000BFF6 | | | |
| | | R2 | 114 | XBDAWT-00-0000-00000EF6 | XBDAWT-00-0000-00000BEF6 | | XBDAWT-00-0000-00000HEF6 | |
| | | Q5 | 107 | XBDAWT-00-0000-00000DF6 | XBDAWT-00-0000-00000BDF6 | XBDAWT-00-0000-00000LDF6 | XBDAWT-00-0000-00000HDF6 | |
| | | Q4 | 100 | | | XBDAWT-00-0000-00000LCF6 | | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-00000LBF6 | | |
| E6 | 3500 K | R3 | 122 | XBDAWT-00-0000-00000FE6 | XBDAWT-00-0000-00000BEF6 | | | |
| | | R2 | 114 | XBDAWT-00-0000-00000EE6 | XBDAWT-00-0000-00000BEE6 | | XBDAWT-00-0000-00000HEE6 | |
| | | Q5 | 107 | XBDAWT-00-0000-00000DE6 | XBDAWT-00-0000-00000BDE6 | XBDAWT-00-0000-00000LDE6 | XBDAWT-00-0000-00000HDE6 | |
| | | Q4 | 100 | | | XBDAWT-00-0000-00000LCE6 | | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-00000LBE6 | | |
| F7 | 3250 K | R3 | 122 | XBDAWT-00-0000-00000FF7 | XBDAWT-00-0000-00000BFF7 | | | |
| | | R2 | 114 | XBDAWT-00-0000-00000EF7 | XBDAWT-00-0000-00000BEF7 | | XBDAWT-00-0000-00000HEF7 | |
| | | Q5 | 107 | XBDAWT-00-0000-00000DF7 | XBDAWT-00-0000-00000BDF7 | | XBDAWT-00-0000-00000HDF7 | |
| | | Q4 | 100 | | | XBDAWT-00-0000-00000LCF7 | | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-00000LBF7 | | |
| | | Q2 | 87.4 | | | XBDAWT-00-0000-00000LAF7 | | |

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-D WARM WHITE, $T_j = 85\text{ }^\circ\text{C}$) - CONTINUED

| XLamp XB-D LED Standard Kit Codes - White | | | | | | | | |
|---|--------|--------------------------------------|-----------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes | | | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | 70 CRI Minimum | Standard CRI | 80 CRI Minimum | 90 CRI Minimum |
| ANSI Warm White (2700 K - 3750 K) | | | | | | | | |
| E7 | 3000 K | R3 | 122 | XBDAWT-00-0000-00000FE7 | XBDAWT-00-0000-00000BFE7 | | | |
| | | R2 | 114 | XBDAWT-00-0000-00000EE7 | XBDAWT-00-0000-00000BEE7 | | XBDAWT-00-0000-00000HEE7 | |
| | | Q5 | 107 | XBDAWT-00-0000-00000DE7 | XBDAWT-00-0000-00000BDE7 | | XBDAWT-00-0000-00000HDE7 | |
| | | Q4 | 100 | | | XBDAWT-00-0000-00000LCE7 | | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-00000LBE7 | | |
| | | Q2 | 87.4 | | | XBDAWT-00-0000-00000LAE7 | | XBDAWT-00-0000-00000UAE7 |
| | | P4 | 80.6 | | | | | XBDAWT-00-0000-00000U9E7 |
| F8 | 2850 K | R2 | 114 | XBDAWT-00-0000-00000EF8 | XBDAWT-00-0000-00000BEF8 | | | |
| | | Q5 | 107 | XBDAWT-00-0000-00000DF8 | XBDAWT-00-0000-00000BDF8 | | XBDAWT-00-0000-00000HDF8 | |
| | | Q4 | 100 | XBDAWT-00-0000-00000CF8 | XBDAWT-00-0000-00000BCF8 | | XBDAWT-00-0000-00000HCF8 | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-00000LBF8 | | |
| | | Q2 | 87.4 | | | XBDAWT-00-0000-00000LAF8 | | XBDAWT-00-0000-00000UAF8 |
| | | P4 | 80.6 | | | XBDAWT-00-0000-00000L9F8 | | XBDAWT-00-0000-00000U9F8 |

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-D WARM WHITE, T_j = 85 °C) - CONTINUED

| XLamp XB-D LED Standard Kit Codes - White | | | | | | | | |
|---|--------|--------------------------------------|-----------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes | | | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | 70 CRI Minimum | Standard CRI | 80 CRI Minimum | 90 CRI Minimum |
| ANSI Warm White (2700 K - 3750 K) | | | | | | | | |
| E8 | 2700 K | R2 | 114 | XBDAWT-00-0000-00000EE8 | XBDAWT-00-0000-00000BEE8 | | | |
| | | Q5 | 107 | XBDAWT-00-0000-00000DE8 | XBDAWT-00-0000-00000BDE8 | | XBDAWT-00-0000-00000HDE8 | |
| | | Q4 | 100 | XBDAWT-00-0000-00000CE8 | XBDAWT-00-0000-00000BCE8 | | XBDAWT-00-0000-00000HCE8 | |
| | | Q3 | 93.9 | | | XBDAWT-00-0000-00000LBE8 | | |
| | | Q2 | 87.4 | | | XBDAWT-00-0000-00000LAE8 | | XBDAWT-00-0000-00000UAE8 |
| | | P4 | 80.6 | | | XBDAWT-00-0000-00000L9E8 | | XBDAWT-00-0000-00000U9E8 |

- Typical (Standard) CRI for Warm White, 2600 K - 3700 K CCT is 80.

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-D COLOR, T_j = 25 °C)

| XLamp XB-D LED Standard Kit Codes - Royal Blue | | | | |
|--|--------------------------|-------------------------------------|-----------|--------------------------|
| Royal Blue | | Minimum Radiant Flux (mW) @ 350 mA* | | Order Codes |
| Kit | Dominant Wavelength (nm) | Code | Flux (mW) | |
| 01 | 450 - 465 | 38 | 650 | XBDROY-00-0000-000000S01 |
| | | 37 | 625 | XBDROY-00-0000-000000R01 |
| | | 36 | 600 | XBDROY-00-0000-000000Q01 |
| | | 35 | 575 | XBDROY-00-0000-000000P01 |
| | | 34 | 550 | XBDROY-00-0000-000000N01 |
| 02 | 450 - 460 | 38 | 650 | XBDROY-00-0000-000000S02 |
| | | 37 | 625 | XBDROY-00-0000-000000R02 |
| | | 36 | 600 | XBDROY-00-0000-000000Q02 |
| | | 35 | 575 | XBDROY-00-0000-000000P02 |
| | | 34 | 550 | XBDROY-00-0000-000000N02 |
| 03 | 455 - 465 | 37 | 625 | XBDROY-00-0000-000000R03 |
| | | 36 | 600 | XBDROY-00-0000-000000Q03 |
| | | 35 | 575 | XBDROY-00-0000-000000P03 |
| | | 34 | 550 | XBDROY-00-0000-000000N03 |
| 04 | 450 - 455 | 38 | 650 | XBDROY-00-0000-000000S04 |
| | | 37 | 625 | XBDROY-00-0000-000000R04 |
| | | 36 | 600 | XBDROY-00-0000-000000Q04 |
| | | 35 | 575 | XBDROY-00-0000-000000P04 |
| 05 | 455 - 460 | 37 | 625 | XBDROY-00-0000-000000R05 |
| | | 36 | 600 | XBDROY-00-0000-000000Q05 |
| | | 35 | 575 | XBDROY-00-0000-000000P05 |
| | | 34 | 550 | XBDROY-00-0000-000000N05 |
| 06 | 460 - 465 | 37 | 625 | XBDROY-00-0000-000000R06 |
| | | 36 | 600 | XBDROY-00-0000-000000Q06 |
| | | 35 | 575 | XBDROY-00-0000-000000P06 |
| 07 | 452.5 - 457.5 | 38 | 650 | XBDROY-00-0000-000000S07 |
| | | 37 | 625 | XBDROY-00-0000-000000R07 |
| | | 36 | 600 | XBDROY-00-0000-000000Q07 |
| 08 | 457.5 - 462.5 | 37 | 625 | XBDROY-00-0000-000000R08 |
| | | 36 | 600 | XBDROY-00-0000-000000Q08 |
| | | 35 | 575 | XBDROY-00-0000-000000P08 |
| 09 | 452.5 - 462.5 | 38 | 650 | XBDROY-00-0000-000000S07 |
| | | 37 | 625 | XBDROY-00-0000-000000R07 |
| | | 36 | 600 | XBDROY-00-0000-000000Q07 |

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-D COLOR, T_j = 25 °C) - CONTINUED

| XLamp XB-D LED Standard Kit Codes - Blue | | | | |
|--|--------------------------|--------------------------------------|-----------|--------------------------|
| Blue | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes |
| Kit | Dominant Wavelength (nm) | Code | Flux (lm) | |
| 01 | 465 - 485 | M2 | 39.8 | XBDBLU-00-0000-000000201 |
| | | K3 | 35.2 | XBDBLU-00-0000-000000Z01 |
| | | K2 | 30.6 | XBDBLU-00-0000-000000Y01 |
| 02 | 465 - 480 | M2 | 39.8 | XBDBLU-00-0000-000000202 |
| | | K3 | 35.2 | XBDBLU-00-0000-000000Z02 |
| | | K2 | 30.6 | XBDBLU-00-0000-000000Y02 |
| 05 | 470 - 480 | M2 | 39.8 | XBDBLU-00-0000-000000205 |
| | | K3 | 35.2 | XBDBLU-00-0000-000000Z05 |
| | | K2 | 30.6 | XBDBLU-00-0000-000000Y05 |

| XLamp XB-D LED Standard Kit Codes - Green | | | | |
|---|--------------------------|--------------------------------------|-----------|--------------------------|
| Green | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes |
| Kit | Dominant Wavelength (nm) | Code | Flux (lm) | |
| 01 | 520 - 535 | R2 | 114 | XBDGRN-00-0000-000000E01 |
| | | Q5 | 107 | XBDGRN-00-0000-000000D01 |
| | | Q4 | 100 | XBDGRN-00-0000-000000C01 |
| | | Q3 | 93.9 | XBDGRN-00-0000-000000B01 |
| | | Q2 | 87.4 | XBDGRN-00-0000-000000A01 |
| 02 | 520 - 530 | R2 | 114 | XBDGRN-00-0000-000000E02 |
| | | Q5 | 107 | XBDGRN-00-0000-000000D02 |
| | | Q4 | 100 | XBDGRN-00-0000-000000C02 |
| | | Q3 | 93.9 | XBDGRN-00-0000-000000B02 |
| | | Q2 | 87.4 | XBDGRN-00-0000-000000A02 |
| 03 | 525 - 535 | R2 | 114 | XBDGRN-00-0000-000000E03 |
| | | Q5 | 107 | XBDGRN-00-0000-000000D03 |
| | | Q4 | 100 | XBDGRN-00-0000-000000C03 |
| | | Q3 | 93.9 | XBDGRN-00-0000-000000B03 |
| | | Q2 | 87.4 | XBDGRN-00-0000-000000A03 |

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-D COLOR, T_j = 25 °C) - CONTINUED

| XLamp XB-D LED Standard Kit Codes - PC Amber | | | | |
|--|-----------|--------------------------------------|-----------|--------------------------|
| PC Amber | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes |
| Kit | Color Bin | Group | Flux (lm) | |
| 01 | Y2 | Q4 | 100 | XBDBPA-00-0000-000000C01 |
| | | Q3 | 93.9 | XBDBPA-00-0000-000000B01 |
| | | Q2 | 87.4 | XBDBPA-00-0000-000000A01 |

| XLamp XB-D LED Standard Kit Codes - Amber | | | | |
|---|--------------------------|--------------------------------------|-----------|--------------------------|
| Amber | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes |
| Kit | Dominant Wavelength (nm) | Code | Flux (lm) | |
| 01 | 585 - 595 | P4 | 80.6 | XBDAMB-00-0000-000000901 |
| | | P3 | 73.9 | XBDAMB-00-0000-000000801 |
| | | P2 | 67.2 | XBDAMB-00-0000-000000701 |
| | | N4 | 62 | XBDAMB-00-0000-000000601 |
| | | N3 | 56.8 | XBDAMB-00-0000-000000501 |
| 03 | 590 - 595 | P3 | 73.9 | XBDAMB-00-0000-000000803 |
| | | P2 | 67.2 | XBDAMB-00-0000-000000703 |
| | | N4 | 62 | XBDAMB-00-0000-000000603 |
| | | N3 | 56.8 | XBDAMB-00-0000-000000503 |

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STANDARD ORDER CODES AND BINS (XB-D COLOR, T_j = 25 °C) - CONTINUED

| XLamp XB-D LED Standard Kit Codes - Red-Orange | | | | |
|--|--------------------------|--------------------------------------|-----------|--------------------------|
| Red-Orange | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes |
| Kit | Dominant Wavelength (nm) | Code | Flux (lm) | |
| 01 | 610 - 620 | Q5 | 107 | XBDRDO-00-0000-000000D01 |
| | | Q4 | 100 | XBDRDO-00-0000-000000C01 |
| | | Q3 | 93.9 | XBDRDO-00-0000-000000B01 |
| | | Q2 | 87.4 | XBDRDO-00-0000-000000A01 |
| | | P4 | 80.6 | XBDRDO-00-0000-000000901 |
| | | P3 | 73.9 | XBDRDO-00-0000-000000801 |
| 02 | 610 - 615 | Q5 | 107 | XBDRDO-00-0000-000000D02 |
| | | Q4 | 100 | XBDRDO-00-0000-000000C02 |
| | | Q3 | 93.9 | XBDRDO-00-0000-000000B02 |
| | | Q2 | 87.4 | XBDRDO-00-0000-000000A02 |
| | | P4 | 80.6 | XBDRDO-00-0000-000000902 |
| | | P3 | 73.9 | XBDRDO-00-0000-000000802 |
| 03 | 615 - 620 | Q4 | 100 | XBDRDO-00-0000-000000C03 |
| | | Q3 | 93.9 | XBDRDO-00-0000-000000B03 |
| | | Q2 | 87.4 | XBDRDO-00-0000-000000A03 |
| | | P4 | 80.6 | XBDRDO-00-0000-000000903 |
| | | P3 | 73.9 | XBDRDO-00-0000-000000803 |

| XLamp XB-D LED Standard Kit Codes - Red | | | | |
|---|--------------------------|--------------------------------------|-----------|--------------------------|
| Red | | Minimum Luminous Flux (lm) @ 350 mA* | | Order Codes |
| Kit | Dominant Wavelength (nm) | Code | Flux (lm) | |
| 01 | 620 - 630 | P3 | 73.9 | XBDRED-00-0000-000000801 |
| | | P2 | 67.2 | XBDRED-00-0000-000000701 |
| | | N4 | 62 | XBDRED-00-0000-000000601 |
| | | N3 | 56.8 | XBDRED-00-0000-000000501 |
| | | N2 | 51.7 | XBDRED-00-0000-000000401 |
| 02 | 620 - 625 | P3 | 73.9 | XBDRED-00-0000-000000802 |
| | | P2 | 67.2 | XBDRED-00-0000-000000702 |
| | | N4 | 62 | XBDRED-00-0000-000000602 |
| | | N3 | 56.8 | XBDRED-00-0000-000000502 |
| | | N2 | 51.7 | XBDRED-00-0000-000000402 |

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-H ANSI COOL WHITE, $T_j = 85^\circ\text{C}$)

| XLamp XB-H LED Standard Kit Codes - White | | | | |
|---|--------|--------------------------------------|-----------|--------------------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 700 mA* | | Order Codes |
| Kit | CCT | Code | Flux (lm) | Standard CRI |
| ANSI Cool White (5000 K – 8300 K) | | | | |
| 51 | 6000 K | T6 | 280 | XBHAWT-00-0000-000LT6051 |
| | | T5 | 260 | XBHAWT-00-0000-000LT5051 |
| | | T4 | 240 | XBHAWT-00-0000-000LT4051 |
| | | T3 | 220 | XBHAWT-00-0000-000LT3051 |
| 53 | 5700 K | T6 | 280 | XBHAWT-00-0000-000LT6053 |
| | | T5 | 260 | XBHAWT-00-0000-000LT5053 |
| | | T4 | 240 | XBHAWT-00-0000-000LT4053 |
| | | T3 | 220 | XBHAWT-00-0000-000LT3053 |
| 50 | 6000 K | T6 | 280 | XBHAWT-00-0000-000LT6050 |
| | | T5 | 260 | XBHAWT-00-0000-000LT5050 |
| | | T4 | 240 | XBHAWT-00-0000-000LT4050 |
| | | T3 | 220 | XBHAWT-00-0000-000LT3050 |
| E1 | 6500 K | T6 | 280 | XBHAWT-00-0000-000LT60E1 |
| | | T5 | 260 | XBHAWT-00-0000-000LT50E1 |
| | | T4 | 240 | XBHAWT-00-0000-000LT40E1 |
| | | T3 | 220 | XBHAWT-00-0000-000LT30E1 |
| E2 | 5700 K | T6 | 280 | XBHAWT-00-0000-000LT60E2 |
| | | T5 | 260 | XBHAWT-00-0000-000LT50E2 |
| | | T4 | 240 | XBHAWT-00-0000-000LT40E2 |
| | | T3 | 220 | XBHAWT-00-0000-000LT30E2 |

* Cree XLamp XB Family LED order codes specify only a minimum flux bin and not a maximum. Cree may ship reels in flux bins higher than the minimum specified by the order code without advance notice. Shipments will always adhere to the chromaticity or DWL bin restrictions specified by the order code.

STANDARD ORDER CODES AND BINS (XB-H NEUTRAL WHITE, $T_j = 85\text{ }^\circ\text{C}$)

| XLamp XB-H LED Standard Kit Codes - White | | | | | | |
|---|--------|--------------------------------------|-----------|--------------------------|--------------------------|--------------------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 700 mA* | | Order Codes | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | Standard CRI | 80 CRI Minimum |
| ANSI Neutral White (3700 K – 5000 K) | | | | | | |
| E3 | 5000 K | T6 | 280 | XBHAWT-00-0000-0000T60E3 | XBHAWT-00-0000-000LT60E3 | |
| | | T5 | 260 | XBHAWT-00-0000-0000T50E3 | XBHAWT-00-0000-000LT50E3 | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40E3 | XBHAWT-00-0000-000LT40E3 | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30E3 | XBHAWT-00-0000-000LT30E3 | |
| F4 | 4750 K | T6 | 280 | XBHAWT-00-0000-0000T60F4 | | |
| | | T5 | 260 | XBHAWT-00-0000-0000T50F4 | XBHAWT-00-0000-000LT50F4 | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40F4 | XBHAWT-00-0000-000LT40F4 | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30F4 | XBHAWT-00-0000-000LT30F4 | |
| E4 | 4500 K | T6 | 280 | XBHAWT-00-0000-0000T60E4 | | |
| | | T5 | 260 | XBHAWT-00-0000-0000T50E4 | XBHAWT-00-0000-000LT50E4 | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40E4 | XBHAWT-00-0000-000LT40E4 | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30E4 | XBHAWT-00-0000-000LT30E4 | |
| F5 | 4300 K | T6 | 280 | XBHAWT-00-0000-0000T60F5 | | |
| | | T5 | 260 | XBHAWT-00-0000-0000T50F5 | XBHAWT-00-0000-000LT50F5 | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40F5 | XBHAWT-00-0000-000LT40F5 | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30F5 | XBHAWT-00-0000-000LT30F5 | |
| E5 | 4000 K | T6 | 280 | XBHAWT-00-0000-0000T60E5 | | |
| | | T5 | 260 | XBHAWT-00-0000-0000T50E5 | XBHAWT-00-0000-000LT50E5 | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40E5 | XBHAWT-00-0000-000LT40E5 | XBHAWT-00-0000-000HT40E5 |
| | | T3 | 220 | XBHAWT-00-0000-0000T30E5 | XBHAWT-00-0000-000LT30E5 | XBHAWT-00-0000-000HT30E5 |
| Z5 | 4000 K | T4 | 240 | | XBHAWT-00-0000-000LT40Z5 | XBHAWT-00-0000-000HT40Z5 |
| | | T3 | 220 | | XBHAWT-00-0000-000LT30Z5 | XBHAWT-00-0000-000HT30Z5 |

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STANDARD ORDER CODES AND BINS (XB-H WARM WHITE, T_j = 85 °C)

| XLamp XB-H LED Standard Kit Codes - White | | | | | | | | | |
|---|--------|--------------------------------------|-----------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|
| Chromaticity | | Minimum Luminous Flux (lm) @ 700 mA* | | Order Codes | | | | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | Standard CRI | 80 CRI Minimum | 85 CRI Minimum | 90 CRI Minimum | |
| ANSI Warm White (2700 K - 3750 K) | | | | | | | | | |
| F6 | 3700 K | T5 | 260 | XBHAWT-00-0000-0000T50F6 | | | | | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40F6 | XBHAWT-00-0000-000LT40F6 | XBHAWT-00-0000-000HT40F6 | | | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30F6 | XBHAWT-00-0000-000LT30F6 | XBHAWT-00-0000-000HT30F6 | | | |
| | | T2 | 200 | XBHAWT-00-0000-0000T20F6 | XBHAWT-00-0000-000LT20F6 | XBHAWT-00-0000-000HT20F6 | | | |
| E6 | 3500 K | T5 | 260 | XBHAWT-00-0000-0000T50E6 | | | | | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40E6 | XBHAWT-00-0000-000LT40E6 | XBHAWT-00-0000-000HT40E6 | | | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30E6 | XBHAWT-00-0000-000LT30E6 | XBHAWT-00-0000-000HT30E6 | | | |
| | | T2 | 200 | XBHAWT-00-0000-0000T20E6 | XBHAWT-00-0000-000LT20E6 | XBHAWT-00-0000-000HT20E6 | | | |
| Z6 | 3500 K | T4 | 240 | | XBHAWT-00-0000-000LT40Z6 | | | | |
| | | T3 | 220 | | XBHAWT-00-0000-000LT30Z6 | XBHAWT-00-0000-000HT30Z6 | | | |
| | | T2 | 200 | | XBHAWT-00-0000-000LT20Z6 | XBHAWT-00-0000-000HT20Z6 | | | |
| F7 | 3200 K | T5 | 260 | XBHAWT-00-0000-0000T50F7 | | | | | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40F7 | XBHAWT-00-0000-000LT40F7 | | | | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30F7 | XBHAWT-00-0000-000LT30F7 | XBHAWT-00-0000-000HT30F7 | | | |
| | | T2 | 200 | XBHAWT-00-0000-0000T20F7 | XBHAWT-00-0000-000LT20F7 | XBHAWT-00-0000-000HT20F7 | | | |
| E7 | 3000 K | T5 | 260 | XBHAWT-00-0000-0000T50E7 | | | | | |
| | | T4 | 240 | XBHAWT-00-0000-0000T40E7 | XBHAWT-00-0000-000LT40E7 | | | | |
| | | T3 | 220 | XBHAWT-00-0000-0000T30E7 | XBHAWT-00-0000-000LT30E7 | XBHAWT-00-0000-000HT30E7 | | | |
| | | T2 | 200 | XBHAWT-00-0000-0000T20E7 | XBHAWT-00-0000-000LT20E7 | XBHAWT-00-0000-000HT20E7 | XBHAWT-00-0000-000PT20E7 | | |
| | | S6 | 182 | | | | XBHAWT-00-0000-000PS60E7 | XBHAWT-00-0000-000US60E7 | |
| | | S5 | 172 | | | | XBHAWT-00-0000-000PS50E7 | XBHAWT-00-0000-000US50E7 | |
| | | S4 | 164 | | | | | XBHAWT-00-0000-000US40E7 | |

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STANDARD ORDER CODES AND BINS (XB-H WARM WHITE, T_j = 85 °C) - CONTINUED

| XLamp XB-H LED Standard Kit Codes - White | | | | | | | | |
|---|--------|--------------------------------------|-----------|----------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Chromaticity | | Minimum Luminous Flux (lm) @ 700 mA* | | Order Codes | | | | |
| Kit | CCT | Code | Flux (lm) | No CRI Minimum | Standard CRI | 80 CRI Minimum | 85 CRI Minimum | 90 CRI Minimum |
| ANSI Warm White (2700 K - 3750 K) | | | | | | | | |
| Z7 | 3000 K | T3 | 220 | | XBHAWT-00-0000-000LT30Z7 | XBHAWT-00-0000-000HT30Z7 | | |
| | | T2 | 200 | | XBHAWT-00-0000-000LT20Z7 | XBHAWT-00-0000-000HT20Z7 | | |
| | | S6 | 182 | | | | XBHAWT-00-0000-000PS60Z7 | XBHAWT-00-0000-000US60Z7 |
| | | S5 | 172 | | | | XBHAWT-00-0000-000PS50Z7 | XBHAWT-00-0000-000US50Z7 |
| | | S4 | 164 | | | | | XBHAWT-00-0000-000US40Z7 |
| F8 | 2850 K | T3 | 220 | | XBHAWT-00-0000-000LT30F8 | XBHAWT-00-0000-000HT30F8 | | |
| | | T2 | 200 | | XBHAWT-00-0000-000LT20F8 | XBHAWT-00-0000-000HT20F8 | | |
| | | S6 | 182 | | XBHAWT-00-0000-000LS60F8 | XBHAWT-00-0000-000HS60F8 | XBHAWT-00-0000-000PS60F8 | XBHAWT-00-0000-000US60F8 |
| | | S5 | 172 | | | | XBHAWT-00-0000-000PS50F8 | XBHAWT-00-0000-000US50F8 |
| | | S4 | 164 | | | | XBHAWT-00-0000-000PS40F8 | XBHAWT-00-0000-000US40F8 |
| E8 | 2700 K | T3 | 220 | | XBHAWT-00-0000-000LT30E8 | XBHAWT-00-0000-000HT30E8 | | |
| | | T2 | 200 | | XBHAWT-00-0000-000LT20E8 | XBHAWT-00-0000-000HT20E8 | | |
| | | S6 | 182 | | XBHAWT-00-0000-000LS60E8 | XBHAWT-00-0000-000HS60E8 | XBHAWT-00-0000-000PS60E8 | XBHAWT-00-0000-000US60E8 |
| | | S5 | 172 | | | | XBHAWT-00-0000-000PS50E8 | XBHAWT-00-0000-000US50E8 |
| | | S4 | 164 | | | | XBHAWT-00-0000-000PS40E8 | XBHAWT-00-0000-000US40E8 |
| Z8 | 2700 K | T2 | 200 | | XBHAWT-00-0000-000LT20Z8 | XBHAWT-00-0000-000HT20Z8 | | |
| | | S6 | 182 | | XBHAWT-00-0000-000LS60Z8 | XBHAWT-00-0000-000HS60Z8 | XBHAWT-00-0000-000PS60Z8 | |
| | | S5 | 172 | | | | XBHAWT-00-0000-000PS50Z8 | XBHAWT-00-0000-000US50Z8 |
| | | S4 | 164 | | | | XBHAWT-00-0000-000PS40Z8 | XBHAWT-00-0000-000US40Z8 |

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