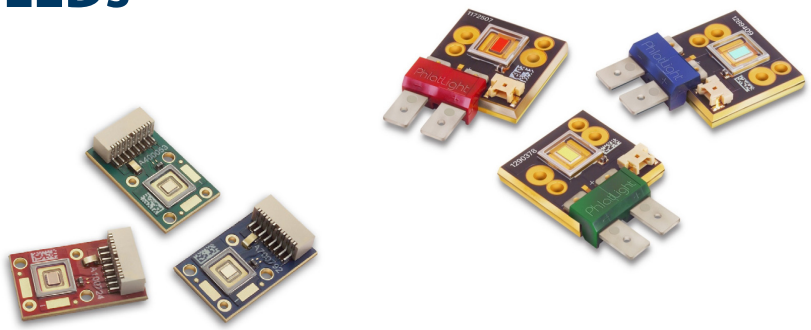
CBT-40 and CBT-120LEDs



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Introduction:

This document describes the binning and labeling nomenclature for CBT-40 and CBT-120 Big Chip LED™ product as well as the orderable bin kits for each part.

With each build of parts, there is a distribution of performance in both flux and wave length or chromaticity. In order to guarantee specific performance for customers, each device is measured and subsequently grouped into flux and wavelength or chromaticity bins. Each individual package or reel of parts contains only one combination of flux and wavelength or chromaticity bin. Furthermore, bins are combined into orderable bin kits comprising of a selection of flux and wavelength or chromaticity bins to ease the ordering process.

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Table of Products

Products	Ordering Part Number	Description
CBT-40-R	CBT-40-R-C21-xx123	CBT-40 consisting of a 4 mm^2 LED, thermistor, connector, and a copper-core PCB.
CBT-40-G	CBT-40-G-C21-xx123	
CBT-40-B	CBT-40-B-C21-xx123	

CBT-120-R	CBT-120-R-C11-xx123	CBT-120 consisting of a 12 mm^2 LED, thermistor, connector, and a copper-core PCB.
CBT-120-G	CBT-120-G-C11-xx123	
CBT-120-B	CBT-120-B-C11-xx123	

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CBT-90 Shipping and Labeling Nomenclature

All CBT-40 and CBT-120 products are packaged and labeled with their respective bin as outlined in the following pages. Each package or reel will only contain one bin. The part number designation is as follows:

A B C — 1 2 3 — D — E 45 — F G — H 6

Product Family	Chip Area	Color	Package Configuration	Flux Bin	Wavelength Bin

Product Family	**A** - Package type: "C" denotes chip-on board **B** - Lens type: "B" denotes window (no lens) **C** - Chip quantity: "T" denotes single chip
Chip Area	**1 2 3** - Total LED chip area (mm^2) x 10: "40" denotes $4mm^2$ and "120" denotes $12mm^2$
Color	**D** - Color: "R" denotes red, "G" denotes Green, "B" denotes blue
Package Config.	**E 4 5** - Package configuration (for internal use)
Flux Bin	**F G** - Flux bin
Wavelength Bin	**H 6** - Wavelength Bin

Example:
The part number CBT-40-R-C21-HE-R4 refers to a red, CBT-40 emitter, with a flux range from 215 to 275 lumens and a wavelength value range from 619 to 623.

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CBT-40 and CBT-120 Bin Kit Ordering Nomenclature

All CBT-40 and CBT-120 products are sold in sets of flux and chromaticity bins called bin kits. Each bin kit specifies a minimum flux bin and a specific selection of chromaticity bins. The ordering part number designation is as follows:

A B C — 1 2 3 — D — E 4 5 — F G 6 7 8

Product Family	Chip Area	Color	Package Configuration	Bin Kit Code

Product Family	**A** - Package type: "C" denotes chip-on board **B** - Lens type: "B" denotes window (no lens) **C** - Chip quantity: "T" denotes single chip
Chip Area	**1 2 3** - Total LED chip area (mm^2) x 10: "40" denotes $4mm^2$ and "120" denotes $12mm^2$
Color	**D** - Color: "R" denotes red, "G" denotes Green, "B" denotes blue
Package Config.	**E 4 5** - Package configuration (for internal use)
Bin Kit Code	**F G** - Flux bin **6 7 8** - Wavelength bin kit code

Example:

The ordering part number CBT-120-G-C11-JK201 refers to a grenn, CBT-120 emitter, with a minimum flux value of 2,000 lumens and falling in the G4, G5, G6, and G8 wavelength bins.

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CBT-40 and CBT-120 Monochromatic Binning Structure

All CBT-40 and CBT-120 monochromatic LEDs are tested for luminous flux/ dominant wavelength and placed into one of the following flux/ wave length bins. The binning structure is universally applied across each monochromatic color of the CBT-40 and CBT-120 product line. Consult the local sales person for the available flux/ wavelength bins for the product:

Flux Bins for CBT-40

Color	Luminous Flux Bin (FF)	Minumum Flux (lm) @	Maximum Flux (lm) @
Red	BD	165	215
	BE	215	275
	BF	275	350
Green	CD	500	640
	CE	640	775
	CF	775	940
Blue	DD	90	120
	DE	120	160
	DF	160	200

Flux Bins for CBT-120

Color	Luminous Flux Bin (FF)	Minumum Flux (lm) @	Maximum Flux (lm) @
Red	BH	475	600
	BJ	600	770
	BK	770	970
Green	CJ	1,500	2,000
	CK	2,000	2,300
	CM	2,300	2,600
Blue	DJ	350	450
	DK	450	575
	DM	575	700
	DN	700	800

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Wavelength Bins

Color	Wavelength Bin (FF)	Minumum Flux (lm) @ 13.5A	Maximum Flux (lm) @ 13.5A
Red	R2	611	615
	R3	615	619
	R4	619	623
	R5	623	627
	R6	627	631
	R7	631	635
Green	G2	510	515
	G3	515	520
	G4	520	525
	G5	525	530
	G6	530	535
	G7	535	540
	G8	540	545
Blue	B4	450	455
	B5	455	460
	B6	460	465
	B7	465	470
	B8	470	475

*Note: Luminus maintains a +/- 6% tolerance on flux measurements.

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CBT-40 and CBT-120 Bin Kit Order Codes

The following tables describe the bin kit ordering codes for the CBT-40 and CBT-120. The flux and wave length bins included in the bin kit. Each kit specifies a minimum flux and the listed wave length bins. A maximum flux is not specified. Within each kit, Luminus may ship any part meeting or exceeding the minimum flux specification. Shipments will always meet the listed wave length bins. For information on ordering bin kits not listed below, please contact Luminus or an official distributor.

Flux Bins for CBT-40

Color	Luminous Flux		Wavelength Bins	Kit Number
	Bin Kit Flux Code	Min. Flux		
Red	HD	165	R2, R3, R4, R5, R6, R7	HD100
			R4, R5	HD101
	HE	215	R2, R3, R4, R5, R6, R7	HE100
			R4, R5	HE101
	HF	275	R2, R3, R4, R5, R6, R7	HF100
			R4, R5	HF101
Green	JD	500	G2, G3, G4, G5, G6, G7, G8	JD100
			G4, G5, G6, G7	JD101
	JE	640	G2, G3, G4, G5, G6, G7, G8	JE100
			G4, G5, G6, G7	JE101
	JF	775	G2, G3, G4, G5, G6, G7, G8	JF100
			G4, G5, G6, G7	JF101
Blue	KD	90	B4, B5, B6, B7, B8	KD100
			B5, B6, B7	KD101
	KE	120	B4, B5, B6, B7, B8	KE100
			B5, B6, B7	KE101
	KF	160	B4, B5, B6, B7, B8	KF100
			B5, B6, B7	KF101

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Flux Bins for CBT-120

Color	Luminous Flux		Wavelength Bins	Kit Number
	Bin Kit Flux Code	Min. Flux		
Red	HJ	600	R2, R3, R4, R5, R6, R7	HH100
			R4, R5	HH101
	HK	770	R2, R3, R4, R5, R6, R7	HJ100
			R4, R5	HJ101
	HM	970	R2, R3, R4, R5, R6, R7	HK100
			R4, R5	HK101
Green	JJ	1,500	G2, G3, G4, G5, G6, G7, G8	JH100
			G4, G5, G6, G7	JH101
	JK	2,000	G2, G3, G4, G5, G6, G7, G8	JJ100
			G4, G5, G6, G7	JJ101
	JM	2,300	G2, G3, G4, G5, G6, G7, G8	JK100
			G4, G5, G6, G7	JK101
Blue	KJ	350	B4, B5, B6, B7, B8	KJ100
			B5, B6, B7	KJ101
	KK	450	B4, B5, B6, B7, B8	KK100
			B5, B6, B7	KK101
	KM	575	B4, B5, B6, B7, B8	KM100
			B5, B6, B7	KM101
	KN	700	B4, B5, B6, B7, B8	KN100
			B5, B6, B7	KN101

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