



BULLSTAR

SERIES

HIGH POWER WHITE LED

PRODUCT BINNING

Purpose of Product Binning

In the manufacturing of LEDs, there is a variation of performance around the average values given in the technical data sheets. Octa Light PLC bins the LED components for luminous flux and color.

Luminous Flux Bins

The following table lists the standard photometric luminous flux bins for Octa Light **BullStar** Series emitters (tested and binned at 350 mA). Although several bins are outlined, product availability in a particular bin varies by production run and by product performance. Not all bins are available in all colors.

Table 1. Luminous Flux binning

Bin Code	Minimum Photometric Flux (Lm)	Maximum Photometric Flux (Lm)
A	5	20
B	20	30
C	30	40
D	40	50
E	50	60
F	60	70
G	70	80
H	80	90
I	90	100
J	100	110
K	110	120
L	120	130
M	130	150

Notes:

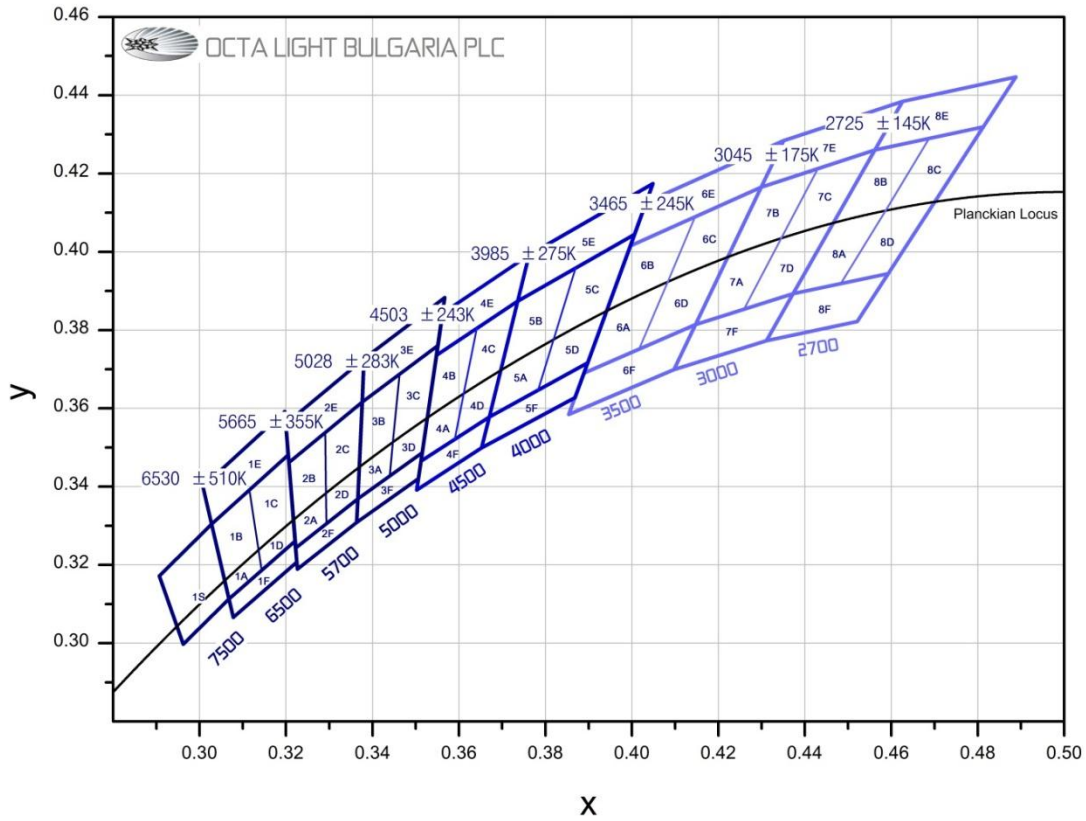


1. Octa Light PLC maintains a tolerance of $\pm 5\%$ on luminous flux measurement.

White Bin Structure

Binning for white Octa Light **BullStar** LEDs is according to Chromaticity specification defined by ANSI.

Figure 1. ANSI compliant Quarter Chromaticity coordinates binning



Notes:

1. The CCT range of cool-white varies from 4745 K to 7050 K
2. The CCT range of neutral-white varies from 3710 K to 4745 K
3. The CCT range of warm-white varies from 2580 K to 3710 K
4. Color coordinates measurement allowance : ± 0.01
5. Color bins are defined at $I_f = 350$ mA operation current.



Color bin group of CIE chromaticity diagram for Cool White

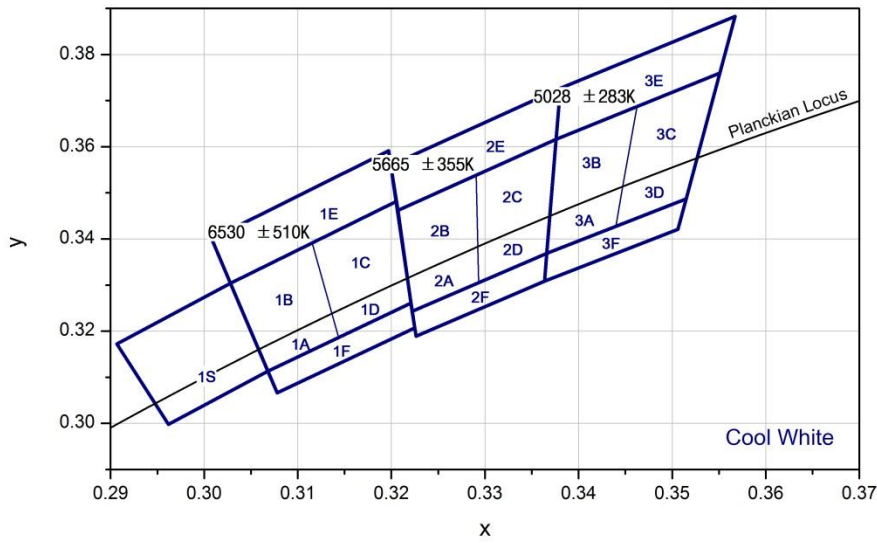


Table 2. Cool white binning

Nominal CCT	Bin Code	X	Y
6500 (BIN 10)	1A	0.31364	0.32374
		0.30585	0.31598
		0.30680	0.31130
		0.31436	0.31861
	1B	0.31153	0.33913
		0.30280	0.33040
		0.30585	0.31598
	1C	0.31364	0.32374
		0.32050	0.34810
		0.31153	0.33913
		0.31364	0.32374
	1D	0.32171	0.33141
		0.32171	0.33141
		0.31364	0.32374
		0.31436	0.31861
	1E	0.32210	0.32610
		0.30080	0.34000
		0.31970	0.35917
		0.32050	0.34810
	1F	0.30280	0.33040
0.30779		0.30660	
0.32249		0.32070	
0.32210		0.32610	
1S	0.30680	0.31130	
	0.29067	0.31720	
	0.29619	0.29976	
	0.30680	0.31130	
		0.30280	0.33040



Nominal CCT	Bin Code	X	Y	
5700 (BIN 20)	2A	0.32923	0.33823	
		0.32171	0.33141	
		0.32220	0.32430	
	2B	0.32933	0.33054	
		0.32905	0.35381	
		0.32070	0.34620	
	2C	0.32171	0.33141	
		0.32923	0.33823	
		0.33760	0.36160	
	2D	0.32905	0.35381	
		0.32923	0.33823	
		0.33692	0.34487	
	2E	0.33692	0.34487	
		0.32923	0.33823	
		0.32933	0.33054	
	2F	0.33660	0.33690	
		0.31993	0.35600	
		0.33805	0.37269	
	5000 (BIN 30)	3A	0.33760	0.36160
			0.32070	0.34620
			0.32263	0.31890
		3B	0.33635	0.33085
			0.33660	0.33690
			0.32220	0.32430
3C		0.34472	0.35130	
		0.33691	0.34487	
		0.33660	0.33690	
3D		0.34399	0.34275	
		0.34626	0.36873	
		0.33760	0.36160	
3E		0.33692	0.34487	
		0.34472	0.35130	
		0.35510	0.37600	
3F		0.34626	0.36873	
		0.34472	0.35130	
		0.35264	0.35750	
4A		0.35264	0.35750	
		0.34472	0.35130	
		0.34399	0.34275	
4B		0.35150	0.34870	
		0.33805	0.37269	
		0.35672	0.38829	
4C	0.35510	0.37600		
	0.33760	0.36160		
	0.33635	0.33085		
4D	0.35062	0.34206		
	0.35150	0.34870		
	0.33660	0.33690		

Color bin group of CIE chromaticity diagram for Neutral White

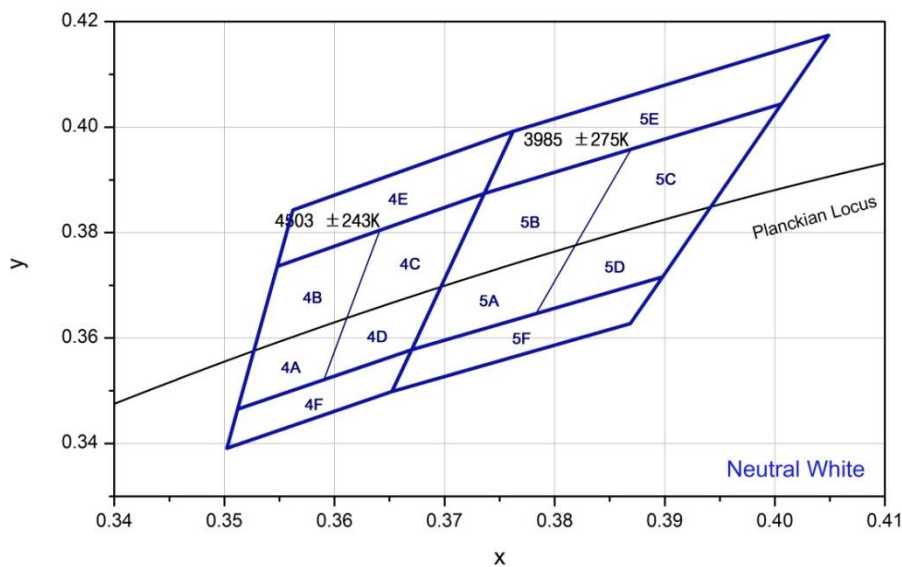


Table 3. Neutral white binning



Nominal CCT	Bin Code	X	Y	
4500 (BIN 40)	4A	0.36111	0.36378	
		0.35264	0.35750	
		0.35120	0.34650	
	4B	0.35904	0.35211	
		0.36411	0.38044	
		0.35480	0.37360	
	4C	0.35264	0.35750	
		0.36111	0.36378	
		0.37360	0.38740	
	4D	0.36411	0.38044	
		0.36111	0.36378	
		0.36866	0.36974	
	4E	0.36966	0.36974	
		0.36111	0.36378	
		0.35904	0.35211	
	4F	0.36700	0.35780	
		0.35623	0.38429	
		0.37623	0.39920	
	4000 (BIN 50)	5A	0.37360	0.38740
			0.35480	0.37360
			0.35023	0.33913
		5B	0.36523	0.34987
			0.36700	0.35780
			0.35120	0.34650
5C		0.38188	0.37764	
		0.36966	0.36974	
		0.36700	0.35780	
5D		0.37830	0.36464	
		0.38696	0.39581	
		0.37360	0.38740	
5E	0.36966	0.36974		
	0.38188	0.37764		
	0.40060	0.40440		
5F	0.38696	0.39581		
	0.38188	0.37764		
	0.39413	0.38482		
4000 (BIN 50)	6A	0.39413	0.38482	
		0.38188	0.37764	
		0.37830	0.36464	
	6B	0.38980	0.37160	
		0.37623	0.39920	
		0.40488	0.41742	
6C	0.40060	0.40440		
	0.37360	0.38740		
	0.36523	0.34987		
6D	0.36888	0.36275		
	0.38980	0.37160		
	0.36700	0.35780		

Color bin group of CIE chromaticity diagram for Warm White

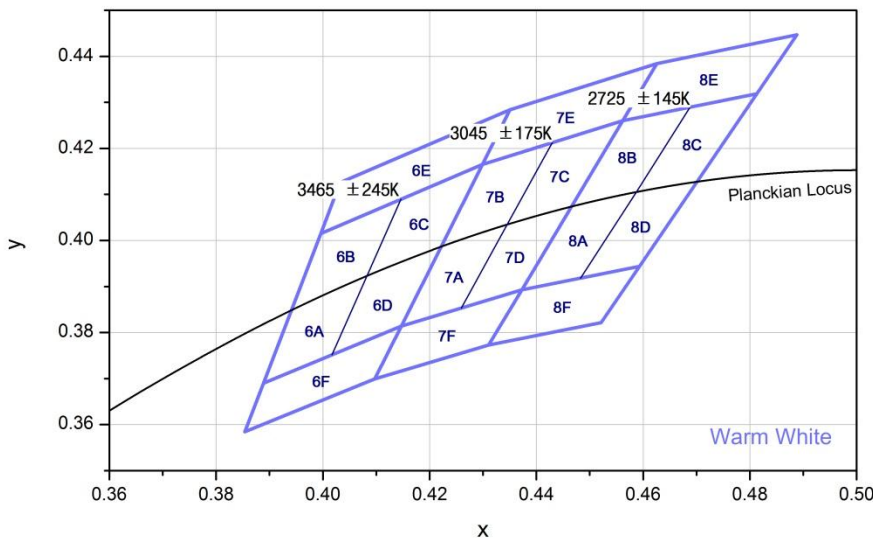




Table 4. Warm white binning

Nominal CCT	Bin Code	X	Y
3500 (BIN 60)	6A	0.40822	0.39215
		0.39413	0.38482
		0.38890	0.36700
		0.40171	0.37516
	6B	0.414622	0.40894
		0.39960	0.40150
		0.39413	0.38482
		0.40822	0.39215
	6C	0.42990	0.41650
		0.41462	0.40894
		0.40822	0.39215
		0.42207	0.39842
	6D	0.42207	0.39842
		0.40822	0.39215
		0.40171	0.37516
		0.41470	0.38140
	6E	0.40324	0.41261
		0.43504	0.42840
		0.42990	0.41650
		0.39960	0.40150
	6F	0.38541	0.35844
		0.40971	0.36990
		0.41470	0.38140
		0.38890	0.36900
3000 (BIN 70)	7A	0.43439	0.40319
		0.42207	0.39842
		0.41470	0.38140
		0.42596	0.38534
	7B	0.44299	0.42123
		0.42990	0.41650
		0.42207	0.39842
		0.43439	0.40319
	7C	0.45620	0.42600
		0.44299	0.42123
		0.43439	0.40319
		0.44647	0.40712
	7D	0.44647	0.40712
		0.43439	0.40319
		0.42596	0.38534
		0.43730	0.38930
	7E	0.43504	0.42840
		0.46257	0.43842
		0.45620	0.42600
		0.42990	0.41650
	7F	0.40971	0.36990
		0.43107	0.37725
		0.43730	0.38930
		0.41470	0.38140
2700 (BIN 80)	8A	0.45861	0.41032
		0.44647	0.40712
		0.43730	0.38930
		0.44829	0.39185
	8B	0.46873	0.42895
		0.45620	0.42600
		0.44647	0.40712
		0.45861	0.41032
	8C	0.48130	0.43190
		0.46873	0.42895
		0.45861	0.41032
		0.46995	0.41260
	8D	0.46995	0.41260
		0.45861	0.41032
		0.44829	0.39185
		0.45930	0.39440
	8E	0.46257	0.43842
		0.48880	0.44465
		0.48130	0.43190
		0.45620	0.42600
	8F	0.43107	0.37725
		0.45213	0.38215
		0.45930	0.39440
		0.43730	0.38930



COMPANY INFORMATION

Octa Light Bulgaria Plc is the first Bulgarian Manufacturer of High Power Light Emitting Diodes for general lighting applications. The long year company experience in artificial lighting on LED basis has made possible the creation of the first European LED specially designed for reaching best performance in light output, optical efficacy and thermal management. Octa Light Products help reduce CO₂ emissions and reduce the need for power plant expansion.

Thanks to its advanced optical properties, the BullStar series enable never before possible applications in outdoor, indoor, industrial, architectural and general lighting when pure white light is necessary. The sophisticated optical properties allow strong package light concentration suitable for most general lighting applications without the need of any secondary optics.

Octa Light is a fully integrated supplier, offering core Light emitting devices in all three base colors - red, green, blue and white, as well as exotic colors as pink, cyan, yellow, purple and other on basis of client requirements. Octa Light Bulgaria Plc is entirely based within Europe, with R&D and manufacturing center in Bulgaria. Founded in 2010, Octa Light commits to continuously rise the lumen efficiency of its products and to bring its light emitting diodes closer to mass usage within next years.

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