

CR35H – 3535 Ceramic LED



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SAMSUNG ELECTRONICS

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1. Product Code Information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
S	P	H	W	H	T	L	3	D	3	0	3	E	6	R	0	H	5

Code			PKG information	Specification			
1	2	3	Samsung Package	High Power			
4	5	Color	WH	White			
6	Product Version						
7	8	Product	L3	CR35H			
9	Lens type		D	Dome Lens			
10	Operating condition		3	Max 3 Watt			
11	Not defined		0	Default			
12	CRI		3	Min. 70+			
			4	Min. 75+			
			5	Min. 80+			
13	14	V _F	E1	2.7~2.8 V	E3	E6	
			F1	2.8~2.9 V			
			G1	2.9~3.0 V			
			H1	3.0~3.1 V	H3		
			J1	3.1~3.2 V			
			K1	3.2~3.3 V			
15	16	CCT	W0	2700K			
			V0	3000K			
			U0	3500K			
			T0	4000K			
			R0	5000K			
			Q0	5700K			
			P0	6500K			
			N0	7600K			
17	18	Luminous Flux	F1	90~100 lm	F7 ¹⁾		
			G1	100~110 lm	G6		
			H1	110~120 lm		H5	
			J1	120~130 lm			J4
			K1	130~140 lm			
			M1	140~150 lm			
			N1	150~160 lm			
1) Digit 17 : Min. spec. Digit 18 : The number of high bin rank from Min. spec. Ex) F1 = 90~100 lm, F7 = 90~160 lm							



2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
2700K	SPHWHTL3D305E6W0F5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6W0G4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6W0H3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WUF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WUG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WUH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
SPHWHTL3D305E6WKF5	F5	F1	90 ~ 100	
		G1	100 ~ 110	
		H1	110 ~ 120	
		J1	120 ~ 130	
		K1	130 ~ 140	
SPHWHTL3D305E6WKG4	G4	G1	100 ~ 110	
		H1	110 ~ 120	
		J1	120 ~ 130	
		K1	130 ~ 140	
SPHWHTL3D305E6WKH3	H3	H1	110 ~ 120	
		J1	120 ~ 130	
		K1	130 ~ 140	

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
2700K	SPHWHTL3D305E6WPF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WPG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WPH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WMF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WMG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6WMH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
3000K	SPHWHTL3D305E6V0F5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6V0G4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6V0H3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VUF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VUG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VUH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VKF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
K1			130 ~ 140	
SPHWHTL3D305E6VKG4	G4	G1	100 ~ 110	
		H1	110 ~ 120	
		J1	120 ~ 130	
		K1	130 ~ 140	
SPHWHTL3D305E6VKH3	H3	H1	110 ~ 120	
		J1	120 ~ 130	
		K1	130 ~ 140	

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
3000K	SPHWHTL3D305E6VPF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VPG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VPH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VMF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VMG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6VMH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
3500K	SPHWHTL3D305E6U0F5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6U0G4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6U0H3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UUF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UUG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UUH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UKF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
K1			130 ~ 140	
SPHWHTL3D305E6UKG4	G4	G1	100 ~ 110	
		H1	110 ~ 120	
		J1	120 ~ 130	
		K1	130 ~ 140	
SPHWHTL3D305E6UKH3	H3	H1	110 ~ 120	
		J1	120 ~ 130	
		K1	130 ~ 140	

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
3500K	SPHWHTL3D305E6UPF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UPG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UPH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UMF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UMG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6UMH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
4000K	SPHWHTL3D305E6T0F5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6T0G4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6T0H3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6T0J2	J2	J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TUF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TUG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TUH3	H3	H1	110 ~ 120
J1			120 ~ 130	
K1			130 ~ 140	
SPHWHTL3D305E6TUJ2	J2	J1	120 ~ 130	
		K1	130 ~ 140	

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
4000K	SPHWHTL3D305E6TKF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TKG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TKH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TKJ2	J2	J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TPF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TPG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TPH3	H3	H1	110 ~ 120
J1			120 ~ 130	
K1			130 ~ 140	
SPHWHTL3D305E6TPJ2	J2	J1	120 ~ 130	
		K1	130 ~ 140	

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
4000K	SPHWHTL3D305E6TMF5	F5	F1	90 ~ 100
			G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TMG4	G4	G1	100 ~ 110
			H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
	SPHWHTL3D305E6TMH3	H3	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
SPHWHTL3D305E6TMJ2	J2	J1	120 ~ 130	
		K1	130 ~ 140	
5000K	SPHWHTL3D303E6R0H5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6R0J4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6R0K3	K3	K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6R0M2	M2	M1	140 ~ 150
			N1	150 ~ 160



2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
5000K	SPHWHTL3D303E6RKH5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6RKJ4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6RKK3	K3	K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6RKM2	M2	M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6RTH5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6RTJ4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6RTK3	K3	K1	130 ~ 140
M1			140 ~ 150	
N1			150 ~ 160	
SPHWHTL3D303E6RTM2	M2	M1	140 ~ 150	
		N1	150 ~ 160	

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
5700K	SPHWHTL3D303E6Q0H5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6Q0J4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6Q0K3	K3	K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6QKH5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6QKJ4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6QKK3	K3	K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6QTH5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
N1			150 ~ 160	
SPHWHTL3D303E6QTJ4	J4	J1	120 ~ 130	
		K1	130 ~ 140	
		M1	140 ~ 150	
		N1	150 ~ 160	
SPHWHTL3D303E6QTK3	K3	K1	130 ~ 140	
		M1	140 ~ 150	
		N1	150 ~ 160	

2. Luminous Flux Bins ($T_J = 25^\circ\text{C}$) (Continued)

Nominal CCT	Product Code	Flux Rank	Sorting Condition $I_m @350\text{mA}$	
			Flux Bin	Flux Range
6500K	SPHWHTL3D303E6P0H5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6P0J4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6P0K3	K3	K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6PTH5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6PTJ4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
N1			150 ~ 160	
SPHWHTL3D303E6PTK3	K3	K1	130 ~ 140	
		M1	140 ~ 150	
		N1	150 ~ 160	
7600K	SPHWHTL3D303E6N0H5	H5	H1	110 ~ 120
			J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6N0J4	J4	J1	120 ~ 130
			K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160
	SPHWHTL3D303E6N0K3	K3	K1	130 ~ 140
			M1	140 ~ 150
			N1	150 ~ 160

3. Color Bins ($T_J = 25^\circ\text{C}$)

3-1) Color Binning

Nominal CCT	Product Code	Color Rank	Chromaticity Bins
2700K	SPHWHTL3D305E6W0F5	W0 (Whole Bin)	W1,W2,W3,W4,W5,W6,W7,W8, W9,WA,WB,WC,WD,WE,WF,WG
	SPHWHTL3D305E6W0G4		
	SPHWHTL3D305E6W0H3		
	SPHWHTL3D305E6WUF5	WU (Half Bin)	W5,W6,W7,W8,W9,WA,WB,WC
	SPHWHTL3D305E6WUG4		
	SPHWHTL3D305E6WUH3		
	SPHWHTL3D305E6WPF5	WP (M4 Bin)	W6,W7,WA,WB
	SPHWHTL3D305E6WPG4		
	SPHWHTL3D305E6WPH3		
	SPHWHTL3D305E6WMF5	WM (M3 Bin)	-
	SPHWHTL3D305E6WMG4		
	SPHWHTL3D305E6WMH3		
	SPHWHTL3D305E6WKF5	WK (Kitting Bin)	-
	SPHWHTL3D305E6WKG4		
	SPHWHTL3D305E6WKH3		
3000K	SPHWHTL3D305E6V0F5	V0 (Whole Bin)	V1,V2,V3,V4,V5,V6,V7,V8, V9,VA,VB,VC,VD,VE,VF,VG
	SPHWHTL3D305E6V0G4		
	SPHWHTL3D305E6V0H3		
	SPHWHTL3D305E6VUF5	VU (Half Bin)	V5,V6,V7,V8,V9,VA,VB,VC
	SPHWHTL3D305E6VUG4		
	SPHWHTL3D305E6VUH3		
	SPHWHTL3D305E6VPF5	VP (M4 Bin)	V6,V7,VA,VB
	SPHWHTL3D305E6VPG4		
	SPHWHTL3D305E6VPH3		
	SPHWHTL3D305E6VMF5	VM (M3 Bin)	-
	SPHWHTL3D305E6VMG4		
	SPHWHTL3D305E6VMH3		
	SPHWHTL3D305E6VKF5	VK (Kitting Bin)	-
	SPHWHTL3D305E6VKG4		
	SPHWHTL3D305E6VKH3		

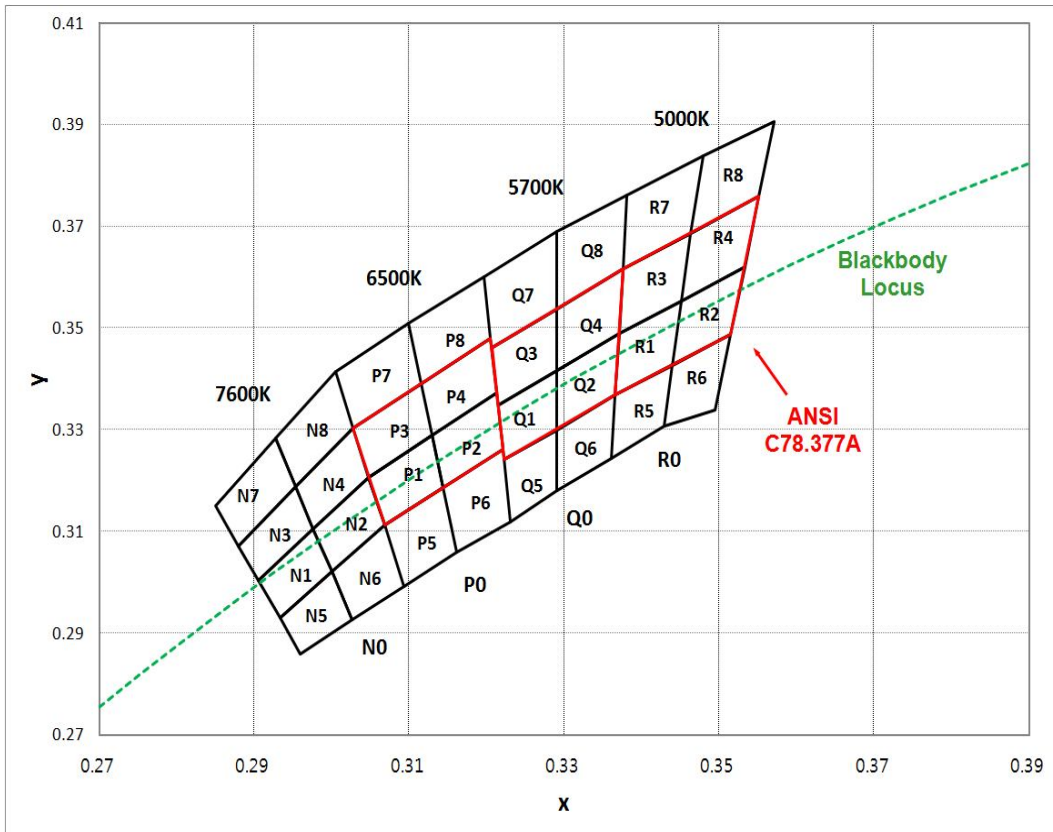
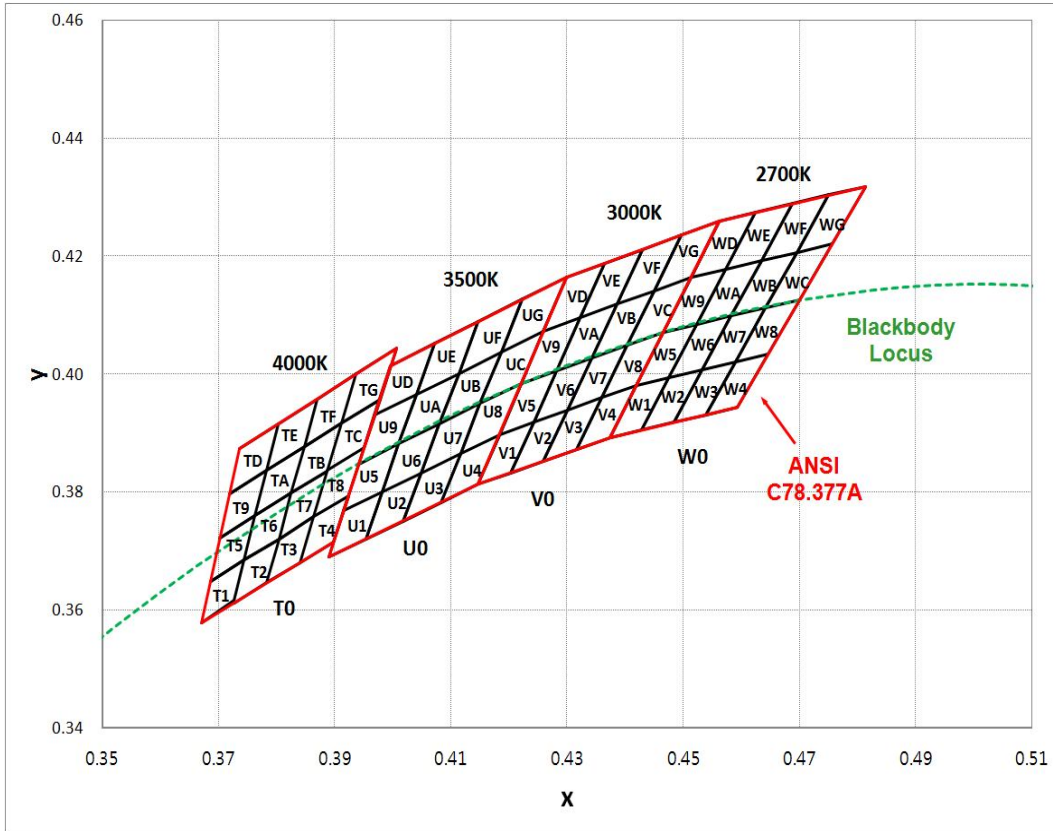
3-1) Color Binning

Nominal CCT	Product Code	Color Rank	Chromaticity Bins
3500K	SPHWHTL3D305E6U0F5	U0 (Whole Bin)	U1,U2,U3,U4,U5,U6,U7,U8, U9,UA,UB,UC,UD,UE,UF,UG
	SPHWHTL3D305E6U0G4		
	SPHWHTL3D305E6U0H3		
	SPHWHTL3D305E6UUF5	UU (Half Bin)	U5,U6,U7,U8,U9,UA,UB,UC
	SPHWHTL3D305E6UUG4		
	SPHWHTL3D305E6UUH3		
	SPHWHTL3D305E6UPF5	UP (M4 Bin)	U6,U7,UA,UB
	SPHWHTL3D305E6UPG4		
	SPHWHTL3D305E6UPH3		
	SPHWHTL3D305E6UMF5	UM (M3 Bin)	-
	SPHWHTL3D305E6UMG4		
	SPHWHTL3D305E6UMH3		
	SPHWHTL3D305E6UKF5	UK (Kitting Bin)	-
	SPHWHTL3D305E6UKG4		
SPHWHTL3D305E6UKH3			
4000K	SPHWHTL3D305E6T0F5	T0 (Whole Bin)	T1,T2,T3,T4,T5,T6,T7,T8, T9,TA,TB,TC,TD,TE,TF,TG
	SPHWHTL3D305E6T0G4		
	SPHWHTL3D305E6T0H3		
	SPHWHTL3D305E6T0J2		
	SPHWHTL3D305E6TUF5	TU (Half Bin)	T5,T6,T7,T8,T9,TA,TB,TC
	SPHWHTL3D305E6TUG4		
	SPHWHTL3D305E6TUH3		
	SPHWHTL3D305E6TUJ2		
	SPHWHTL3D305E6TPF5	TP (M4 Bin)	T6,T7,TA,TB
	SPHWHTL3D305E6TPG4		
	SPHWHTL3D305E6TPH3		
	SPHWHTL3D305E6TPJ2		
	SPHWHTL3D305E6TMF5	TM (M3 Bin)	-
	SPHWHTL3D305E6TMG4		
	SPHWHTL3D305E6TMH3		
	SPHWHTL3D305E6TMJ2		
	SPHWHTL3D305E6TKF5	TK (Kitting Bin)	-
	SPHWHTL3D305E6TKG4		
SPHWHTL3D305E6TKH3			
SPHWHTL3D305E6TKJ2			

3-1) Color Binning (Continued)

Nominal CCT	Product Code	Color Rank	Chromaticity Bins
5000K	SPHWHTL3D305E6R0H5	R0 (Whole Bin)	R1,R2,R3,R4,R5,R6,R7,R8
	SPHWHTL3D305E6R0J4		
	SPHWHTL3D305E6R0K3		
	SPHWHTL3D305E6R0M2		
	SPHWHTL3D305E6RTH5	RT (M7 Bin)	R1,R2,R3,R4
	SPHWHTL3D305E6RTJ4		
	SPHWHTL3D305E6RTK3		
	SPHWHTL3D305E6RTM2		
	SPHWHTL3D305E6RKH5	RK (Kitting Bin)	-
	SPHWHTL3D305E6RKJ4		
	SPHWHTL3D305E6RKK3		
	SPHWHTL3D305E6RKM2		
5700K	SPHWHTL3D305E6Q0H5	Q0 (Whole Bin)	Q1,Q2,Q3,Q4,Q5,Q6,Q7,Q8
	SPHWHTL3D305E6Q0J4		
	SPHWHTL3D305E6Q0K3		
	SPHWHTL3D305E6QTH5	QT (M7 Bin)	Q1,Q2,Q3,Q4
	SPHWHTL3D305E6QTJ4		
	SPHWHTL3D305E6QTK3		
	SPHWHTL3D305E6QKH5	QK (Kitting Bin)	-
	SPHWHTL3D305E6QKJ4		
	SPHWHTL3D305E6QKK3		
6500K	SPHWHTL3D305E6P0H5	P0 (Whole Bin)	P1,P2,P3,P4,P5,P6,P7,P8
	SPHWHTL3D305E6P0J4		
	SPHWHTL3D305E6P0K3		
	SPHWHTL3D305E6PTH5	PT (M7 Bin)	P1,P2,P3,P4
	SPHWHTL3D305E6PTJ4		
	SPHWHTL3D305E6PTK3		
7600K	SPHWHTL3D305E6N0H5	N0 (Whole Bin)	N1,N2,N3,N4,N5,N6,N7,N8
	SPHWHTL3D305E6N0J4		
	SPHWHTL3D305E6N0K3		

3-2) Chromaticity Region & Coordinates



3-2) Chromaticity Region & Coordinates (Continued)

Region	CIE X	CIE Y	Region	CIE X	CIE Y	Region	CIE X	CIE Y	Region	CIE X	CIE Y
W rank (2700K)						V rank (3000K)					
W1	0.4373	0.3893	W9	0.4465	0.4071	V1	0.4147	0.3814	V9	0.4221	0.3984
	0.4418	0.3981		0.4513	0.4164		0.4183	0.3898		0.4259	0.4073
	0.4475	0.3994		0.4573	0.4178		0.4242	0.3919		0.4322	0.4096
	0.4428	0.3906		0.4523	0.4085		0.4203	0.3833		0.4281	0.4006
W2	0.4428	0.3906	WA	0.4523	0.4085	V2	0.4203	0.3833	VA	0.4281	0.4006
	0.4475	0.3994		0.4573	0.4178		0.4242	0.3919		0.4322	0.4096
	0.4532	0.4008		0.4634	0.4193		0.4300	0.3939		0.4385	0.4119
	0.4483	0.3919		0.4582	0.4099		0.4259	0.3853		0.4342	0.4028
W3	0.4483	0.3919	WB	0.4582	0.4099	V3	0.4259	0.3853	VB	0.4342	0.4028
	0.4532	0.4008		0.4634	0.4193		0.4300	0.3939		0.4385	0.4119
	0.4589	0.4021		0.4695	0.4207		0.4359	0.3960		0.4449	0.4141
	0.4538	0.3931		0.4641	0.4112		0.4316	0.3873		0.4403	0.4049
W4	0.4538	0.3931	WC	0.4641	0.4112	V4	0.4316	0.3873	VC	0.4403	0.4049
	0.4589	0.4021		0.4695	0.4207		0.4359	0.3960		0.4449	0.4141
	0.4646	0.4034		0.4756	0.4221		0.4418	0.3981		0.4513	0.4164
	0.4593	0.3944		0.4700	0.4126		0.4373	0.3893		0.4465	0.4071
W5	0.4418	0.3981	WD	0.4513	0.4164	V5	0.4183	0.3898	VD	0.4259	0.4073
	0.4465	0.4071		0.4562	0.4260		0.4221	0.3984		0.4299	0.4165
	0.4523	0.4085		0.4624	0.4274		0.4281	0.4006		0.4364	0.4188
	0.4475	0.3994		0.4573	0.4178		0.4242	0.3919		0.4322	0.4096
W6	0.4475	0.3994	WE	0.4573	0.4178	V6	0.4242	0.3919	VE	0.4322	0.4096
	0.4523	0.4085		0.4624	0.4274		0.4281	0.4006		0.4364	0.4188
	0.4582	0.4099		0.4687	0.4289		0.4342	0.4028		0.4430	0.4212
	0.4532	0.4008		0.4634	0.4193		0.4300	0.3939		0.4385	0.4119
W7	0.4532	0.4008	WF	0.4634	0.4193	V7	0.4300	0.3939	VF	0.4385	0.4119
	0.4582	0.4099		0.4687	0.4289		0.4342	0.4028		0.4430	0.4212
	0.4641	0.4112		0.4750	0.4304		0.4403	0.4049		0.4496	0.4236
	0.4589	0.4021		0.4695	0.4207		0.4359	0.3960		0.4449	0.4141
W8	0.4589	0.4021	WG	0.4695	0.4207	V8	0.4359	0.3960	VG	0.4449	0.4141
	0.4641	0.4112		0.4750	0.4304		0.4403	0.4049		0.4496	0.4236
	0.4700	0.4126		0.4813	0.4319		0.4465	0.4071		0.4562	0.4260
	0.4646	0.4034		0.4756	0.4221		0.4418	0.3981		0.4513	0.4164

3-2) Chromaticity Region & Coordinates (Continued)

Region	CIE X	CIE Y	Region	CIE X	CIE Y	Region	CIE X	CIE Y	Region	CIE X	CIE Y
U rank (3500K)						T rank (4000K)					
U1	0.3889	0.3690	U9	0.3941	0.3848	T1	0.367	0.3578	T9	0.3702	0.3722
	0.3915	0.3768		0.3968	0.3930		0.3726	0.3612		0.3763	0.376
	0.3981	0.3800		0.4040	0.3966		0.3744	0.3685		0.3782	0.3837
	0.3953	0.3720		0.4010	0.3882		0.3686	0.3649		0.3719	0.3797
U2	0.3953	0.3720	UA	0.4010	0.3882	T2	0.3726	0.3612	TA	0.3763	0.376
	0.3981	0.3800		0.4040	0.3966		0.3783	0.3646		0.3825	0.3798
	0.4048	0.3832		0.4113	0.4001		0.3804	0.3721		0.3847	0.3877
	0.4017	0.3751		0.4080	0.3916		0.3744	0.3685		0.3782	0.3837
U3	0.4017	0.3751	UB	0.4080	0.3916	T3	0.3783	0.3646	TB	0.3825	0.3798
	0.4048	0.3832		0.4113	0.4001		0.384	0.3681		0.3887	0.3836
	0.4116	0.3865		0.4186	0.4037		0.3863	0.3758		0.3912	0.3917
	0.4082	0.3782		0.4150	0.3950		0.3804	0.3721		0.3847	0.3877
U4	0.4082	0.3782	UC	0.4150	0.3950	T4	0.384	0.3681	TC	0.3887	0.3837
	0.4116	0.3865		0.4186	0.4037		0.3898	0.3716		0.395	0.3875
	0.4183	0.3898		0.4259	0.4073		0.3924	0.3794		0.3978	0.3958
	0.4147	0.3814		0.4221	0.3984		0.3863	0.3758		0.3912	0.3917
U5	0.3915	0.3768	UD	0.3968	0.3930	T5	0.3686	0.3649	TD	0.3719	0.3797
	0.3941	0.3848		0.3996	0.4015		0.3744	0.3685		0.3782	0.3837
	0.4010	0.3882		0.4071	0.4052		0.3763	0.376		0.3802	0.3916
	0.3981	0.3800		0.4040	0.3966		0.3702	0.3722		0.3736	0.3874
U6	0.3981	0.3800	UE	0.4040	0.3966	T6	0.3744	0.3685	TE	0.3782	0.3837
	0.4010	0.3882		0.4071	0.4052		0.3804	0.3721		0.3847	0.3877
	0.4080	0.3916		0.4146	0.4089		0.3825	0.3798		0.3869	0.3958
	0.4048	0.3832		0.4113	0.4001		0.3763	0.376		0.3802	0.3916
U7	0.4048	0.3832	UF	0.4113	0.4001	T7	0.3804	0.3721	TF	0.3847	0.3877
	0.4080	0.3916		0.4146	0.4089		0.3863	0.3758		0.3912	0.3917
	0.4150	0.3950		0.4222	0.4127		0.3887	0.3836		0.3937	0.4001
	0.4116	0.3865		0.4186	0.4037		0.3825	0.3798		0.3869	0.3958
U8	0.4116	0.3865	UG	0.4186	0.4037	T8	0.3863	0.3758	TG	0.3912	0.3917
	0.4150	0.3950		0.4222	0.4127		0.3924	0.3794		0.3978	0.3958
	0.4221	0.3984		0.4299	0.4165		0.395	0.3875		0.4006	0.4044
	0.4183	0.3898		0.4259	0.4073		0.3887	0.3836		0.3937	0.4001

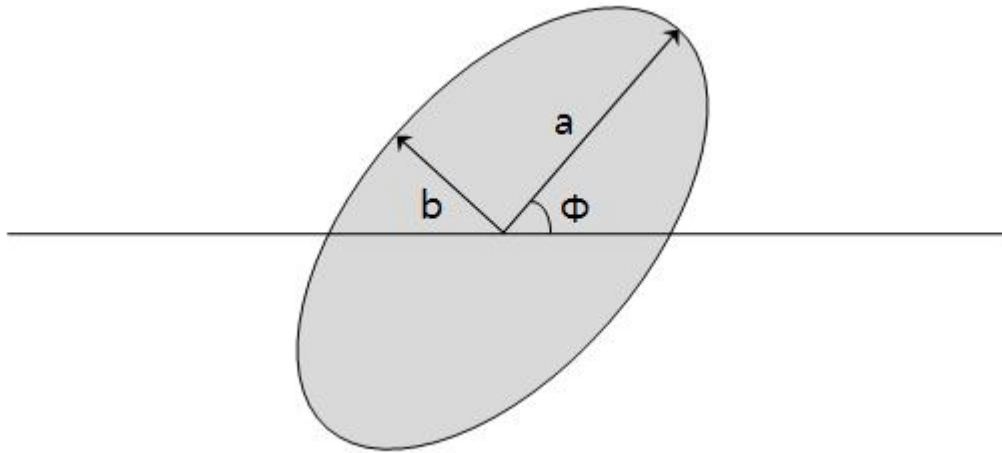
3-2) Chromaticity Region & Coordinates (Continued)

Region	CIE X	CIE Y	Region	CIE X	CIE Y	Region	CIE X	CIE Y	Region	CIE X	CIE Y
R rank (5000K)						P rank (6500K)					
R1	0.3371	0.3490	R5	0.3366	0.3369	P1	0.3068	0.3113	P5	0.3093	0.2993
	0.3451	0.3554		0.3440	0.3428		0.3144	0.3186		0.3161	0.3059
	0.3440	0.3427		0.3429	0.3307		0.3130	0.3290		0.3144	0.3186
	0.3366	0.3369		0.3361	0.3245		0.3048	0.3207		0.3068	0.3113
R2	0.3451	0.3554	R6	0.3440	0.3428	P2	0.3144	0.3186	P6	0.3161	0.3059
	0.3533	0.3620		0.3515	0.3487		0.3221	0.3261		0.3231	0.3120
	0.3515	0.3487		0.3495	0.3339		0.3213	0.3373		0.3221	0.3261
	0.3440	0.3427		0.3429	0.3307		0.3130	0.3290		0.3144	0.3186
R3	0.3376	0.3616	R7	0.3381	0.3762	P3	0.3048	0.3207	P7	0.3028	0.3304
	0.3463	0.3687		0.3480	0.3840		0.3130	0.3290		0.3115	0.3391
	0.3451	0.3554		0.3463	0.3687		0.3115	0.3391		0.3099	0.3509
	0.3371	0.3490		0.3376	0.3616		0.3028	0.3304		0.3005	0.3415
R4	0.3463	0.3687	R8	0.3480	0.3840	P4	0.3130	0.3290	P8	0.3115	0.3391
	0.3551	0.3760		0.3571	0.3907		0.3213	0.3373		0.3205	0.3481
	0.3533	0.3620		0.3551	0.3760		0.3205	0.3481		0.3196	0.3602
	0.3451	0.3554		0.3463	0.3687		0.3115	0.3391		0.3099	0.3509
Q rank (5700K)						N rank (7600K)					
Q1	0.3215	0.3350	Q5	0.3222	0.3243	N1	0.2933	0.2930	N5	0.2959	0.2860
	0.3290	0.3417		0.3290	0.3300		0.3000	0.3021		0.3026	0.2927
	0.3290	0.3300		0.3290	0.3180		0.2976	0.3106		0.3000	0.3021
	0.3222	0.3243		0.3231	0.3120		0.2905	0.3005		0.2933	0.2930
Q2	0.3290	0.3417	Q6	0.3290	0.3300	N2	0.3000	0.3021	N6	0.3026	0.2927
	0.3371	0.3490		0.3366	0.3369		0.3068	0.3113		0.3093	0.2993
	0.3366	0.3369		0.3361	0.3245		0.3048	0.3207		0.3068	0.3113
	0.3290	0.3300		0.3290	0.3180		0.2976	0.3106		0.3000	0.3021
Q3	0.3207	0.3462	Q7	0.3196	0.3602	N3	0.2905	0.3005	N7	0.2879	0.3072
	0.3290	0.3538		0.3290	0.3690		0.2976	0.3106		0.2954	0.3188
	0.3290	0.3417		0.3290	0.3538		0.2954	0.3188		0.2928	0.3283
	0.3215	0.3350		0.3207	0.3462		0.2879	0.3072		0.2850	0.3150
Q4	0.3290	0.3538	Q8	0.3290	0.3690	N4	0.2976	0.3106	N8	0.2954	0.3188
	0.3376	0.3616		0.3381	0.3762		0.3048	0.3207		0.3028	0.3304
	0.3371	0.3490		0.3376	0.3616		0.3028	0.3304		0.3005	0.3415
	0.3290	0.3417		0.3290	0.3538		0.2954	0.3188		0.2928	0.3283

Notes:

SAMSUNG ELECTRONICS maintains ± 0.01 tolerance of CCx, CCy

3-3) MacAdam 3-step Ellipse



Nominal CCT	Center		Theta	a	b
	CIE X	CIE Y			
2700K	0.4578	0.4101	53.70	0.0081	0.0042
3000K	0.4338	0.4030	53.22	0.0083	0.0041
3500K	0.4073	0.3917	54.00	0.0093	0.0041
4000K	0.3818	0.3797	53.72	0.0094	0.0040

Notes:

SAMSUNG ELECTRONICS maintains ± 0.01 tolerance of CCx, CCy

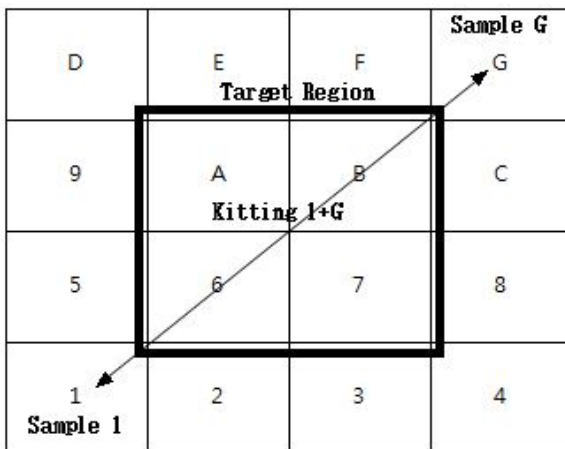
4. Kitting Rule

4-1) Color Kitting

2700K & 3000K & 3500K & 4000K

- 1) Color kitting region is below 6,7,A,B areas (Quarter bin at center).
- 2) If combine the sample 1 and the sample G, the color of kitted area is averaged one: Color of kitted area = (Color of 1 + Color of G)/2
- 3) Kitted color rank(WK, VK, UK, TK) represents color kitting region with each CCT.
- 4) Kitting concept is shown below diagram.

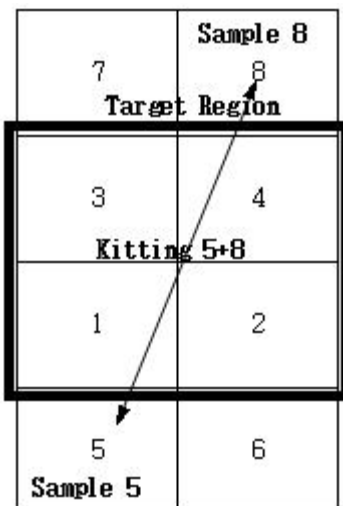
[Kitting example]



5000K & 5700K

- 1) Color kitting region is below 1,2,3,4 areas(Quarter bin at center).
- 2) If combine the sample 5 and the sample 8, the color of kitted area is averaged one: Color of kitted area = (Color of 5 + Color of 8)/2
- 3) Kitted color rank(RK) represents color kitting region with each CCT.
- 4) Kitting concept is shown below diagram.

[Kitting example]



4-2) V_F Kitting

Parameter	Symbol	Condition	Rank	Rank	Min.	Typ.	Max.
Forward Voltage	V_F	$I_F = 350 \text{ mA}$	E6	E3	2.7	-	3.0
				H3	3.0	-	3.3

- 1) V_F kitting is paired with same V_F rank(E3 or H3).
- 2) V_F kitting is one of $(E3+E3)/2$ or $(H3+H3)/2$.
- 3) V_F E6 rank contains above two conditions.

4-3) Luminous Flux Kitting

: If combine the lm of sample A and the lm of sample B, The lm of kitted product will be the average one:

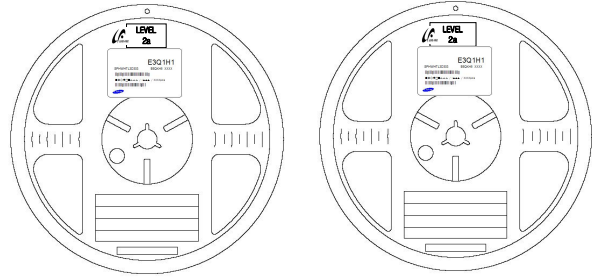
$$lm \text{ of kitted one} = (lm \text{ of sample A} + lm \text{ of sample B})/2.$$

For example, kitting H1 rank is defined as a minimum flux of 110lm, therefore lm of kitting products will show a minimum flux of 110lm.

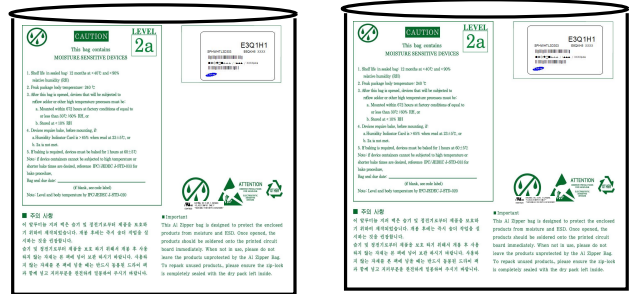


4-4) Packing Process

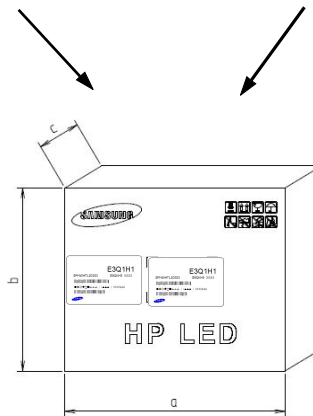
Reel



Aluminum Vinyl Bag



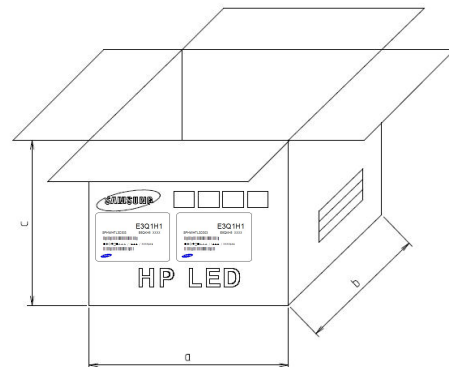
Inner Box



Material : Paper(SW3B(B))

TYPE	SIZE(mm)		
	a	b	c
7inch	185	219	44

Out Box



Material : Paper(SW3B(B))

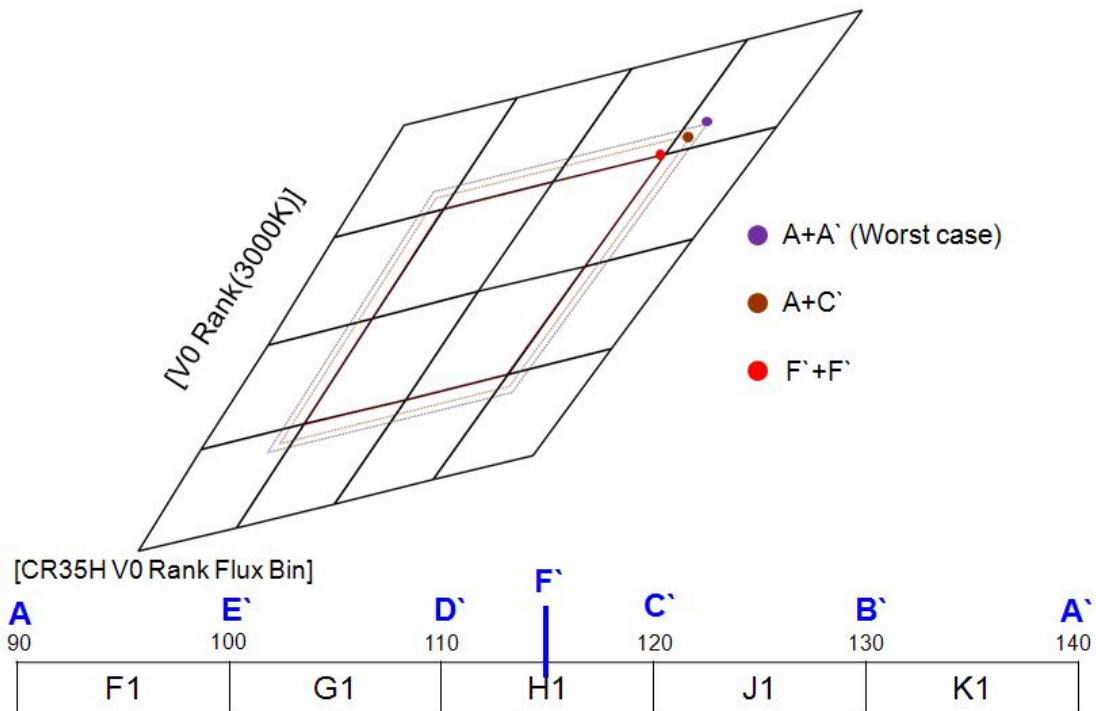
TYPE	SIZE(mm)		
	a	b	c
7inch	245	194	232

4-5) Rules

- 1) Under Agreement Between Customer and SAMSUNG LED, SAMSUNG LED can supply kitting Bin(V_F , Color, I_m).
- 2) Forward Voltage(V_F) is paired with ($V_{F_E3} + V_{F_E3}$) or ($V_{F_H3} + V_{F_H3}$)
 Kitting V_F is an average of paired V_{F_E3} or V_{F_H3}
 [Kitting $V_F = (V_{F_E3} + V_{F_E3})/2$ or $(V_{F_H3} + V_{F_H3})/2$]
 - $V_F(E3) : 2.7\sim 3.0V@350mA$
 - $V_F(H3) : 3.0\sim 3.3V@350mA$
- 3) Chromaticity Coordinates is average by Kitting Procedure.(Below Kitting Simulation)
 For example kitting color is an average of Color A and Color B
 [Kitting Color = $(Color_A + Color_B)/2$]
- 4) Luminous Flux(I_m) is average by Kitting Procedure.(Below Kitting Simulation)
 For example Kitting I_m is an average of I_{m_A} and I_{m_B}
 [Kitting $I_m = (I_{m_A} + I_{m_B})/2$]
- 5) SAMSUNG LED can provide Kitting table if Customers request

[Kitting Simulation] ex) 3000K

- Chromaticity Coordinate/ min&max Flux Bin Simulation



<h2>Revision History</h2>

Date	Revision History	Writer	
		Drawn	Approved
2012.08.17	New version	G.E.CHO	Y.T.KIM
2012.09.24	2nd version	G.E.CHO	Y.T.KIM