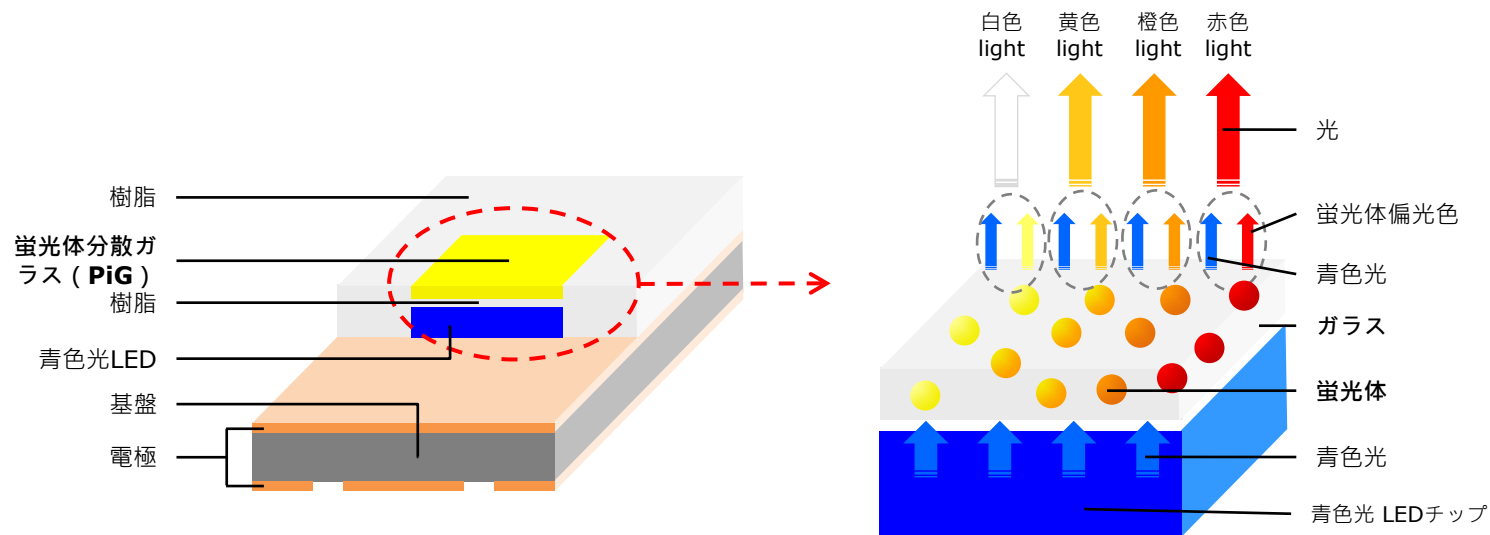


蛍光体分散ガラス (PiG)

LED の構造 と 蛍光体分散ガラス (PiG) の効果

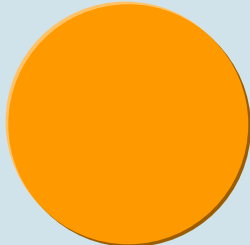


蛍光体分散ガラスタイプの特徴

蛍光体仕様と種類

封止シリコン タイプ	シリコン屈折率	高	中	低	色度
	熱抵抗値 T_j (°C)	<125	150	>150	弱い
	強度(%)	105	100	93	
	備考	耐候性▲	-	製造難易	
シリコン屈折率	高	中	低	色度	
フィルムタイプ	熱抵抗値 T_j (°C)	150	>150	>150	普通
	強度(%)	105	100	93	
	備考	-	-	製造難易	
	シリコン屈折率	高	中	低	
蛍光体分散 ガラスタイプ	熱抵抗値 T_j (°C)	-	>200	-	更に良い
	強度(%)	-	100	-	
	備考	-	耐候性○	-	

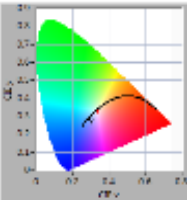
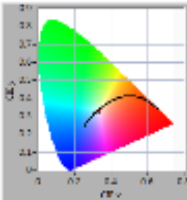
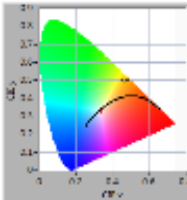
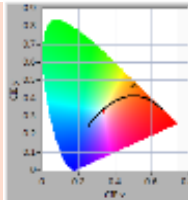
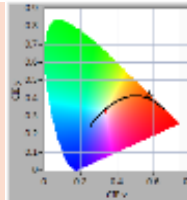
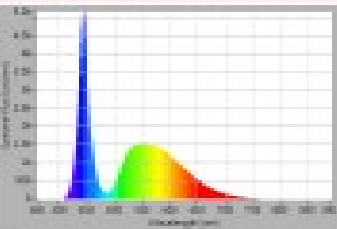
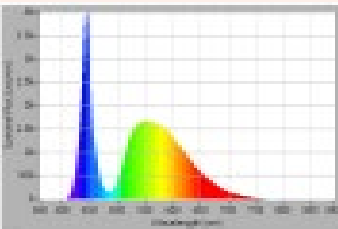
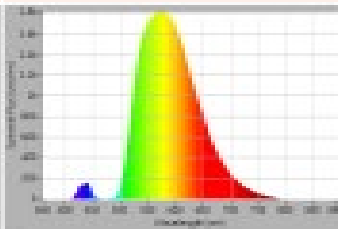
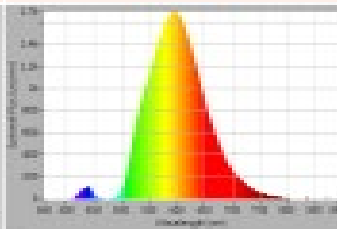
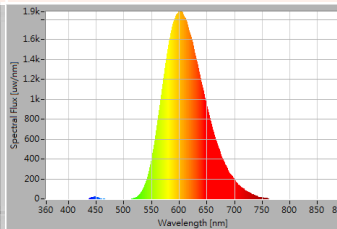
蛍光体分散ガラス製品

	クールホワイト色 Cool White	ゴールデン色 Golden	アンバー（琥珀）色 Amber
蛍光体	YAG	YAG	SiAlON
色温度	5000 ~ 8000 K	2700 ~ 3300 K	1700 ~ 1900 K
用途	プロジェクター 自動車用ライト	自動車用ライト	自動車用ライト
厚み	100~300 μ m (thickness total variation \pm 4 μ m)		
蛍光体分散ガラス			

蛍光体分散ガラス仕様のLED hi-CRIデータ

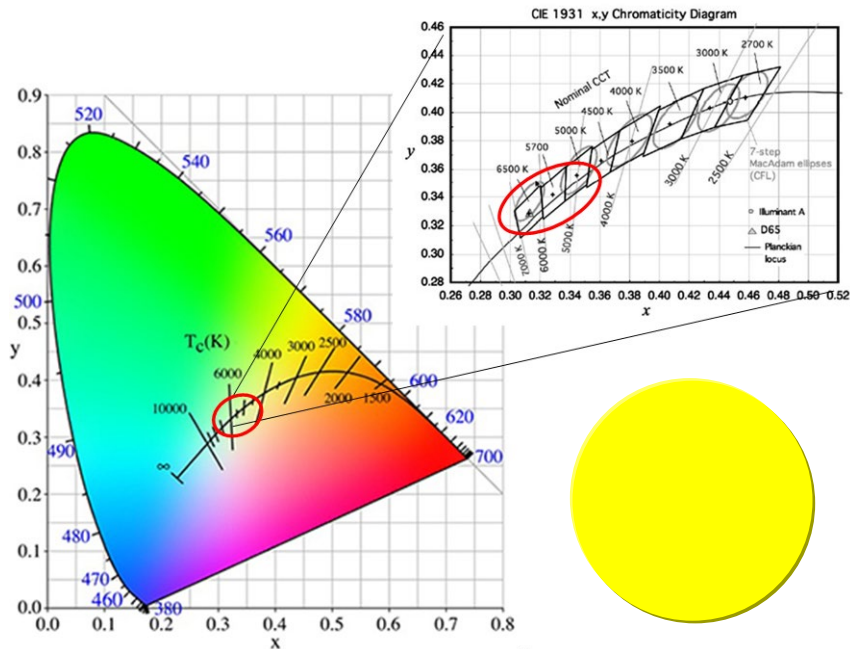
	Thickness (um)	>80CRI	>90CRI	SunLike LED	Applications
2700K	120-250	✓	✓	✓	Lighting
3000K		✓	✓	✓	Lighting
5700K		✓	✓	✓	Lighting, Laser
6500K		✓	✓	✓	Lighting, Laser

ご用途に合わせてカスタマーメイド色調整できる蛍光体分散ガラス

	Cool White#1	Cool White#2	Golden#1	Golden#2	Amber
CIE x	0.2966	0.3203	0.4644	0.5006	0.5746
CIE y	0.2970	0.3204	0.5008	0.4703	0.4177
Color Temperature	8715	6140	3250	2600	1700
Ra	73.64	69.75	-	-	-
Chromaticity coordinates					
Spectrum					

例 1

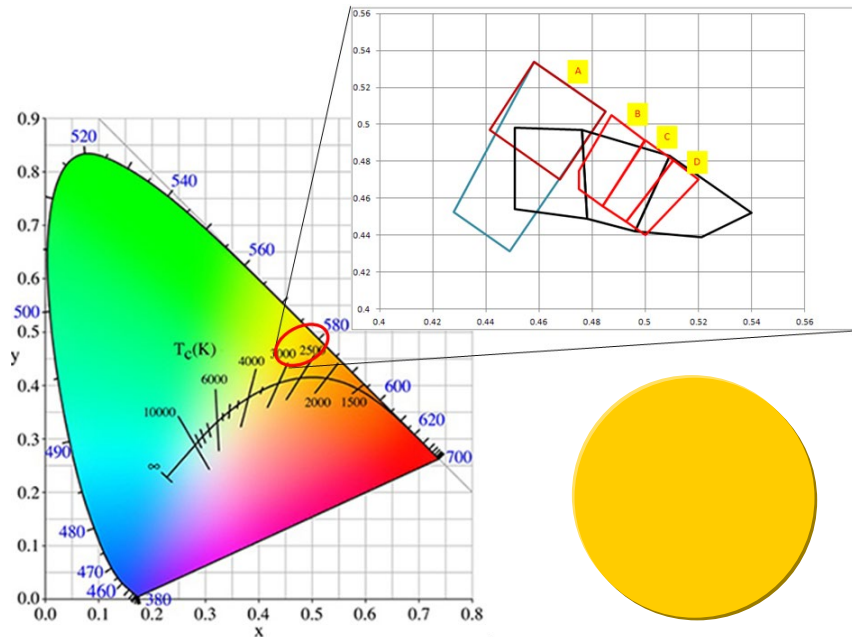
Cool White Characteristic



	Cool White
CIE x	0.3022 ~ 0.3363
CIE y	0.2912 ~ 0.3412
Color temperature	5000 ~ 8000 K
Ra	<80
Applications	Daytime running light High beam Low beam

例 2

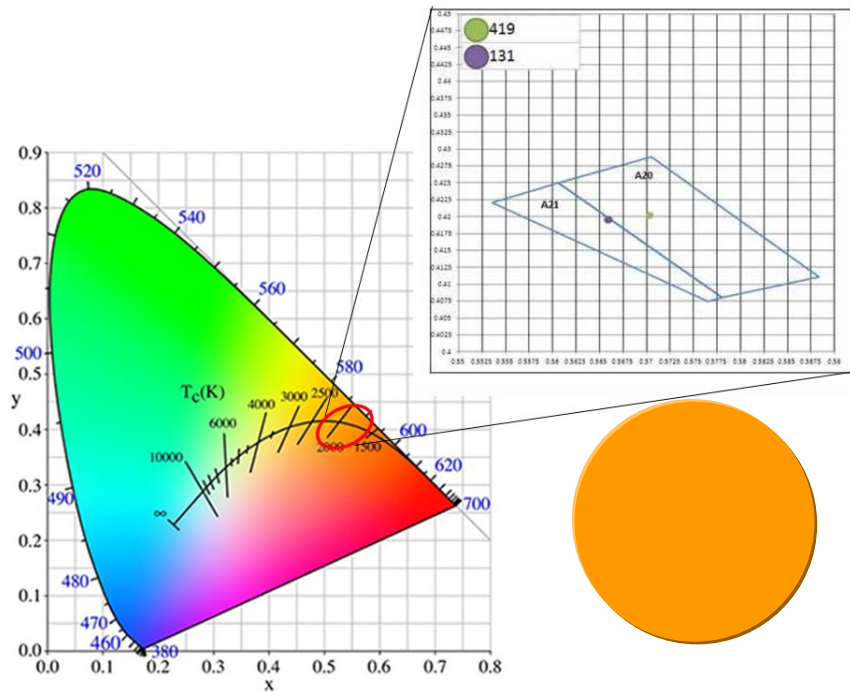
Golden Characteristic



	Golden
CIE x	0.4300 ~ 0.5400
CIE y	0.4300 ~ 0.5300
Color temperature	2700 ~ 3300 K
Ra	-
Applications	Fog lamp

例 3

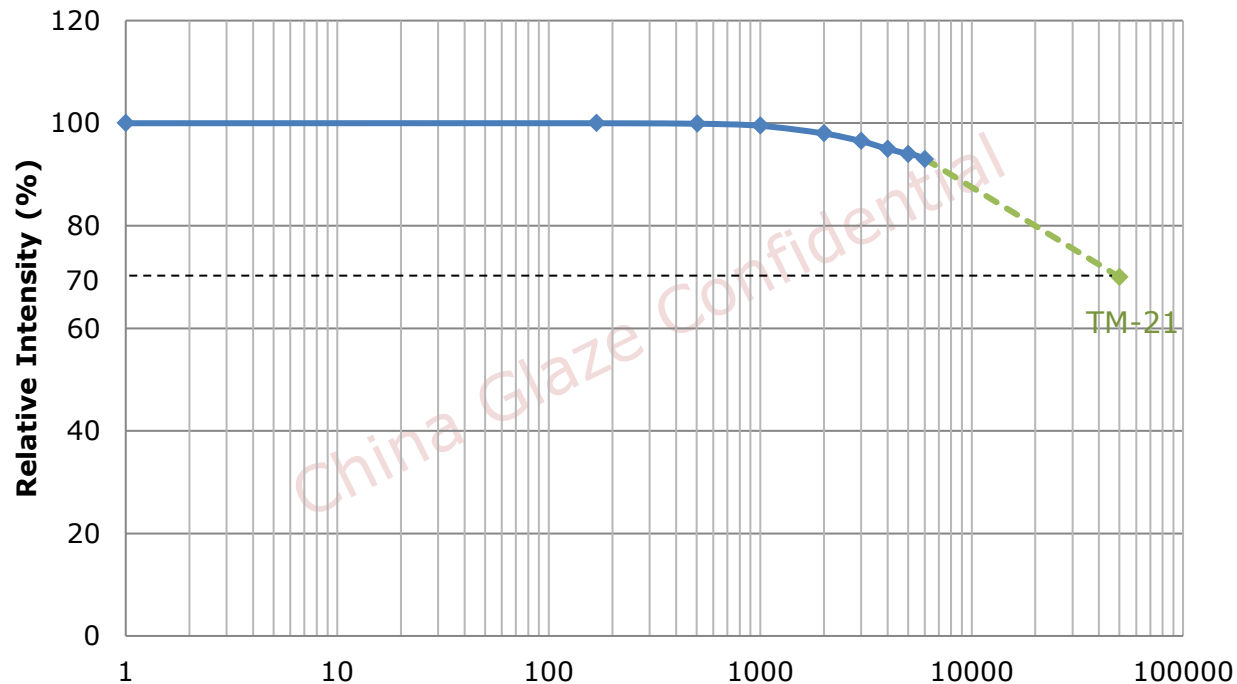
Amber Characteristic



	Amber
CIE x	0.5606 ~ 0.5750
CIE y	0.4080 ~ 0.4250
Color temperature	1700 ~ 1900 K
Ra	-
Applications	Direction indicator Marker lamp

高温時のLED (PiG仕様) 耐候性試験

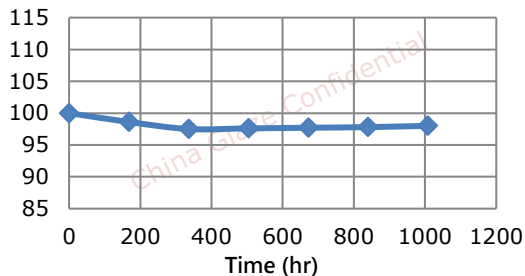
Cool White色 125°C @ 1.5A



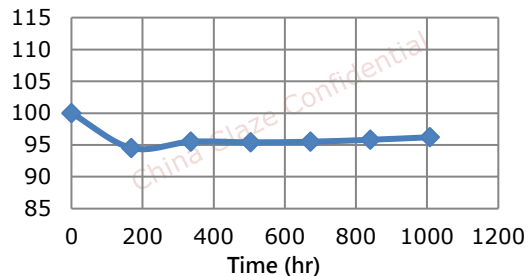
高温時のLED (PiG仕様) 性能試験

Cool White色 105°C @ 1.2A

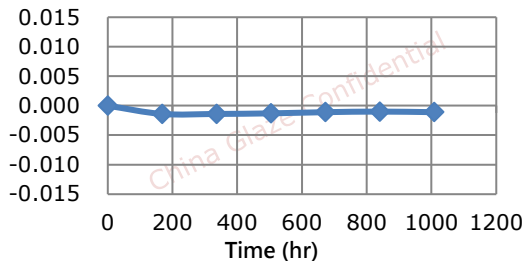
Average VF%



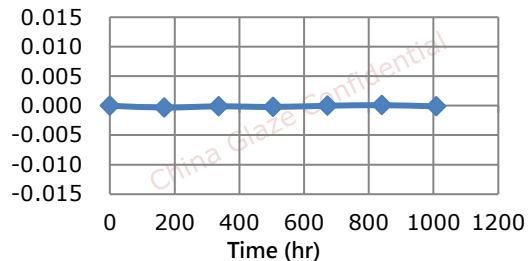
Average Im%



Average Δ CIE_x



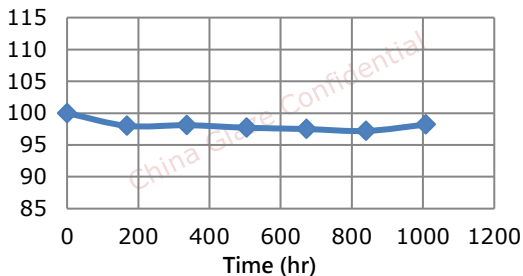
Average Δ CIE_y



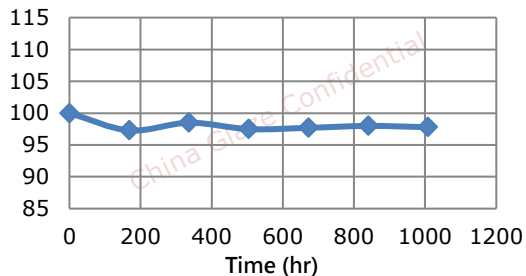
低温時のLED (PiG仕様) 性能試験

Cool White色 -40°C @ 1.2A

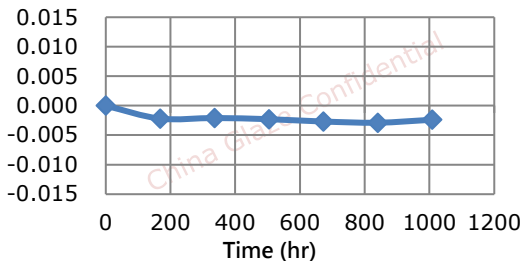
Average VF%



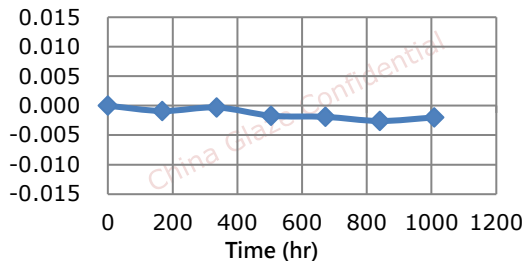
Average Im%



Average Δ CIE_x



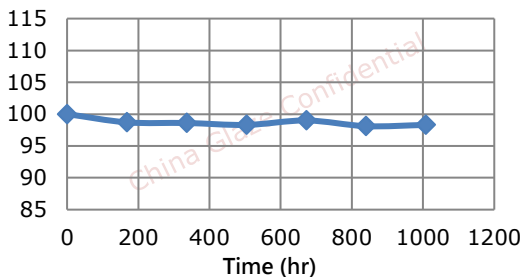
Average Δ CIE_y



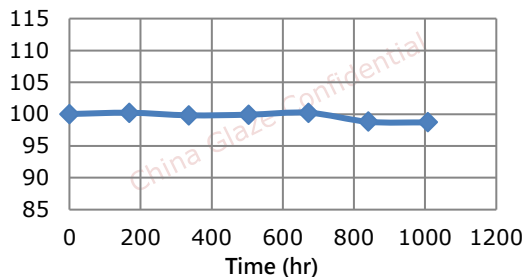
常温時のLED (PiG仕様) 性能試験

Cool White色 温度85°C/湿度85% @ 1.2A

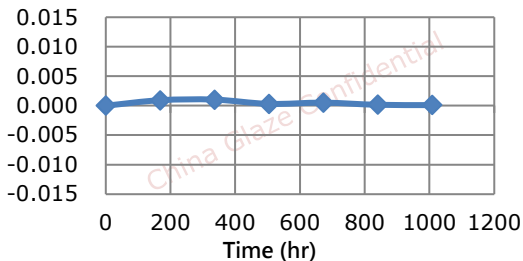
Average VF%



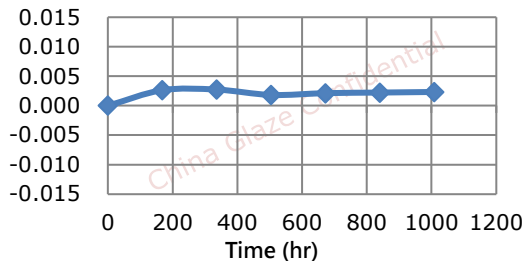
Average Im%



Average Δ CIE_x



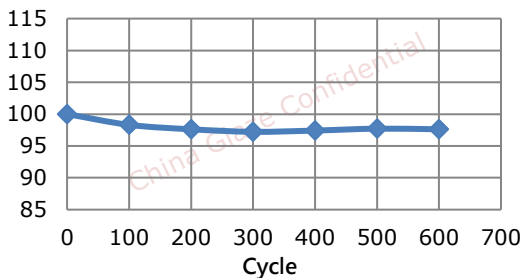
Average Δ CIE_y



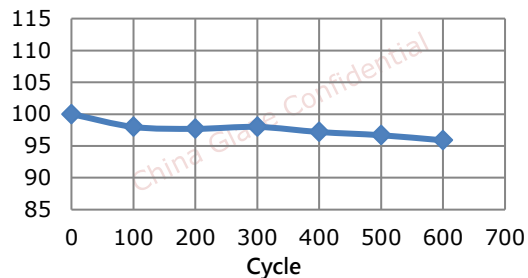
高低温LED (PiG仕様) サイクル耐候性試験

Cool White 色-40°C (10min)/125°C (10min) @ 1.2A 5min on/5min off

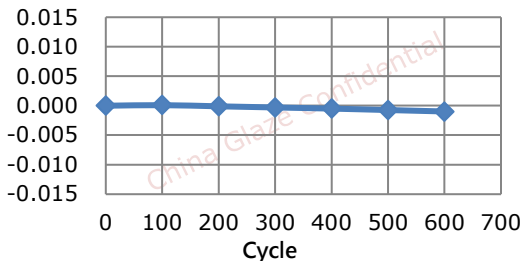
Average VF%



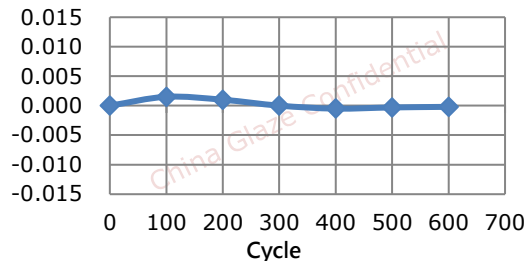
Average Im%



Average Δ CIEx



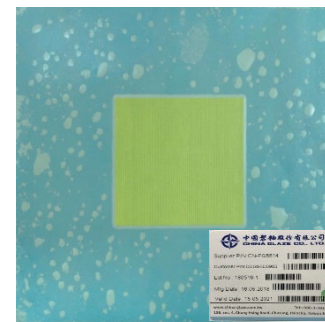
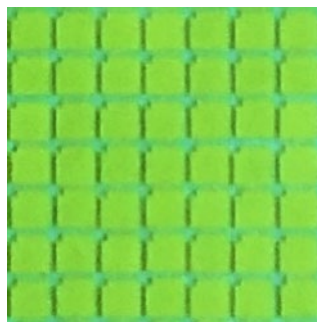
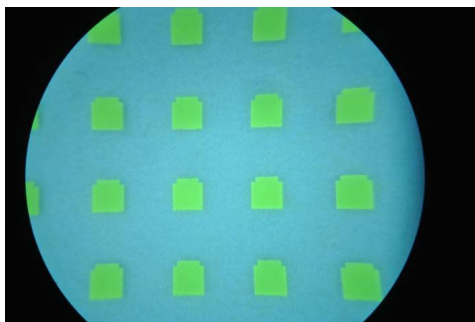
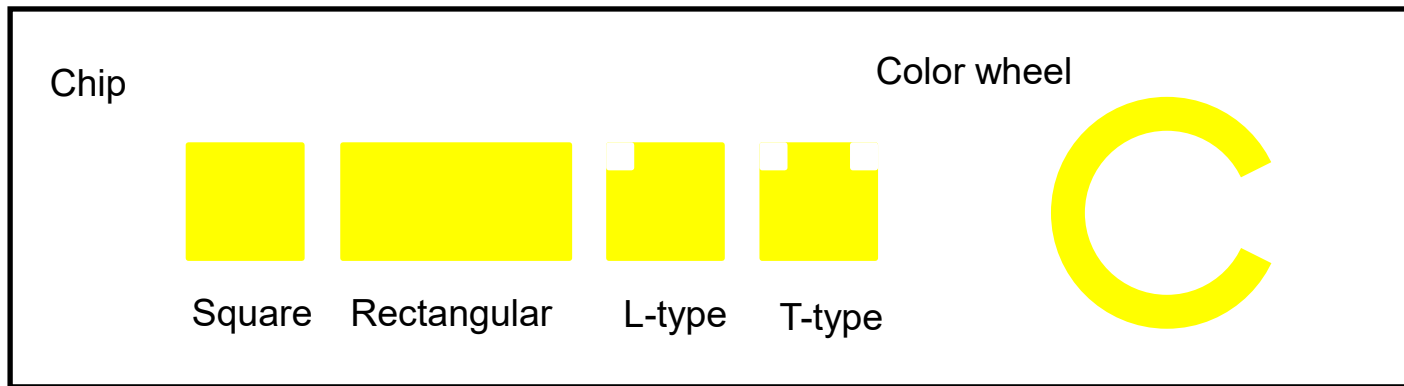
Average Δ CIEy



蛍光体分散ガラス製品リスト

型號 P/N	尺寸 size	厚度 Thickness	顔色 Color	晶片波長 λex nm	色座標 CIE (x,y)	色温 CT [K]	應用 Application
PG5550	4 inch	300um	Yellow	445-470	-	-	Projector
PG5250	4 inch	300um	Green	445-470	-	-	Projector
PG5610A	4 inch	150um	Yellow	445-470	(0.2949, 0.2757)	9050	High power, Headlamp
PG5611A	4 inch	150um	Yellow	445-470	(0.2983, 0.2849)	8600	High power, Headlamp
PG5611B	4 inch	150um	Yellow	445-470	(0.3001, 0.2880)	8000	High power, Headlamp
PG5611C	4 inch	150um	Yellow	445-470	(0.3022, 0.2912)	7650	High power, Headlamp
PG5612A	4 inch	150um	Yellow	445-470	(0.3053, 0.2939)	7500	High power, Headlamp
PG5612B	4 inch	150um	Yellow	445-470	(0.3073, 0.2988)	7200	High power, Headlamp
PG5613A	4 inch	150um	Yellow	445-470	(0.3122, 0.3063)	6750	High power, Headlamp
PG5613B	4 inch	150um	Yellow	445-470	(0.3171, 0.3149)	6350	High power, Headlamp
PG5613C	4 inch	150um	Yellow	445-470	(0.3203, 0.3204)	6150	High power, Headlamp
PG5608	2 inch	150um	Yellow	445-470	(0.2680, 0.2306)	-	High power, HUD
PG5609	2 inch	150um	Yellow	445-470	(0.2720, 0.2377)	-	High power, HUD
PG5612C	2 inch	150um	Yellow	445-470	(0.3027, 0.2929)	7700	High power, Headlamp
PG5614	2 inch	150um	Yellow	445-470	(0.3140, 0.3204)	6500	High power, Headlamp
OP5830L	2 inch	150um	Golden	445-470	(0.4500, 0.4953)	3500	High power, Headlamp
OP5840L	2 inch	150um	Golden	445-470	(0.4649, 0.5099)	3300	High power, Headlamp
OP5830H	2 inch	150um	Golden	445-470	(0.5005, 0.4739)	2700	High power, Headlamp
OP6040H	2 inch	150um	Golden	445-470	(0.4626, 0.5034)	3300	High power, Headlamp
OP5910	2 inch	150um	Amber	445-470	(0.5700, 0.4200)	1700	High power, Turn indicator

ご用途に合わせた形状に裁断可能な蛍光体分散ガラス



使用例 1

PIG Offers Superior Reliability of Auto Lighting Applications

- Front fog lamp
- Daytime running light
- High beam
- Low beam

- Side marker lamp
- Front direction indicator
- Rear direction indicator
- Side direction indicator



使用例 2

PiG Offers Superior Reliability of Scooter Lighting Applications



Head light

使用例 3

Laser Projector Applications

