

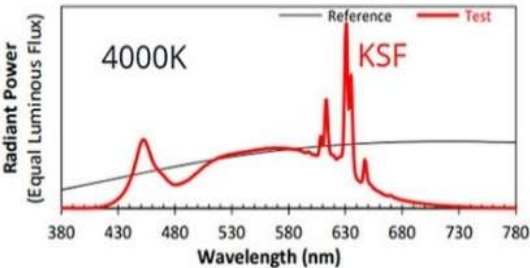
F90

2022

Bridging Light and Life™

High Efficacy CRI 90 Solution: F90™ Products

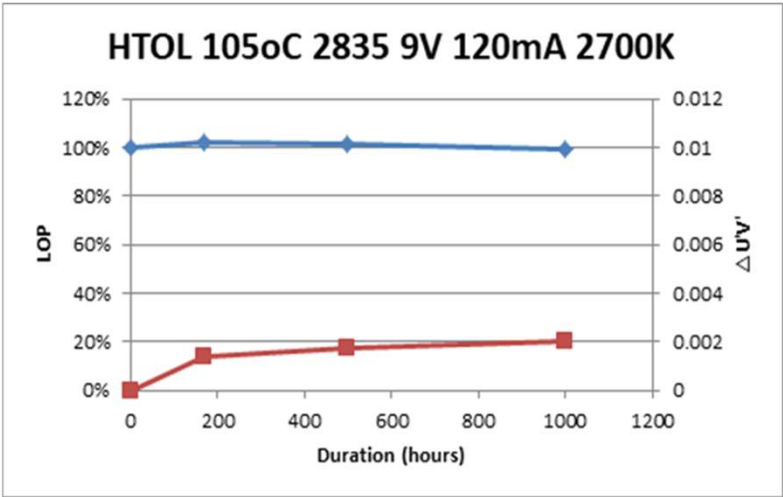
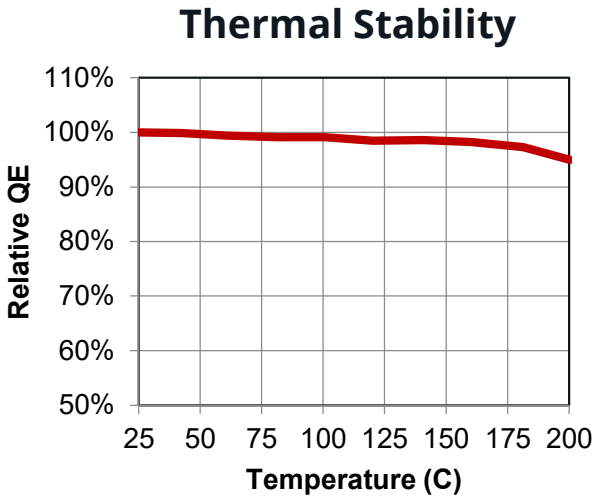
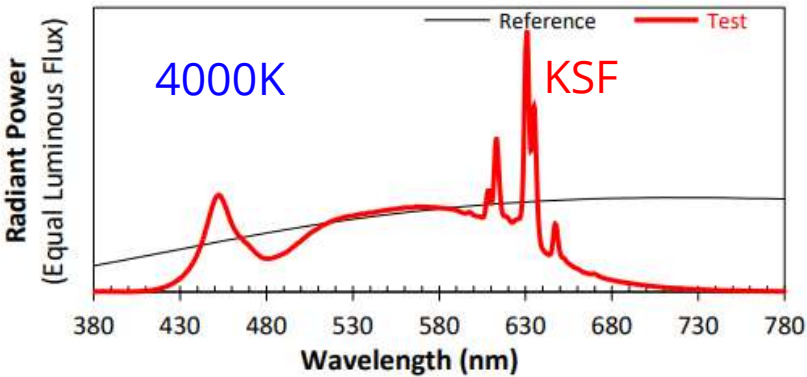
Bridgelux F90™ products uses narrowband red Potassium Fluorosilicate (PFS or KSF) phosphor. **CRI80 Efficacy with CRI 90 Color Rendering**



Features	Benefits
F90 performance with CRI 80 efficacy	Industry standard footprint and form factor for Drop-in replacement for CRI80 LEDs used in the existing lighting products.
Up to 210 lm/W efficacy performance	Superior lumen per dollar
CRI 90 with R9 of min 50	Economical, high efficiency solution
ANSI Compliant color bin	True color reproductions
DLC Premium Lumen maintenance L90≥36,000 hour	Increase the vividness of strong red colors especially desirable in retail applications
IP	Signed GE PFS license for both commercial and residential applications

Why KSF?

	PL Relative Intensity	FWHM	Emission Peak Wavelength	Color Coordinates		Particle Size
Product Name	%	nm	nm	x	y	D50V μm
NR6931-04	≥ 700	10	632	0.693	0.307	23.0
NR6931-04A	≥ 730	10	632	0.693	0.307	23.0
NR6931-04A+	≥ 700	10	632	0.693	0.307	23.0
NR6931-04B	≥ 700	10	632	0.693	0.307	25.0
NR6931-04C	≥ 650	10	632	0.693	0.307	25.0
NR6931-04C+	≥ 650	10	632	0.693	0.307	26.0



Value Propositions of F90



- Through the improvement of the packaging process and KSF phosphor, **Bridgelux F90** product performance is same or better than today's CRI80 packages.
- F90 LEDs can drop in replacement for CRI80 LEDs used in the existing lighting products.



Typical Efficacy Comparison By Color Rendering Technology & Form Factor

CCT (K)	CRI Technology	Typical Efficacy lm/W at Rated Current vs. Form Factor			
		V8, V10, V13	V18	SMD 2835 1W 9V	SMD 2835 0.2W 3V
3000	Standard 80	175	180	125	170-210
3000	Standard 90	147	150	105	140-176
3000	F90	Q1, 2022	Q1, 2022	125	170-210
3000	Thrive	104 (CRI 98)	108 (CRI 95)	100 (CRI 95)	126 (CRI 97)

Pulsed data at rated drive current per form factor, T_c = 85°C

Current F90 SMD: Performance At A Glance

Product		F90 2835						
Part Number Identifier		11L-37	11L-3A	11L-3C	21L-3C4	21H-18C	13H-9C	13H-9D
Power		0.2W	0.2W	0.2W	0.2W	0.9W	0.9W	0.9W
Drive Current		65 mA	65 mA	65 mA	65 mA	50 mA	100 mA	100 mA
Voltage (V)		2.9	2.88	2.82	2.72	18	9.15	8.95
CCT Range Available		2700K - 6500K						
3000K 80 CRI Performance	Lumens	30	32	34	35	140	127	142
	Lm/W	160	173	184	198	156	139	158
4000K 80 CRI Performance	Lumens	31	33	35	36	144	130	145
	Lm/W	164	177	188	204	160	142	162

Pulsed data at rated drive current per form factor, T_c = 25°C

F90 COB and 3030

- F90 COBs (V10C, V13C, and V18C)
 - Data sheets will be available on end of December
 - LM 80 in Q1, 2022
- F90 3030, 200 lm/W
 - LM 80 with 9,000hrs and data sheets will be ready in the middle of December.

F90 Module



[COMPANY](#) [RESOURCES](#) [BLOG](#) [CONTACT](#) [WHERE TO BUY](#)

[Market Applications](#) [LED Light Sources](#) [Drivers and Controls](#) [Today's Light](#) [Design Services](#)

HOME / PRODUCTS / F90™

F90™

Product (BXEB)	Length	Width	CCT Range	CRI	SDCM	Typical Flux, 45C (4000K, 90CRI)	Typical Voltage	Drive Current	Efficacy, 45C (4000K, 90CRI)
EB Gen 3 F90-HE Download Data Sheet	140 mm	20 mm	2700K-5000K	90	3	574 lm	38.1 V	77 mA	196 lm/W
	280 mm					1150 lm		154 mA	
	560 mm					2300 lm		308 mA	
	1120 mm					4600 lm		616 mA	
EB Gen 3 F90-SE Download Data Sheet	140 mm	20 mm	2700K-5000K	90	3	516 lm	38.5 V	77 mA	172 lm/W
	280 mm					1032 lm		154 mA	
	560 mm					2047 lm		308 mA	
	1120 mm					4093 lm		616 mA	

1. Performance data measured at 45C
2. Delta VF (max-min) less than 1V

- Industry leading efficacy in CRI90 with cost competitive L2 solution