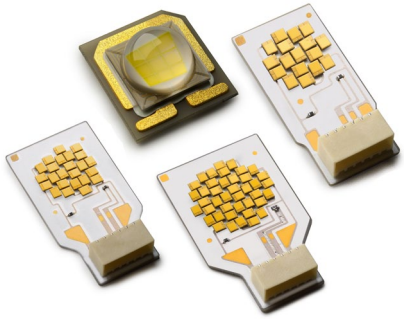


LUXEON S

Punch, Color Quality, and Freedom From Binning



LUXEON® S LEDs deliver the highest quality of light with industry leading punch for high center beam intensity and uniformity. The tight beams of light enable crisp, sharp shadows making it ideally suited to retail and hospitality applications like spot lamps. Flux density is maximized with a small optical source to enable the most compact reflectors and narrow beam spots. The unparalleled quality of light is in part due to Freedom From Binning. This means that all LUXEON S emitters fall within a single 3-step MacAdam Ellipse, ensuring uniform optical performance in the application. And because LUXEON S is hot-tested at 85°C—real world operating conditions—luminaire design is simplified, testing can be minimized, and time to market accelerated.

Features

- High flux density with compact light emitting source
- <15-20 points color over angle shift
- Single 3-step MacAdam binning
- UL rated on-board connector
- On-board NTC chip
- Hot tested at real world operating temp: Tj = 85°C
- Tight Correlated Color Temperature (CCT) control
- High efficacy for sustainable design

Benefits

- Enable narrow beam angles at compact footprint
- Enable uniform and consistent system color point
- Simplify design, eliminate color bin management
- Enable elegant solderless electric and clamping assembly
- Allow real time temp monitoring
- Ensure in application performance
- Ensure consistency in system color point
- Provide equivalent or better efficacy than Halogen and CDM

Key Applications

- Spotlights
- Architecture
- Downlights
- Specialty Lighting

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Product Selection Guide for LUXEON S

Series	Nominal CCT	Minimum CRI	Typical R9	Min Luminous Flux at 700 mA (lm) at 85°C Tj	Typ Luminous Flux at 700 mA (lm) at 85°C Tj	Max Vf	Binning Description	Part Number
S1000	2700 K	80	>20	1150	1250	29	3 SDCM Color Binning	LXS8-PW27
	3000 K	80	>20	1250	1390	29	3 SDCM Color Binning	LXS8-PW30
	3000 K	90	>50	1050	1175	29	3 SDCM Color Binning	LXS9-PW30
	3500 K	80	>20	1300	1420	29	3 SDCM Color Binning	LXS8-PW35
	4000 K	80	>20	1360	1450	29	3 SDCM Color Binning	LXS8-PW40
S2000	3000 K	80	>18	2650	2800	50	3 SDCM Color; One Flux, One Vf Bin	LXS8-PW30-0017
	3000 K	90	>87	2150	2200	50	3 SDCM Color; One Flux, One Vf Bin	LXS9-PW30-0017
S3000	3000 K	80	>18	3725	4000	70	3 SDCM Color; One Flux, One Vf Bin	LXS8-PW30-0024
	3000 K	90	>87	3050	3300	70	3 SDCM Color; One Flux, One Vf Bin	LXS9-PW30-0024
S5000	3000 K	80	>18	6375	6750	119	3 SDCM Color; One Flux, One Vf Bin	LXS8-PW30-0041
	3000 K	90	>87	5150	5400	119	3 SDCM Color; One Flux, One Vf Bin	LXS9-PW30-0041

Absolute Maximum Ratings

Parameter	Maximum Performance
DC Forward Current	1050 mA; For S1000 900 mA
RMS Forward Current	1250 mA; For S1000 900 mA
ESD Sensitivity	< 8000V Human Body Model (HBM) Class 3A JESD22-A114-E < 400V Machine Model (MM) Class B JESD22-A115-B
Storage Temperature	-40°C - 135°C
LED Junction Temperature [1]	135°C; For S1000 115°C
Operating Case Temperature at 700 mA	-40°C-120°C; For S1000 -40°C-85°C
Autoclave Conditions	For S1000: 121°C at 2 ATM 100% Relative Humidity for 96 Hours Maximum
Reverse Voltage (V_r)	LUXEON S LEDs are not designed to be driven in reverse bias

Flux Bin Structure of LUXEON S1000

Bin Code	Min Photometric Flux (lm)	Max Photometric Flux (lm)
A	1050	1100
B	1100	1150
C	1150	1200
L	1200	1250
M	1250	1300
N	1300	1360
P	1360	1420
Q	1420	1480
R	1480	1540
S	1540	1615
T	1615	1690
U	1690	1765
V	1765	1840

Vf Bin Structure of LUXEON S1000

Bin Code	Min Forward Voltage (V)	Max Forward Voltage (V)
G	23.5	24.5
H	24.5	26
J	26	27.5
K	27.5	29

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