

## LED MODULES

## FOR HIGH LUMEN APPLICATIONS



### Features

- > Design focused on achieving industry leading lm/\$ and lm/W
- > High efficacy: 4000 lm, 6000 lm, and 8000 lm packages tested at 170 lm/W
- > Aluminium core PCB in all light engines for excellent heat dissipation
- > CCT options from 2200K – 6500K, up to 3-step MacAdam available



Part Number	Dimensions [Inch]	Nominal Voltage	Nominal Light Output	Nominal Efficacy	Maximum Light Output
SC20SG-110008S-24V	11.0 x 0.8	24V	2,000lm	173lm/W	3,658lm
QC40SG-220008S-24V	22.0 x 0.8	24V	4,000	173	7,316
QF80SG-220016S-24V	22.0 x 1.574	24V	8,000	173	14,632
QF80DG-220016S-48V	22.0 x 1.574	24V/48V1	8,000	173	14,632
U80SG-115025S-24V	11.5 x 2.5	24V	8,000	173	14,632

### Warranty Operation Range

Part Number	Max Current	Max Power	Operating Temperature Range [°C]	Control Range <sup>1</sup>
SC20SG-110008S-24V	1,000mA	25W	-40.0 to +85.0	100% to 0.1%
QC40SG-220008S-24V	2,000mA	50W		
QF80SG-220016S-24V	4,000mA	100W		
QF80DG-220016S-48V	4,000mA/ 2,000mA <sup>2</sup>	100W		
U80SG-115025S-24V	4,000mA	100W		

1. Control range is dependent on driver resolution.
2. QF80DG wired in Series (48V) configuration operates at half the max current

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## SINGLE ROW STRIPS

Electrical Characteristics ( $T_j = 45^\circ\text{C}$ , CCT = 4000K, CRI = 80)

Part Number	Vf	500mA		700mA		1,000mA		2,000mA	
		Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]
SC20SG-110008S-24V	22 – 26V	2,021	173	2,710	160	3,658	144		
QC40SG-220008S-24V	22 – 26V	2,145	193	2,933	184	4,043	173	7,317	144

Correlated Color Temperature (CCT) and CRI: Lumen Multiplication Factor

CRI	2200K	2700K	3000K	3500K	4000K	5000K	6500K
80+	0.80	0.91	0.93	0.95	1.00	1.00	0.98
90+	-	0.76	0.79	0.82	0.84	0.84	0.84

Junction Temperature ( $T_j$ ): Lumen Multiplication Factor

25°C	45°C	65°C	85°C
1.04	1.00	0.96	0.92

## SINGLE ROW STRIPS

### Mechanical Characteristics

Part Number	Dimensions [in]	# of LEDs	Technology	# of Connectors
SC20SG-110008S-24V	11.0 x 0.8	20	White	2
QC40SG-220008S-24V	22.0 x 0.8	40	White	2

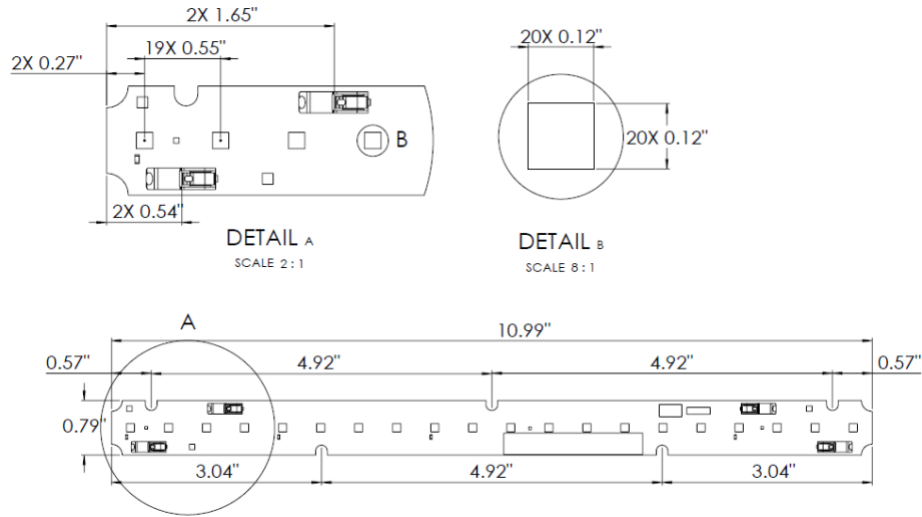


Figure 1 SC20SG-110008S-24V Mechanical Drawing

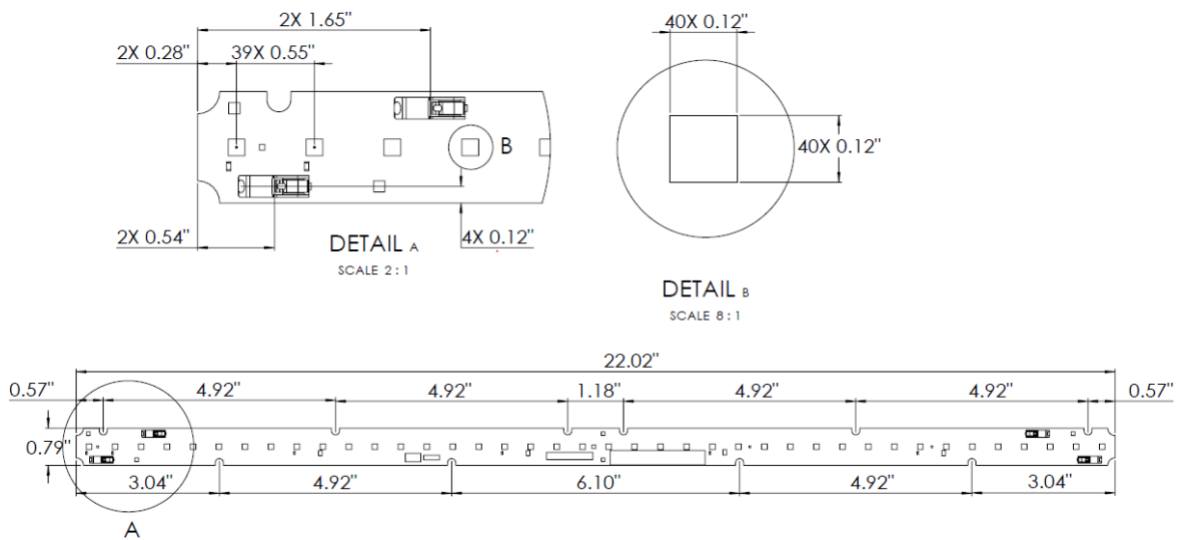


Figure 2 QC40SG-220008S-24V Mechanical Drawing



## DOUBLE ROW STRIPS

Electrical Characteristics ( $T_j = 45^\circ\text{C}$ , CCT = 4000K, CRI = 80)

Part Number	Vf	500mA		700mA		1,000mA		2,000mA	
		Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]
QF80SG-220016S-24V	22 – 26V	2,183	203	4,290	193	8,087	173	14,632	144
QF80DG-220016S-48V, Parallel	22 – 26V	2,183	203	4,290	193	8,087	173	14,632	144
QF80DG-220016S-48V, Series	44 – 51V	4,290	193	8,087	173	14,632	144		

Correlated Color Temperature (CCT) and CRI: Lumen Multiplication Factor

CRI	2200K	2700K	3000K	3500K	4000K	5000K	6500K
80+	0.80	0.91	0.93	0.95	1.00	1.00	0.98
90+	-	0.76	0.79	0.82	0.84	0.84	0.84

Junction Temperature ( $T_j$ ): Lumen Multiplication Factor

25°C	45°C	65°C	85°C
1.04	1.00	0.96	0.92

## DOUBLE ROW STRIPS

### Mechanical Characteristics

Part Number	Dimensions [in]	# of LEDs	Technology	# of Connectors
QF80SG-220016S-24V	22.0 x 1.574	80	White	2
QF80DG-220016S-48V	22.0 x 1.574	80	White	2

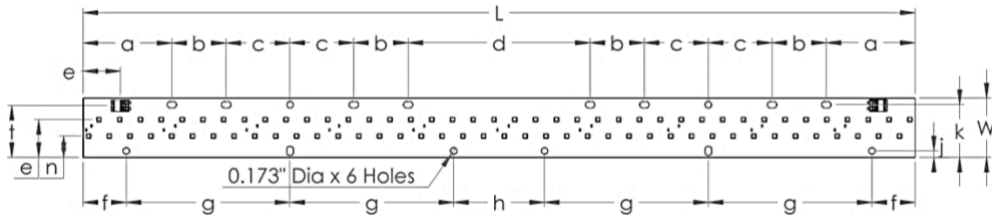


Figure 3 QF80SG-220016S-24V Mechanical Drawing

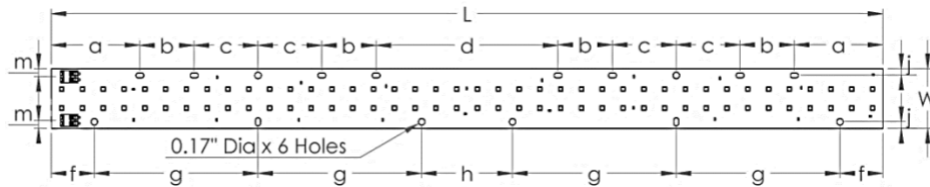
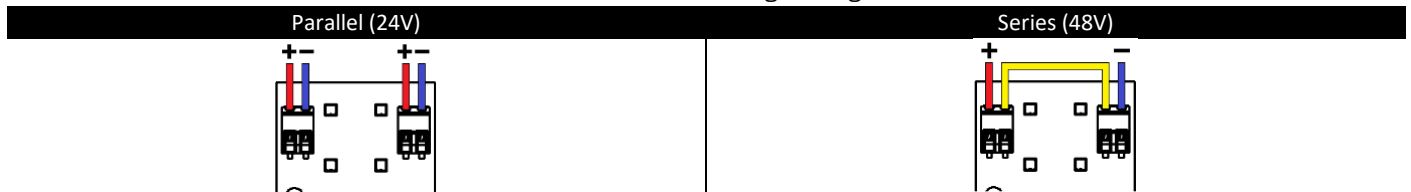


Figure 4 QF80DG-220016S-48V Mechanical Drawing

#### Mechanical Drawings Reference Table

a = 2.344	b = 1.438	c = 1.688	d = 4.813	e = 1.000	f = 1.138	g = 4.33	h = 2.40
j = 0.178	k = 1.397	L = 22.0	W = 1.574	t = 1.375	n = 0.57	m = 0.21	

### QF80DG-220016S Wiring Configuration





## ARRAYS

Electrical Characteristics ( $T_j = 45^\circ\text{C}$ , CCT = 4000K, CRI = 80)

Part Number	Vf	500mA		1,000mA		2,000mA		4,000mA	
		Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]	Luminus Flux [lm]	Efficacy [lm/W]
U80SG-115025S-24V	22 – 26V	2,183	203	4,290	193	8,087	173	14,632	144

Correlated Color Temperature (CCT) and CRI: Lumen Multiplication Factor

CRI	2200K	2700K	3000K	3500K	4000K	5000K	6500K
80+	0.80	0.91	0.93	0.95	1.00	1.00	0.98
90+	-	0.76	0.79	0.82	0.84	0.84	0.84

Junction Temperature ( $T_j$ ): Lumen Multiplication Factor

25°C	45°C	65°C	85°C
1.04	1.00	0.96	0.92

## ARRAYS

### Mechanical Characteristics

Part Number	Dimensions [in]	# of LEDs	Technology	# of Connectors
U80SG-115025S-24V	11.5 x 2.5	80	White	2

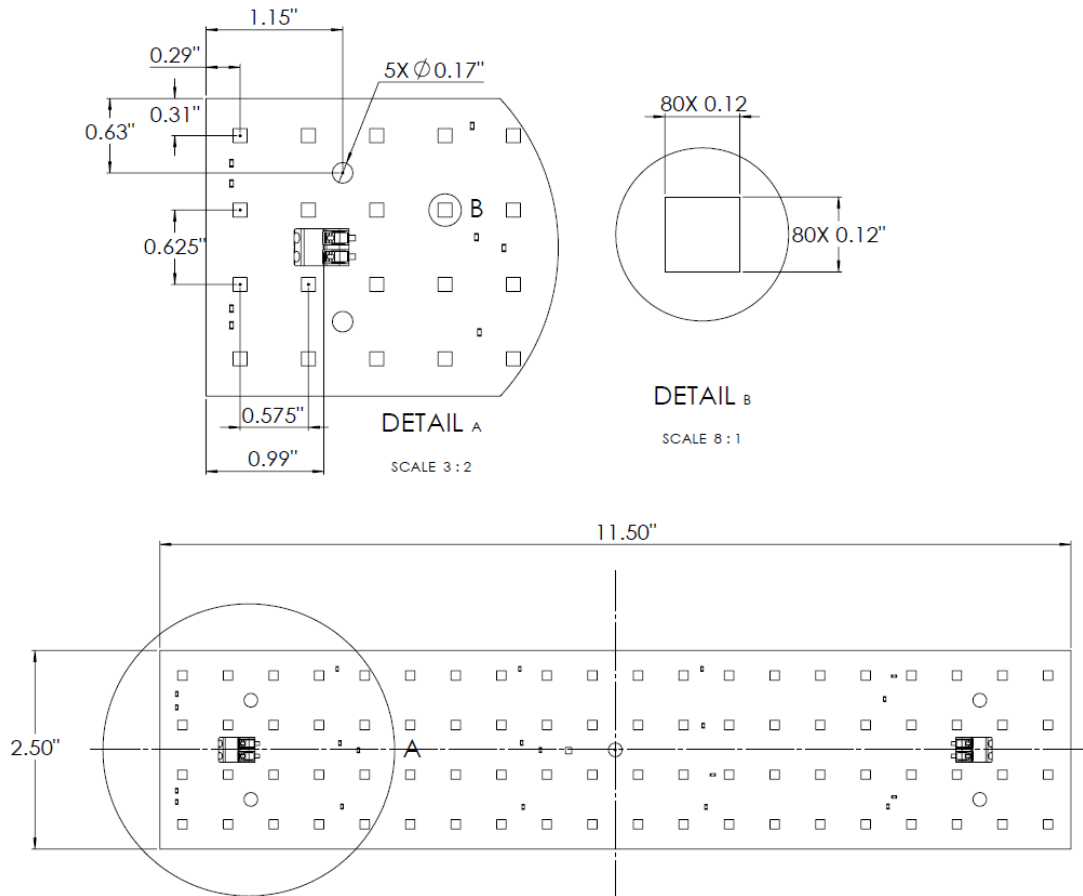


Figure 5 – U80SG-115025S-24V Mechanical Drawing