

### CoreLED P/N 11110

- 12.4mm x 11.34mm x 6.34mm All metal reflector
  - Nichia E17

### Product Description:



This All-Metal Linear SMR is a stamped reflector with four Nichia E17 LEDs that attach directly to a standard Starboard Circuit Board. It is available as prototype only at this time. It achieves high light collection efficiency, engineered beam pattern, and can potentially meet high volume electronics assembly at low cost.

### Key Features:

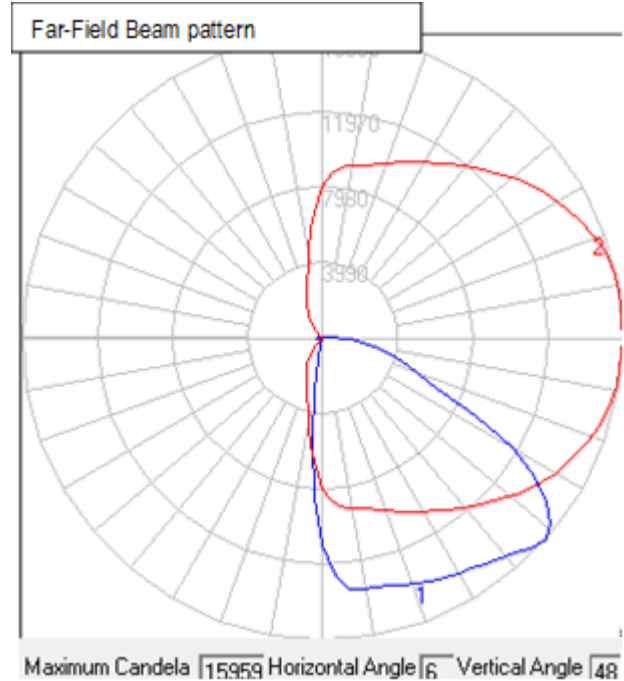
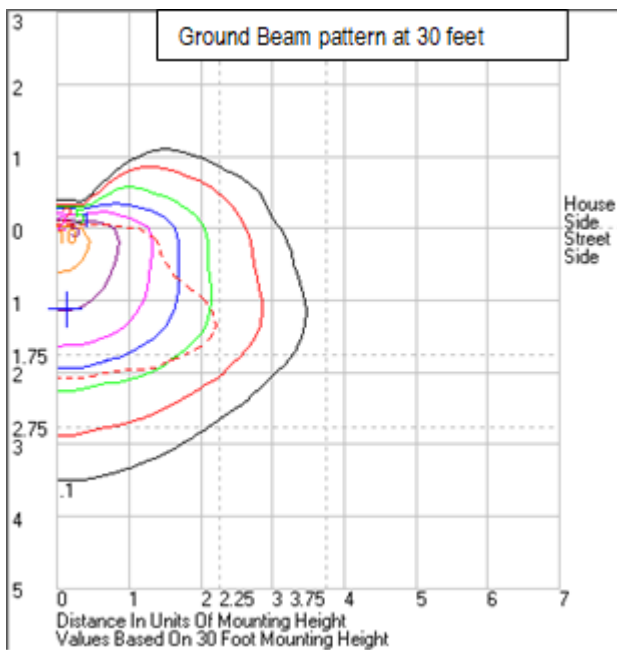
- Optical reflector mounted on starboard for easy assembly
- C510 Phosphor Bronze with matte Tin plating
- No reflector coating needed
- Supplied on 20mm Starboard
- Targeted control of light output for asymmetric beam pattern
- Precision alignment (within  $\pm 0.1$ mm)
- Manufactured without the need for additional components to attach the optics
- Provided on starboard for evaluation and testing

### Emitted Pattern Profile

#### Nichia E17 (Measured)

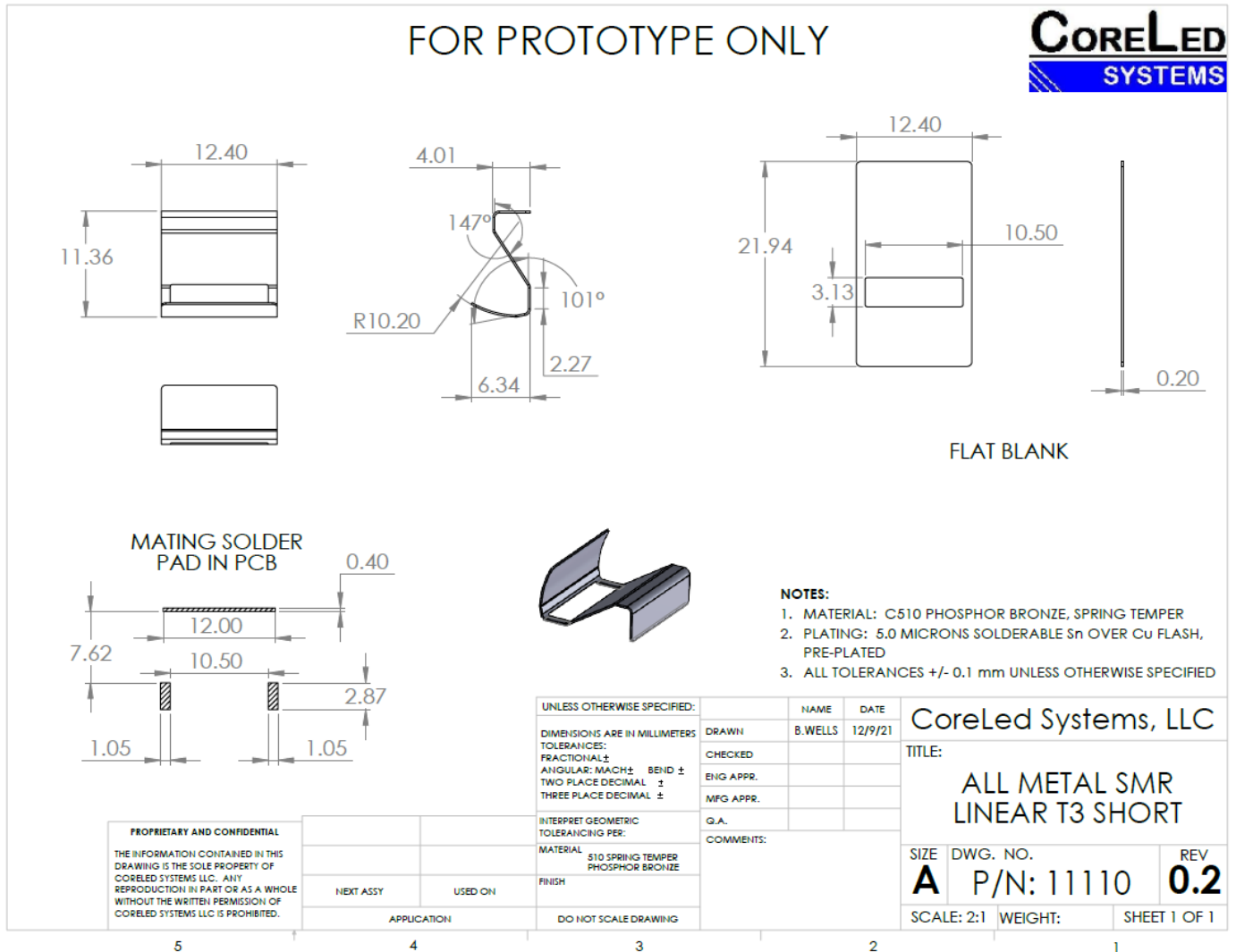
Characteristics	
IES Classification	Type III
Longitudinal Classification	Very Short
Lumens Per Lamp	30000 (1 lamp)
Total Lamp Lumens	30000
Luminaire Lumens	30390
High Efficiency ~95%	
Luminaire Efficacy Rating (LER)	98032
Total Luminaire Watts	0.31
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Max. Cd.	15959.855 (6H, 48V)
Max. Cd. (<90 Vert.)	15959.855 (6H, 48V)
Max. Cd. (At 90 Deg. Vert.)	1259.706 (4.2%Lamp)
Max. Cd. (80 to <90 Deg. Vert.)	2972.09 (9.9%Lamp)
Cutoff Classification (deprecated)	Semi-Cutoff

Lum. Classification System (LCS)			
LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	5478.3	18.3	18.0
FM (30-60)	14025.7	46.8	46.2
FH (60-80)	6091.6	20.3	20.0
FVH (80-90)	801.3	2.7	2.6
BL (0-30)	1243.8	4.1	4.1
BM (30-60)	1678.2	5.6	5.5
BH (60-80)	811.2	2.7	2.7
BVH (80-90)	115.1	0.4	0.4
UL (90-100)	144.3	0.5	0.5
UH (100-180)	0.3	0.0	0.0
Total	30389.8	101.4	100.0
<b>BUG Rating</b>	<b>B3-U3-G5</b>		



IES files and Raytrace models are available upon request from CoreLed Engineering.

#### Mechanical Profile: Reflector



**CAD files available upon request from CoreLed Engineering**

## LED Information



## NCSWE17AT

- Pb-free Reflow Soldering Application
- RoHS Compliant

NICHIA STS-DA1-3687I <Cat.No.170112>

### SPECIFICATIONS

#### (1) Absolute Maximum Ratings

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	$I_F$	700	mA
Pulse Forward Current	$I_{FP}$	1000	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	2.31	W
Operating Temperature	$T_{OP}$	-40~100	°C
Storage Temperature	$T_{STG}$	-40~100	°C
Junction Temperature	$T_J$	135	°C

\* Absolute Maximum Ratings at  $T_C=25^\circ\text{C}$ .

\*  $I_{FP}$  conditions with pulse width  $\leq 10\text{ms}$  and duty cycle  $\leq 10\%$ .

#### (2) Initial Electrical/Optical Characteristics

Item	Symbol	Condition	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=350\text{mA}$	3.0	-	V
Reverse Current	$I_R$	$V_R=5\text{V}$	-	-	$\mu\text{A}$
R70	Luminous Flux	$\Phi_v$ $I_F=350\text{mA}$	158	-	lm
	Color Rendering Index	$R_a$ $I_F=350\text{mA}$	72	-	-
R8000	Luminous Flux	$\Phi_v$ $I_F=350\text{mA}$	148	-	lm
	Color Rendering Index	$R_a$ $I_F=350\text{mA}$	82	-	-
R9050	Luminous Flux	$\Phi_v$ $I_F=350\text{mA}$	125	-	lm
	Color Rendering Index	$R_a$ $I_F=350\text{mA}$	92	-	-
R9080	Luminous Flux	$\Phi_v$ $I_F=350\text{mA}$	118	-	lm
	Color Rendering Index	$R_a$ $I_F=350\text{mA}$	92	-	-
Chromaticity Coordinate	x	- $I_F=350\text{mA}$	0.3447	-	-
	y	- $I_F=350\text{mA}$	0.3553	-	-
Thermal Resistance	$R_{thJC}$	-	0.5	1.0	°C/W

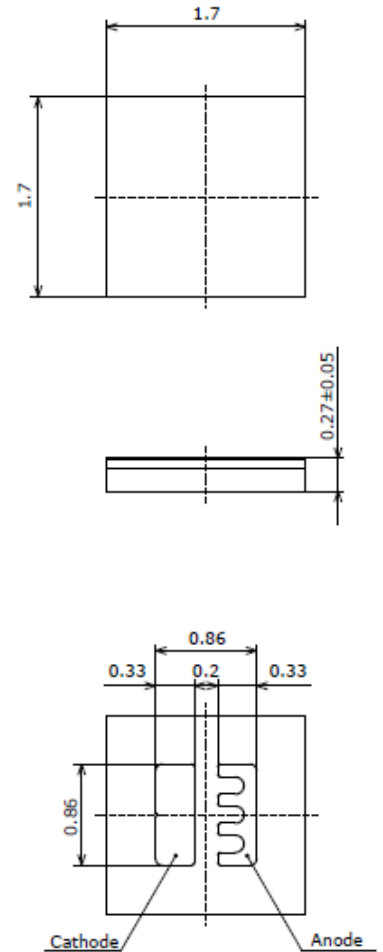
\* Characteristics at  $T_C=25^\circ\text{C}$ .

\* Luminous Flux value as per CIE 127:2007 standard.

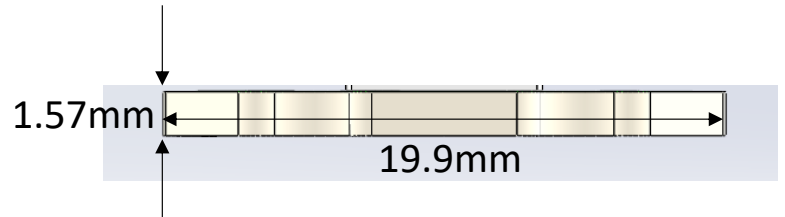
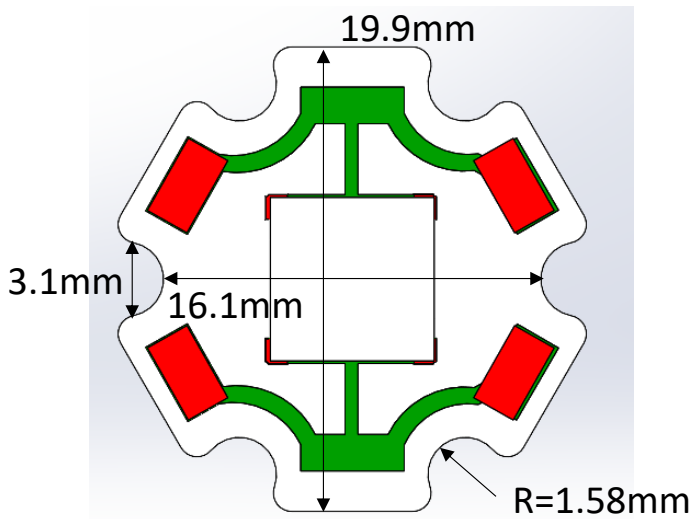
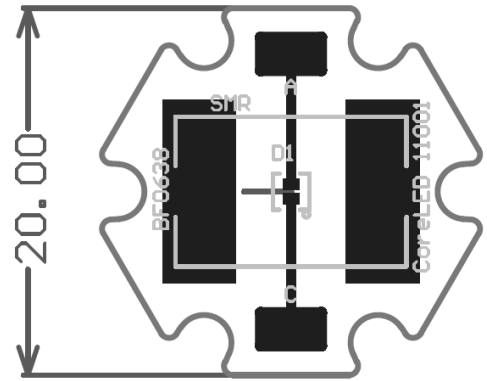
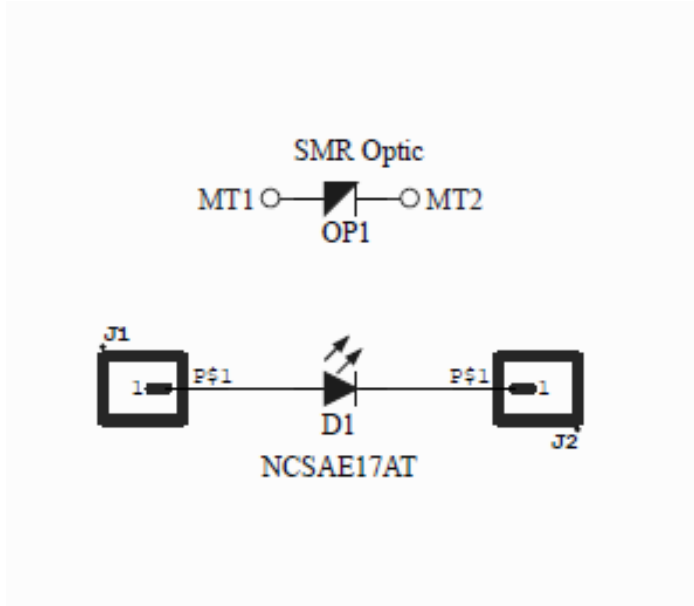
\* Chromaticity Coordinates as per CIE 1931 Chromaticity Chart.

\* The thermal resistance value ( $R_{thJC}$ ) is used to perform logical analysis (e.g. computer-based thermal analysis simulation) and represents a thermal resistance between the die to the  $T_C$  measurement point (PCB used: Aluminum PCB  $t=1.5\text{mm}$ , Insulating layer  $t=0.12\text{mm}$ ).

\* For more details on thermal resistance, see CAUTIONS, (6) Thermal Management.



#### Starboard Schematic





## All Metal SMR Linear T3 Very Short

12mm x 7.5mm STARBOARD

Prototype

Rev 1.0 – 12/09/21

### Electrical:

From LED Data sheet: recommended operation is Typical 3.0V at 350mA (1 Watt to provide 150 lumens).

### Thermal:

Recommended attachment to heat sink to dissipate 1W (3.0V at 350mA). LED is rated higher and can be run up to 700mA with appropriate heatsinking provided.

### Packaging:

Individually packaged in static controlled bag.