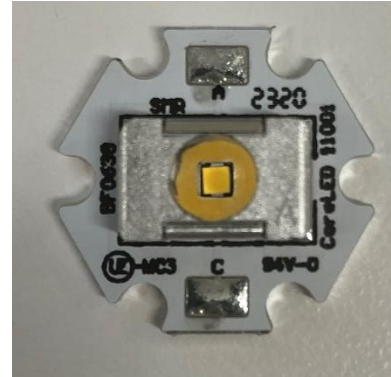


#### CoreLED P/N 11001-STAR-E17 (Spot)

- 5H x 5V Spot
  - Nichia E17

#### Product Description:



The SMR product family is a series of vacuum metallized high temperature polymer mini-reflectors that attach directly to a standard Starboard Circuit Board. These components achieve high light collection efficiency, a variety of engineered beam patterns, and are supplied for high volume electronics assembly.

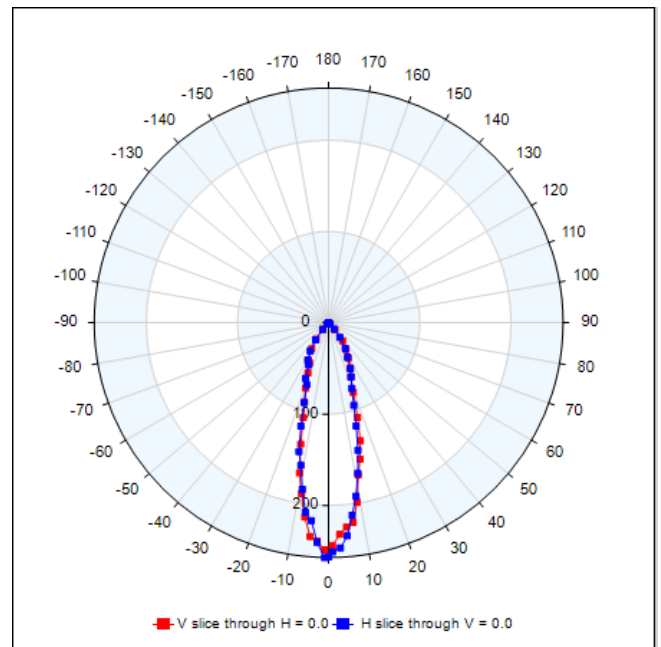
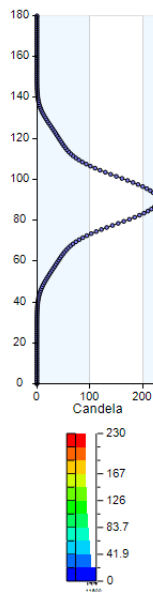
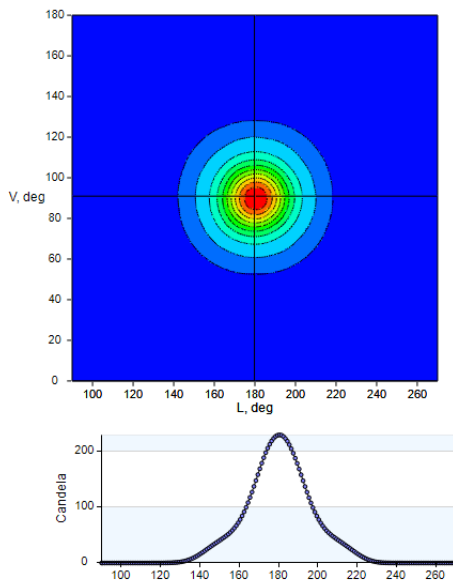
#### Key Features:

- Optical reflector mounted on starboard for easy assembly
- Supplied on 20mm Starboard
- Increased control of light output
- Precision alignment (within  $\pm 0.1$ mm)
- Family of optical beam patterns
- Manufactured without the need for additional components to attach the optics
- Provided on starboard for evaluation and testing

### Emitted Pattern Profile

#### Nichia E17 (Measured)

IES NEMA Type	5H x 5V
Maximum Candela	257
Maximum Candela Angle	0.0H -1.0V
Horizontal Beam Angle (50%)	28.7
Vertical Beam Angle (50%)	28.3
Horizontal Field Angle (10%)	73.2
Vertical Field Angle (10%)	72.4
Total Rated Lamp Lumens	100
Total Efficiency	80%

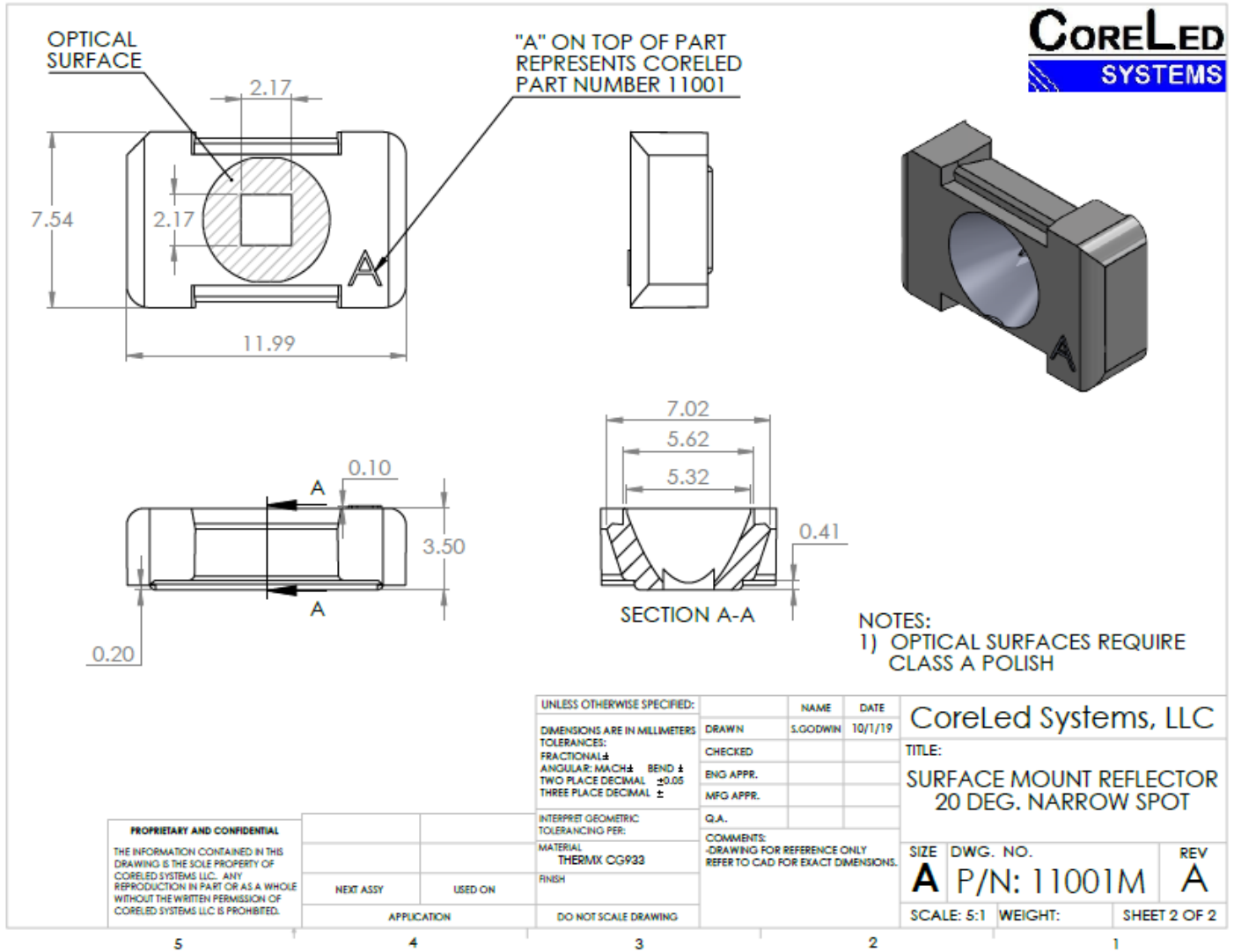


FLOOD/CANDELA VERSUS ANGLE

28 DEGREE FWHM

**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	$T_{OPC}$	-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	$R_{\theta JC}$	-	0.5	1.0	°C/W	

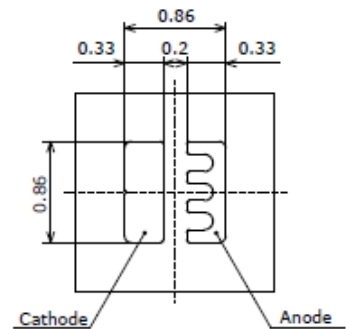
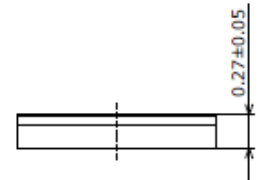
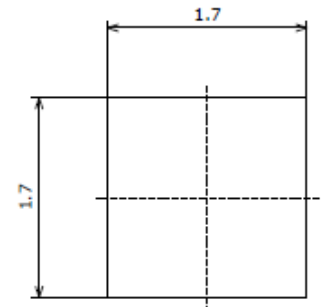
\* Characteristics at  $T_C=25^{\circ}\text{C}$ .

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

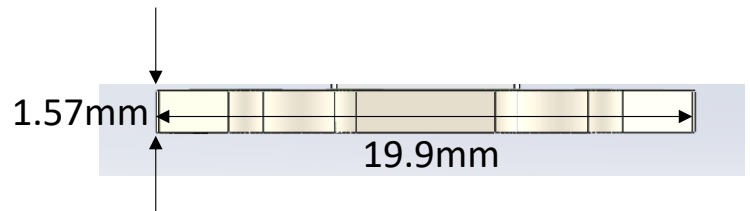
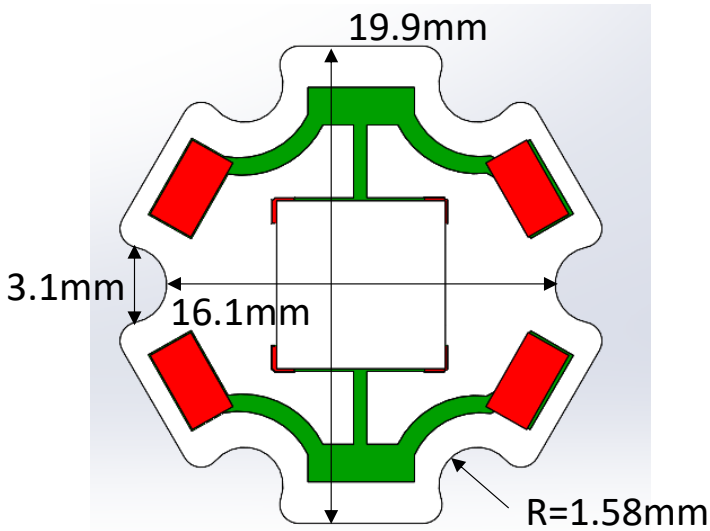
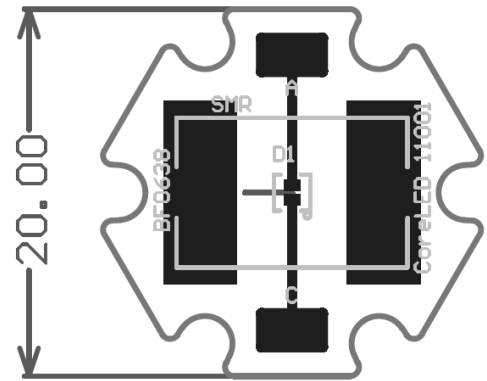
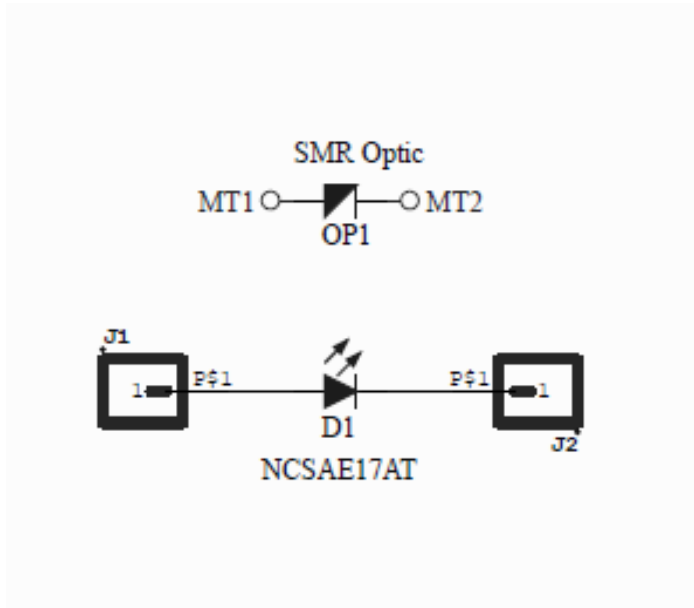
\* Chromaticity Coordinates as per CIE 1931 Chromaticity Chart.

\* The thermal resistance value ( $R_{\theta JC}$ ) 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





## Surface Mounted Reflectors (SMR)

12mm x 7.5mm STARBOARD

Family Datasheet

Rev 1.0 – 12/31/20

### 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.