

## TINA2-RS

~14° spot beam optimized for Nichia NCSxx19.  
Assembly with holder, installation tape and  
location pins.

### SPECIFICATION:

Dimensions	Ø 16.1 mm
Height	9.3 mm
Fastening	tape, pin
ROHS compliant	yes ⓘ

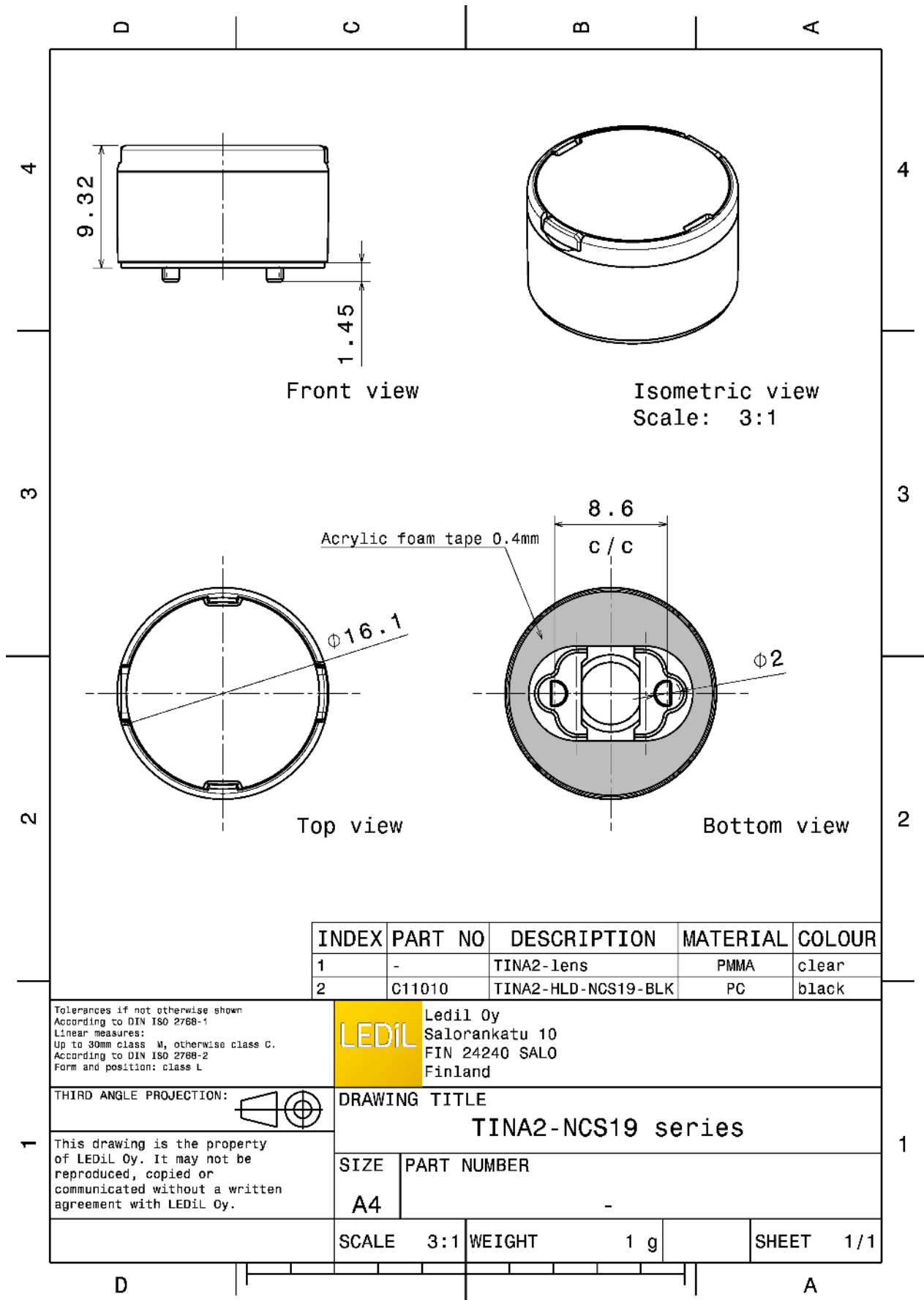


### MATERIALS:

Component	Type	Material	Colour	Finish
TINA2-RS	Single lens	PMMA	clear	
TINA2-HLD-NCS19-BLK	Holder	PC	black	
TINA-TAPE3	Tape	Acrylic foam	black	

### ORDERING INFORMATION:

Component		Qty in box	MOQ	MPQ	Box weight (kg)
CA11020_TINA2-RS	Single lens	4140		230	0.0
» Box size: 451 x 241 x 298 mm					



INDEX	PART NO	DESCRIPTION	MATERIAL	COLOUR
1	-	TINA2-lens	PMMA	clear
2	C11010	TINA2-HLD-NCS19-BLK	PC	black

Tolerances if not otherwise shown  
 According to DIN ISO 2768-1  
 Linear measures:  
 Up to 30mm class M, otherwise class C.  
 According to DIN ISO 2768-2  
 Form and position: class L

**LEDiL** Ledil Oy  
 Salorankatu 10  
 FIN 24240 SALO  
 Finland

THIRD ANGLE PROJECTION:

DRAWING TITLE  
**TINA2-NCS19 series**

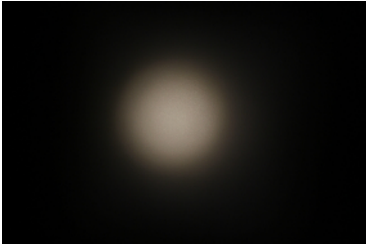

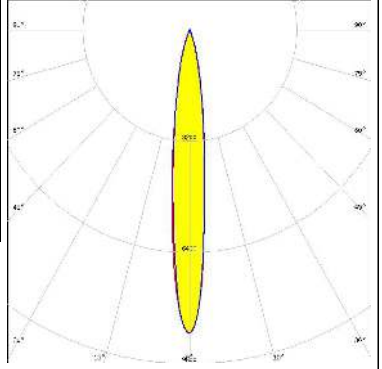

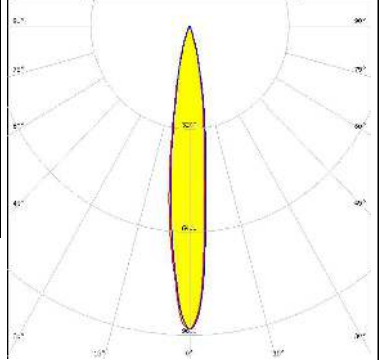
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SIZE	PART NUMBER
A4	-

SCALE	3:1	WEIGHT	1 g	SHEET	1/1
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See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

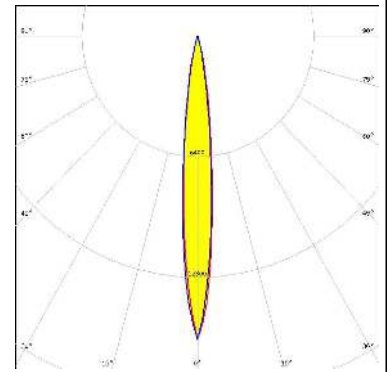
#### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED                    NCSxx19A</p> <p>FWHM / FWTM      13.0° / 26.0°</p> <p>Efficiency            93 %</p> <p>Peak intensity      10.7 cd/lm</p> <p>LEDs/each optic    1</p> <p>Light colour        White</p> <p>Required components:</p>		
<p><b>SAMSUNG</b></p> <p>LED                    LH181A</p> <p>FWHM / FWTM      13.0° / 31.0°</p> <p>Efficiency            82 %</p> <p>Peak intensity      8.7 cd/lm</p> <p>LEDs/each optic    1</p> <p>Light colour        White</p> <p>Required components:</p>		
<p><b>SAMSUNG</b></p> <p>LED                    LH181B</p> <p>FWHM / FWTM      14.0° / 31.0°</p> <p>Efficiency            89 %</p> <p>Peak intensity      9.4 cd/lm</p> <p>LEDs/each optic    1</p> <p>Light colour        White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (SIMULATED):

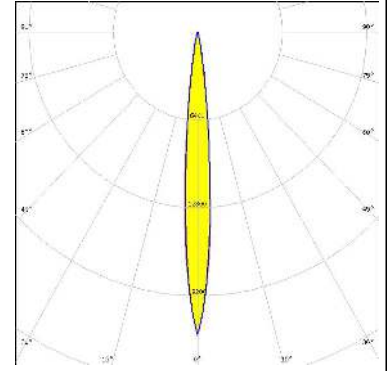
##### LUMILEDS

LED LUXEON CZ  
 FWHM / FWTM 12.0° / 25.0°  
 Efficiency 92 %  
 Peak intensity 16.1 cd/lm  
 LEDs/each optic 1  
 Light colour Red  
 Required components:



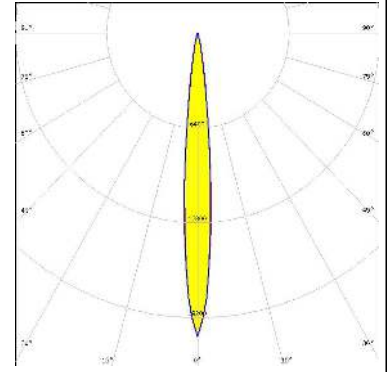
##### LUMILEDS

LED LUXEON HL1Z  
 FWHM / FWTM 10.0° / 20.0°  
 Efficiency 90 %  
 Peak intensity 22.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



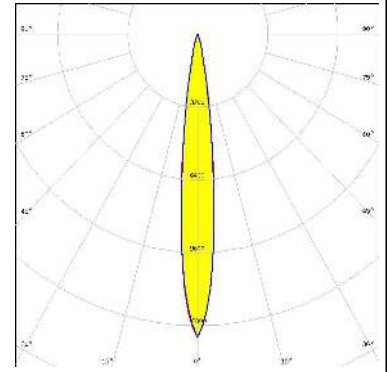
##### NICHIA

LED NCSxE17A  
 FWHM / FWTM 10.0° / 21.0°  
 Efficiency 92 %  
 Peak intensity 20.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

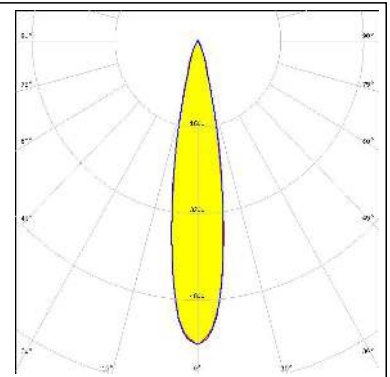
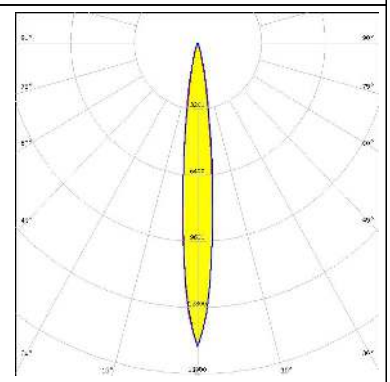
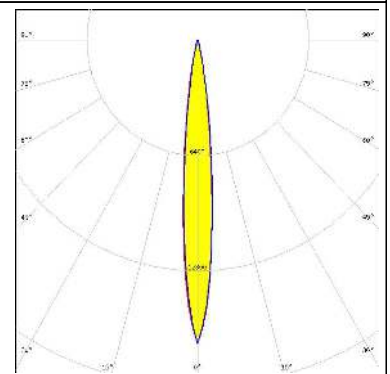


##### NICHIA

LED NVSxE21A  
 FWHM / FWTM 12.0° / 26.0°  
 Efficiency 90 %  
 Peak intensity 13.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### OPTICAL RESULTS (SIMULATED):

<p><b>NICHIA</b></p> <p>LED NVSxx19A            FWHM / FWTM 20.0° / 37.0°            Efficiency 88 %            Peak intensity 5.6 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED KW CSLPM1.TG            FWHM / FWTM 12.0° / 25.0°            Efficiency 92 %            Peak intensity 14.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLON SSL 120            FWHM / FWTM 11.0° / 23.0°            Efficiency 92 %            Peak intensity 16.8 cd/lm            LEDs/each optic 1            Light colour Hyper Red            Required components:</p>	

### GENERAL INFORMATION:

NOTE: The typical beam angle will be changed by different color, chip size and chip position tolerance. The typical total beam angle is the full angle measured where the luminous intensity is half of the peak value.

### MATERIALS:

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#### LEDiL Oy

Joensuunkatu 13  
FI-24240 SALO  
Finland

#### LEDiL Inc.

228 West Page Street  
Suite D  
Sycamore IL 60178  
USA

#### Ledil Optics Technology (Shenzhen) Co., Ltd.

# 405 , Block B  
Casic Motor Building  
Shenzhen 518057  
P.R.CHINA

#### Local sales and technical support

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