

## TINA3-S

~13° spot beam optimized for CREE XP-E.  
Assembly with holder, installation tape and  
location pins.

### SPECIFICATION:

Dimensions	Ø 16.1 mm
Height	11.4 mm
Fastening	tape, pin
ROHS compliant	yes ⓘ

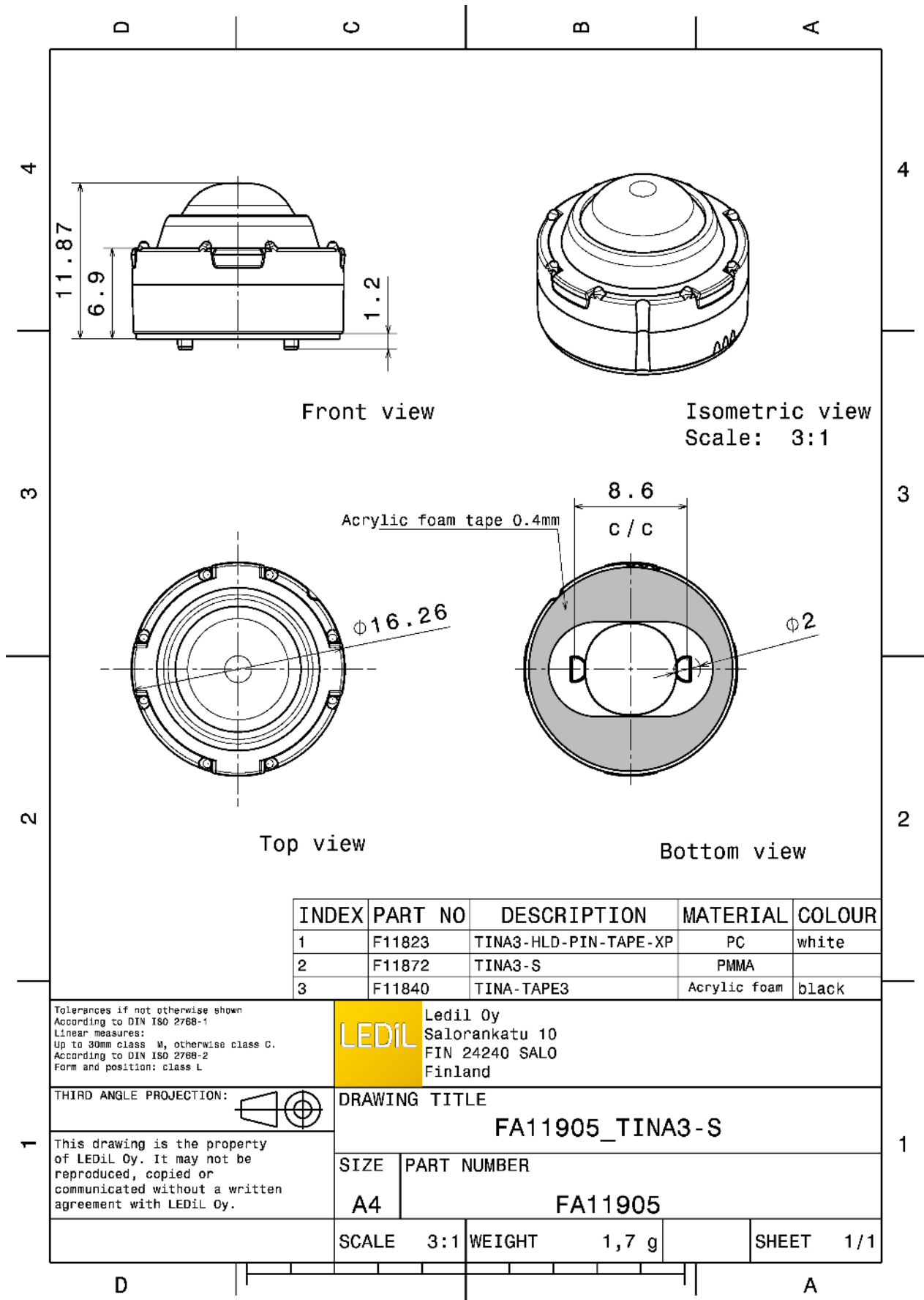


### MATERIALS:

Component	Type	Material	Colour	Finish
TINA3-S	Single lens	PMMA	clear	
TINA3-HLD-PIN-TAPE-XP	Holder	PC	white	
TINA-TAPE3	Tape	Acrylic foam	black	

### ORDERING INFORMATION:

Component		Qty in box	MOQ	MPQ	Box weight (kg)
FA11905_TINA3-S	Single lens	2016	288	288	3.7
» Box size:					

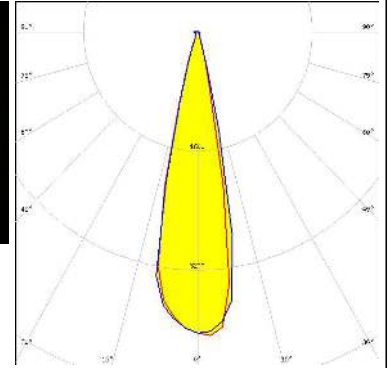


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):

##### CREE → LED

LED XM-L  
 FWHM / FWTM 23.0° / 30.0°  
 Efficiency 86 %  
 Peak intensity 3.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



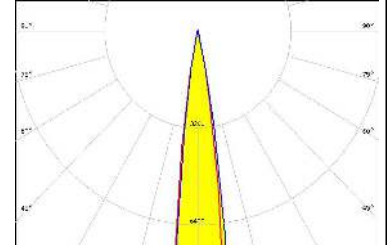
##### CREE → LED

LED XP-E  
 FWHM / FWTM 10.0° / 16.0°  
 Efficiency 86 %  
 Peak intensity 15.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



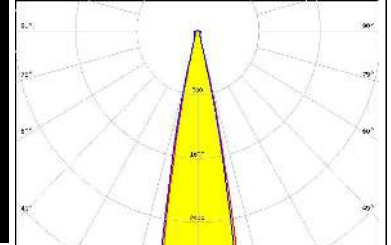
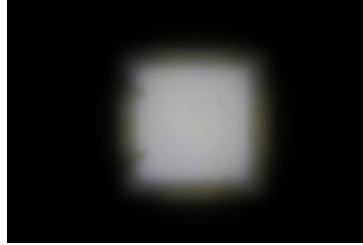
##### CREE → LED

LED XP-G  
 FWHM / FWTM 15.0° / 25.0°  
 Efficiency 86 %  
 Peak intensity 6.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### CREE → LED

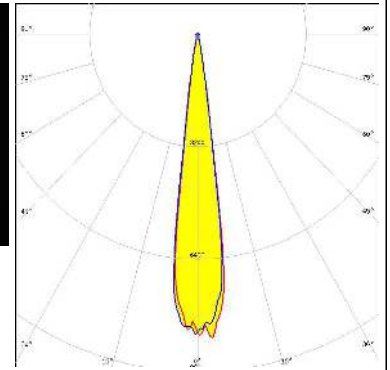
LED XP-L HD  
 FWHM / FWTM 23.0° / 32.0°  
 Efficiency 87 %  
 Peak intensity 3.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



## OPTICAL RESULTS (MEASURED):

### CREE LED

LED XP-L HI  
 FWHM / FWTM 15.0° / 22.0°  
 Efficiency 88 %  
 Peak intensity 8.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### LUMILEDS

LED LUXEON A  
 FWHM / FWTM 16.0° / 23.0°  
 Efficiency 83 %  
 Peak intensity 6.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



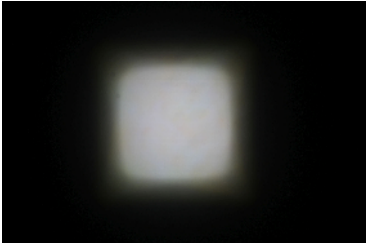
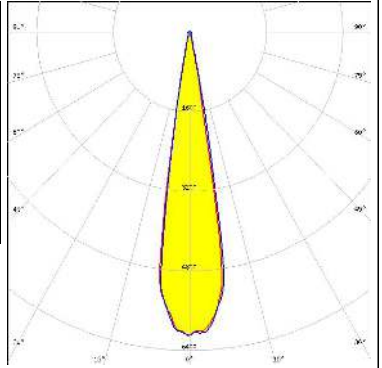
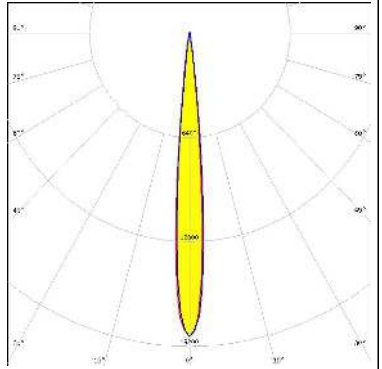
### LUMILEDS

LED LUXEON Rebel  
 FWHM / FWTM 11.0° / 18.0°  
 Efficiency 83 %  
 Peak intensity 12.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:


### LUMILEDS

LED LUXEON Rebel ES  
 FWHM / FWTM 18.5° / 22.0°  
 Efficiency 82 %  
 Peak intensity 6.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

#### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED NVSW219F            FWHM / FWTM 18.0° / 24.0°            Efficiency 85 %            Peak intensity 6.1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NVSxx19A            FWHM / FWTM 16.5° / 23.0°            Efficiency 87 %            Peak intensity 6.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b>  <small>Opto Semiconductors</small></p> <p>LED OSOLON SSL 150            FWHM / FWTM 9.0° / 14.0°            Efficiency 84 %            Peak intensity 18.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b>  <small>Opto Semiconductors</small></p> <p>LED OSOLON SSL 80            FWHM / FWTM 11.0° / 17.0°            Efficiency 86 %            Peak intensity 14 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

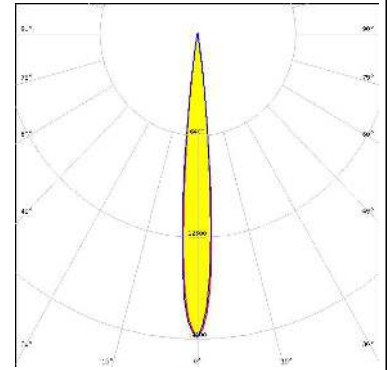
## OPTICAL RESULTS (MEASURED):

		
SEOUL SEMICONDUCTOR		
LED	Z5	
FWHM / FWTM	10.0° / 17.0°	
Efficiency	80 %	
Peak intensity	16.4 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		

#### OPTICAL RESULTS (SIMULATED):

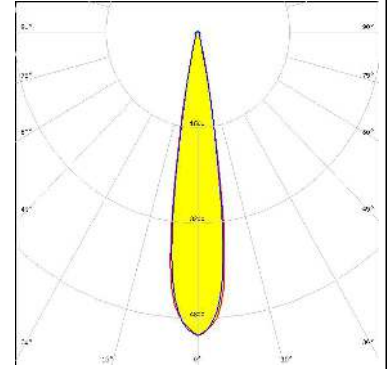
##### CREE LED

LED XP-E2  
 FWHM / FWTM 10.0° / 17.0°  
 Efficiency 92 %  
 Peak intensity 19.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



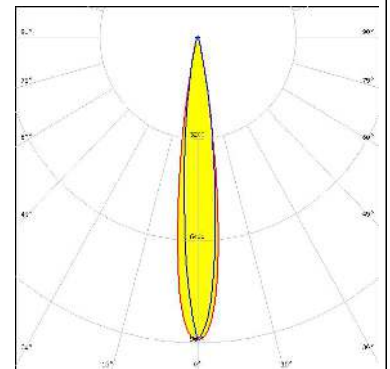
##### CREE LED

LED XP-G3  
 FWHM / FWTM 18.0° / 28.0°  
 Efficiency 78 %  
 Peak intensity 5.1 cd/lm  
 LEDs/each optic 1  
 Light colour Blue  
 Required components:



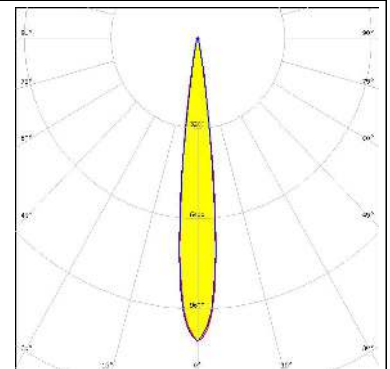
##### LUMILEDS

LED LUXEON 2835 Line  
 FWHM / FWTM 13.0° / 25.0°  
 Efficiency 91 %  
 Peak intensity 9.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

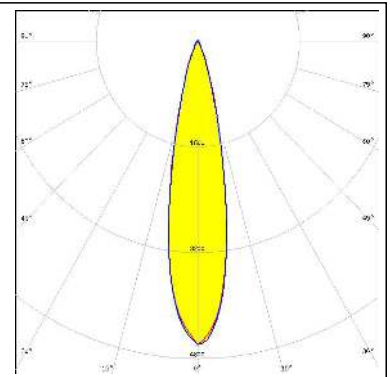
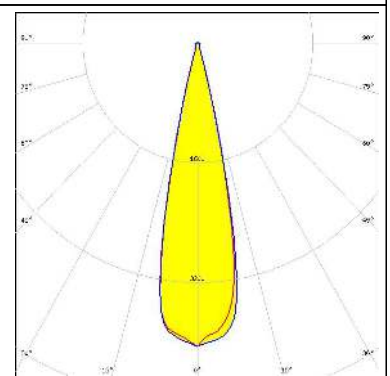
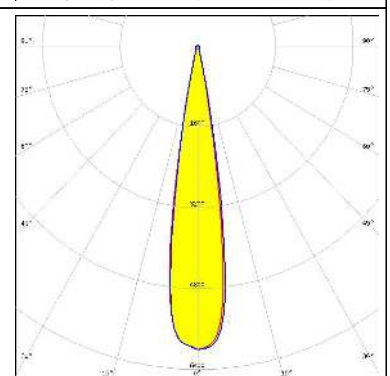
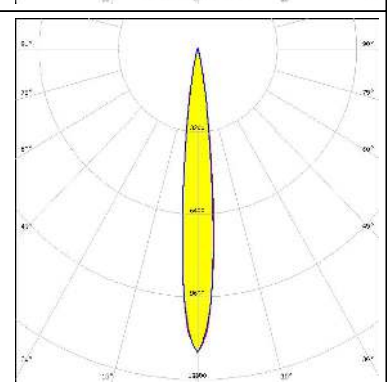


##### LUMINUS

LED SST-20  
 FWHM / FWTM 12.0° / 22.0°  
 Efficiency 86 %  
 Peak intensity 10.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

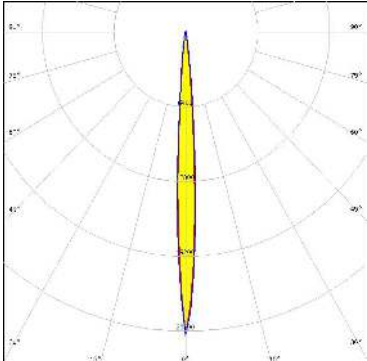
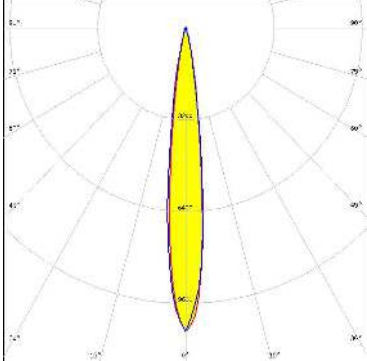
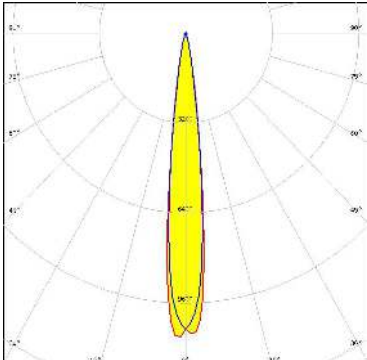
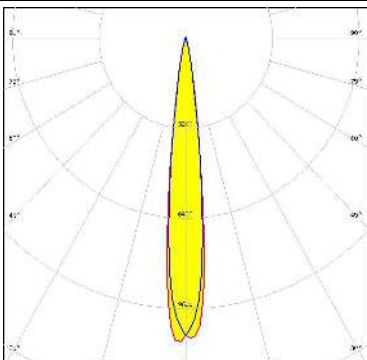


#### OPTICAL RESULTS (SIMULATED):

<p><b>NICHIA</b></p> <p>LED NV4WB35AM            FWHM / FWTM 22.0° / 41.0°            Efficiency 90 %            Peak intensity 4.6 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED NVSW519A            FWHM / FWTM 24.0° / 32.0°            Efficiency 82 %            Peak intensity 4.1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED NVSxx19B/NVSxx19C            FWHM / FWTM 18.0° / 26.0°            Efficiency 83 %            Peak intensity 6 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>OSRAM</b>  <small>Opto Semiconductors</small></p> <p>LED OSOLON Black            FWHM / FWTM 12.0° / 23.0°            Efficiency 86 %            Peak intensity 11.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	



#### OPTICAL RESULTS (SIMULATED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED SFH 4714A</p> <p>FWHM / FWTM 7.0° / 14.0°</p> <p>Efficiency 84 %</p> <p>Peak intensity 26 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED SFH 4715AS</p> <p>FWHM / FWTM 13.0° / 25.0°</p> <p>Efficiency 88 %</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED SFH 4715S</p> <p>FWHM / FWTM 13.0° / 24.0°</p> <p>Efficiency 87 %</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED SFH 4725S</p> <p>FWHM / FWTM 13.0° / 24.0°</p> <p>Efficiency 87 %</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>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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