

# PRODUCT DATASHEET CA12427\_TINA3-WW

## **TINA3-WW**

~55° wide beam. Assembly with holder, installation tape and location pins.

#### **SPECIFICATION:**

Dimensions	Ø 16.1 mm
Height	6.9 mm
Fastening	tape, pin
ROHS compliant	yes 🛈



#### **MATERIALS:**

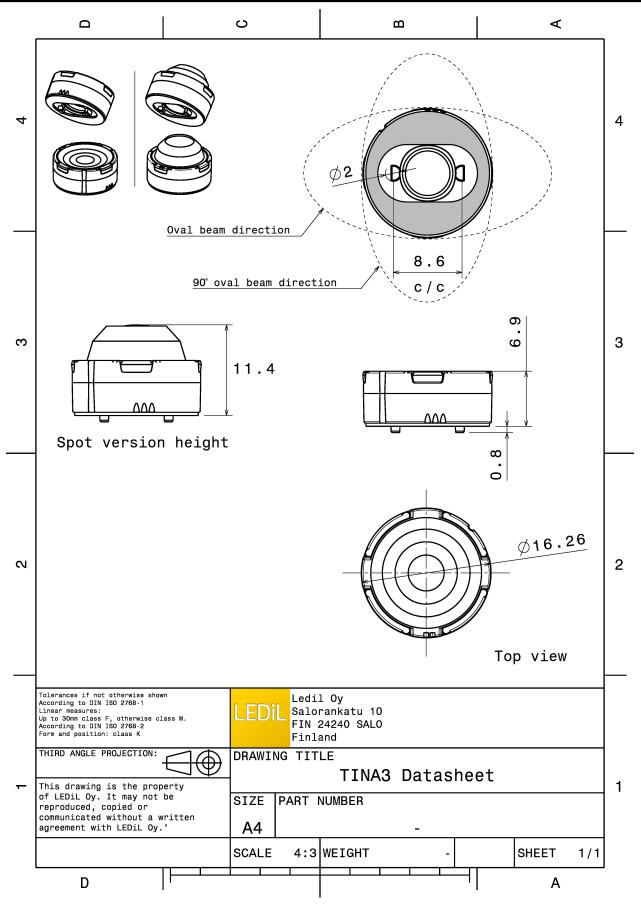
Component	Туре	Material	Colour	Finish
TINA3-WW	Single lens	PMMA	clear	
TINA3-HLD-PIN-TAPE	Holder	PC	white	
TINA-TAPE3	Tape	Acrylic foam	black	

#### **ORDERING INFORMATION:**

Component		Qty in box	MOQ	MPQ	Box weight (kg)
CA12427_TINA3-WW	Single lens	5750	230	230	8.4
» Box size: 451 x 241 x 298 mm					



# PRODUCT DATASHEET CA12427\_TINA3-WW



See also our general installation guide: www.ledil.com/installation\_guide



LEDS LED XP-G WHM / FWTM 58.0° / 88.0° Seak intensity 1 cd/lm LEDs/each optic 1 ight colour White Required components: CREES LED XP-G2 WHM / FWTM 59.0° / 89.0° Seak intensity 0.9 cd/lm LEDs/each optic 1			
ED XHP35H WM / FVTM 60.07 94.0° Efficiency 92.% Sequined components: EDS/seach optic 1 light colour White Required components: EE XP-E2 WM / FVTM 50.07 84.0° Efficiency 89.% Hit colour White Required components: EDS/seach optic 1 light colour White Required components: EE XP-G WM / FVTM 50.07 88.0° Efficiency 89.% Required components: EE XP-G WM / FVTM 50.07 88.0° EE XP-G2 WM / FVTM 50.07 80.0° EE XP-G2 WM	CREE ≑		90 <sup>4</sup> 90 <sup>5</sup>
WHM / FVTM 60 0/ 94 0/ #fitednoy 92 % Heak intensity 0.9 cd/m EES/seach optic 1 ight colour White Eequired components: ED XP-E2 WHM / FVTM 56.0 / 94.0 ° #fitednoy 89 % Yeak intensity 1 cd/m EES/seach optic 1 ight colour White Eequired components: EEE \$ ED XP-G2 WHM / FVTM 56.0 ° #fitednoy 89 % Yeak intensity 1 cd/m EES/seach optic 1 ight colour White Eequired components: EEE \$ ED XP-G2 WHM / FVTM 56.0 ° #fitednoy 89 % Yeak intensity 1 cd/m EES/seach optic 1 ight colour White Eequired components: EEE \$ ED XP-G2 WHM / FVTM 56.0 ° #fitednoy 89 % Yeak intensity 1 cd/m EES/seach optic 1 ight colour White Eequired components: EEE \$ EED XP-G2 WHM / FVTM 56.0 ° #fitednoy 90 % Yeak intensity 0 cd/m EES/seach optic 1 ight colour White Eequired components:		VUDDE UI	
ifficiency       92 %         beak intensity       0.9 cdlm         Edwach dptic       1         ight colour       While         REEE :       XP-E2         WHM /FWTM       58.0° / 84.0°         ifficiency       89 %         beak intensity       1.1 cdlm         EDWach dptic       1         ight colour       While         required components:       Image: Colour display         WHM /FWTM       58.0° / 84.0°         ifficiency       89 %         beak intensity       1.1 cdlm         EDWach dptic       1         ight colour       While         REEE ::       KP-G         WMM /FWTM       58.0° / 88.0°         ifficiency       89 %         beak intensity       1.0 cdlm         LEDwach dptic       1         ight colour       While         beak intensity       1.0 cdlm         Light colour       While         beak intensity       1.0 cdlm         ight colour       While         beak intensity       0.0 cdlm         ight colour       While         beak intensity       0.0 cdlm         ight colo			75*
Pack Intensity 0.9 cd/m EDv/ach optic 1 ight colour White Required components: ED XP-E2 WMM /FWTM 58.0 / F&C / Streek Intensity 1.1 cd/m EDv/ach optic 1 ight colour White Required components: ED XP-G2 WHM /FWTM 58.0 / 88.0* Hiteles YP-G WHM /FWTM 59.0 / 88.0* HITELES YP-G HITELES YP-G HI			
EDe/sech optic 1 ight color White Required components:			60e 60e
ight colour White Required components: ED XP-E2 WMM / FWTM 58.0° / 84.0° Efficiency 99% Pask intensity 0.3 col/m EDS/ach optic 1 ight colour White Required components: ED XP-G WMM / FWTM 58.0° / 88.0° EED XP-G WMM / FWTM 58.0° / 88.0° EED XP-G WMM / FWTM 58.0° / 88.0° EED XP-G WMM / FWTM 58.0° EED XP-G2 WMM / FWTM 58.0° EED XP-G2 WM / FWTM 58.0° EED XP-G2			
Required components:			
CREE \$ ED XP-E2 WMM / FWTM S6.0° / 84.0° ffliciency 98 % reak intensity 1.1 cd/m EDS/each optic 1 light colour White Required components: ED XP-G WMM / FWTM 58.0° / 88.0° ffliciency 89 % reak intensity 1.0d/m EDS/each optic 1 light colour White Required components: ED XP-G WMM / FWTM 58.0° / 88.0° ffliciency 89 % reak intensity 1.0d/m EDS/each optic 1 light colour White Required components: ED XP-G WMM / FWTM 58.0° / 88.0° ffliciency 99 % reak intensity 0.0d/m EDS/each optic 1 light colour White Required components: ED XP-G WMM / FWTM 58.0° / 88.0° ffliciency 99 % reak intensity 0.0d/m EDS/each optic 1 light colour White ED XP-G2 WMM / FWTM 59.0° / 88.0° Holdrine LDS/each optic 1 light colour White			6°
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WHM / FVTM       58.0° / 84.0°         fficiency       89 %         reak intensity       1.1 cd/m         ED seak intensity       1         ED VP-G		VD E2	
Efficiency       89 %         Peak Intensity       1.1 cd/lm         LEDs/each optic       1         ight colour       White         Required components:       Image: Component stress         CREE C       Image: Component stress         ED       XP-G         WHM / FVTM       56.0° / 88.0°         Efficiency       89 %         Peak Intensity       1 cd/lm         LEDs/each optic       1         ight colour       White         Required components:       Image: Component stress         CREE C       Image: Component stress         ED       XP-G         WHM / FVTM       56.0° / 88.0°         Efficiency       89 %         Peak Intensity       1 cd/lm         LEDs/each optic       1         ight colour       White         Required components:       Image: Component stress         ED       XP-G2         WHM / FWTM       50.0° / 89.0°         Efficiency       90 %         Peak Intensity       0.9 cd/lm         EDs/each optic       1         ight colour       White			75'
Peak intensity 1.1 cd/lm LEDs/each optic 1 ight colour White Required components: CREE C LEDs LEDS LED			
EDs/each optic 1 ight colour White Required components: CREE 5 IED XP-G WHM / FWTM 58.0° / 88.0° ifficiency 89 % Peak intensity 1 cd/lm IEDs/each optic 1 ight colour White Required components: CREE 5 EED XP-G2 WHM / FWTM 59.0° / 89.0° ifficiency 90 % Peak intensity 0.9 cd/lm Seak 0.0° ifficiency 90 % Peak intensity 0.9 cd/lm ifficiency 90 % Peak intensity 0.9 cd/lm Peak intensity 0.9 cd/lm P			60° 60°
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Required components: ED XP-G ED XP-G WHM / FWTM 58.0° / 88.0° fifticiency 89 % Peak intensity 1 cd/lm EDs/each optic 1 ight colour White Required components: ED XP-G2 WHM / FWTM 59.0° / 89.0° fifticiency 90 % Peak intensity 0.9 cd/lm EDS/each optic 1 ight colour White			
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ED XP-G WHM / FWTM 58.0° / 88.0° Peak intensity 1 cd/m EDs/each optic 1 ight colour White Required components: ED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/m EDs/each optic 1 ight colour White	Required componer	ts:	
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ED       XP-G         WHM / FWTM       58.0° / 88.0°         Efficiency       89 %         Peak intensity       1 cd/lm         ED/seach optic       1         Light colour       White         Required components:	CREE ÷		90° 90°
WHM / FWTM 58.0° / 88.0°   Efficiency 89 %   Peak intensity 1 cd/lm   LEDs/each optic 1   light colour White   Required components: ************************************		YD-C	
Efficiency 89 % Peak intensity 1 cd/lm LEDs/each optic 1 light colour White Required components: CREES LED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/lm LEDs/each optic 1 light colour White			75' 700
Peak intensity 1 cd/lm LEDs/each optic 1 Light colour White Required components: ED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/lm LEDs/each optic 1 Light colour White			
LEDs/each optic 1 Light colour White Required components: CREES ED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/m LEDs/each optic 1 Light colour White			60° 60°
Light colour White Required components:			
Required components: Required components: ED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/m EDS/each optic 1 .ight colour White			43" 43"
CREE S ED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/m EDS/each optic 1 .ight colour White			
ED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/lm EDS/each optic 1 .ight colour White			
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ED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/lm EDS/each optic 1 .ight colour White			
LEDs LED XP-G2 WHM / FWTM 59.0° / 89.0° Efficiency 90 % Peak intensity 0.9 cd/lm LEDs/each optic 1 .ight colour White			36° 1000 36° 36° 15°
LED     XP-G2       WHM / FWTM     59.0° / 89.0°       Efficiency     90 %       Peak intensity     0.9 cd/lm       LEDs/each optic     1       Light colour     White			
FWHM / FWTM     59.0° / 89.0°       Efficiency     90 %       Peak intensity     0.9 cd/lm       LEDs/each optic     1       Light colour     White			90* 90*
Efficiency 90 % Peak intensity 0.9 cd/lm EDs/each optic 1 Light colour White	LEDS	XP-G2	50°
Peak intensity     0.9 cd/lm       .EDs/each optic     1       .ight colour     White	LED		
EDs/each optic 1 .ight colour White	LED FWHM / FWTM	59.0° / 89.0°	
.ight colour White *	LED FWHM / FWTM Efficiency	59.0° / 89.0° 90 %	
	LEDs LED FWHM / FWTM Efficiency Peak intensity	59.0° / 89.0° 90 % 0.9 cd/lm	
	LEDs EWHM / FWTM Efficiency Peak intensity LEDs/each optic	59.0° / 89.0° 90 % 0.9 cd/lm 1	
	LEDs EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	59.0° / 89.0° 90 % 0.9 cd/lm 1 White	
	LEDs EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	59.0° / 89.0° 90 % 0.9 cd/lm 1 White	
	LEDs EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	59.0° / 89.0° 90 % 0.9 cd/lm 1 White	
30" 20" 15" 0" 15"	LEDs EWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	59.0° / 89.0° 90 % 0.9 cd/lm 1 White	



		30, 20, 20, 20, 20, 20, 20, 20, 20, 20, 2
LEDS	XP-L HI	
FWHM / FWTM	58.0° / 87.0°	71 72
Efficiency	92 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	gr at
Required componer		
		30° 30° 30°
		90* 90*
LED	XT-E	
FWHM / FWTM	56.0° / 86.0°	25
Efficiency	87 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required componer	nts:	
		and the second s
	EDS	50*
		50° 50°
LUMIL     LED     FWHM / FWTM	EDS LUXEON 2835 Line 60.0° / 92.0°	20 29 <sup>4</sup> 29 <sup>4</sup> 29 <sup>4</sup> 29 <sup>4</sup>
LED	LUXEON 2835 Line	
LED FWHM / FWTM	LUXEON 2835 Line 60.0° / 92.0°	
LED FWHM / FWTM Efficiency	LUXEON 2835 Line 60.0° / 92.0° 92 %	
LED FWHM / FWTM Efficiency Peak intensity	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White nts:	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Mequired component LED FWHM / FWTM	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0°	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Mequired component ELUMIL LED FWHM / FWTM Efficiency	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0° 89 %	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component Equired component Component Required component Efficiency Peak intensity	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0° 89 % 0.9 cd/lm	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component Equired component Equired component Required component Equired component Required component Equired component Required component Equired	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0° 89 % 0.9 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Methods and the second second Every Component Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0° 89 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component Equired component VED EUMIL LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0° 89 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Equired component Component Required component Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0° 89 % 0.9 cd/lm 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component Required component Efficiency Peak intensity LEDs/each optic Light colour	LUXEON 2835 Line 60.0° / 92.0° 92 % 0.9 cd/lm 1 White hts: EDS LUXEON A 58.0° / 88.0° 89 % 0.9 cd/lm 1 White	



-		 	
			90°
LED	LUXEON T		75.
FWHM / FWTM	61.0° / 90.0°		200
Efficiency	87 %		60° 60°
Peak intensity	0.9 cd/lm		
LEDs/each optic	1		
Light colour	White		è.
Required compone	nts:		
			36° 25° 0° 15°
UMIL	EDS		50° 50°
LED	LUXEON TX		
FWHM / FWTM	63.0° / 93.0°		73.
Efficiency	87 %		- 200
Peak intensity	0.8 cd/lm		601- BQ*
LEDs/each optic	1		
Light colour	White		957 43*
Required compone			
			360 300
			15° 0° 15°
LED	NF2x757A		
EED FWHM / FWTM	60.0° / 92.0°		
Efficiency	85 %		
Peak intensity	0.9 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required compone			
			90*
			9 <sup>4</sup>
LED	NVSxx19A		73 26 26
LED FWHM / FWTM	NVSxx19A 62.0° / 94.0°		
LED FWHM / FWTM Efficiency	NVSxx19A 62.0° / 94.0° 86 %		
LED FWHM / FWTM Efficiency Peak intensity	NVSxx19A 62.0° / 94.0° 86 % 0.8 cd/lm		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSxx19A 62.0° / 94.0° 86 % 0.8 cd/lm 1		
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19A 62.0° / 94.0° 86 % 0.8 cd/lm 1 White		749 200 69 <sup>4</sup> 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	NVSxx19A 62.0° / 94.0° 86 % 0.8 cd/lm 1 White		74°
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19A 62.0° / 94.0° 86 % 0.8 cd/lm 1 White		749 200 69 <sup>4</sup> 60 <sup>4</sup>
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	NVSxx19A 62.0° / 94.0° 86 % 0.8 cd/lm 1 White		749 200 69 <sup>4</sup> 60 <sup>4</sup>



$\sim$		
<b>ØNICHI</b>		90* 90*
LED	NVSxx19B/NVSxx19C	73*
FWHM / FWTM	62.0° / 93.0°	
Efficiency	91 %	60*
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	42° 42°
Required compone	nts:	
		36* 36*
0000414		
OSRAM Opto Semiconductors		90° 90°
LED	OSLON Square EC	
FWHM / FWTM	58.0° / 91.0°	200
Efficiency	87 %	60*
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	42*
Required compone	nts:	660
		30° 30°
<b>S</b> ΛΜSΙ		
		90° 90°
LED	LH351B	75
FWHM / FWTM	59.0° / 91.0°	
Efficiency	87 %	60°
Peak intensity	0.9 cd/lm	400
LEDs/each optic		
Light colour	White	
Required compone	IIS	
		30°
<b>O D D D D D D D D D D</b>		
SAMSI		90* 90*
SAMSU		50 <sup>4</sup> 50 <sup>4</sup>
LED	LH351Z	13. 24. 26.
LED FWHM / FWTM	LH351Z 68.0° / 96.0°	
LED FWHM / FWTM Efficiency	LH351Z 68.0° / 96.0° 88 %	
LED FWHM / FWTM Efficiency Peak intensity	LH351Z 68.0° / 96.0° 88 % 0.8 cd/m	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351Z 68.0° / 96.0° 88 % 0.8 cd/lm 1	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351Z 68.0° / 96.0° 88 % 0.8 cd/m 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic	LH351Z 68.0° / 96.0° 88 % 0.8 cd/m 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351Z 68.0° / 96.0° 88 % 0.8 cd/m 1 White	
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	LH351Z 68.0° / 96.0° 88 % 0.8 cd/m 1 White	



## **OPTICAL RESULTS (SIMULATED):**

	DS	50° 50°
	LUXEON H50-2	75'
FWHM / FWTM	64.0° / 82.0°	
Efficiency Peak intensity	87 % 0.9 cd/lm	60°
LEDs/each optic	1	400
Light colour	White	¢*
Required components:	Winte	30° 00 10° 10° 10° 10°
	S	90° 90°
LED	LUXEON Z ES	
FWHM / FWTM	58.0° / 80.0°	25*
Efficiency	94 %	
Peak intensity	1.1 cd/lm	400
LEDs/each optic	1	
Light colour	White	42. 42.
Required components:		
		30* 10* 00 100 30*
<b>Μ</b> ΝΙCΗΙΛ		30° 30°
LED	NCSxE17A	
FWHM / FWTM	60.0° / 81.0°	75° 75°
Efficiency	80 %	
Peak intensity	0.9 cd/lm	ř. Alban Ž
LEDs/each optic	1	
Light colour	White	42,
Required components:		
		30'
MICHIΛ		90° V 20
LED	NF2x757G	
FWHM / FWTM	57.0° / 89.0°	75' 200
Efficiency	88 %	
Peak intensity	1 cd/lm	200
LEDs/each optic	1	
Light colour	White	9 <sup>-</sup>
Required components:		00
		30° 10° 1000 15°



## **OPTICAL RESULTS (SIMULATED):**

<b></b>		
MICHIΛ		90* 90*
LED	NVSxE21A	
FWHM / FWTM	62.0° / 92.0°	75. 75.
Efficiency	90 %	
Peak intensity	0.9 cd/lm	60 <sup>10</sup>
LEDs/each optic	1	400
Light colour	White	45+ 42+
Required components:		
		30* 31*
OSRAM		
Opto Semiconductors		90° 90°
LED	OSLON SSL 120	75.
FWHM / FWTM	61.0° / 83.0°	
Efficiency	87 %	60° 60°
Peak intensity	1 cd/lm	400
LEDs/each optic	1	
Light colour	Amber	43°
Required components:		
		30° 15° 0° 15° 36°
OSRAM Opto Semiconductors		90° 90°
LED	SYNIOS S2222	
FWHM / FWTM	58.0° / 78.0°	75.
Efficiency	95 %	
Peak intensity	1.1 cd/im	60° - 400 - 60°
LEDs/each optic	1	
Light colour	White	45°
Required components:		
		30.
		15° 1080 15°
SAMSUN	16	30°
LED	LM28xB Series	
FWHM / FWTM		
	62.0° / 88.0°	
Efficiency	92 %	60° - 10°
Peak intensity		00
Peak intensity LEDs/each optic	92 % 0.9 cd/lm 1	
Peak intensity LEDs/each optic Light colour	92 % 0.9 cd/lm	0,000 6,00 6,00 6,00 6,00 6,00 6,00 6,0
Peak intensity	92 % 0.9 cd/lm 1	en
Peak intensity LEDs/each optic Light colour	92 % 0.9 cd/lm 1	0, 200 0, 400 0,
Peak intensity LEDs/each optic Light colour	92 % 0.9 cd/lm 1	5. 66 68
Peak intensity LEDs/each optic Light colour	92 % 0.9 cd/lm 1	27 100 12 60 60 60 60 60 60 60 60



## **OPTICAL RESULTS (SIMULATED):**

SAMSUN	IG	90*
LED	LM301B	
FWHM / FWTM	62.0° / 87.0°	75* 75*
Efficiency	92 %	
Peak intensity	0.9 cd/lm	50 <sup>1</sup>
LEDs/each optic	1	
Light colour	White	97* es*
Required components:		
		316 306
		30 30 30 15° 18%0 15°
SEOUL SEMICONDUCTOR		90*
	Z5M1/Z5M2	
FWHM / FWTM	61.0° / 86.0°	75* 200
Efficiency	94 %	
Peak intensity	1 cd/lm	60° 60°
LEDs/each optic	1	
Light colour	White	47° 40° 40°
Required components:		
		30* 1000 30*
		1000 159 0 <sup>6</sup> 259
SEOUL		50° 50°
LED	Z8Y22P	
FWHM / FWTM	62.0° / 92.0°	75* 75*
Efficiency	92 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	g* A
Required components:		
		30° 32°
		159 1800 150