## TINA2-WW

**~60° wide beam optimized for Nichia NS6x83. Assembly with holder and installation tape.**

### SPECIFICATION:

| | |
|---|---|
| Dimensions | Ø 16.1 mm |
| Height | 11 mm |
| Fastening | tape |
| ROHS compliant | yes ⓘ |

### MATERIALS:

| Component | Type | Material | Colour | Finish |
|---|---|---|---|---|
| TINA2-WW-6N83 | Single lens | PMMA | clear | |
| TINA2-HLD-N83-BLK | Holder | PC | black | |
| TINA-TAPE3 | Tape | Acrylic foam | black | |

### ORDERING INFORMATION:

| Component | | Qty in box | MOQ | MPQ | Box weight (kg) |
|---|---|---|---|---|---|
| CA11176_TINA2-WW | Single lens | 4140 | | 230 | 0.0 |

» Box size: 451 x 241 x 298 mm

10.9

Front view

Isometric view
Scale: 3:1

Acrylic foam tape 0.4mm

⌀16.1

5.1

5.1

Top view

Bottom view

| INDEX | PART NO | DESCRIPTION | MATERIAL | COLOUR |
|-------|---------|-------------|----------|--------|
| 1 | - | TINA2 lens | PMMA | clear |
| 2 | C11170 | TINA2-HLD-N83-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

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THIRD ANGLE PROJECTION:

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DRAWING TITLE
**TINA2-N83 series**

| SIZE | PART NUMBER |
|------|-------------|
| A4 | - |

| SCALE 3:1 | WEIGHT 1,8 g | | SHEET 1/1 |

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

## OPTICAL RESULTS (MEASURED):

**CREE LEDs**

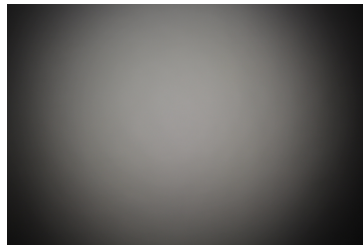| | |
|---|---|
| LED | MX-6 |
| FWHM / FWTM | 56.0° / 86.0° |
| Efficiency | % |
| Peak intensity | 0.9 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

**LUMILEDS**
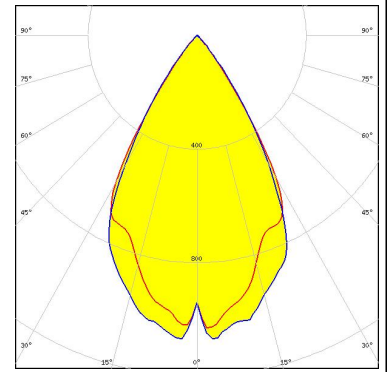
| | |
|---|---|
| LED | LUXEON 5050 Round LES |
| FWHM / FWTM | 49.0° / 81.0° |
| Efficiency | 76 % |
| Peak intensity | 1 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

**LUMILEDS**
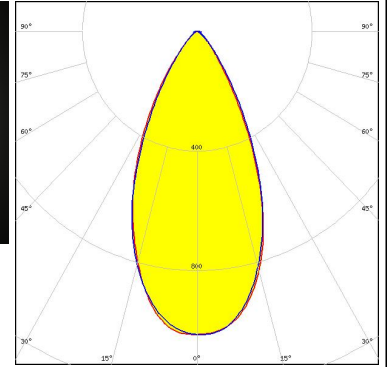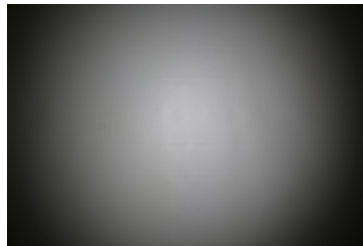
| | |
|---|---|
| LED | LUXEON V |
| FWHM / FWTM | 51.0° / 82.0° |
| Efficiency | 76 % |
| Peak intensity | 1 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

**NICHIA**
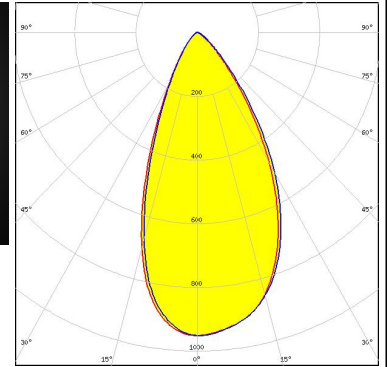
| | |
|---|---|
| LED | NS3x83 |
| FWHM / FWTM | 60.0° / 90.0° |
| Efficiency | 87 % |
| Peak intensity | 0.8 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

## OPTICAL RESULTS (MEASURED):

### NICHIA

| | |
|---|---|
| LED | NS6x83 |
| FWHM / FWTM | 60.0° / 90.0° |
| Efficiency | 87 % |
| Peak intensity | 0.8 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

### OPTOGAN
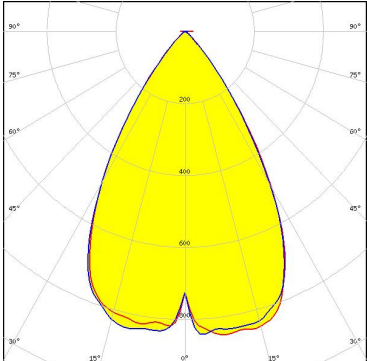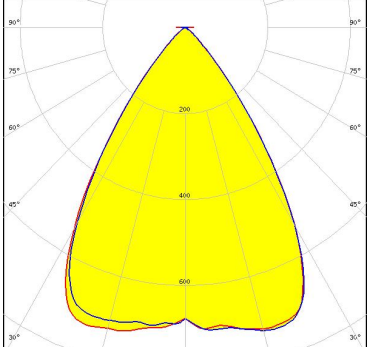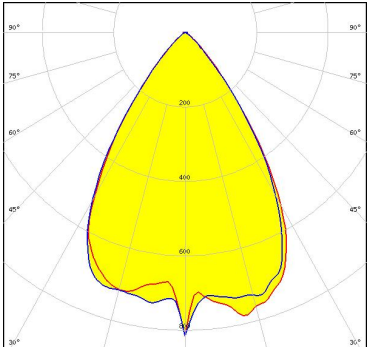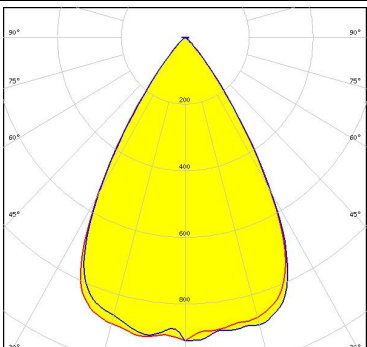
| | |
|---|---|
| LED | OLP-x5050F6L |
| FWHM / FWTM | 55.0° / 86.0° |
| Efficiency | 86 % |
| Peak intensity | 1 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |



### SAMSUNG
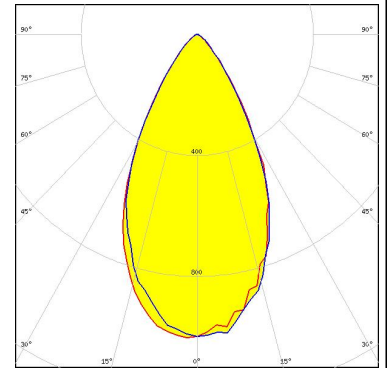
| | |
|---|---|
| LED | LH508A |
| FWHM / FWTM | 48.0° / 80.0° |
| Efficiency | 64 % |
| Peak intensity | 0.9 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

## OPTICAL RESULTS (SIMULATED):

**CREE LEDs**

| | |
|---|---|
| LED | XHP35 HI |
| FWHM / FWTM | 63.0° / 86.0° |
| Efficiency | 87 % |
| Peak intensity | 0.9 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

**CREE LEDs**

| | |
|---|---|
| LED | XP-G3 |
| FWHM / FWTM | 68.0° / 90.0° |
| Efficiency | 88 % |
| Peak intensity | 0.8 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

**CREE LEDs**

| | |
|---|---|
| LED | XP-L HD |
| FWHM / FWTM | 67.0° / 91.0° |
| Efficiency | 89 % |
| Peak intensity | 0.8 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

**CREE LEDs**

| | |
|---|---|
| LED | XP-L HI |
| FWHM / FWTM | 64.0° / 84.0° |
| Efficiency | 92 % |
| Peak intensity | 0.9 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

## OPTICAL RESULTS (SIMULATED):

### LUMILEDS

| | |
|---|---|
| LED | LUXEON C |
| FWHM / FWTM | 58.0° / 78.0° |
| Efficiency | 83 % |
| Peak intensity | 1.1 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |
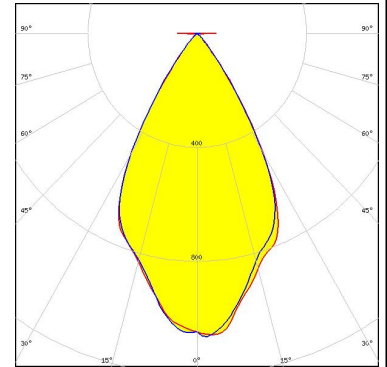
### LUMILEDS

| | |
|---|---|
| LED | LUXEON HL2X |
| FWHM / FWTM | 66.0° / 88.0° |
| Efficiency | 92 % |
| Peak intensity | 0.9 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |
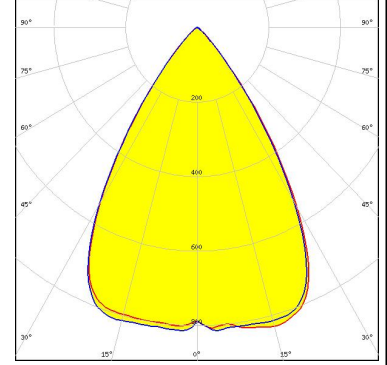
### NICHIA

| | |
|---|---|
| LED | NCSxE17A |
| FWHM / FWTM | 42.0° / 70.0° |
| Efficiency | 85 % |
| Peak intensity | 1.7 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |
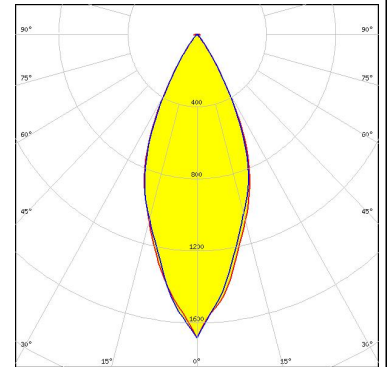
### NICHIA

| | |
|---|---|
| LED | NCSxE17A |
| FWHM / FWTM | 46.0° / 80.0° |
| Efficiency | 72 % |
| Peak intensity | 1.1 cd/lm |
| LEDs/each optic | 4 |
| Light colour | White |
| Required components: | |
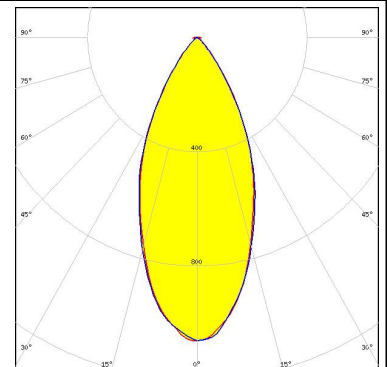
## OPTICAL RESULTS (SIMULATED):

**OSRAM** Opto Semiconductors

| | |
|---|---|
| LED | Duris S8 |
| FWHM / FWTM | 49.0° / 82.0° |
| Efficiency | 86 % |
| Peak intensity | 1.2 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |
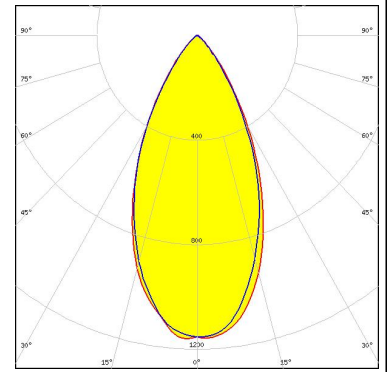


**OSRAM** Opto Semiconductors

| | |
|---|---|
| LED | OSLON Square CSSRM2/CSSRM3 |
| FWHM / FWTM | 70.0° / 88.0° |
| Efficiency | 92 % |
| Peak intensity | 0.8 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |
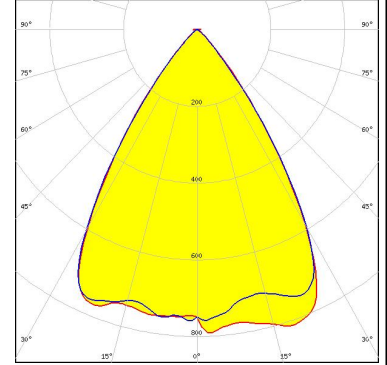


**OSRAM** Opto Semiconductors

| | |
|---|---|
| LED | SFH 4715AS |
| FWHM / FWTM | 47.0° / 69.0° |
| Efficiency | 91 % |
| LEDs/each optic | 1 |
| Light colour | IR |
| Required components: | |



Polar intensity graph
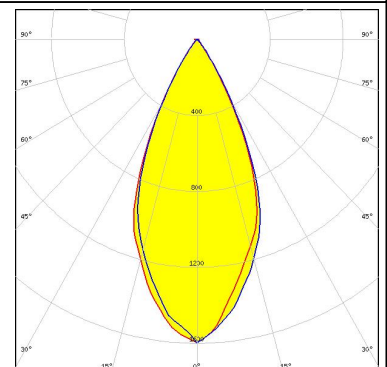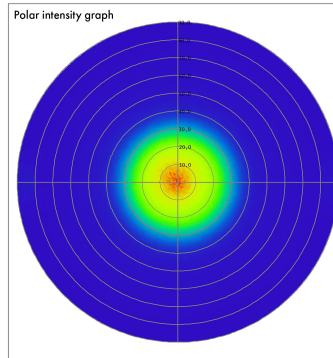
**OSRAM** Opto Semiconductors

| | |
|---|---|
| LED | SFH 4725AS |
| FWHM / FWTM | 47.0° / 69.0° |
| Efficiency | 90 % |
| LEDs/each optic | 1 |
| Light colour | IR |
| Required components: | |



Polar intensity graph
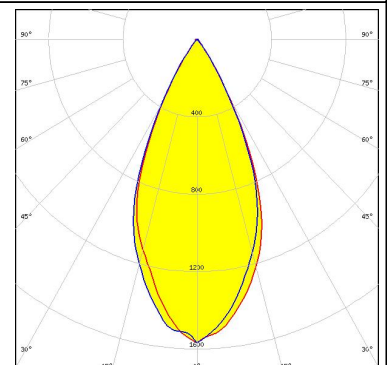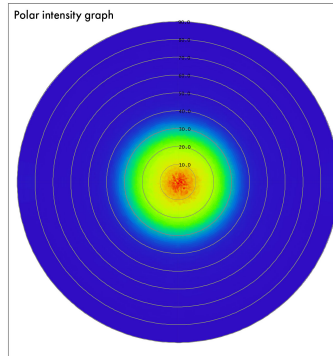
## OPTICAL RESULTS (SIMULATED):

**SAMSUNG**

| | |
|---|---|
| LED | LH181B |
| FWHM / FWTM | 49.1° / 74.2° |
| Efficiency | 88 % |
| Peak intensity | 1.4 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |

**SAMSUNG**

| | |
|---|---|
| LED | LH351B |
| FWHM / FWTM | 70.0° / 92.0° |
| Efficiency | 90 % |
| Peak intensity | 0.8 cd/lm |
| LEDs/each optic | 1 |
| Light colour | White |
| Required components: | |
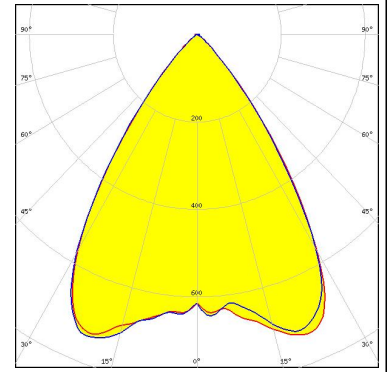
## GENERAL INFORMATION:

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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