## LENA-S

**~11° spot beam**

### TECHNICAL SPECIFICATIONS:

| | |
|---|---|
| Dimensions | Ø 111.0 mm |
| Height | 80 mm |
| Fastening | socket |
| Colour | metal |
| Box size | 400 x 280 x 380 mm |
| Box weight | 3.8 kg |
| Quantity in Box | 60 pcs |
| ROHS compliant | yes ⓘ |

### MATERIAL SPECIFICATIONS:

| Component | Type | Material | Colour | Coating |
|---|---|---|---|---|
| LENA-S | Reflector | PC | metal | lacquer |

This drawing applies to:
C11979_LENA-S
C12154_LENA-M
C11980_LENA-W
C13117_LENA-SS

8.3

80

58.2

Ø111

Isometric view

| INDEX | DESCRIPTION | MATERIAL |
|-------|-------------|----------|
| 1 | Lena-Reflector | PC |

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

THIRD ANGLE PROJECTION:

This drawing is the property
of LEDiL Oy. It may not be
reproduced, copied or
communicated without a written
agreement with LEDiL Oy.'

Ledil Oy
Salorankatu 10
FIN 24240 SALO
Finland

DRAWING TITLE
LENA reflector family

SIZE | PART NUMBER
A3 | -

SCALE 1:1 | WEIGHT (g) | SHEET 1/1

## PHOTOMETRIC DATA (MEASURED):

bridgelux

| | |
|---|---|
| LED | BXRA ES Rectangle |
| FWHM | 11.0° |
| Efficiency | 78 % |
| Peak intensity | cd/lm |
| Required components: | |
| C12153_LENA-STD-BASE-BXRA | |
| C11996_LENA-LENS | |

bridgelux

| | |
|---|---|
| LED | BXRA RS |
| FWHM | 20.0° |
| Efficiency | 80 % |
| Peak intensity | cd/lm |
| Required components: | |
| C12229_LENA-STD-BASE-RS | |
| C11996_LENA-LENS | |
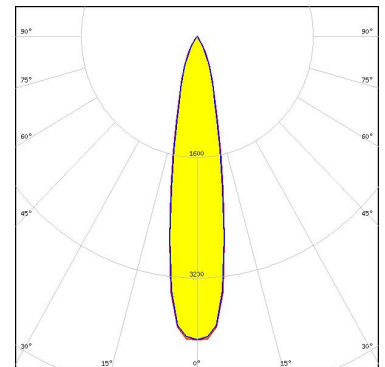


bridgelux

| | |
|---|---|
| LED | V10 Gen6 |
| FWHM | 9.0° |
| Efficiency | 76 % |
| Peak intensity | 12.110 cd/lm |
| Required components: | |
| C13186_LENA-STD-BASE-CXA15 | |
| C11996_LENA-LENS | |
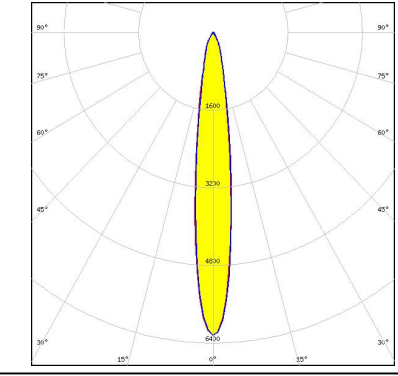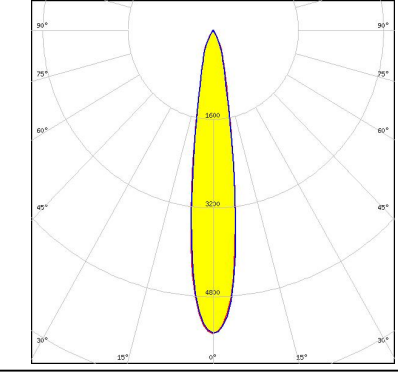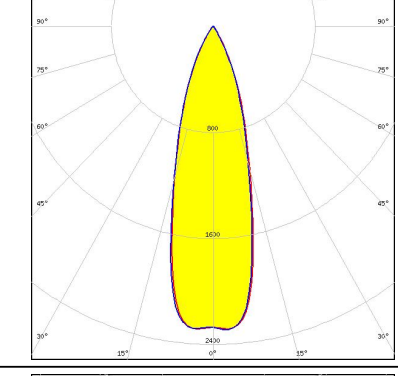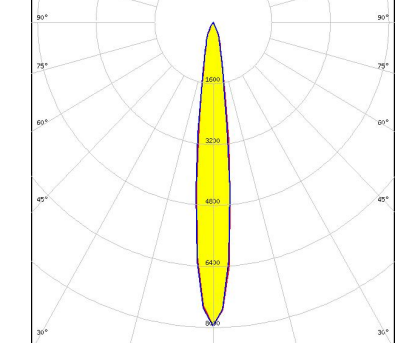


bridgelux

| | |
|---|---|
| LED | Vero SE 29 |
| FWHM | 27.0° |
| Efficiency | 87 % |
| Peak intensity | 3.100 cd/lm |
| Required components: | |
| C15083_LENA-STD-BASE-VERO29 | |

## PHOTOMETRIC DATA (MEASURED):

**bridgelux**

| | |
|---|---|
| LED | VERO13 |
| FWHM | 14.0° |
| Efficiency | 83 % |
| Peak intensity | 6.250 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C11996_LENA-LENS



**bridgelux**

| | |
|---|---|
| LED | VERO18 |
| FWHM | 17.0° |
| Efficiency | 83 % |
| Peak intensity | 5.500 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C11996_LENA-LENS



**bridgelux**

| | |
|---|---|
| LED | VERO29 |
| FWHM | 30.0° |
| Efficiency | 80 % |
| Peak intensity | 2.300 cd/lm |

Required components:

C13867_LENA-STD-BASE-VERO29



# CITIZEN

| | |
|---|---|
| LED | CL-L340 |
| FWHM | 14.0° |
| Efficiency | 79 % |
| Peak intensity | 8.000 cd/lm |

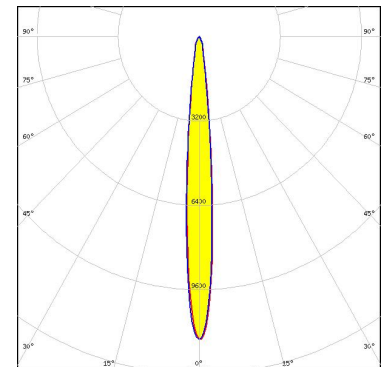Required components:

C11995_LENA-STD-BASE-CL340

C11996_LENA-LENS

## PHOTOMETRIC DATA (MEASURED):

### CITIZEN

| | |
|---|---|
| LED | CL-L340 |
| FWHM | 11.0° |
| Efficiency | 84 % |
| Peak intensity | 10.100 cd/lm |

Required components:

C11995_LENA-STD-BASE-CL340
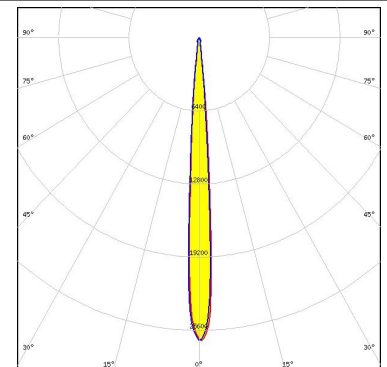
### CITIZEN

| | |
|---|---|
| LED | CLL02x/CLU02x (LES10) |
| FWHM | 10.0° |
| Efficiency | 80 % |
| Peak intensity | 11.500 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18
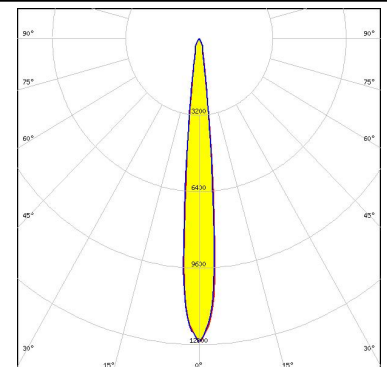
C11996_LENA-LENS

Bender Wirth: 434 Typ L1



### CITIZEN

| | |
|---|---|
| LED | CLL02x/CLU02x (LES10) |
| FWHM | 8.0° |
| Efficiency | 85 % |
| Peak intensity | 26.500 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 434 Typ L1



### CITIZEN

| | |
|---|---|
| LED | CLL03x/CLU03x |
| FWHM | 11.0° |
| Efficiency | 85 % |
| Peak intensity | 13.000 cd/lm |

Required components:

C12691_LENA-STD-BASE-CLL030
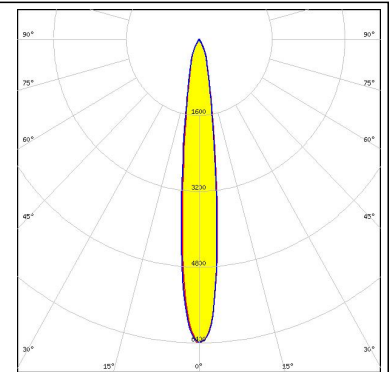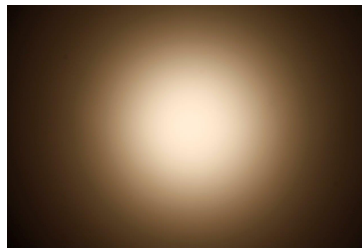
## PHOTOMETRIC DATA (MEASURED):

### CITIZEN

| | |
|---|---|
| LED | CLL03x/CLU03x |
| FWHM | 13.0° |
| Efficiency | 78 % |
| Peak intensity | 6.400 cd/lm |

Required components:
  A.A.G. STUCCHI: 8101/G2 + S-8000/11

### CITIZEN

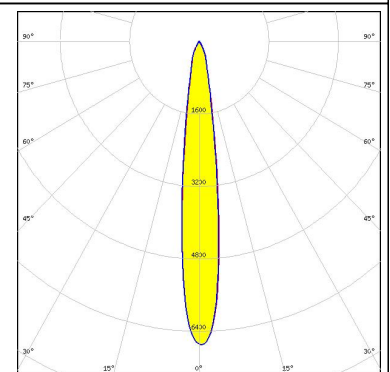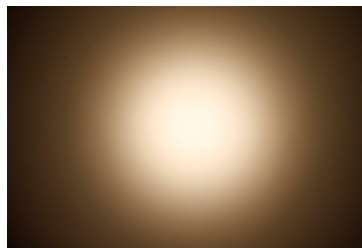| | |
|---|---|
| LED | CLL03x/CLU03x |
| FWHM | 14.0° |
| Efficiency | 80 % |
| Peak intensity | 6.700 cd/lm |

Required components:
  C13868_LENA-STD-BASE-VERO13-18
  C11996_LENA-LENS
  Bender Wirth: 433 Typ L1

### CITIZEN

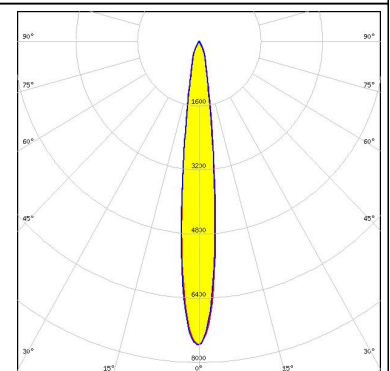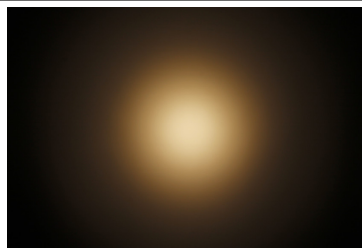| | |
|---|---|
| LED | CLL03x/CLU03x |
| FWHM | 13.0° |
| Efficiency | 80 % |
| Peak intensity | 7.600 cd/lm |

Required components:
  C12691_LENA-STD-BASE-CLL030
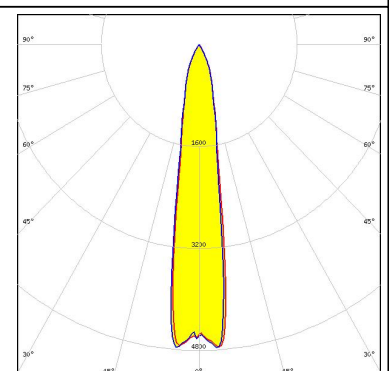  C11996_LENA-LENS

### CITIZEN

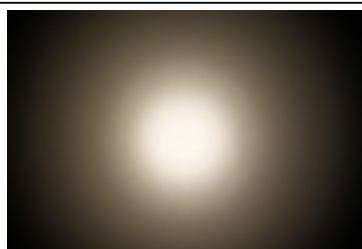| | |
|---|---|
| LED | CLL04x/CLU04x |
| FWHM | 17.0° |
| Efficiency | 78 % |
| Peak intensity | 4.800 cd/lm |

Required components:
  A.A.G. STUCCHI: 8102/G2 + S-8000/12

## PHOTOMETRIC DATA (MEASURED):

### CITIZEN

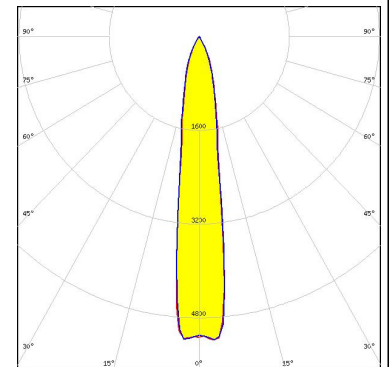| | |
|---|---|
| LED | CLL04x/CLU04x |
| FWHM | 16.0° |
| Efficiency | 79 % |
| Peak intensity | 3.820 cd/lm |

Required components:
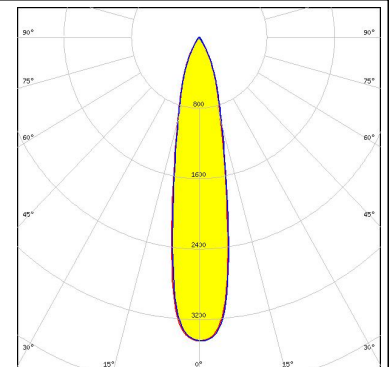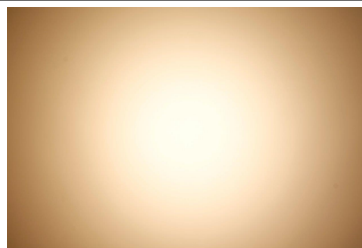C12692_LENA-STD-BASE-CLL040
C11996_LENA-LENS
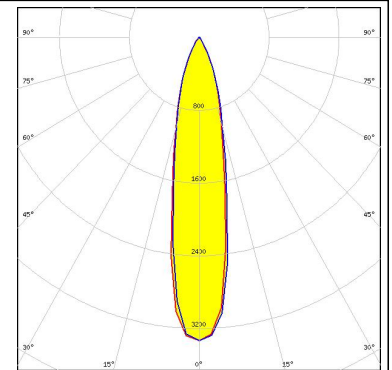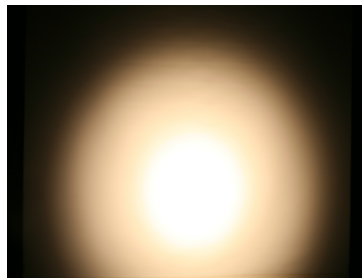


### CITIZEN

| | |
|---|---|
| LED | CLL04x/CLU04x |
| FWHM | 16.0° |
| Efficiency | 85 % |
| Peak intensity | 5.200 cd/lm |

Required components:
IDEAL: 50-2204CT + 50-2100LN



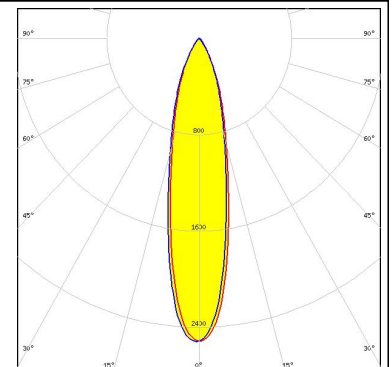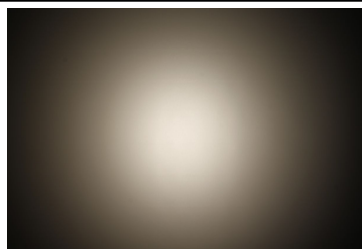### CITIZEN

| | |
|---|---|
| LED | CLL04x/CLU04x |
| FWHM | 21.0° |
| Efficiency | 80 % |
| Peak intensity | 3.400 cd/lm |

Required components:
C13867_LENA-STD-BASE-VERO29
Bender Wirth: 431 Typ L3



### CITIZEN

| | |
|---|---|
| LED | CLL04x/CLU04x |
| FWHM | 23.0° |
| Efficiency | 73 % |
| Peak intensity | 2.500 cd/lm |

Required components:
A.A.G. STUCCHI: 8102/G2 + S-8000/12
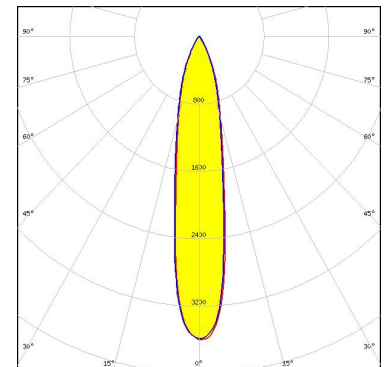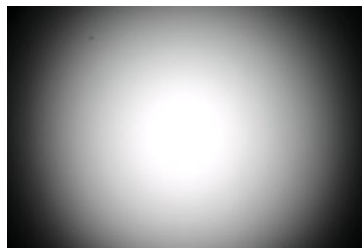
## PHOTOMETRIC DATA (MEASURED):

### CITIZEN

| | |
|---|---|
| LED | CLL04x/CLU04x |
| FWHM | 15.0° |
| Efficiency | 84 % |
| Peak intensity | 5.250 cd/lm |

Required components:
  C12692_LENA-STD-BASE-CLL040



### CITIZEN

| | |
|---|---|
| LED | CLL04x/CLU04x |
| FWHM | 19.0° |
| Efficiency | 81 % |
| Peak intensity | 3.600 cd/lm |

Required components:
  IDEAL: 50-2204CT + 50-2100LN



### CITIZEN

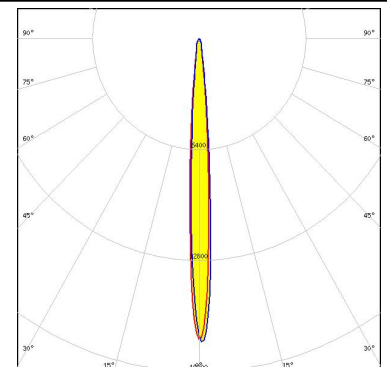| | |
|---|---|
| LED | CLU700/701 |
| FWHM | 5.0° |
| Efficiency | 87 % |
| Peak intensity | 61.400 cd/lm |

Required components:
  C13868_LENA-STD-BASE-VERO13-18
  Bender Wirth: 434 Typ L1
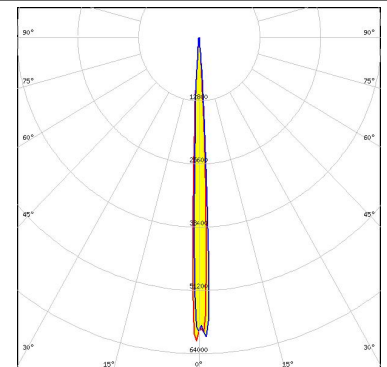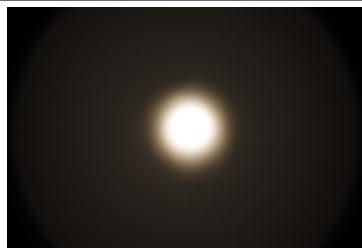


### CITIZEN

| | |
|---|---|
| LED | CLU700/701 |
| FWHM | 8.0° |
| Efficiency | 80 % |
| Peak intensity | 17.500 cd/lm |

Required components:
  C13868_LENA-STD-BASE-VERO13-18
  C11996_LENA-LENS
  Bender Wirth: 434 Typ L1
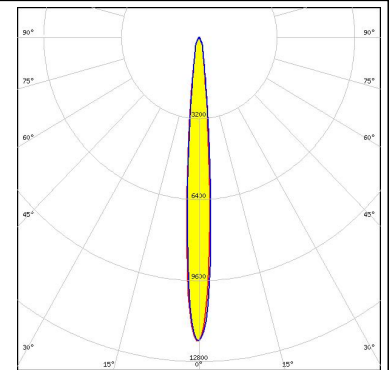
## PHOTOMETRIC DATA (MEASURED):

### CITIZEN

| | |
|---|---|
| LED | CLU710/711 |
| FWHM | 9.0° |
| Efficiency | 83 % |
| Peak intensity | 12.000 cd/lm |

Required components:
C12691_LENA-STD-BASE-CLL030
C11996_LENA-LENS



### CITIZEN

| | |
|---|---|
| LED | CLU710/711 |
| FWHM | 7.0° |
| Efficiency | 90 % |
| Peak intensity | 30.000 cd/lm |

Required components:
C12691_LENA-STD-BASE-CLL030
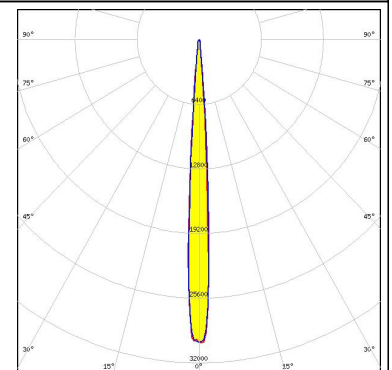


### CITIZEN

| | |
|---|---|
| LED | CLU720/721 |
| FWHM | 11.0° |
| Efficiency | 79 % |
| Peak intensity | 8.600 cd/lm |

Required components:
C12691_LENA-STD-BASE-CLL030
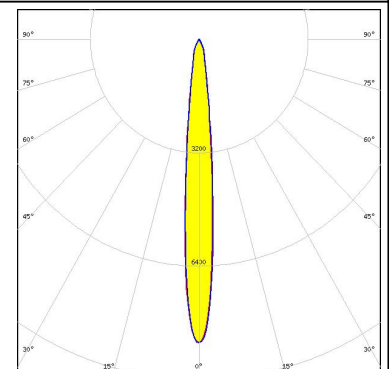C11996_LENA-LENS
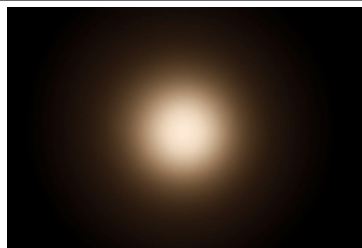


### CITIZEN

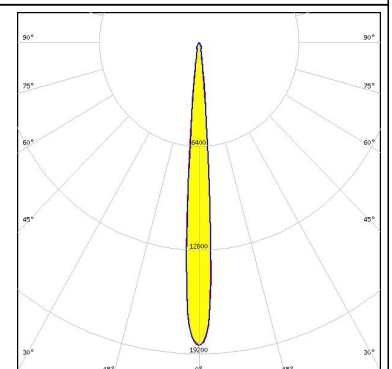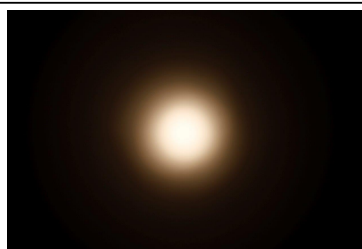| | |
|---|---|
| LED | CLU720/721 |
| FWHM | 9.0° |
| Efficiency | 85 % |
| Peak intensity | 18.700 cd/lm |

Required components:
C12691_LENA-STD-BASE-CLL030
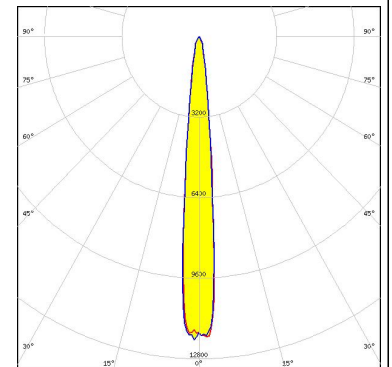
## PHOTOMETRIC DATA (MEASURED):

### CITIZEN

| | |
|---|---|
| LED | CLU730/731 |
| FWHM | 10.0° |
| Efficiency | 82 % |
| Peak intensity | 12.400 cd/lm |
| Required components: | |
| C12692_LENA-STD-BASE-CLL040 | |
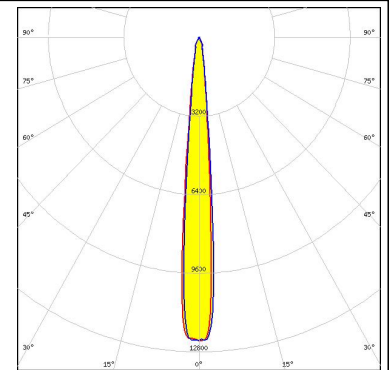


### CREE

| | |
|---|---|
| LED | CMA1840 |
| FWHM | 11.0° |
| Efficiency | 88 % |
| Peak intensity | 12.000 cd/lm |
| Required components: | |
| C14146_LENA-STD-BASE-CXA18 | |
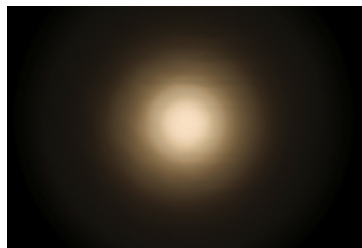


### CREE

| | |
|---|---|
| LED | CXA/B 15xx |
| FWHM | 7.0° |
| Efficiency | 87 % |
| Peak intensity | 30.120 cd/lm |
| Required components: | |
| C13186_LENA-STD-BASE-CXA15 | |
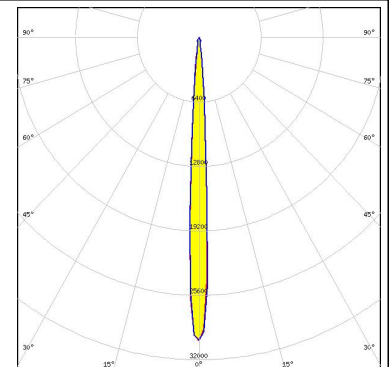


### CREE

| | |
|---|---|
| LED | CXA/B 15xx |
| FWHM | 8.0° |
| Efficiency | 80 % |
| Peak intensity | 16.500 cd/lm |
| Required components: | |
| C13868_LENA-STD-BASE-VERO13-18 | |
| C11996_LENA-LENS | |
| Bender Wirth: 441 Typ L1 | |

## PHOTOMETRIC DATA (MEASURED):

**CREE ⇕**
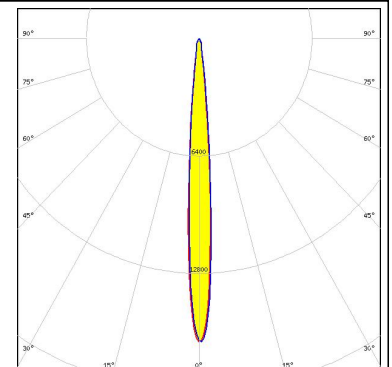
| | |
|---|---|
| LED | CXA/B 15xx |
| FWHM | 8.0° |
| Efficiency | 81 % |
| Peak intensity | 15.500 cd/lm |

Required components:

C13186_LENA-STD-BASE-CXA15

C11996_LENA-LENS



**CREE ⇕**

| | |
|---|---|
| LED | CXA/B 15xx |
| FWHM | 7.0° |
| Efficiency | 86 % |
| Peak intensity | 31.300 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 441 Typ L1



**CREE ⇕**
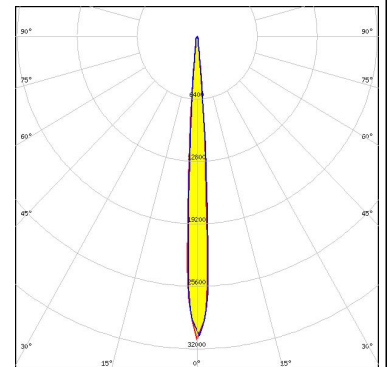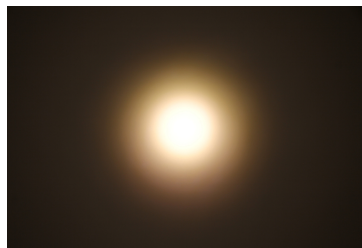
| | |
|---|---|
| LED | CXA/B 1816 & CXA/B 1820 & CXA 1850 |
| FWHM | 10.0° |
| Efficiency | 87 % |
| Peak intensity | 17.600 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 437 Typ L1



**CREE ⇕**
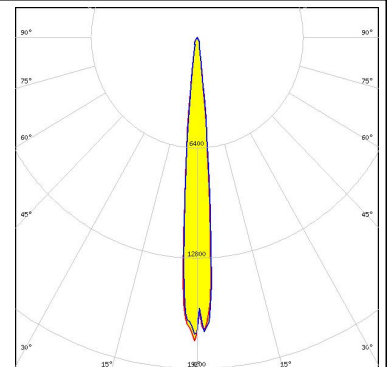
| | |
|---|---|
| LED | CXA/B 1816 & CXA/B 1820 & CXA 1850 |
| FWHM | 12.0° |
| Efficiency | 82 % |
| Peak intensity | 8.600 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C11996_LENA-LENS

Bender Wirth: 437 Typ L1

## PHOTOMETRIC DATA (MEASURED):

**CREE**

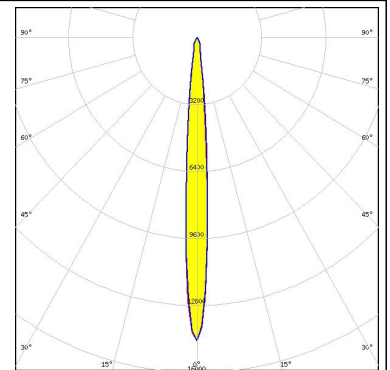| | |
|---|---|
| LED | CXA/B 1830 |
| FWHM | 18.0° |
| Efficiency | 75 % |
| Peak intensity | 2.300 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C12231_LENA-FRESNEL-LENS

Bender Wirth: 437 Typ L1

**CREE**
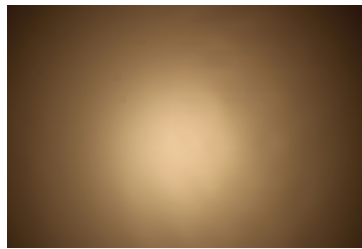
| | |
|---|---|
| LED | CXA/B 1830 |
| FWHM | 12.0° |
| Efficiency | 82 % |
| Peak intensity | 10.300 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C14169_LENA-CLEAR-LENS

Bender Wirth: 437 Typ L1
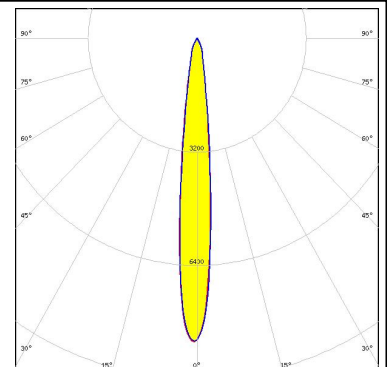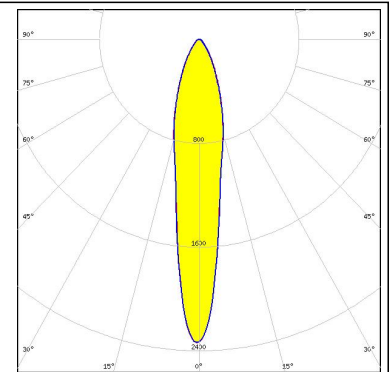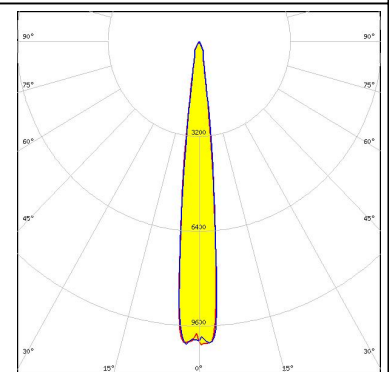
**CREE**

| | |
|---|---|
| LED | CXA/B 1830 |
| FWHM | 12.0° |
| Efficiency | 87 % |
| Peak intensity | 11.900 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 437 Typ L1
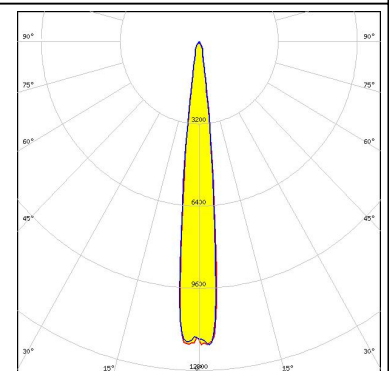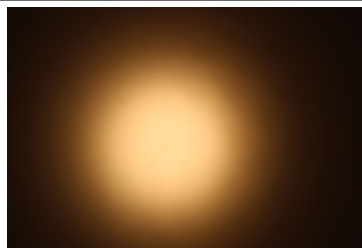
**CREE**

| | |
|---|---|
| LED | CXA/B 25xx |
| FWHM | 13.0° |
| Efficiency | 79 % |
| Peak intensity | 5.900 cd/lm |

Required components:

C13324_LENA-STD-BASE-CXA25

C11996_LENA-LENS
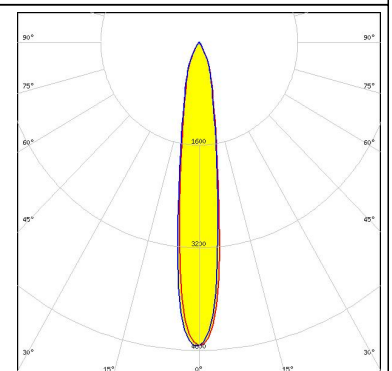
## PHOTOMETRIC DATA (MEASURED):

### CREE

| | |
|---|---|
| LED | CXA/B 25xx |
| FWHM | 13.0° |
| Efficiency | 84 % |
| Peak intensity | 8.000 cd/lm |
| Required components: | |
| C13324_LENA-STD-BASE-CXA25 | |
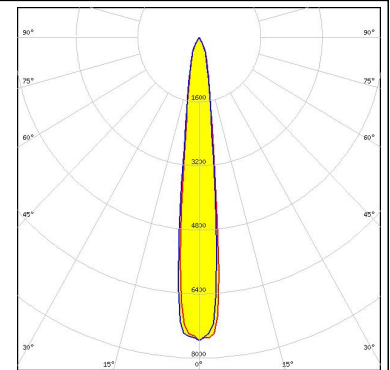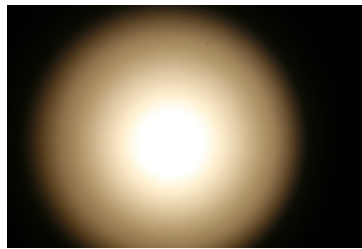


### CREE

| | |
|---|---|
| LED | CXA2011 |
| FWHM | 11.0° |
| Efficiency | 80 % |
| Peak intensity | cd/lm |
| Required components: | |
| C12105_LENA-STD-BASE-CXA20 | |
| C11996_LENA-LENS | |
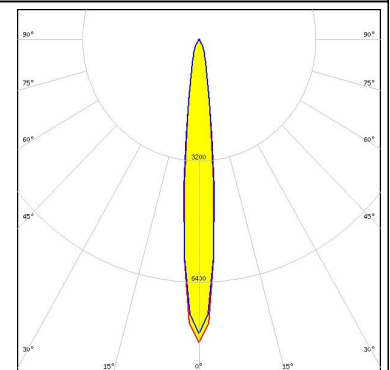


### EVERLIGHT

| | |
|---|---|
| LED | CHI3030 19W |
| FWHM | 20.0° |
| Efficiency | 86 % |
| Peak intensity | 4.100 cd/lm |
| Required components: | |
| C13867_LENA-STD-BASE-VERO29 | |
| Bender Wirth: 468 Typ L3 | |
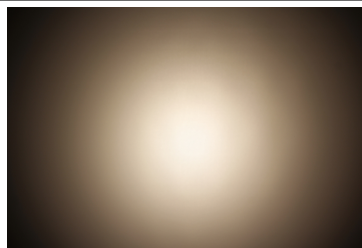


### EVERLIGHT

| | |
|---|---|
| LED | CHI3030 29W |
| FWHM | 25.0° |
| Efficiency | 80 % |
| Peak intensity | 2.700 cd/lm |
| Required components: | |
| C13867_LENA-STD-BASE-VERO29 | |
| Bender Wirth: 468 Typ L3 | |
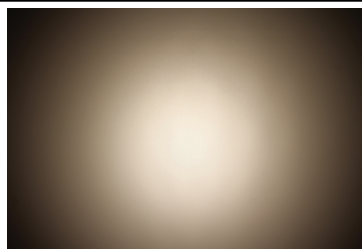
## PHOTOMETRIC DATA (MEASURED):

### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1202/1203 |
| FWHM | 7.0° |
| Efficiency | 87 % |
| Peak intensity | 28.300 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 438 Typ L1
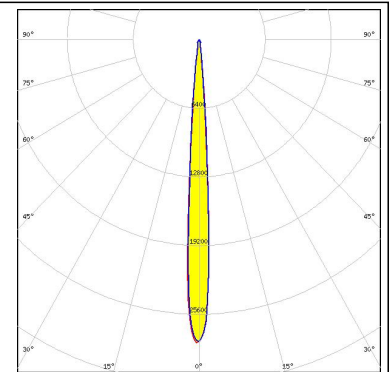


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1204/1205 |
| FWHM | 12.0° |
| Efficiency | 77 % |
| Peak intensity | 7.300 cd/lm |

Required components:

C12292_LENA-STD-BASE-MEZ

C11996_LENA-LENS
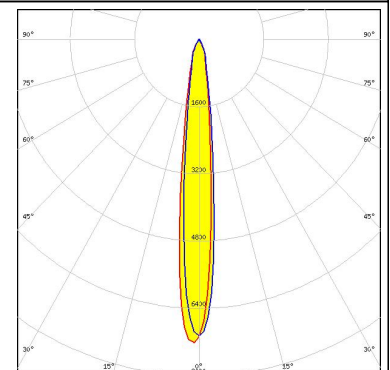


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1204/1205 |
| FWHM | 10.0° |
| Efficiency | 83 % |
| Peak intensity | 13.100 cd/lm |

Required components:

C12292_LENA-STD-BASE-MEZ
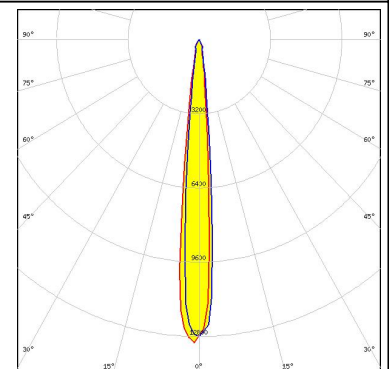


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1205HD |
| FWHM | 9.0° |
| Efficiency | 88 % |
| Peak intensity | 19.200 cd/lm |

Required components:

C11981_LENA-STD-BASE-COB-L110
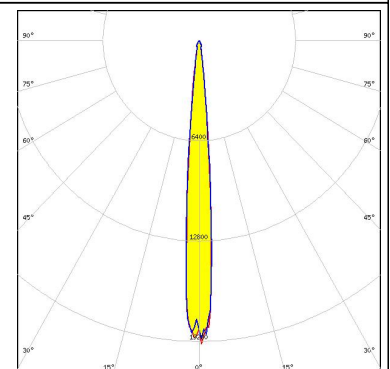
## PHOTOMETRIC DATA (MEASURED):

### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1208 |
| FWHM | 14.0° |
| Efficiency | 78 % |
| Peak intensity | 6.000 cd/lm |
| Required components: | |
| C12292_LENA-STD-BASE-MEZ | |
| C11996_LENA-LENS | |
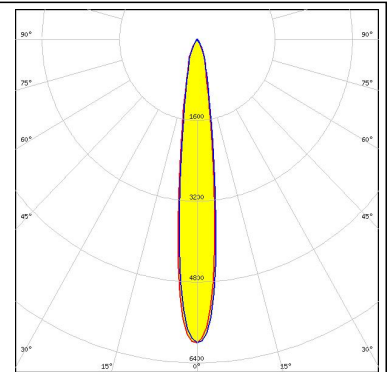


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1208 |
| FWHM | 12.0° |
| Efficiency | 84 % |
| Peak intensity | 9.900 cd/lm |
| Required components: | |
| C12292_LENA-STD-BASE-MEZ | |
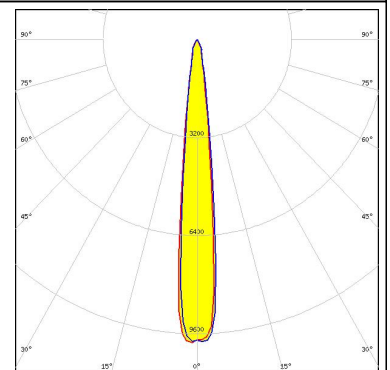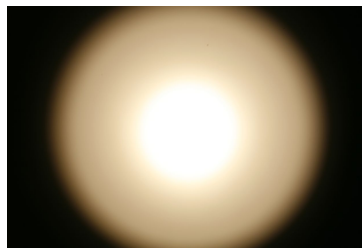


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1211 |
| FWHM | 17.0° |
| Efficiency | 80 % |
| Peak intensity | 5.000 cd/lm |
| Required components: | |
| C13867_LENA-STD-BASE-VERO29 | |
| Bender Wirth: 431 Typ L3 | |
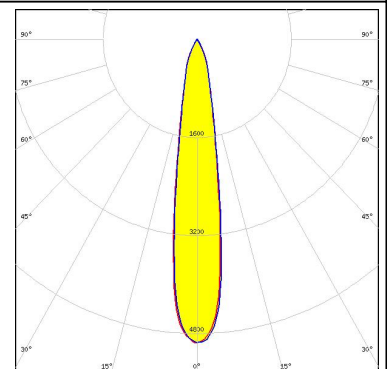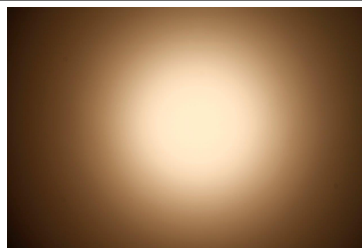


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1211 |
| FWHM | 16.0° |
| Efficiency | 85 % |
| Peak intensity | 6.600 cd/lm |
| Required components: | |
| C13867_LENA-STD-BASE-VERO29 | |
| Bender Wirth: 431 Typ L3 | |
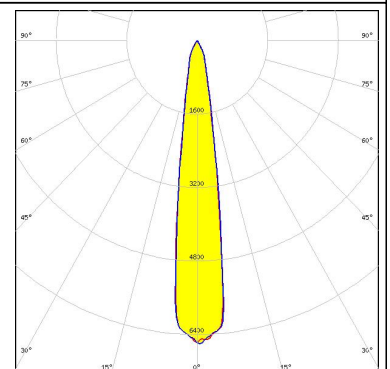
## PHOTOMETRIC DATA (MEASURED):

### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1216/1812 |
| FWHM | 23.0° |
| Efficiency | 74 % |
| Peak intensity | 2.600 cd/lm |
| Required components: | |
| A.A.G. STUCCHI: 8102/G2 + S-8000/12 | |
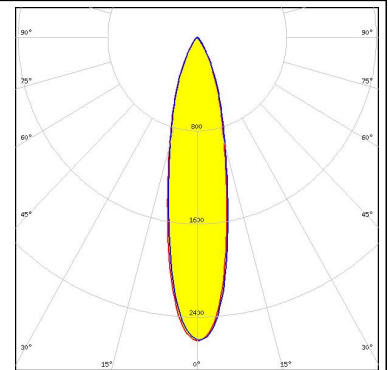


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1216/1812 |
| FWHM | 21.0° |
| Efficiency | 80 % |
| Peak intensity | 3.600 cd/lm |
| Required components: | |
| C12692_LENA-STD-BASE-CLL040 | |
| C11996_LENA-LENS | |
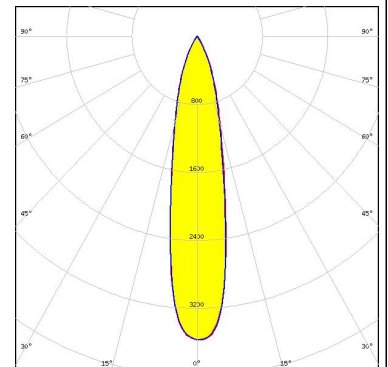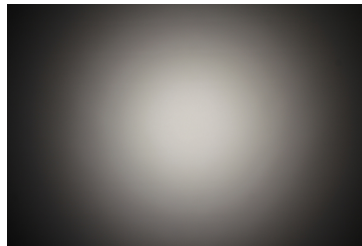


### LUMILEDS

| | |
|---|---|
| LED | LUXEON CoB 1216/1812 |
| FWHM | 18.0° |
| Efficiency | 79 % |
| Peak intensity | 4.540 cd/lm |
| Required components: | |
| A.A.G. STUCCHI: 8102/G2 + S-8000/12 | |
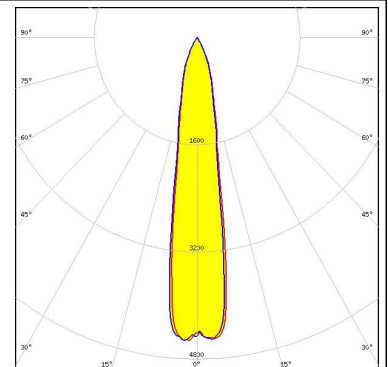


### LUMINUS

| | |
|---|---|
| LED | CDM-14 (Dim-To-Warm) |
| FWHM | 13.0° |
| Efficiency | 82 % |
| Peak intensity | 8.500 cd/lm |
| Required components: | |
| C13868_LENA-STD-BASE-VERO13-18 | |
| C11996_LENA-LENS | |
| Bender Wirth: 491 Typ L2 | |

## PHOTOMETRIC DATA (MEASURED):

**≡ LUMINUS**
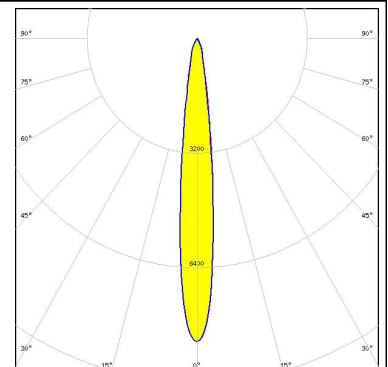
| | |
|---|---|
| LED | CDM-18 (Dim-To-Warm) |
| FWHM | 16.0° |
| Efficiency | 82 % |
| Peak intensity | 5.600 cd/lm |

Required components:
  C13868_LENA-STD-BASE-VERO13-18
  C11996_LENA-LENS
  Bender Wirth: 491 Typ L2



**≡ LUMINUS**
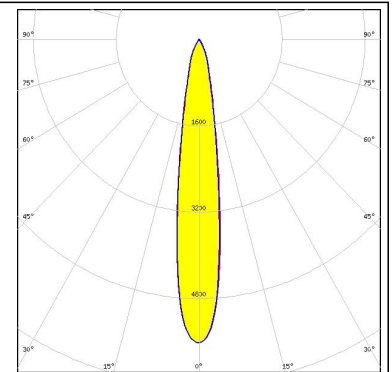
| | |
|---|---|
| LED | CDM-9 (Dim-To-Warm) |
| FWHM | 10.0° |
| Efficiency | 81 % |
| Peak intensity | 13.400 cd/lm |

Required components:
  C13868_LENA-STD-BASE-VERO13-18
  C11996_LENA-LENS
  Bender Wirth: 490 Typ L1



**≡ LUMINUS**
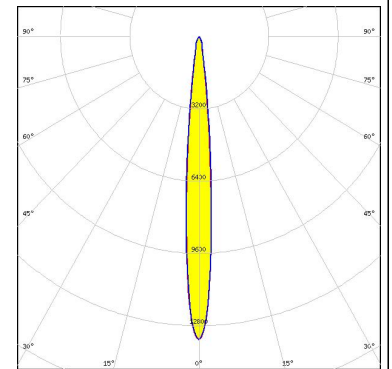
| | |
|---|---|
| LED | CTM-14 (Tunable White) |
| FWHM | 10.0° |
| Efficiency | 86 % |
| Peak intensity | 14.900 cd/lm |

Required components:
  C13867_LENA-STD-BASE-VERO29
  Bender Wirth: 442 Typ L3



**≡ LUMINUS**

| | |
|---|---|
| LED | CTM-14 (Tunable White) |
| FWHM | 13.0° |
| Efficiency | 81 % |
| Peak intensity | 8.600 cd/lm |

Required components:
  C13867_LENA-STD-BASE-VERO29
  C12606_LENINA-DL
  Bender Wirth: 442 Typ L3

## PHOTOMETRIC DATA (MEASURED):

**LUMINUS**

| | |
|---|---|
| LED | CTM-22 (Tunable White) |
| FWHM | 20.0° |
| Efficiency | 81 % |
| Peak intensity | 3.950 cd/lm |

Required components:
- C13867_LENA-STD-BASE-VERO29
- C11996_LENA-LENS
- Bender Wirth: 494 Typ L3



**LUMINUS**
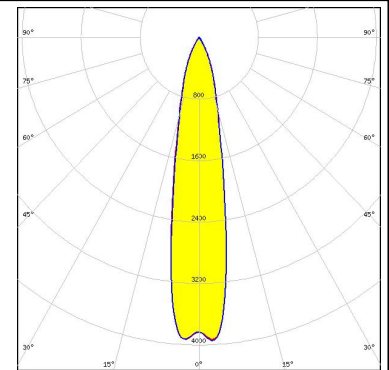
| | |
|---|---|
| LED | CXM-14 |
| FWHM | 14.0° |
| Efficiency | 80 % |
| Peak intensity | 7.100 cd/lm |

Required components:
- C12691_LENA-STD-BASE-CLL030
- C11996_LENA-LENS



**LUMINUS**
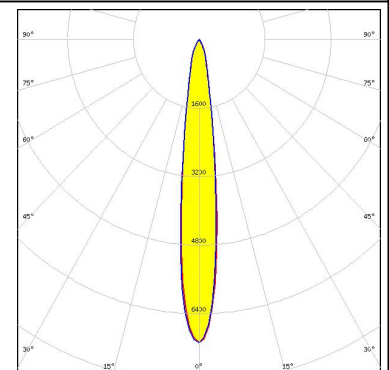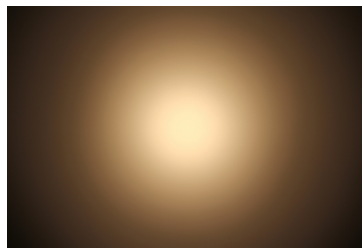
| | |
|---|---|
| LED | CXM-22 |
| FWHM | 21.0° |
| Efficiency | 80 % |
| Peak intensity | 3.800 cd/lm |

Required components:
- C12692_LENA-STD-BASE-CLL040
- C11996_LENA-LENS



**NICHIA**
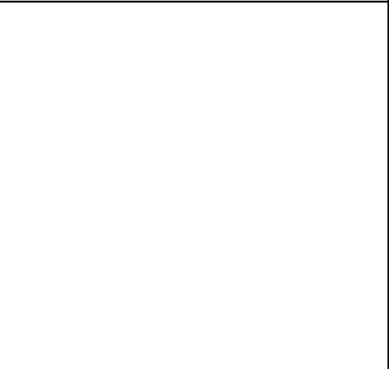
| | |
|---|---|
| LED | COB J-Type |
| FWHM | 14.0° |
| Efficiency | 82 % |
| Peak intensity | 6.500 cd/lm |

Required components:
- C13868_LENA-STD-BASE-VERO13-18
- C11996_LENA-LENS
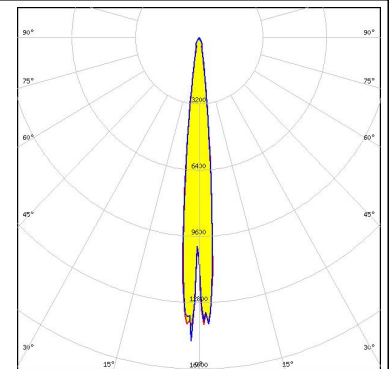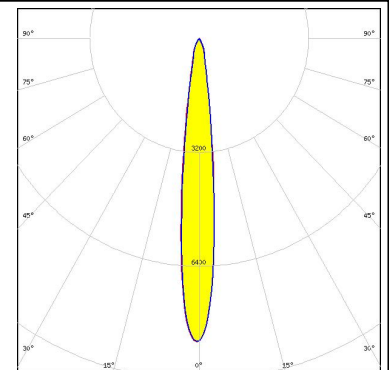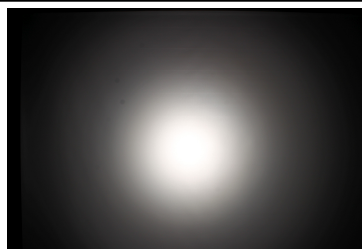- Bender Wirth: 463 Typ L2

## PHOTOMETRIC DATA (MEASURED):

**NICHIA**
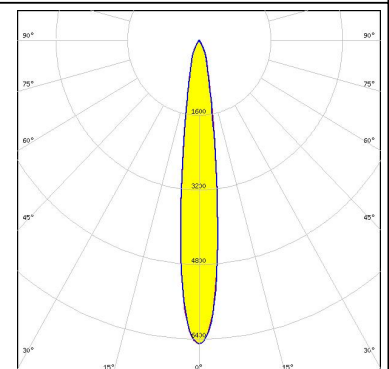
| | |
|---|---|
| LED | COB J-Type |
| FWHM | 12.0° |
| Efficiency | 87 % |
| Peak intensity | 11.600 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 463 Typ L2



**NICHIA**

| | |
|---|---|
| LED | COB L-Type (LES 11) |
| FWHM | 11.0° |
| Efficiency | 82 % |
| Peak intensity | 9.400 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C11996_LENA-LENS

Bender Wirth: 438 Typ L1



**NICHIA**
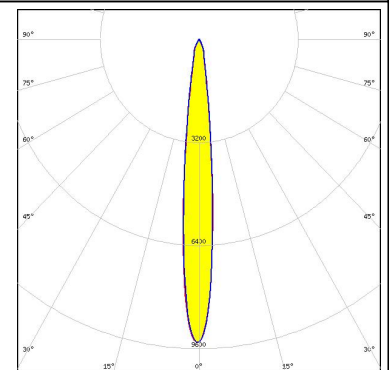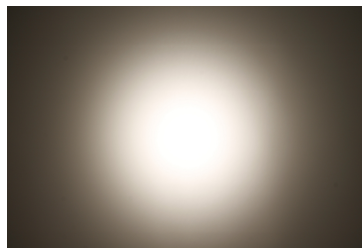
| | |
|---|---|
| LED | COB L-Type (LES 11) |
| FWHM | 9.0° |
| Efficiency | 87 % |
| Peak intensity | 18.800 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 438 Typ L1



**NICHIA**
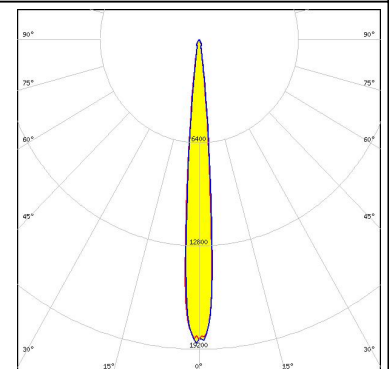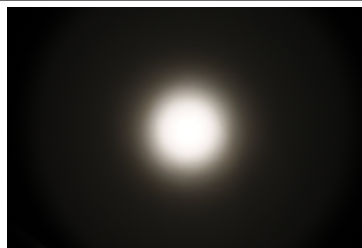
| | |
|---|---|
| LED | COB L-Type (LES 9) |
| FWHM | 9.0° |
| Efficiency | 83 % |
| Peak intensity | 11.900 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C11996_LENA-LENS

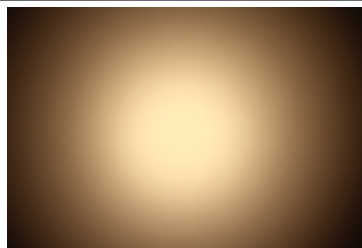Bender Wirth: 438 Typ L1

## PHOTOMETRIC DATA (MEASURED):

**NICHIA**
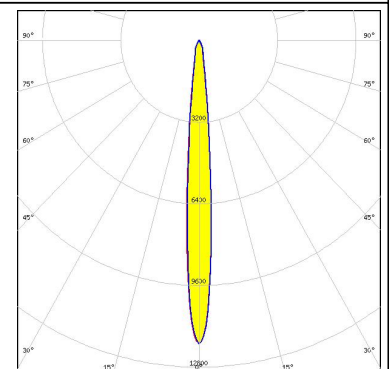
| | |
|---|---|
| LED | COB L-Type (LES 9) |
| FWHM | 7.0° |
| Efficiency | 89 % |
| Peak intensity | 30.700 cd/lm |

Required components:
C13868_LENA-STD-BASE-VERO13-18
Bender Wirth: 438 Typ L1





**OSRAM**
Opto Semiconductors
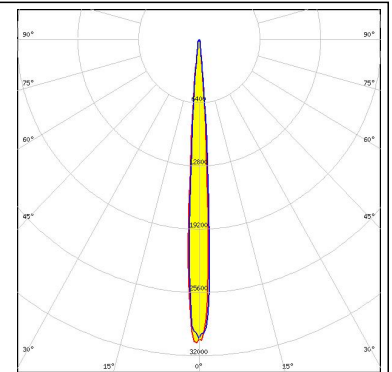
| | |
|---|---|
| LED | Soleriq S13 |
| FWHM | 12.0° |
| Efficiency | 80 % |
| Peak intensity | 8.000 cd/lm |

Required components:
C13868_LENA-STD-BASE-VERO13-18
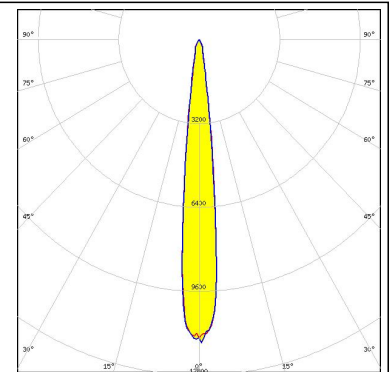C11996_LENA-LENS
Bender Wirth: 437 Typ L1





**OSRAM**
Opto Semiconductors
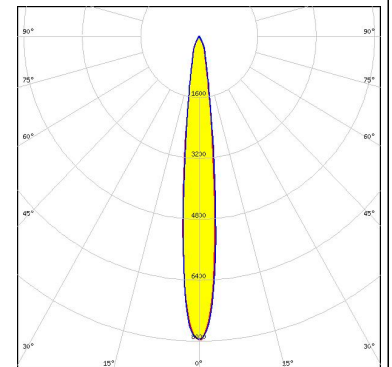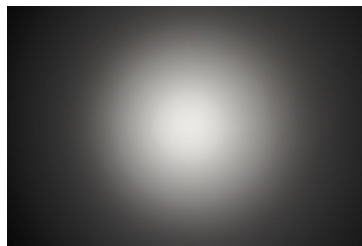
| | |
|---|---|
| LED | Soleriq S19 |
| FWHM | 15.0° |
| Efficiency | 80 % |
| Peak intensity | 6.100 cd/lm |

Required components:
C13867_LENA-STD-BASE-VERO29
Bender Wirth: 462 Typ L3
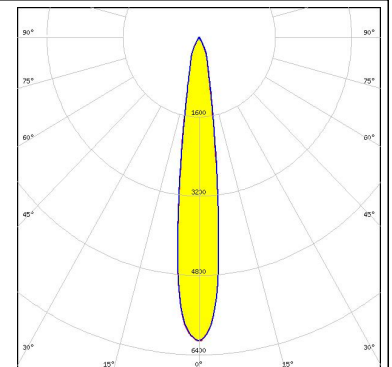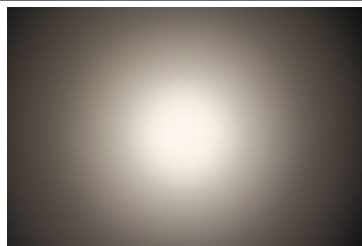




**SAMSUNG**

| | |
|---|---|
| LED | COB D Series LES 14.5 mm |
| FWHM | 14.0° |
| Efficiency | 80 % |
| Peak intensity | 6.900 cd/lm |

Required components:
C12691_LENA-STD-BASE-CLL030
C11996_LENA-LENS
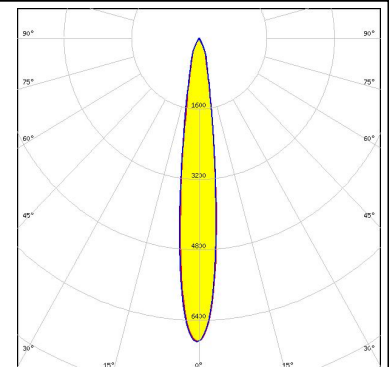
## PHOTOMETRIC DATA (MEASURED):

### SAMSUNG

| | |
|---|---|
| LED | COB D Series LES 14.5 mm |
| FWHM | 12.0° |
| Efficiency | 85 % |
| Peak intensity | 11.000 cd/lm |
| Required components: | |
| C12691_LENA-STD-BASE-CLL030 | |
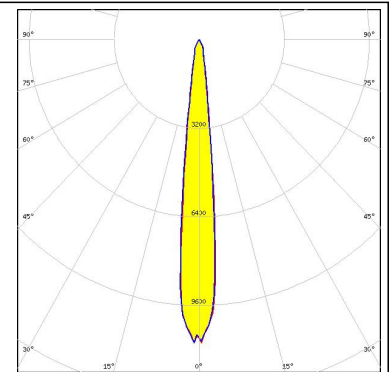
### SAMSUNG

| | |
|---|---|
| LED | COB D Series LES 22 mm |
| FWHM | 22.0° |
| Efficiency | 80 % |
| Peak intensity | 3.300 cd/lm |
| Required components: | |
| C12692_LENA-STD-BASE-CLL040 | |
| C11996_LENA-LENS | |
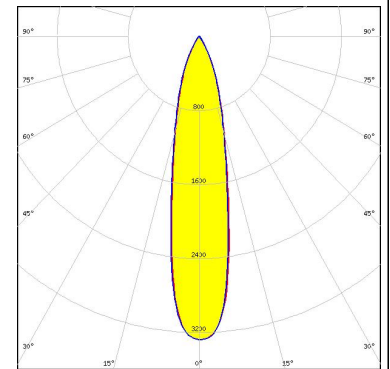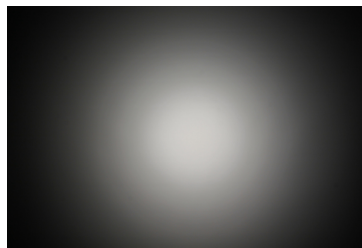
### SEOUL SEMICONDUCTOR

| | |
|---|---|
| LED | ZC12/18 |
| FWHM | 12.0° |
| Efficiency | 80 % |
| Peak intensity | 8.000 cd/lm |
| Required components: | |
| C12691_LENA-STD-BASE-CLL030 | |
| C11996_LENA-LENS | |
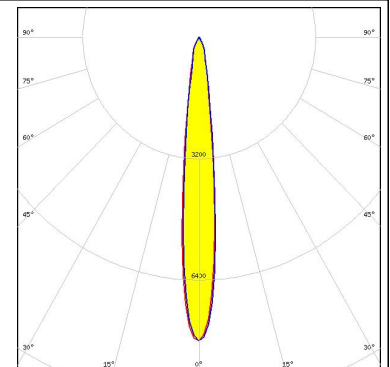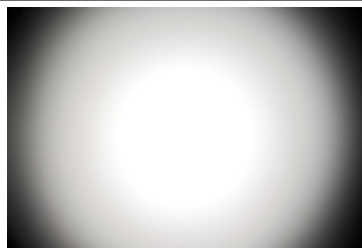
### SHARP

| | |
|---|---|
| LED | Mega Zenigata (GW5DGC) |
| FWHM | 14.0° |
| Efficiency | 80 % |
| Peak intensity | cd/lm |
| Required components: | |
| C12292_LENA-STD-BASE-MEZ | |
| C11996_LENA-LENS | |

## PHOTOMETRIC DATA (MEASURED):

**SHARP**

| | |
|---|---|
| LED | Mega Zenigata (GW5DGC) |
| FWHM | 13.5° |
| Efficiency | 85 % |
| Peak intensity | cd/lm |

Required components:

  C12292_LENA-STD-BASE-MEZ

**SHARP**

| | |
|---|---|
| LED | Mega Zenigata (GW6DME) |
| FWHM | 14.0° |
| Efficiency | 77 % |
| Peak intensity | 6.150 cd/lm |

Required components:

  C12292_LENA-STD-BASE-MEZ

  C11996_LENA-LENS
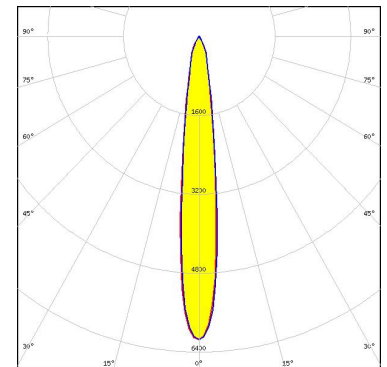
**SHARP**

| | |
|---|---|
| LED | Mega Zenigata (GW6DME) |
| FWHM | 12.0° |
| Efficiency | 83 % |
| Peak intensity | 10.230 cd/lm |

Required components:
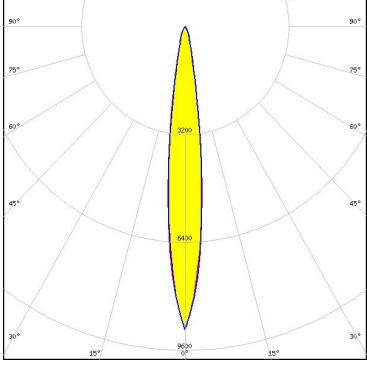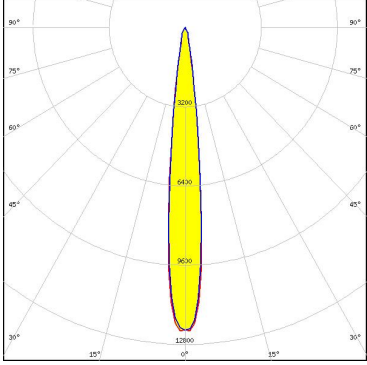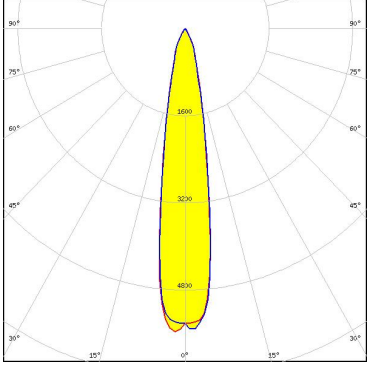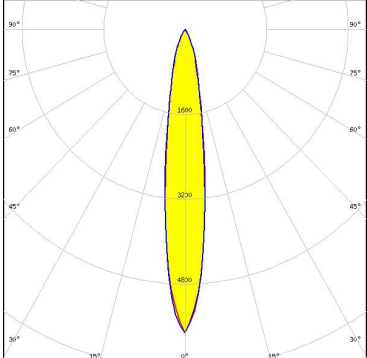
  C12292_LENA-STD-BASE-MEZ
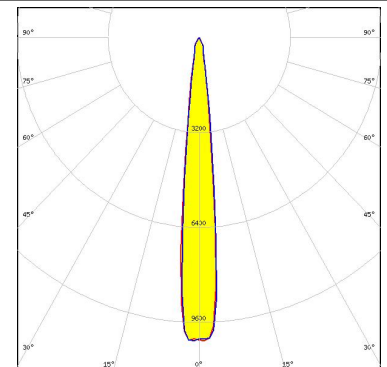
## PHOTOMETRIC DATA (SIMULATED):

bridgelux

| LED | V10 Gen7 |
|---|---|
| FWHM | 11.0° |
| Efficiency | 79 % |
| Peak intensity | 12.280 cd/lm |

Required components:
  C13868_LENA-STD-BASE-VERO13-18
  C11996_LENA-LENS
  Bender Wirth: 434 Typ L1



bridgelux

| LED | V10 Gen7 |
|---|---|
| FWHM | 9.0° |
| Efficiency | 90 % |
| Peak intensity | 22.340 cd/lm |

Required components:
  C13868_LENA-STD-BASE-VERO13-18
  Bender Wirth: 434 Typ L1



bridgelux

| LED | V13 Gen7 |
|---|---|
| FWHM | 10.0° |
| Efficiency | 88 % |
| Peak intensity | 12.900 cd/lm |

Required components:
  IDEAL: 50-2103CT + 50-2100LN



bridgelux

| LED | V13 Gen7 |
|---|---|
| FWHM | 11.0° |
| Efficiency | 85 % |
| Peak intensity | 9.900 cd/lm |

Required components:
  IDEAL: 50-2103CT + 50-2100LN

## PHOTOMETRIC DATA (SIMULATED):

**bridgelux**

| | |
|---|---|
| LED | V13 Gen7 |
| FWHM | 13.0° |
| Efficiency | 81 % |
| Peak intensity | 9.000 cd/lm |
| Required components: | |
| C13868_LENA-STD-BASE-VERO13-18 | |
| C11996_LENA-LENS | |
| Bender Wirth: 477 Typ L1 | |

**bridgelux**

| | |
|---|---|
| LED | V13 Gen7 |
| FWHM | 12.0° |
| Efficiency | 89 % |
| Peak intensity | 12.270 cd/lm |
| Required components: | |
| C13868_LENA-STD-BASE-VERO13-18 | |
| Bender Wirth: 477 Typ L1 | |

**bridgelux**

| | |
|---|---|
| LED | V22 Gen7 |
| FWHM | 18.0° |
| Efficiency | 90 % |
| Peak intensity | 5.583 cd/lm |
| Required components: | |
| C13867_LENA-STD-BASE-VERO29 | |
| Bender Wirth: 431 Typ L3 | |

**CREE**

| | |
|---|---|
| LED | CXA/B 30xx |
| FWHM | 16.0° |
| Efficiency | 80 % |
| Peak intensity | 5.700 cd/lm |
| Required components: | |
| IDEAL: 50-2234C + 50-2100LN | |

## PHOTOMETRIC DATA (SIMULATED):

### CREE

| | |
|---|---|
| LED | CXA/B 30xx |
| FWHM | 14.0° |
| Efficiency | 87 % |
| Peak intensity | 7.500 cd/lm |
| Required components: | |
| IDEAL: 50-2234C + 50-2100LN | |
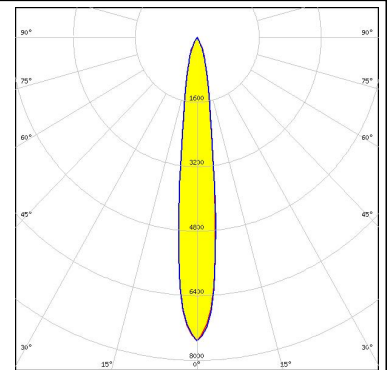


### LUMINUS

| | |
|---|---|
| LED | CXM-14 |
| FWHM | 14.0° |
| Efficiency | 80 % |
| Peak intensity | 6.700 cd/lm |
| Required components: | |
| C13868_LENA-STD-BASE-VERO13-18 | |
| C11996_LENA-LENS | |
| Bender Wirth: 433 Typ L1 | |

### LUMINUS

| | |
|---|---|
| LED | CXM-14 |
| FWHM | 12.0° |
| Efficiency | 85 % |
| Peak intensity | 11.200 cd/lm |
| Required components: | |
| C13868_LENA-STD-BASE-VERO13-18 | |
| Bender Wirth: 433 Typ L1 | |

### LUMINUS

| | |
|---|---|
| LED | CXM-9 |
| FWHM | 10.0° |
| Efficiency | 80 % |
| Peak intensity | 11.500 cd/lm |
| Required components: | |
| C13868_LENA-STD-BASE-VERO13-18 | |
| C11996_LENA-LENS | |
| Bender Wirth: 434 Typ L1 | |

## PHOTOMETRIC DATA (SIMULATED):

### LUMINUS

| | |
|---|---|
| LED | CXM-9 |
| FWHM | 8.0° |
| Efficiency | 85 % |
| Peak intensity | 26.500 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 434 Typ L1

### OSRAM
Opto Semiconductors

| | |
|---|---|
| LED | Soleriq S15 |
| FWHM | 13.0° |
| Efficiency | 88 % |
| Peak intensity | 10.180 cd/lm |

Required components:
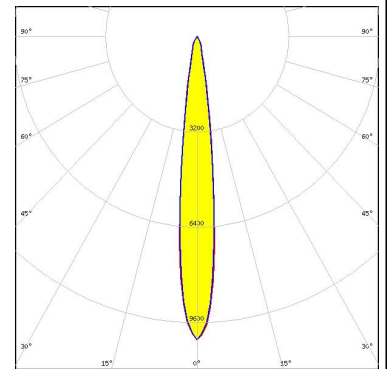
C12691_LENA-STD-BASE-CLL030

### SEOUL SEMICONDUCTOR

| | |
|---|---|
| LED | ZC12/18 |
| FWHM | 12.0° |
| Efficiency | 85 % |
| Peak intensity | 11.200 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 433 Typ L1

### SEOUL SEMICONDUCTOR

| | |
|---|---|
| LED | ZC12/18 |
| FWHM | 14.0° |
| Efficiency | 80 % |
| Peak intensity | 6.700 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C11996_LENA-LENS

Bender Wirth: 433 Typ L1

## PHOTOMETRIC DATA (SIMULATED):

**SEOUL SEMICONDUCTOR**

| | |
|---|---|
| LED | ZC4/6 |
| FWHM | 10.0° |
| Efficiency | 80 % |
| Peak intensity | 11.500 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

C11996_LENA-LENS

Bender Wirth: 434 Typ L1

**SEOUL SEMICONDUCTOR**

| | |
|---|---|
| LED | ZC4/6 |
| FWHM | 8.0° |
| Efficiency | 85 % |
| Peak intensity | 26.500 cd/lm |

Required components:

C13868_LENA-STD-BASE-VERO13-18

Bender Wirth: 434 Typ L1

## 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.

Due to use of high power COB's with this product, special attention to proper thermal design is highly recommended. LEDiL has no liability for direct, indirect or consecutive damages arising from the LEDiL products being used outside of the recommended temperature range.

## MATERIALS:

As part of our continuous research and improvement processes, and to ensure the best possible quality and availability of our products, LEDiL reserves the right to change material grades without notice.

## PRODUCT DATA USER AGREEMENT AND DISCLAIMER:

The measured data in the provided downloadable LEDiL Product Datasheets and Mechanical 2D-Drawings is rounded and provided as reference for planning. LEDiL Oy's optical specifications have been verified by conducting performance testing of the products in accordance with the company's quality system. The reported data are averaged results of multiple measurements with typical variation. LEDiL Oy reserves the right to without prior notification make changes and improvements to its products.

LEDiL Oy assumes neither warranty, nor guarantee nor any other liability of any kind for the contents and correctness of the provided data. The provided data has been generated with highest diligence but the provided data may in reality not represent the complete possible variation range of all intrinsic parameters. Therefore, in certain cases a deviation from the provided data could occur.

LEDiL Oy reserves the right to undertake technical changes of its products without further notification which could lead to changes in the provided data. LEDiL Oy assumes no liability of any kind for the possible deviation from any provided data or any other damage resulting from the usage of the provided data.

The user agrees to this disclaimer and user agreement with the download or usage of the provided files.

**LEDiL Oy**
Joensuunkatu 13
FI-24240 SALO
Finland

**LEDiL Inc.**
228 West Page Street
Suite D
Sycamore IL 60178
USA

**Local sales and technical support**
www.ledil.com/
where_to_buy

**Shipping locations**
Salo, Finland
Hong Kong, China

**Distribution Partners**
www.ledil.com/
where_to_buy