

**Product number FP11055_LISA2-RS-PIN**

| | | | |
|-----------------|------------------|-------------|------------|
| Family | Lisa | FWHM | 16 degrees |
| Type | Assembly | Efficiency | 90 % |
| LED | XP-E | cd/lm | 6.500 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

Product number FP11085_LISA2-RS-CLIP

| | | | |
|-----------------|-------------------|-------------|-------------------|
| Family | Lisa | FWHM | 16 degrees |
| Type | Assembly | Efficiency | 90 % |
| LED | XP-E | cd/lm | (simulated) 7.900 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "clips"] | | |
| Status | Production ready | | |

Product number FP11121_LISA2-O-CLIP

| | | | |
|-----------------|-------------------|-------------|---------------|
| Family | Lisa | FWHM | 18+48 degrees |
| Type | Assembly | Efficiency | 83 % |
| LED | XP-E | cd/lm | 2.300 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "clips"] | | |
| Status | Production ready | | |

Product number FP11125_LISA2-O-PIN

| | | | |
|-----------------|------------------|-------------|---------------|
| Family | Lisa | FWHM | 18+48 degrees |
| Type | Assembly | Efficiency | 83 % |
| LED | XP-E | cd/lm | 2.300 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

**Product number FP10995_LISA2-M-PIN**

| | | | |
|-----------------|------------------|-------------|-------------------|
| Family | Lisa | FWHM | 24 degrees |
| Type | Assembly | Efficiency | 92 % |
| LED | XP-E | cd/lm | (simulated) 3.400 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

Product number FP11075_LISA2-M-CLIP

| | | | |
|-----------------|-------------------|-------------|------------|
| Family | Lisa | FWHM | 24 degrees |
| Type | Assembly | Efficiency | 92 % |
| LED | XP-E | cd/lm | - |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "clips"] | | |
| Status | Production ready | | |

Product number FP10996_LISA2-W-PIN

| | | | |
|-----------------|------------------|-------------|------------|
| Family | Lisa | FWHM | 37 degrees |
| Type | Assembly | Efficiency | 90 % |
| LED | XP-E | cd/lm | 1.960 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

Product number FP11076_LISA2-W-CLIP

| | | | |
|-----------------|-------------------|-------------|------------|
| Family | Lisa | FWHM | 37 degrees |
| Type | Assembly | Efficiency | 90 % |
| LED | XP-E | cd/lm | 1.960 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "clips"] | | |
| Status | Production ready | | |

**Product number FP10997_LISA2-WW-PIN**

| | | | |
|-----------------|------------------|-------------|------------|
| Family | Lisa | FWHM | 42 degrees |
| Type | Assembly | Efficiency | 91 % |
| LED | XP-E | cd/lm | 1.000 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 7 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

**Product number FP11077_LISA2-WW-CLIP**

| | | | |
|-----------------|-------------------|-------------|------------|
| Family | Lisa | FWHM | 42 degrees |
| Type | Assembly | Efficiency | 91 % |
| LED | XP-E | cd/lm | 1.300 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "clips"] | | |
| Status | Production ready | | |

**Product number FP11851_LISA2-O-90-PIN**

| | | | |
|-----------------|------------------|-------------|-------------------|
| Family | Lisa | FWHM | 48+18 degrees |
| Type | Assembly | Efficiency | 83 % |
| LED | XP-E | cd/lm | (simulated) 3.400 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

**Product number FP11856_LISA2-O-90-CLIP**

| | | | |
|-----------------|-------------------|-------------|-------------------|
| Family | Lisa | FWHM | 48+18 degrees |
| Type | Assembly | Efficiency | 83 % |
| LED | XP-E | cd/lm | (simulated) 3.400 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.8 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "clips"] | | |
| Status | Production ready | | |

**Product number C12469_LISA2-R-PIN**

| | | | |
|-----------------|------------------|-------------|------------|
| Family | Lisa | FWHM | 82 degrees |
| Type | Reflector | Efficiency | 86 % |
| LED | XP-E | cd/lm | 0.350 |
| Color | White | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 6.5 mm | | |
| Style | Round | | |
| Optic Material | HRPC | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

**Product number FP11429_LISA2-WWW-PIN**

| | | | |
|-----------------|------------------|-------------|------------|
| Family | Lisa | FWHM | 84 degrees |
| Type | Assembly | Efficiency | 77 % |
| LED | XP-E | cd/lm | 0.500 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 7 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "pin"] | | |
| Status | Production ready | | |

**Product number FP11431_LISA2-WWW-CLIP**

| | | | |
|-----------------|-------------------|-------------|------------|
| Family | Lisa | FWHM | 84 degrees |
| Type | Assembly | Efficiency | 77 % |
| LED | XP-E | cd/lm | 0.500 |
| Color | Black | Gerber File | Available |
| Diameter | 9.9 mm | | |
| Height | 7 mm | | |
| Style | Round | | |
| Optic Material | PMMA | | |
| Holder Material | - | | |
| Fastening | ["glue", "clips"] | | |
| Status | Production ready | | |

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



PRODUCT DATASHEET

Lisa series

last update 8/3/2018

GENERAL INFORMATION

- Product series especially designed & optimized for XP-E series of LEDs.
- Special care taken to make light distribution as uniform as possible.
- Lens material optical grade PMMA with high UV and temperature resistance. Allows use of high current and temperature conditions.

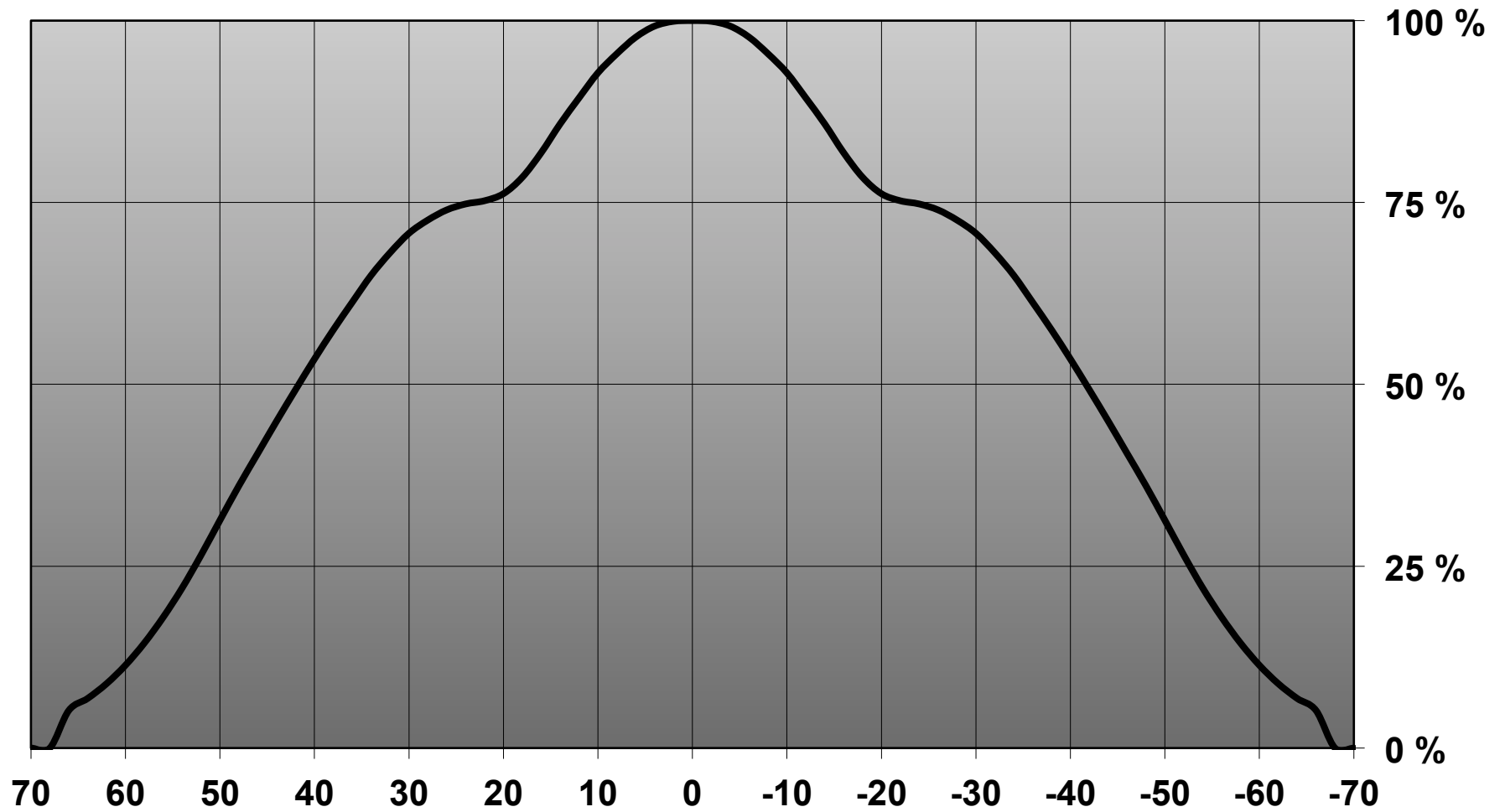
Please find more information about used material from below:

http://ledil.fi/sites/default/files/Documents/Technical/Material/PMMA%20N%20UL94_Yellow%20Card.pdf

<http://ledil.fi/sites/default/files/Documents/Technical/Material/PMMA%20N%20PLEXIGLAS-Datasheet.pdf>

- Reflector is made of aluminium coated PC (120 degrees of Celcius / 248 degrees of Fahrenheit) with protective lacquer (short term 100 degrees of Celcius / 212 degrees of Fahrenheit).

**Relative intensity of FP11431_LISA2-WWW-CLIP &
FP11429_LISA2-WWW-PIN**

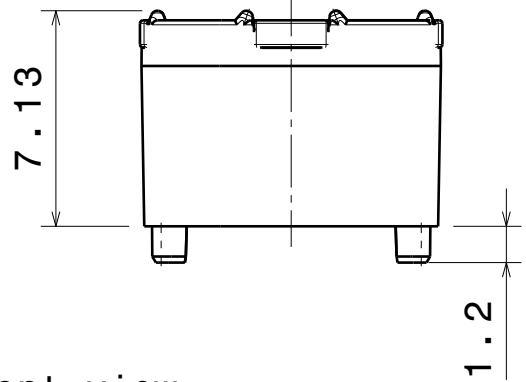


D

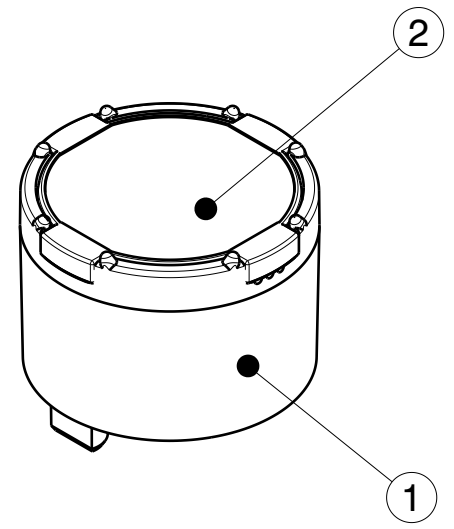
C

B

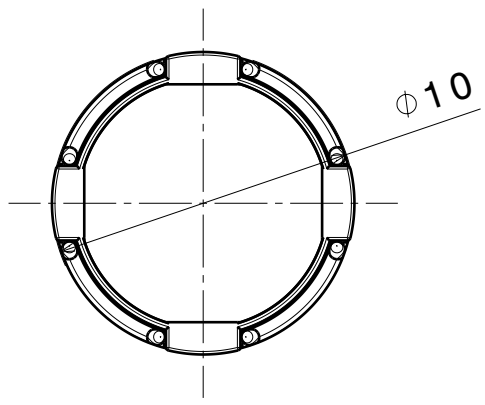
A



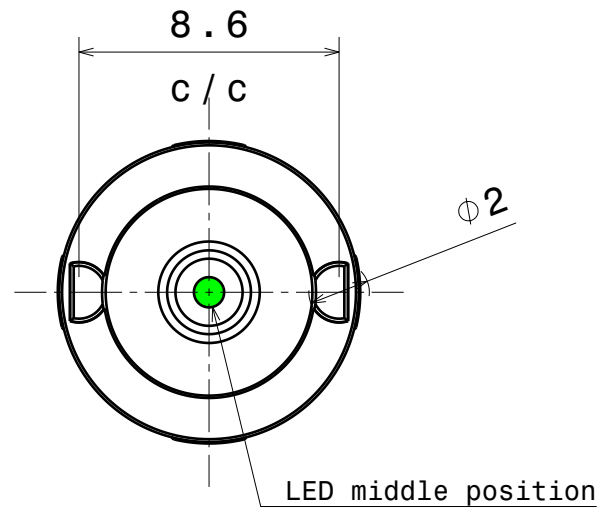
Front view



Isometric view



Top view



Bottom view

| INDEX | PART NO | DESCRIPTION | MATERIAL | COLOUR |
|-------|---------|---------------|----------|--------|
| 1 | F10989 | LISA2-HLD-PIN | PC | black |
| 2 | - | LISA2_lens | PMMA | |

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

LEDiL LediL Oy
 Salorankatu 10
 FIN 24240 SALO
 Finland

THIRD ANGLE PROJECTION:

DRAWING TITLE
Lisa2-PIN-XP assembly

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

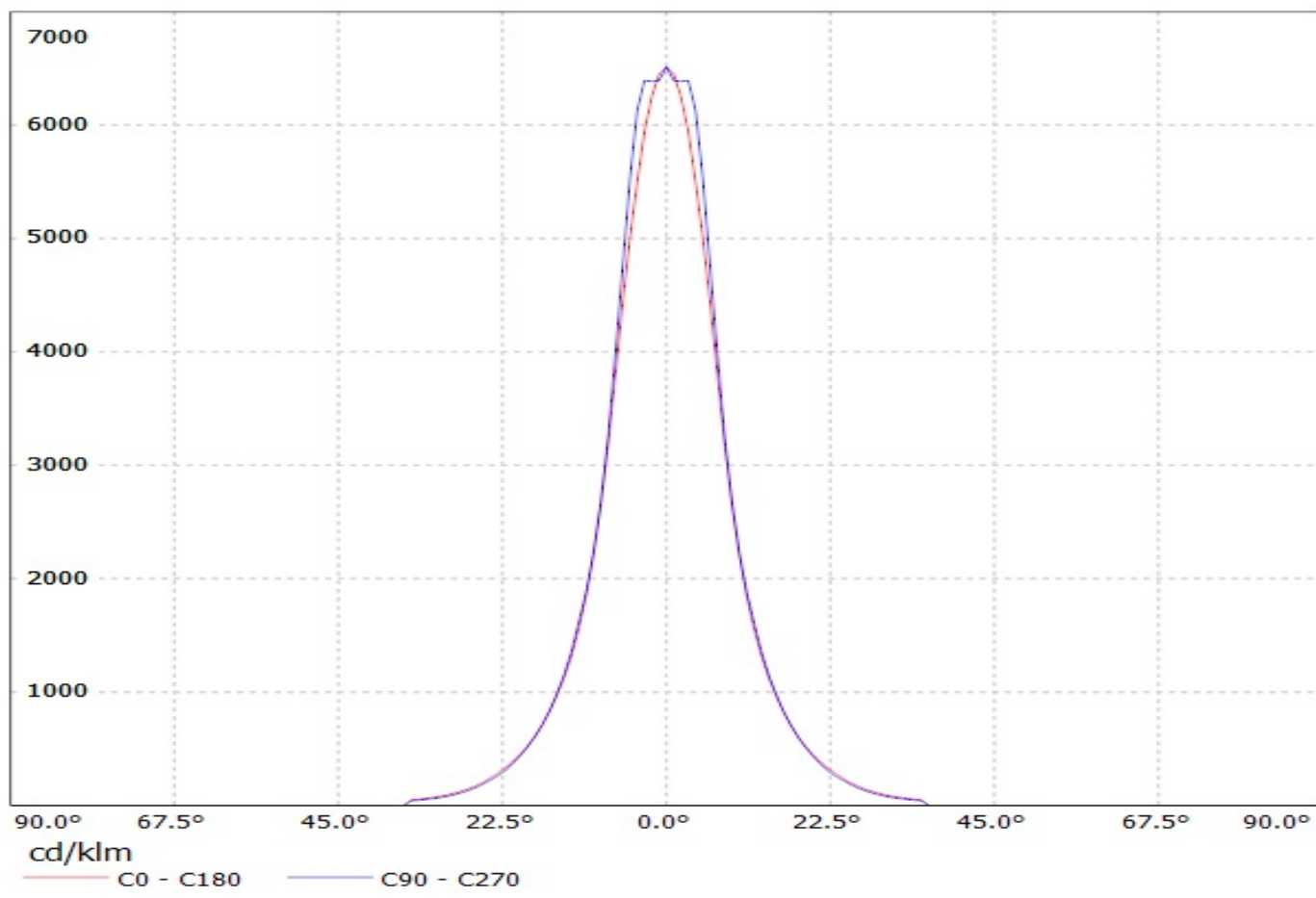
| SIZE | PART NUMBER |
|------|-------------|
| A4 | - |

| SCALE | 4:1 | WEIGHT | 0,5 g | SHEET | 1/1 |
|-------|-----|--------|-------|-------|-----|
|-------|-----|--------|-------|-------|-----|

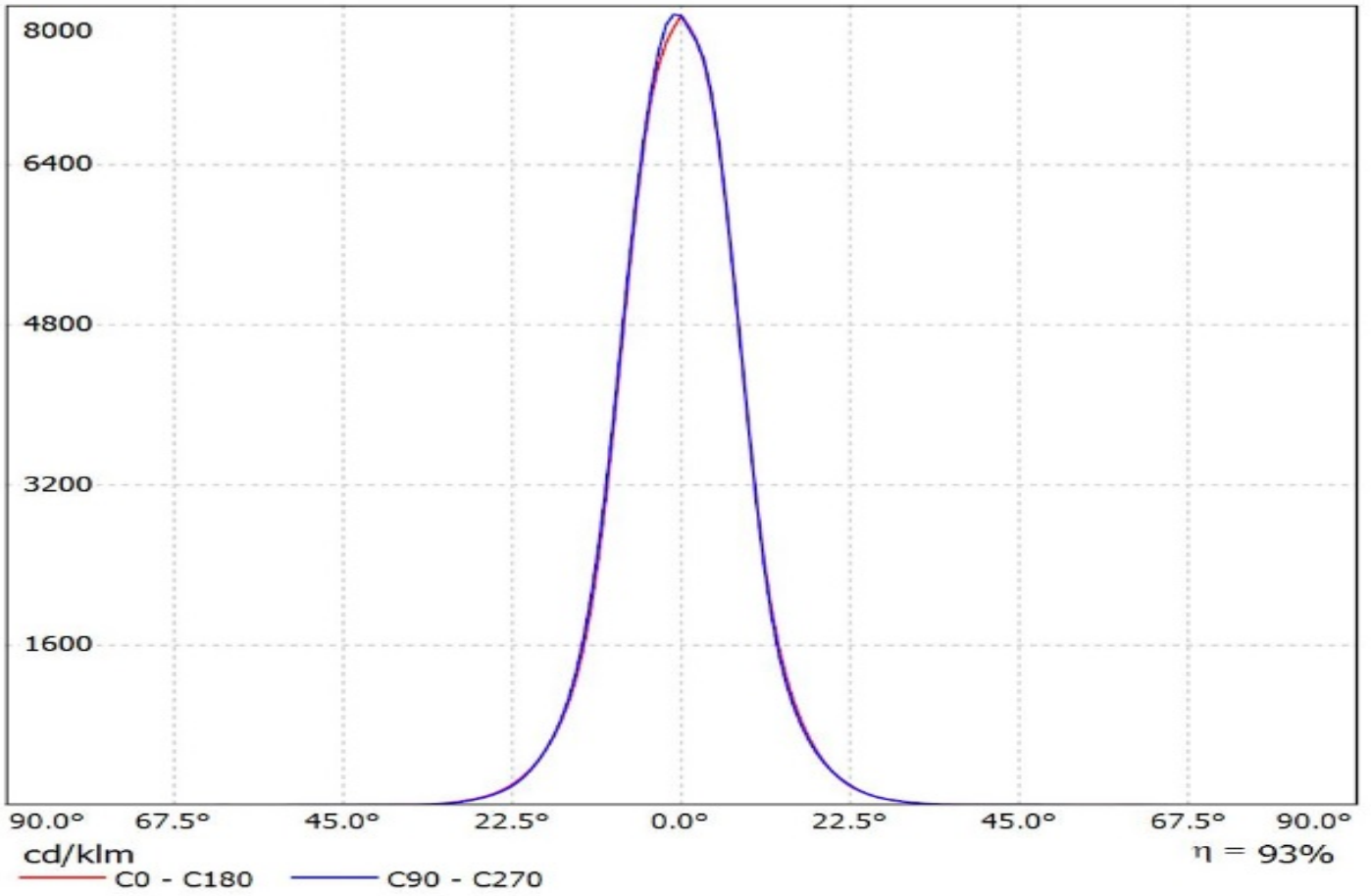
D

A

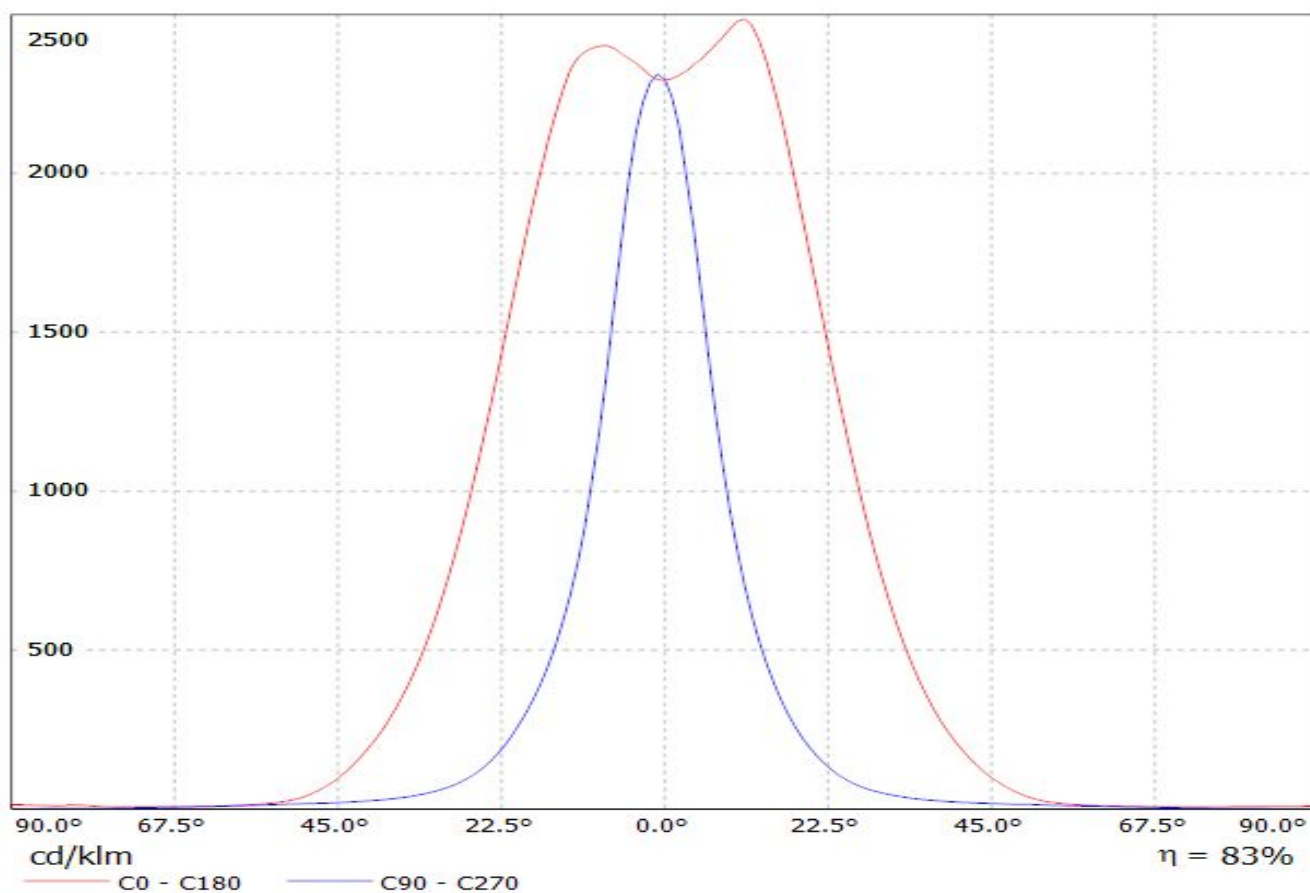
Luminaire: Ledil Oy FA11055_Lisa2-RS-Pin-XP FA11055_Lisa2-RS-Pin-XP
Lamps: 1 x Cree XP-E (White)



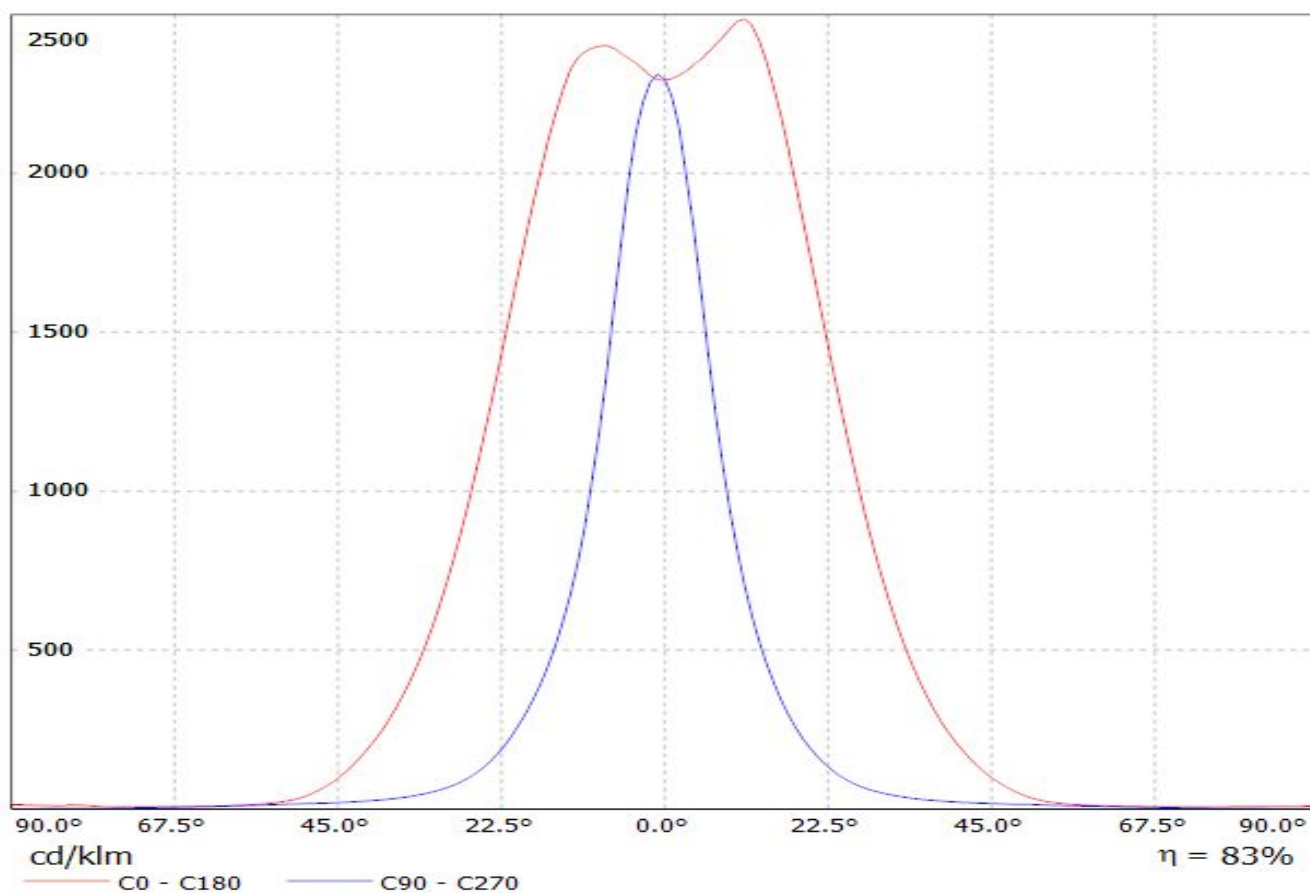
Luminaire: Ledil Oy FP11085_LISA2-RS-CLIP_(XP-E)_SIMULATED
Lamps: 1 x Cree XP-E



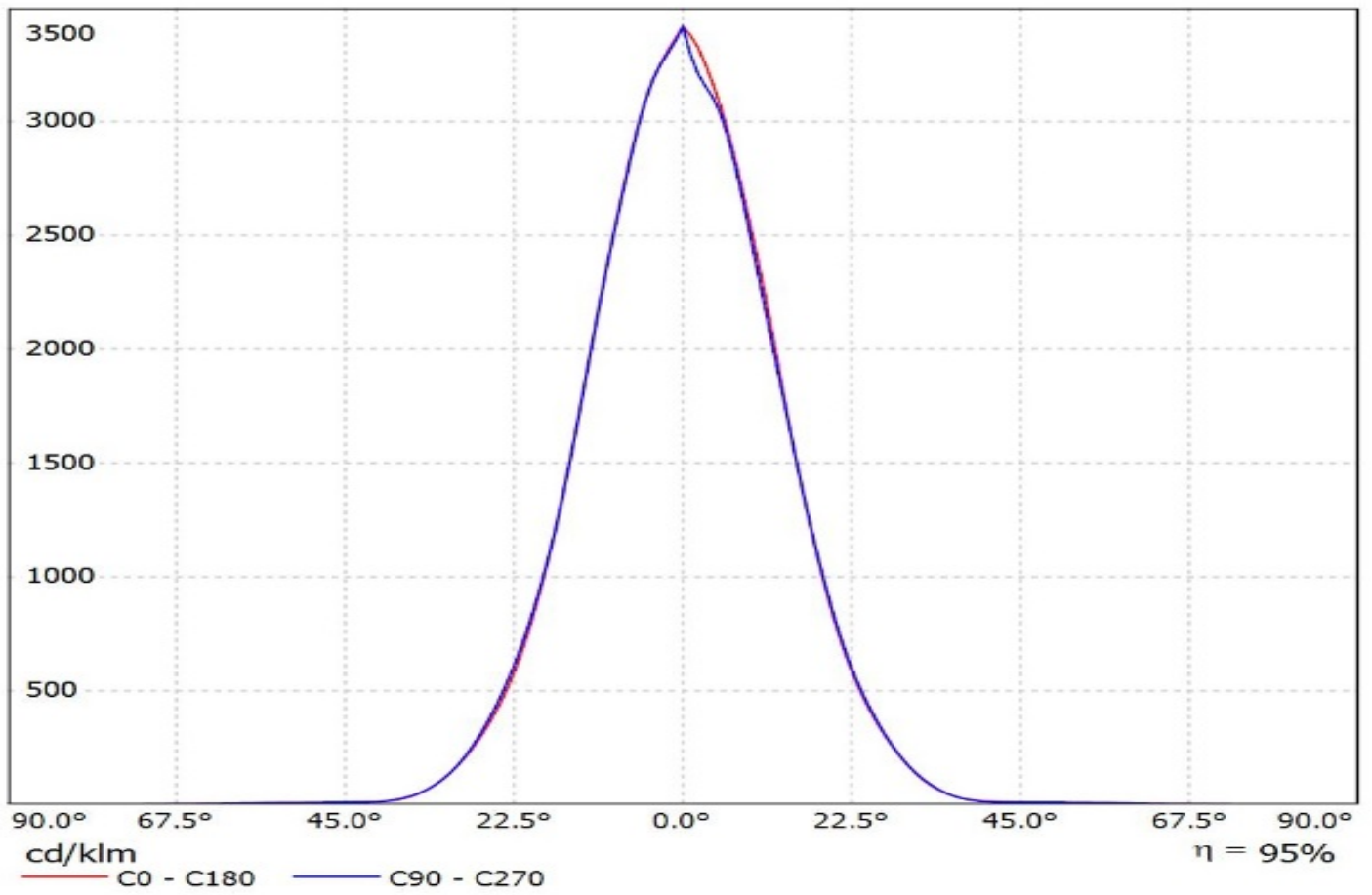
Luminaire: LEDiL Oy FP11125&_FP11121_LISA2-O_(XP-E) Eff.83.3%
Lamps: 1 x CREE XP-E (70.0622lm@250mA)



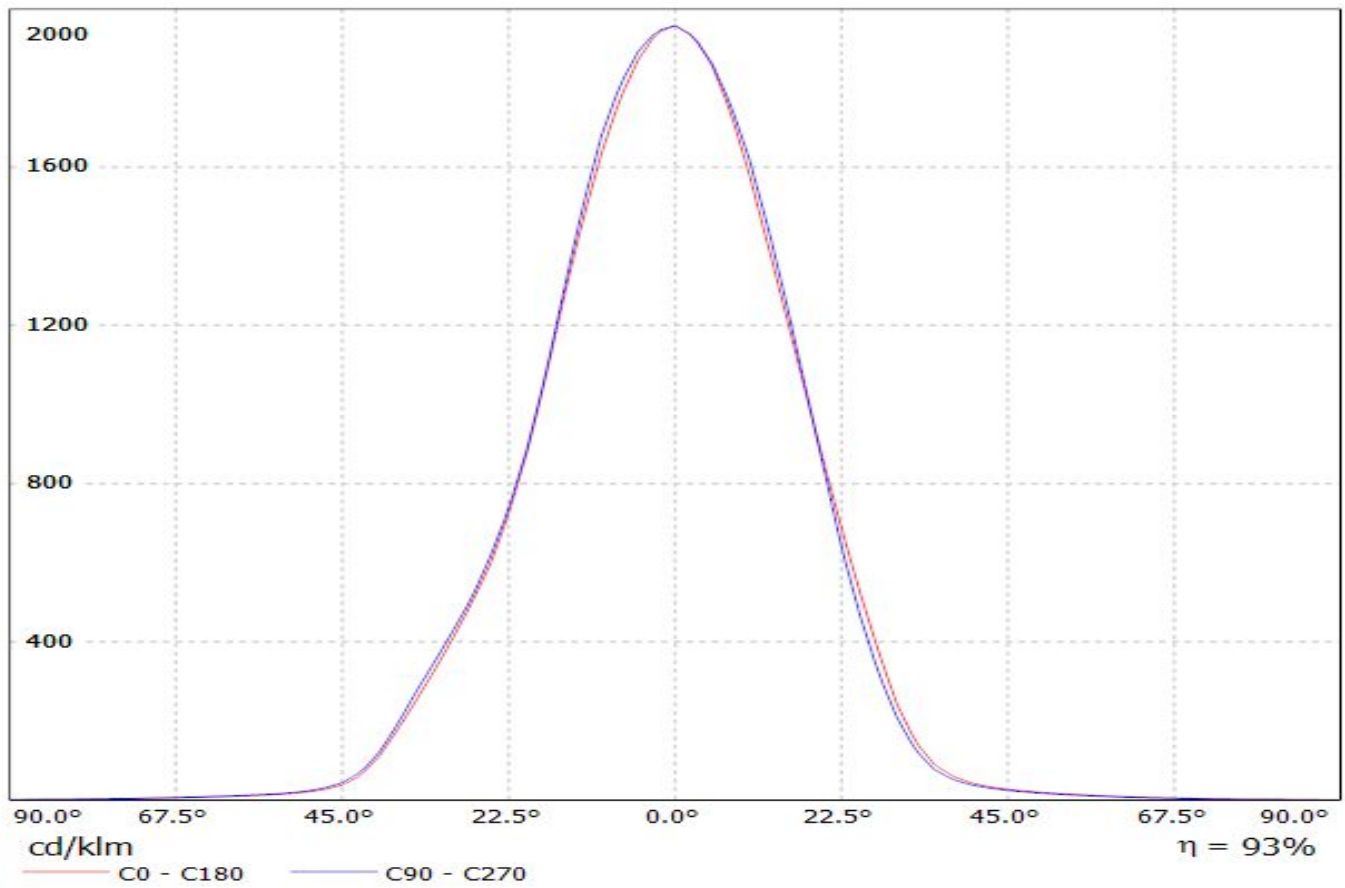
Luminaire: LEDiL Oy FP11125&_FP11121_LISA2-O_(XP-E) Eff.83.3%
Lamps: 1 x CREE XP-E (70.0622lm@250mA)



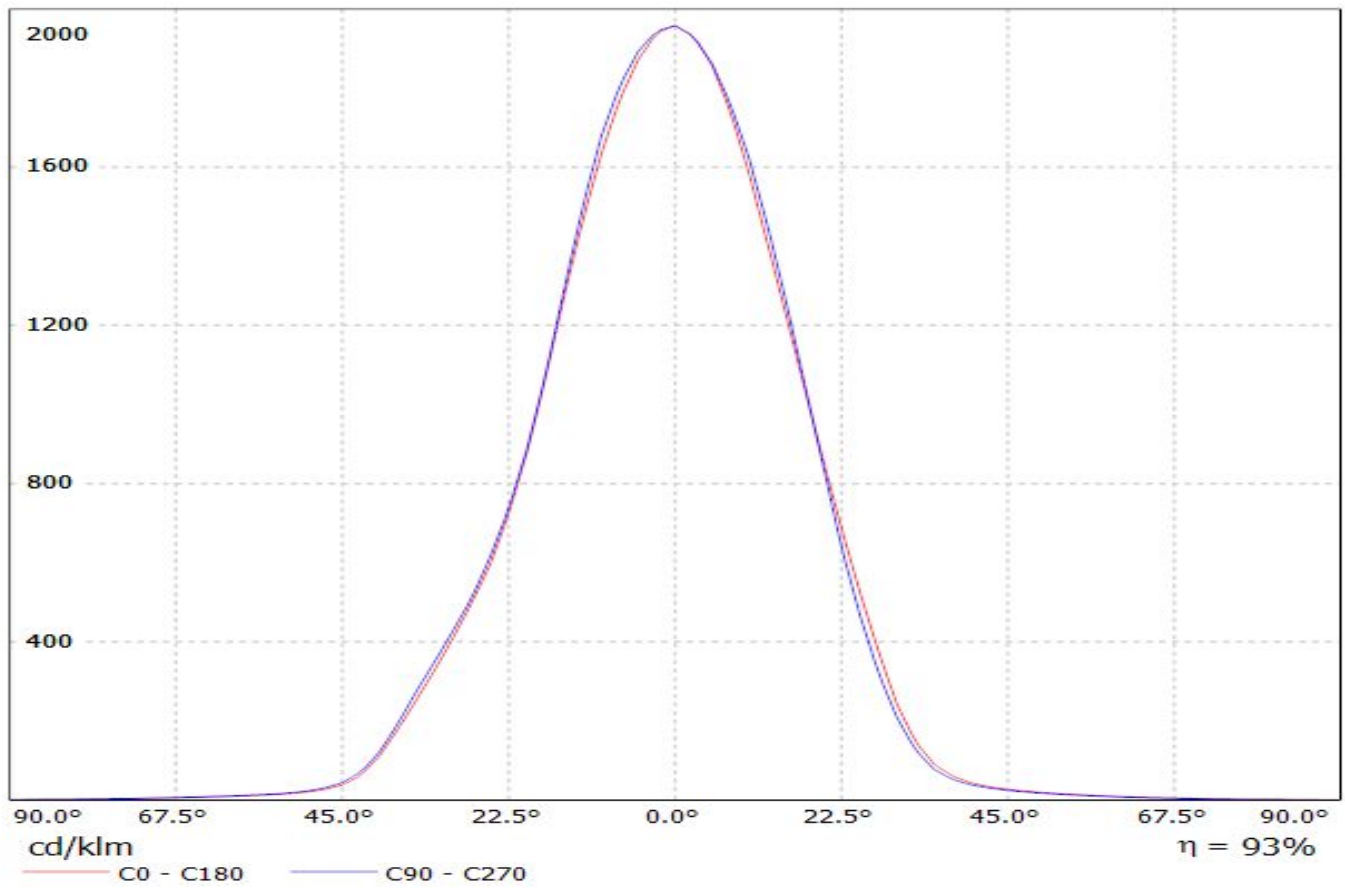
Luminaire: Ledil Oy FP10995_LISA2-M-PIN_(XP-E)_SIMULATED
Lamps: 1 x Cree XP-E



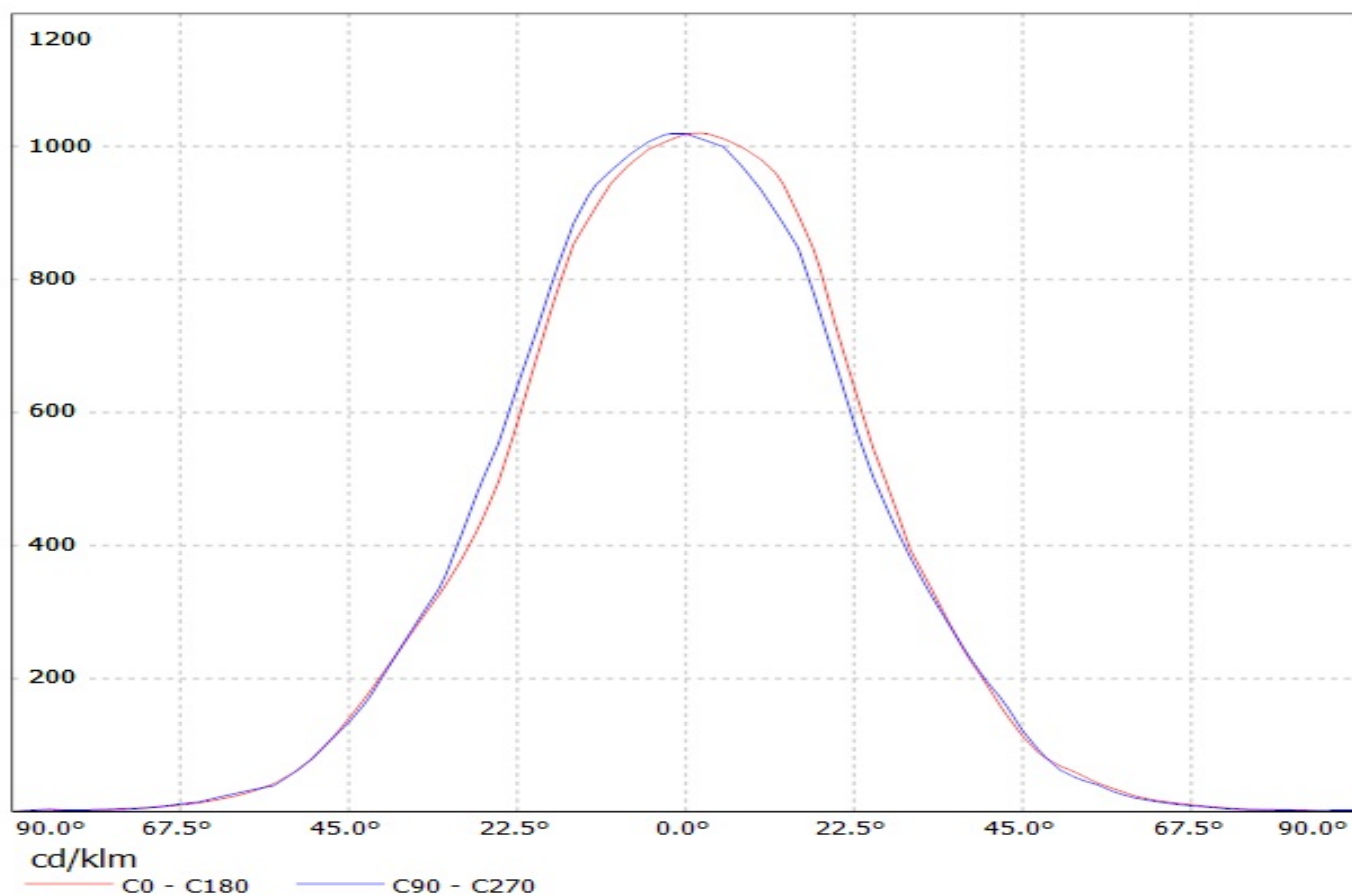
Luminaire: LEDiL Oy FP10996&FP11076_LISA2-W_(XP-E) Eff.93.1%
Lamps: 1 x Cree XP-E (69.4929lm@250mA)



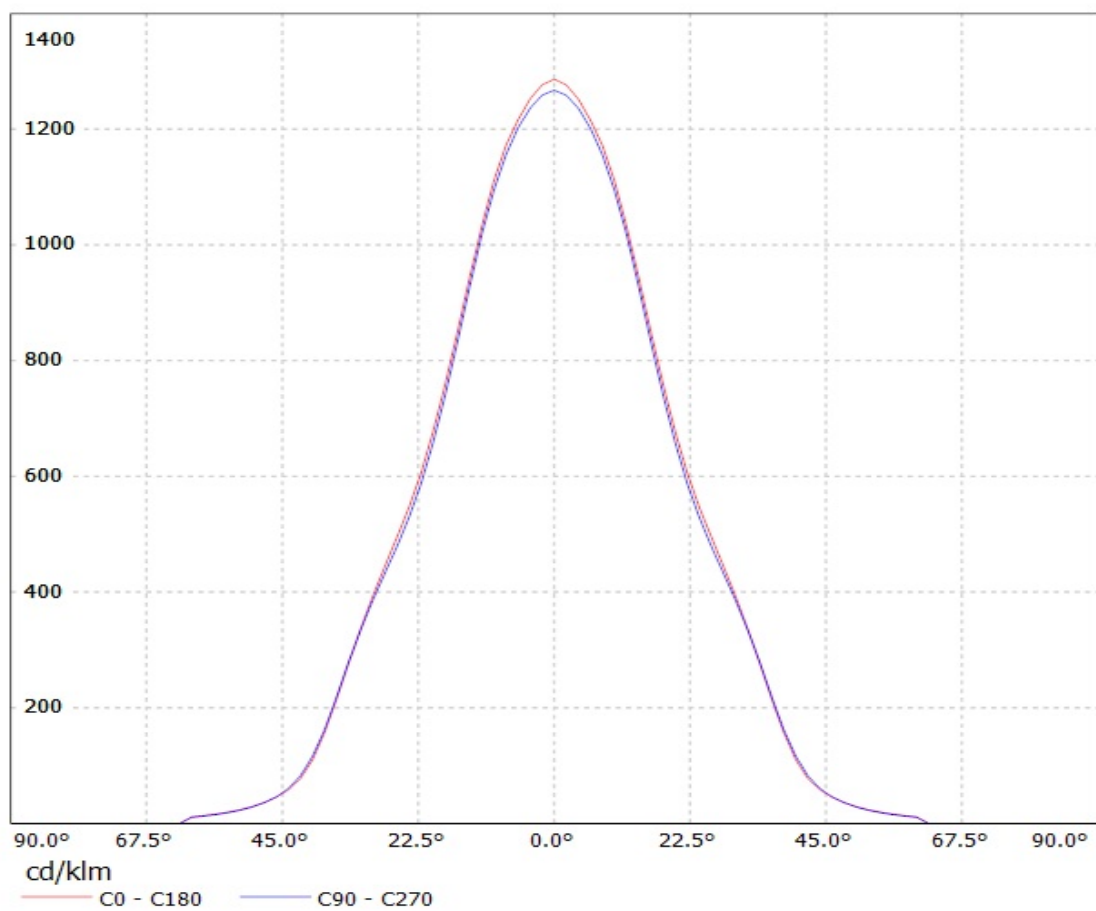
Luminaire: LEDiL Oy FP10996&FP11076_LISA2-W_(XP-E) Eff.93.1%
Lamps: 1 x Cree XP-E (69.4929lm@250mA)



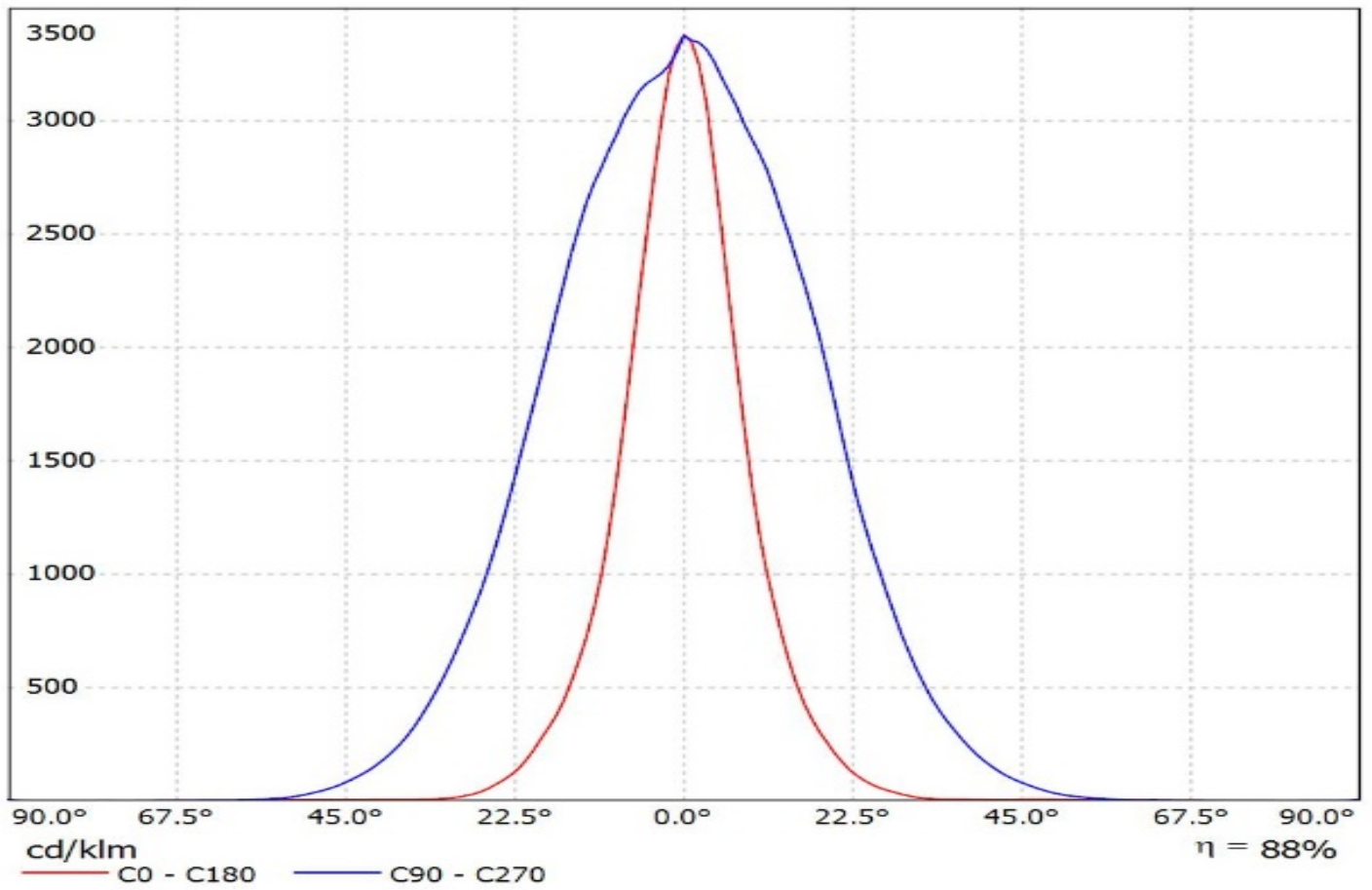
Luminaire: Ledil Oy FP10997_LISA2-WW-PIN (Cree XP-E 73lm @ 250mA) Efficiency=91%
Lamps: 1 x Cree XP-E 73lm @ 250mA



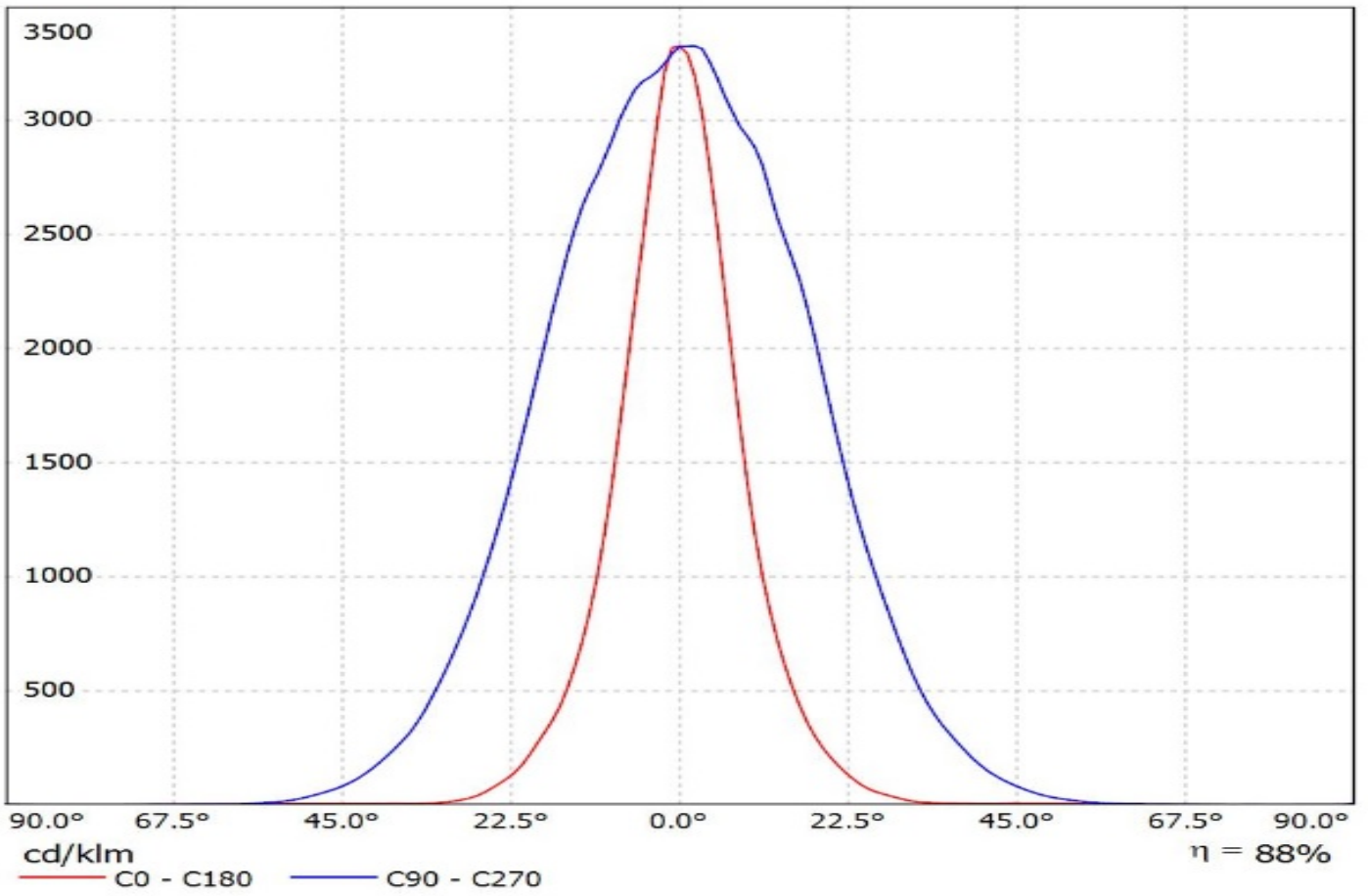
Luminaire: Ledil Oy FA10997_Lisa2-WW-Pin/FP11077_LISA2-WW-CLIP-XP FA10997_Lisa2-WW-Pin/FP11077_LISA2-WW-CLIP-XP
Lamps: 1 x cree xp-e white



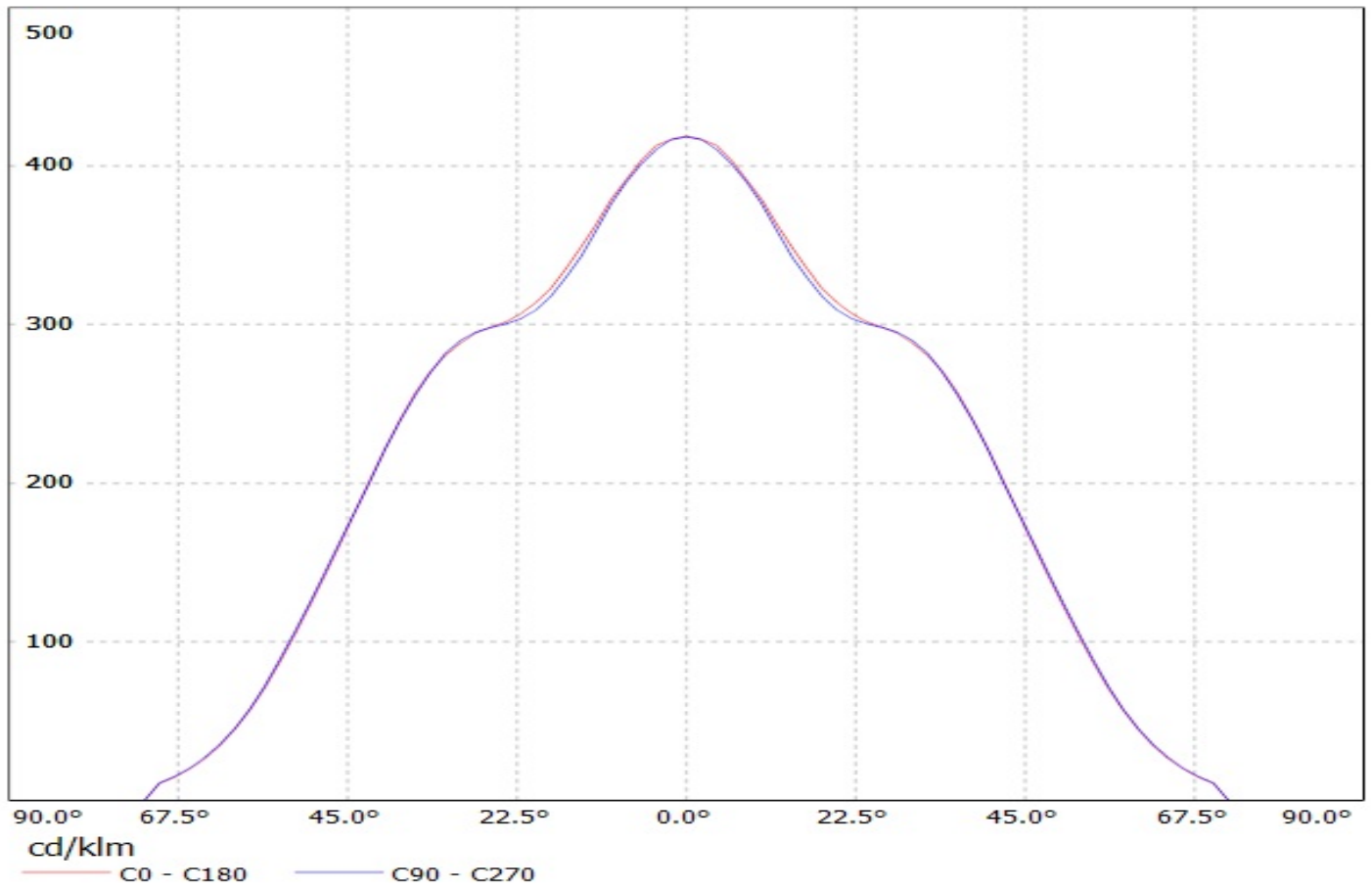
Luminaire: Ledil Oy FP11851_LISA2-O-90-PIN_(XP-E)_SIMULATED
Lamps: 1 x Cree XP-E



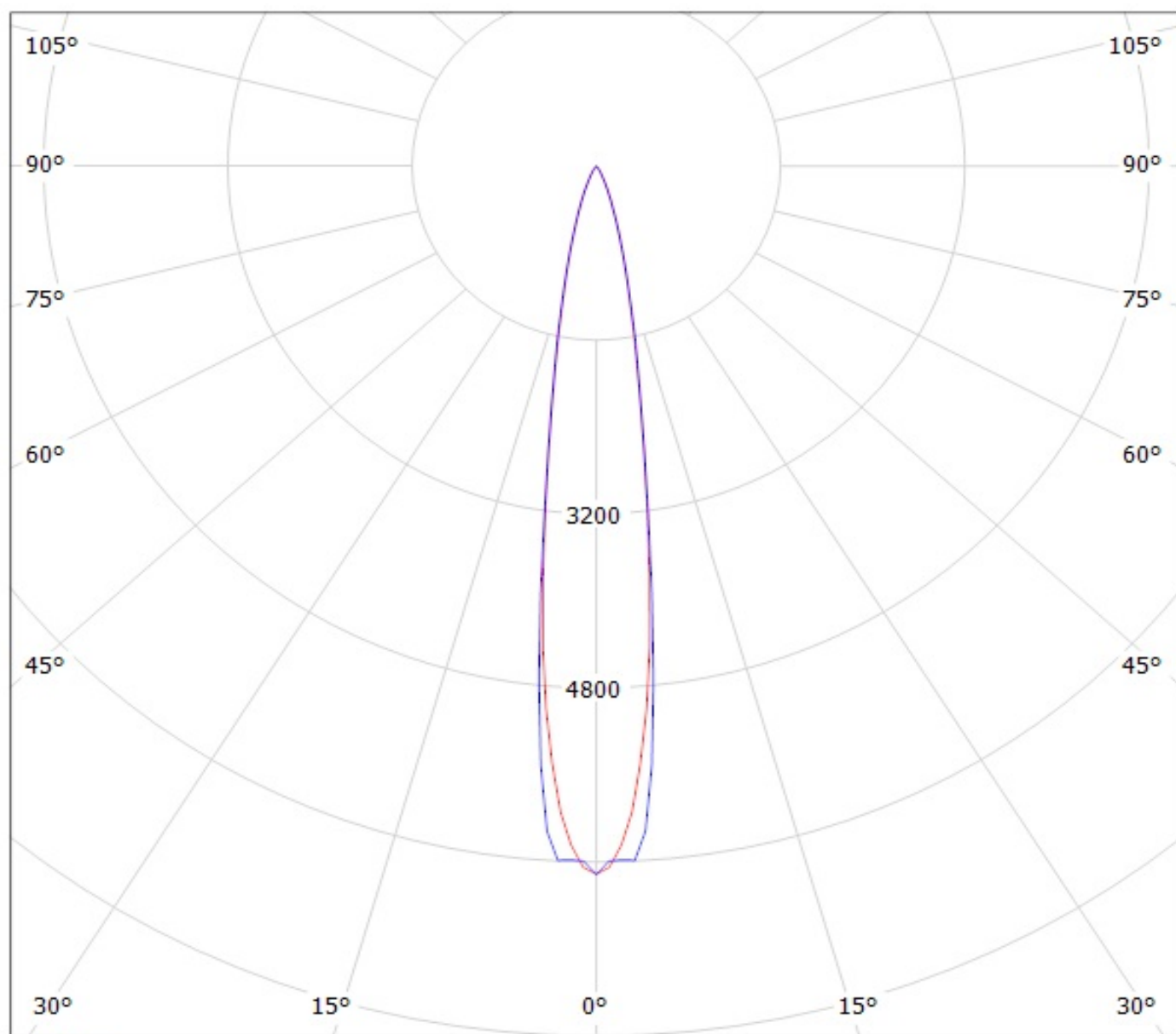
Luminaire: Ledil Oy FP11856_LISA2-O-90-CLIP_(XP-E)_SIMULATED
Lamps: 1 x Cree XP-E



Luminaire: Ledil Oy Lisa2-WWW-XP Lisa2-WWW-XP
Lamps: 1 x cree xp-e white



Luminaire: Ledil Oy FA11055_Lisa2-RS-Pin-XP FA11055_Lisa2-RS-Pin-XP
Lamps: 1 x Cree XP-E (White)

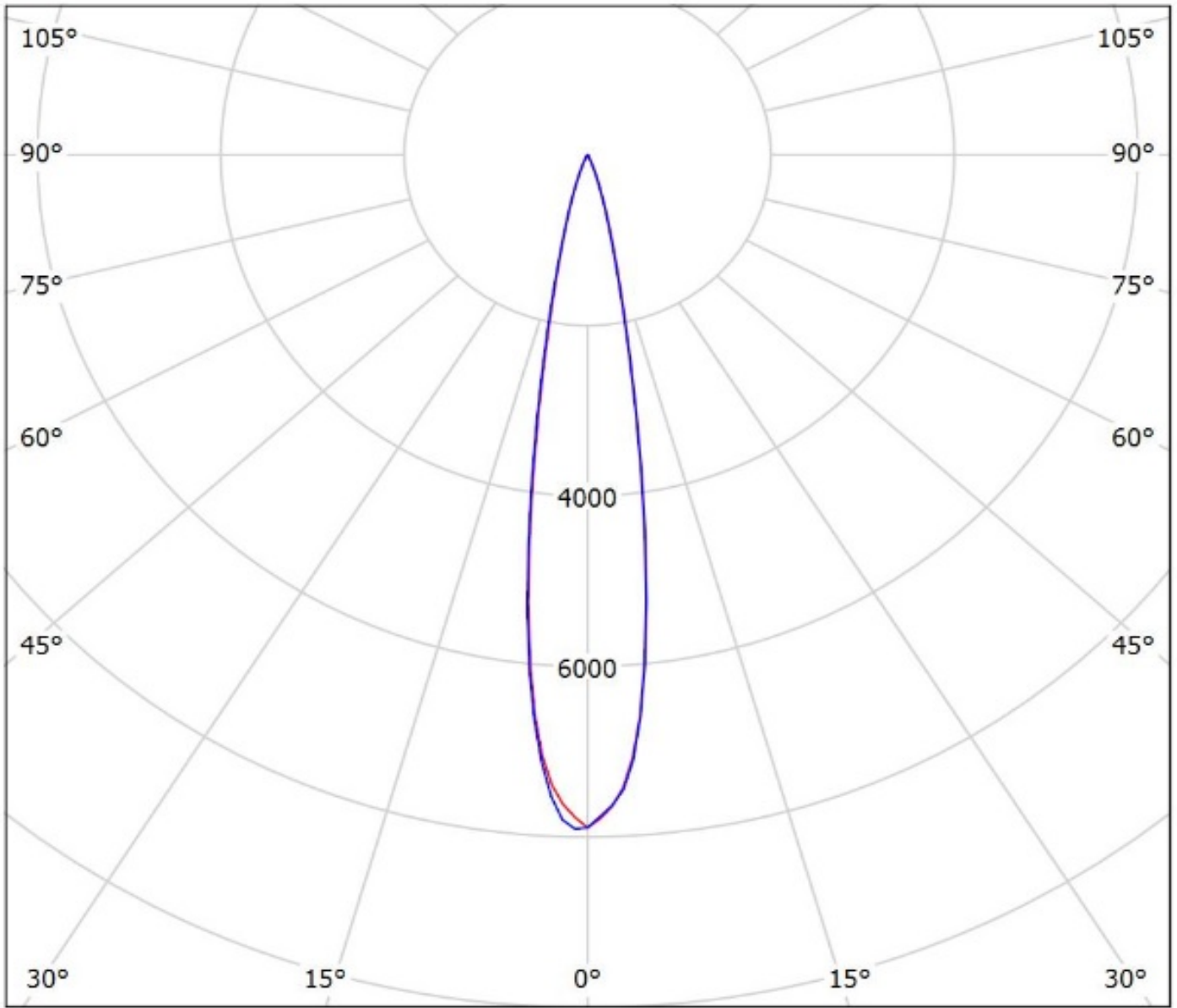


cd/klm

— C0 - C180

— C90 - C270

Luminaire: Ledil Oy FP11085_LISA2-RS-CLIP_(XP-E)_SIMULATED
Lamps: 1 x Cree XP-E

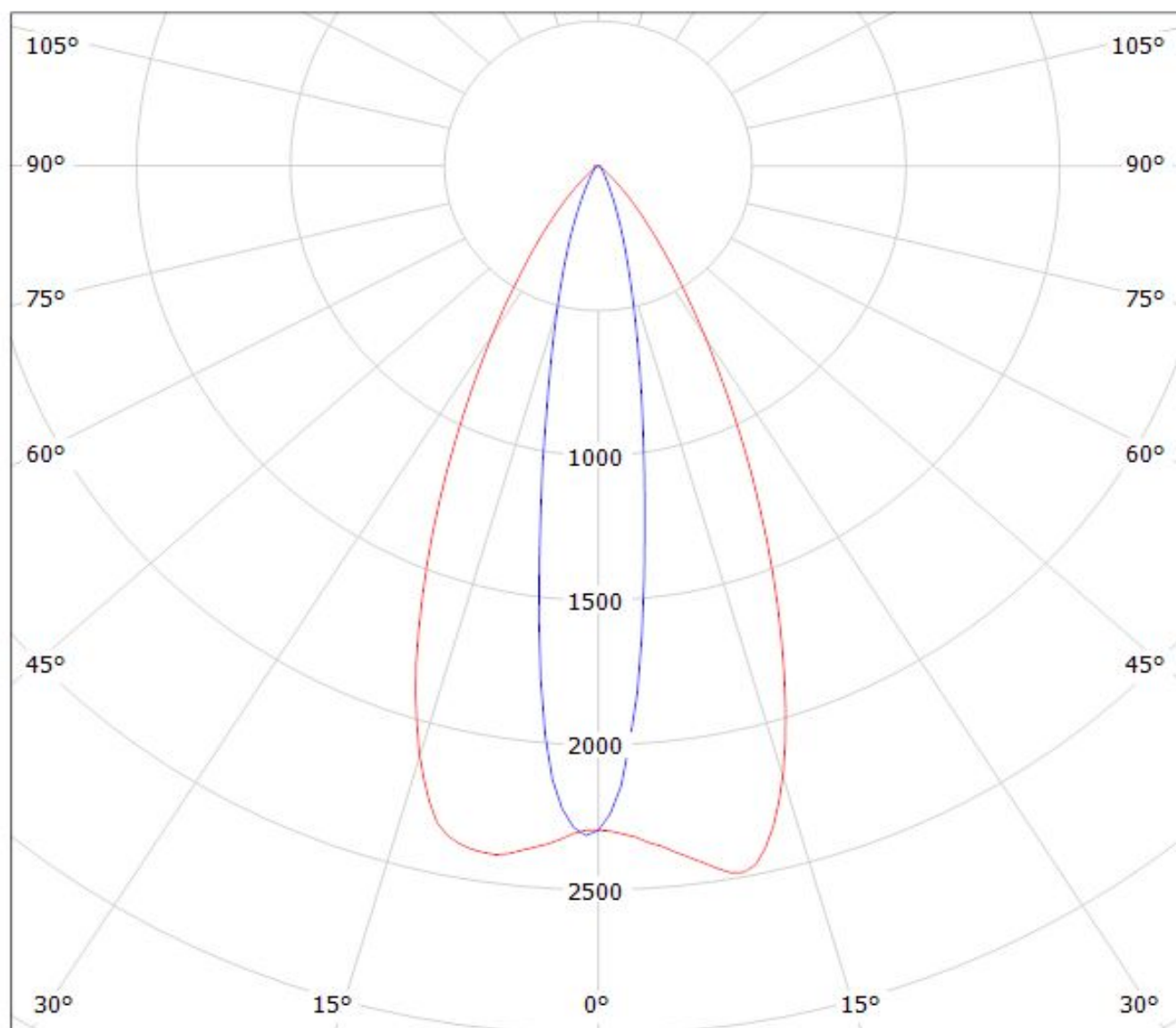


cd/klm

— C0 - C180 — C90 - C270

$\eta = 93\%$

Luminaire: LEDiL Oy FP11125&_FP11121_LISA2-O_(XP-E) Eff.83.3%
Lamps: 1 x CREE XP-E (70.0622lm@250mA)

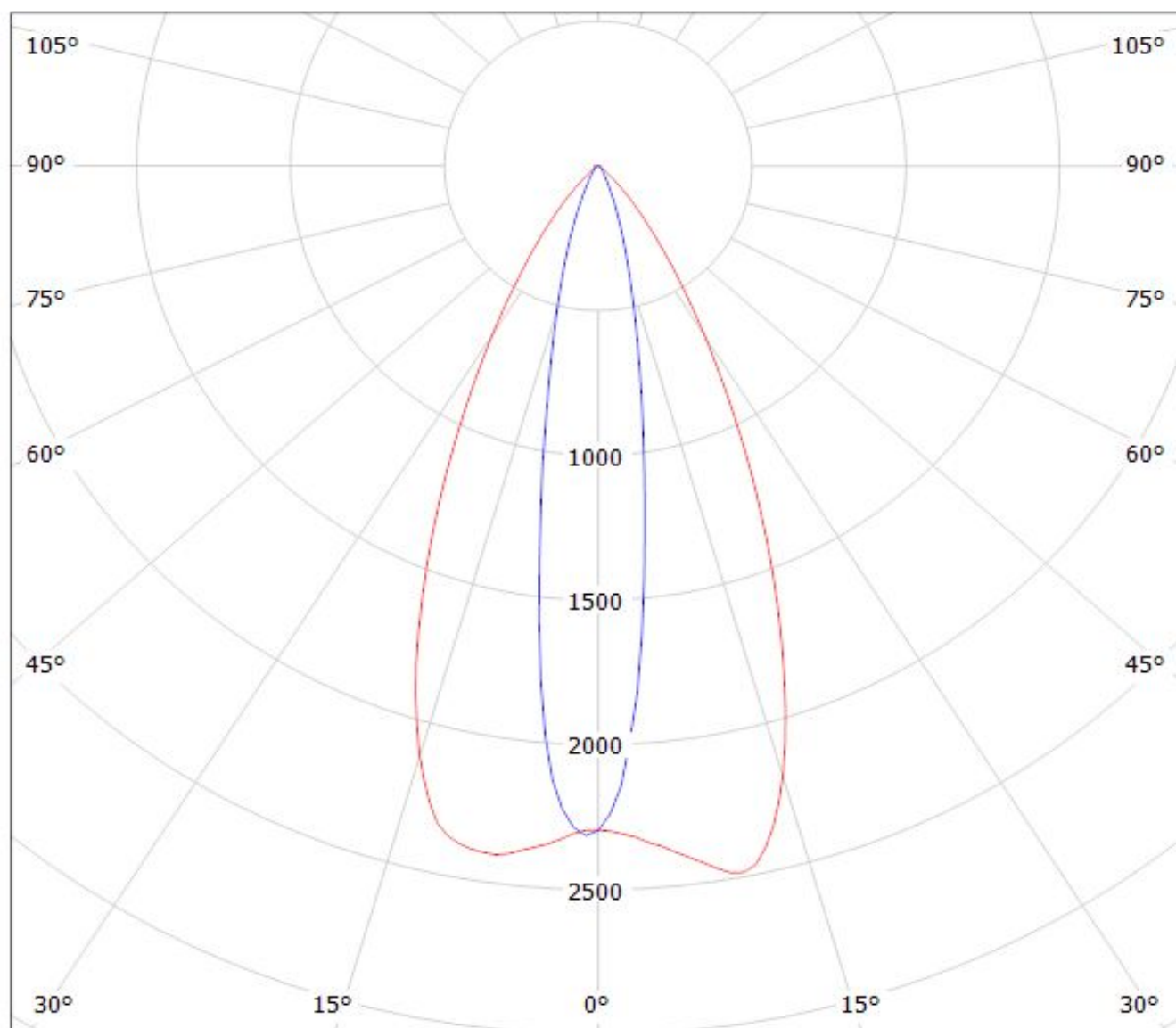


cd/klm

$\eta = 83\%$

— C0 - C180 — C90 - C270

Luminaire: LEDiL Oy FP11125&_FP11121_LISA2-O_(XP-E) Eff.83.3%
Lamps: 1 x CREE XP-E (70.0622lm@250mA)

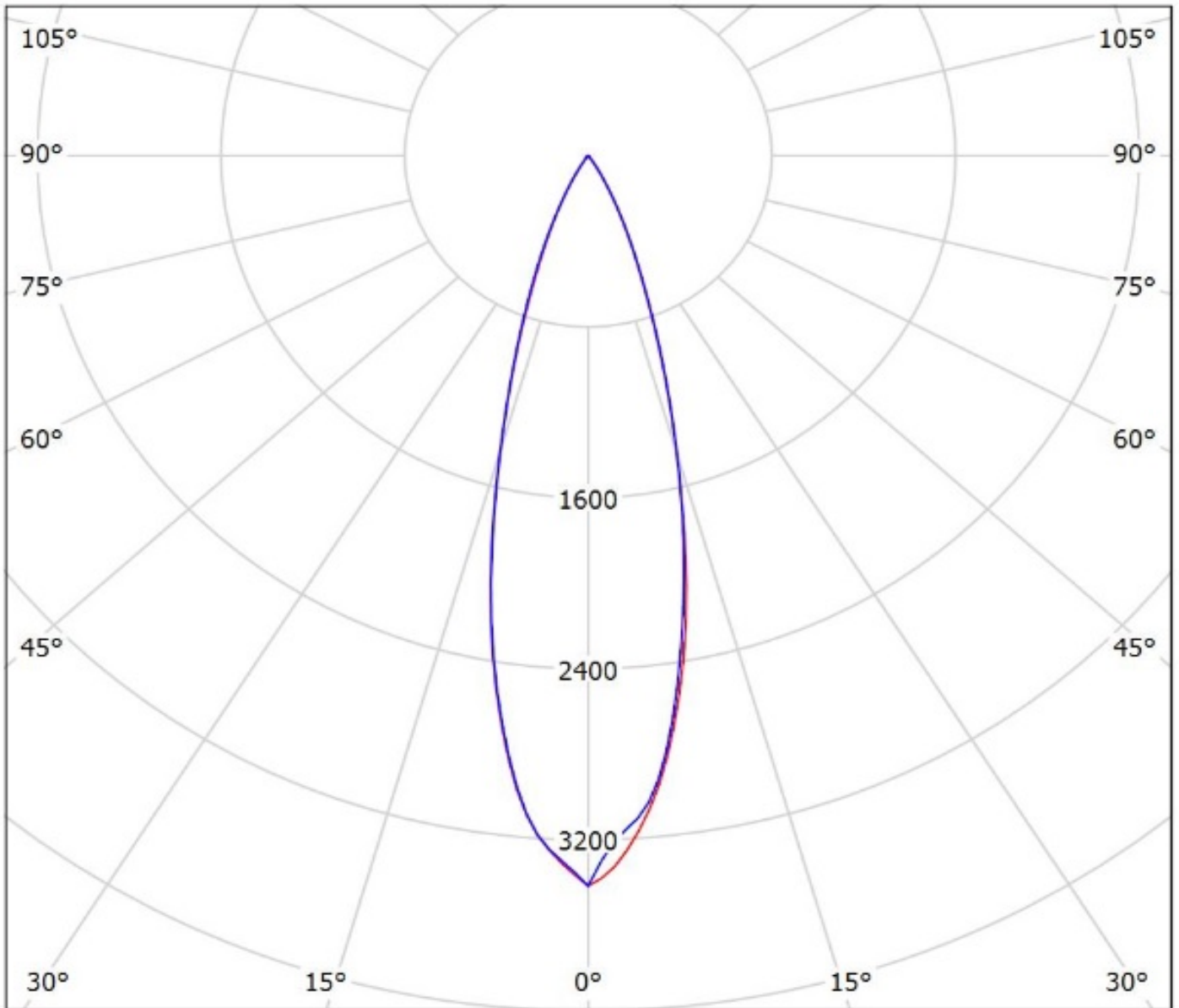


cd/klm

$\eta = 83\%$

— C0 - C180 — C90 - C270

Luminaire: Ledil Oy FP10995_LISA2-M-PIN_(XP-E)_SIMULATED
Lamps: 1 x Cree XP-E

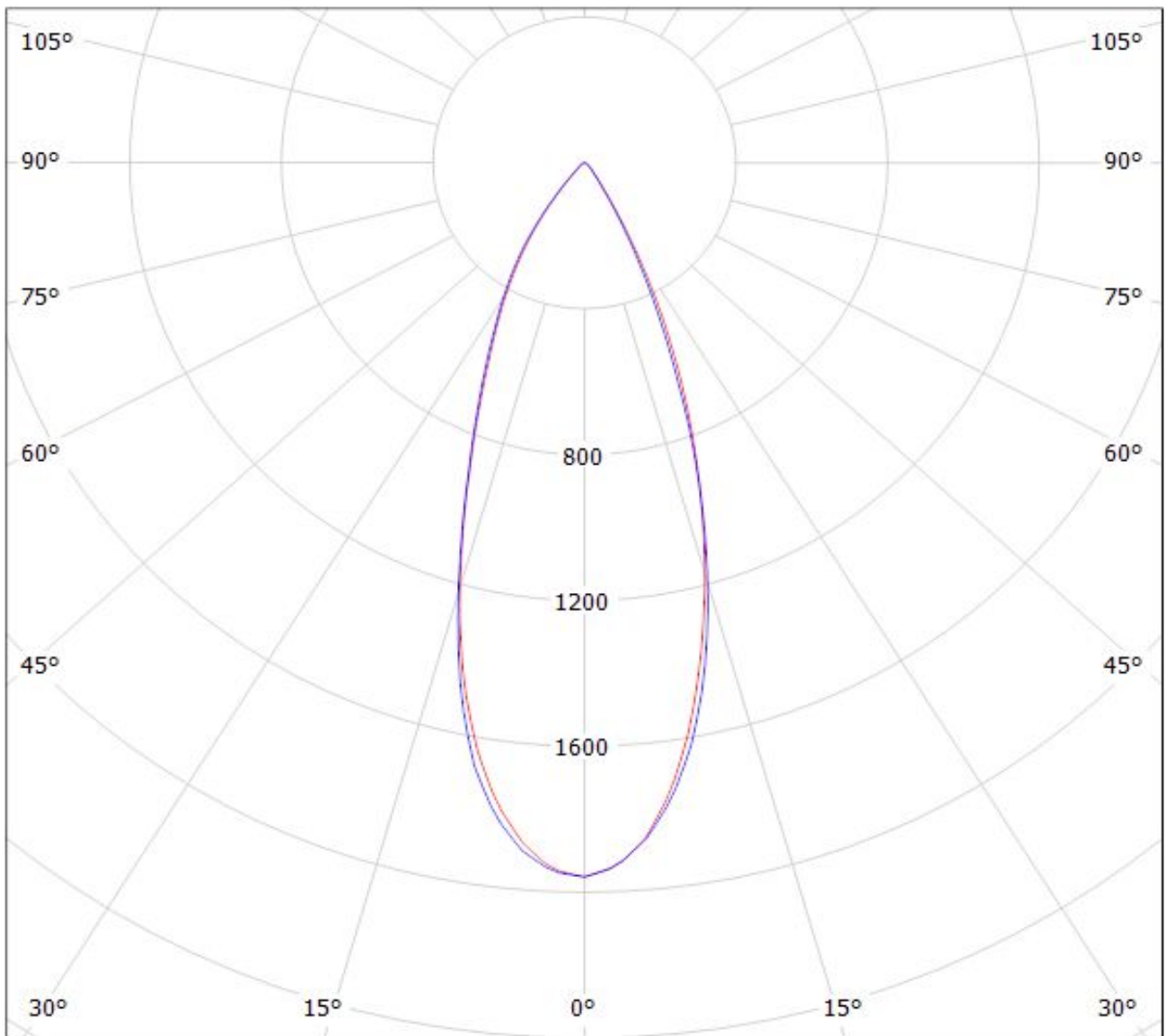


cd/klm

— C0 - C180 — C90 - C270

$\eta = 95\%$

Luminaire: LEDiL Oy FP10996&FP11076_LISA2-W_(XP-E) Eff.93.1%
Lamps: 1 x Cree XP-E (69.4929lm@250mA)



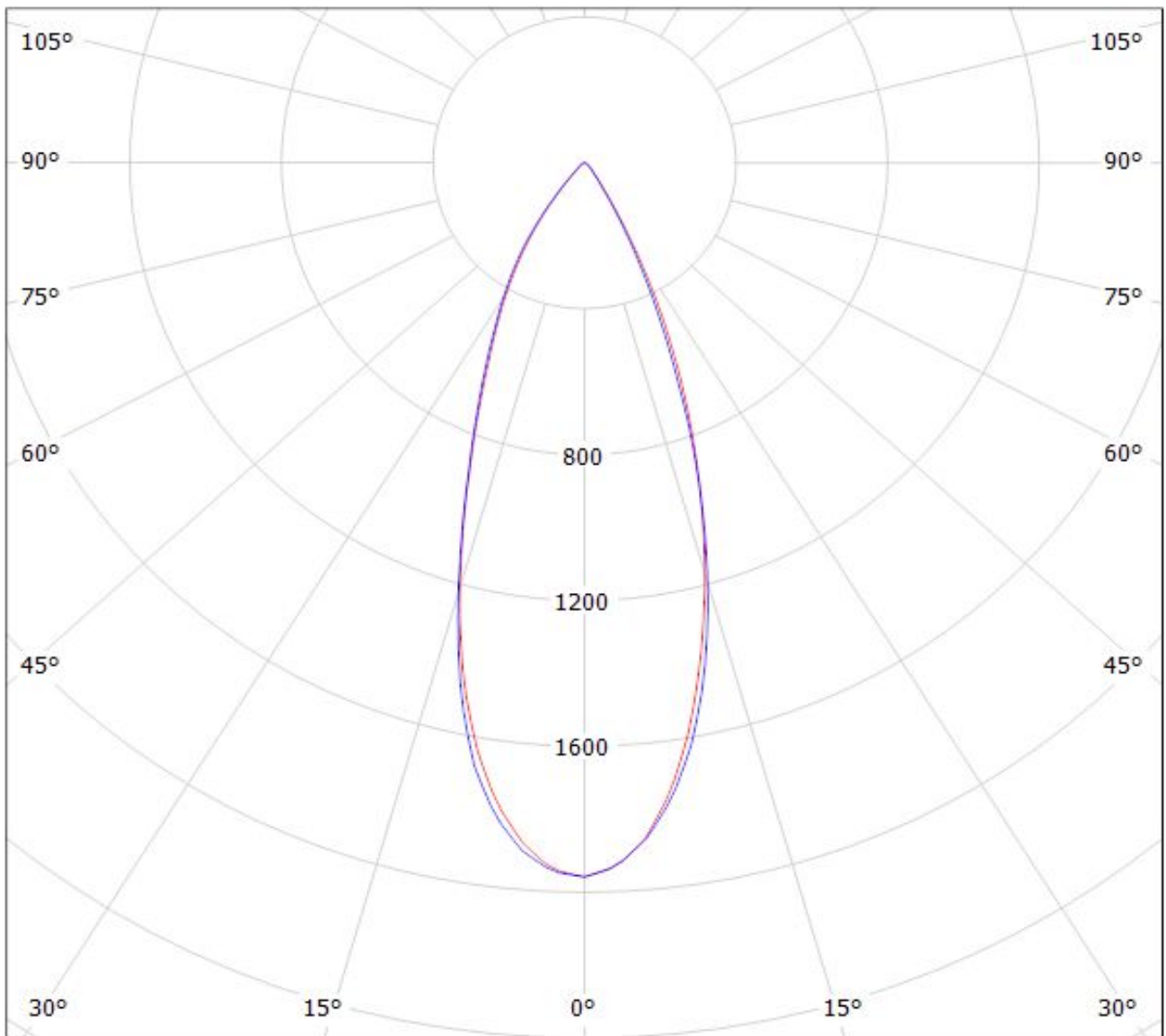
cd/klm

— C0 - C180

— C90 - C270

$\eta = 93\%$

Luminaire: LEDiL Oy FP10996&FP11076_LISA2-W_(XP-E) Eff.93.1%
Lamps: 1 x Cree XP-E (69.4929lm@250mA)



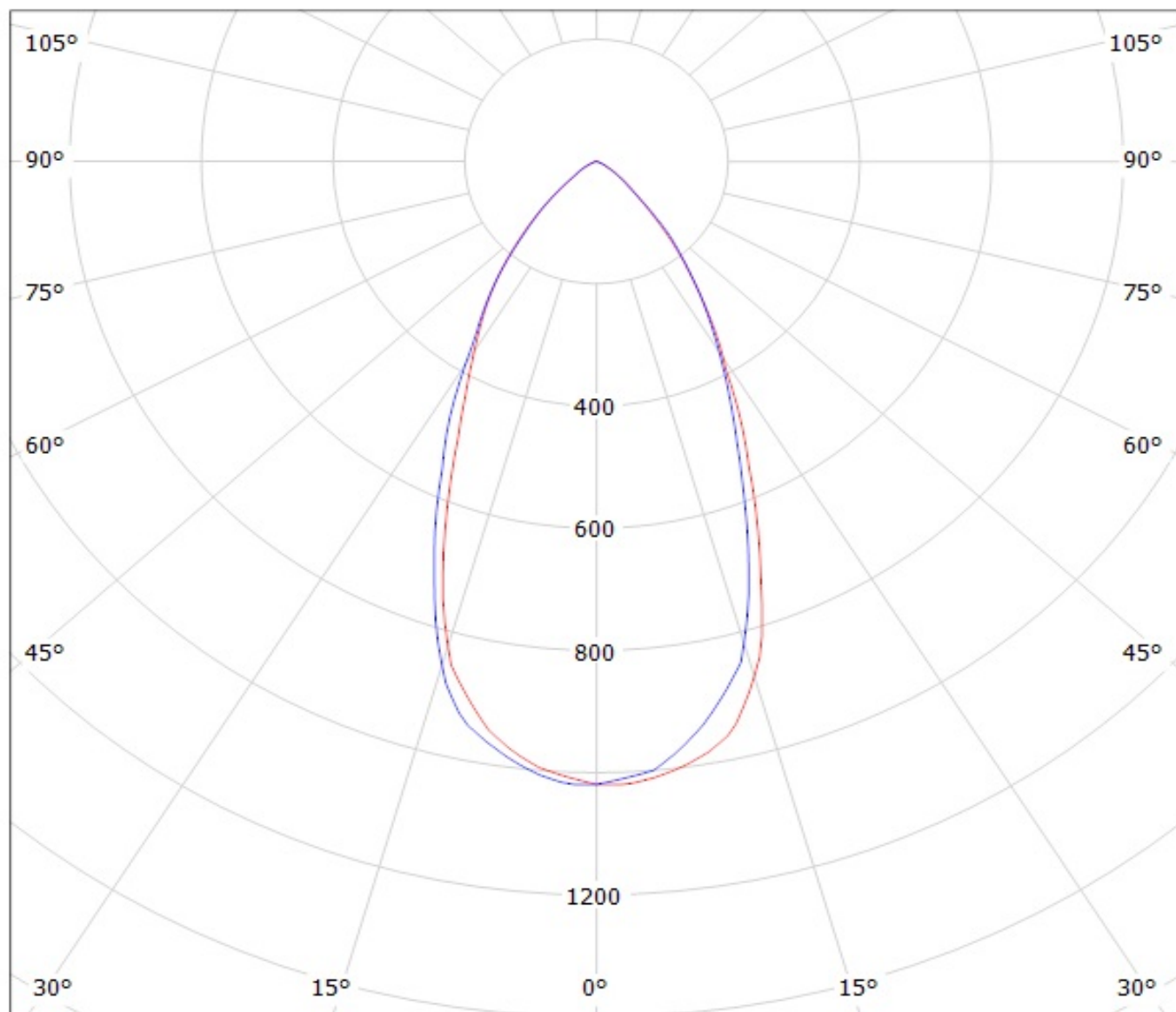
cd/klm

— C0 - C180

— C90 - C270

$\eta = 93\%$

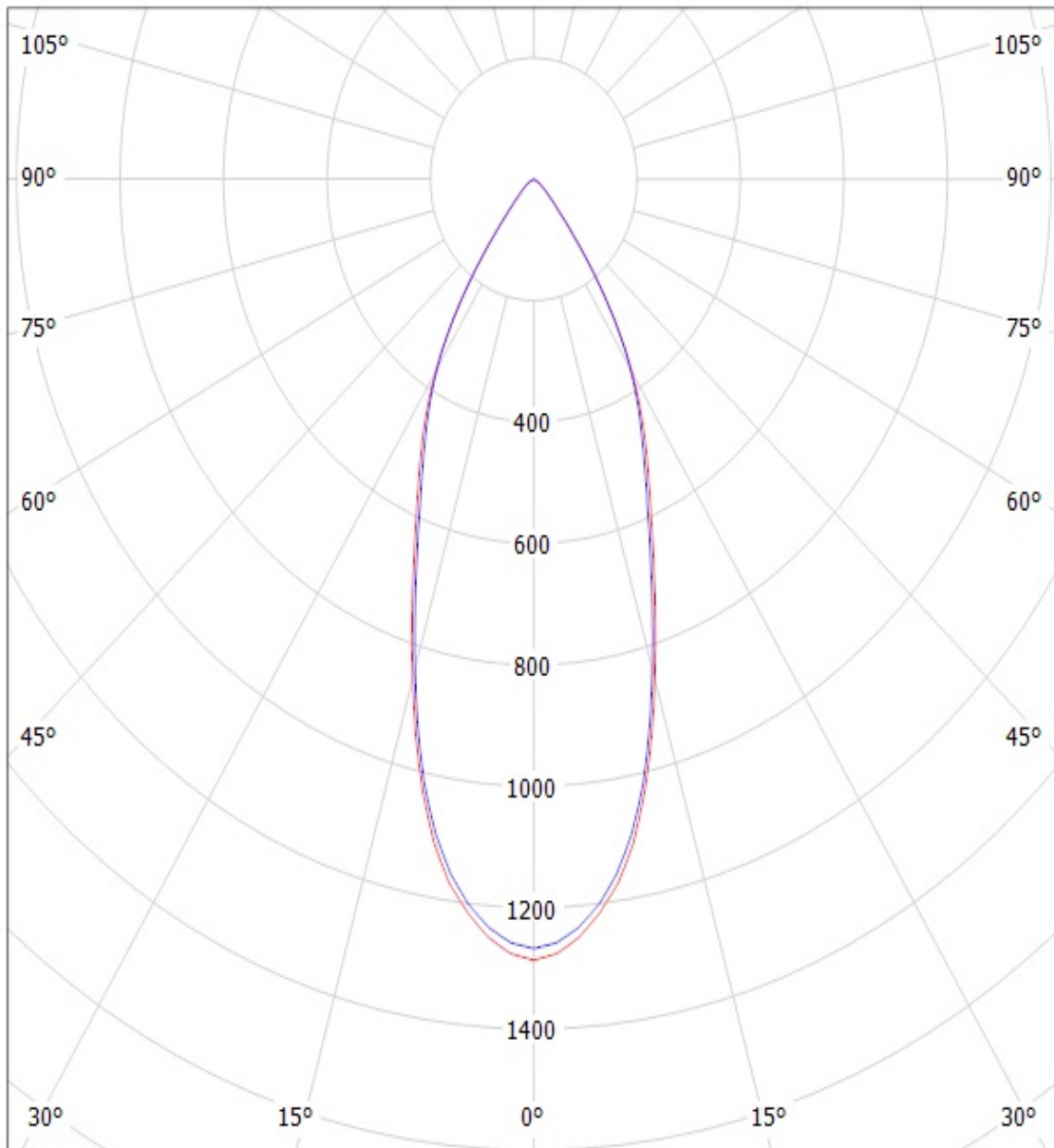
Luminaire: Ledil Oy FP10997_LISA2-WW-PIN (Cree XP-E 73lm @ 250mA) Efficiency=91%
Lamps: 1 x Cree XP-E 73lm @ 250mA



cd/klm

— C0 - C180 — C90 - C270

Luminaire: Ledil Oy FA10997_Lisa2-WW-Pin/FP11077_LISA2-WW-CLIP-XP FA10997_Lisa2-WW-Pin/FP11077_LISA2-WW-CLIP-XP
Lamps: 1 x cree xp-e white

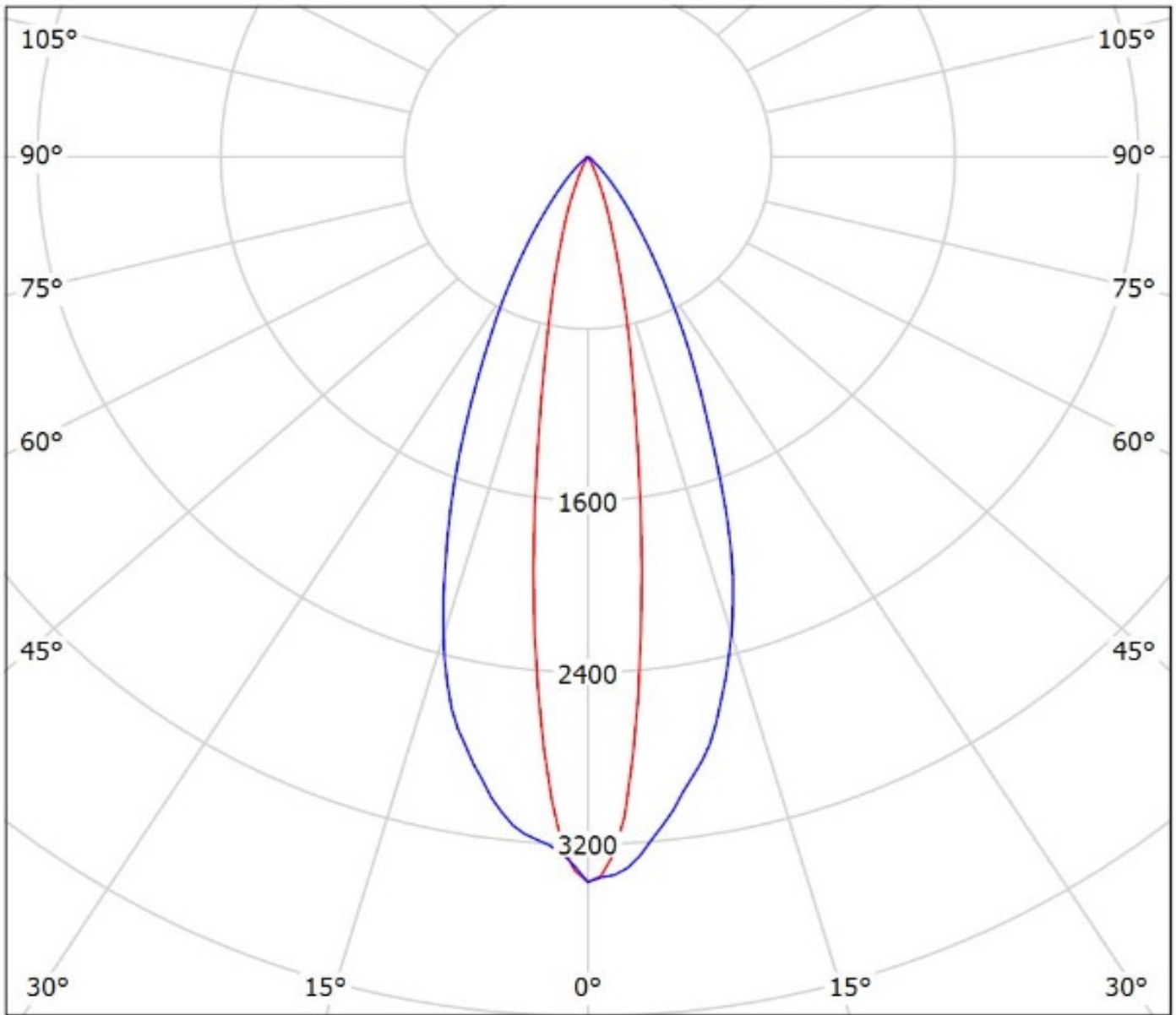


cd/klm

— C0 - C180

— C90 - C270

Luminaire: Ledil Oy FP11851_LISA2-O-90-PIN_(XP-E)_SIMULATED
Lamps: 1 x Cree XP-E



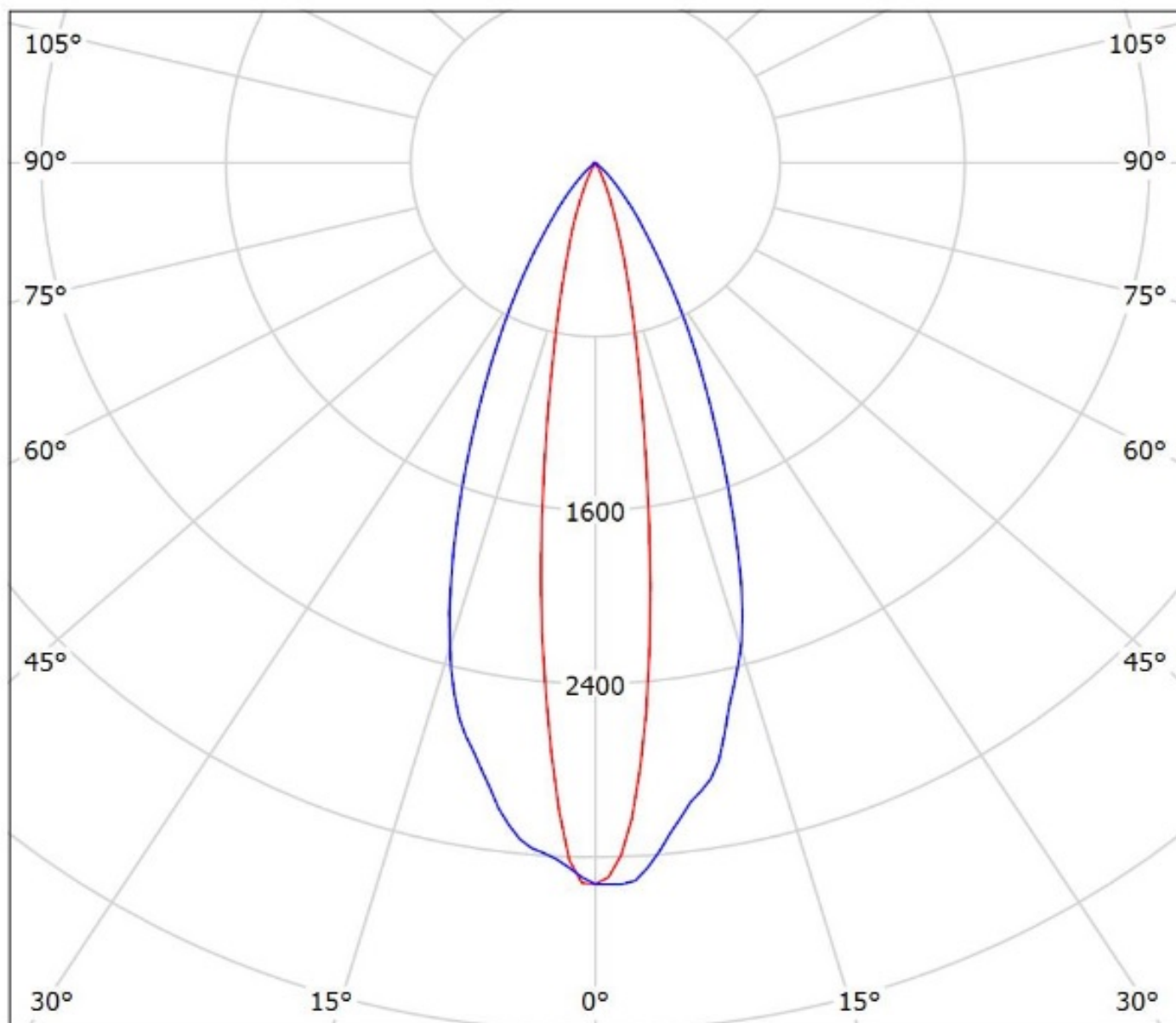
cd/klm

— C0 - C180 — C90 - C270

$\eta = 88\%$

Luminaire: Ledil Oy FP11856_LISA2-O-90-CLIP_(XP-E)_SIMULATED

Lamps: 1 x Cree XP-E

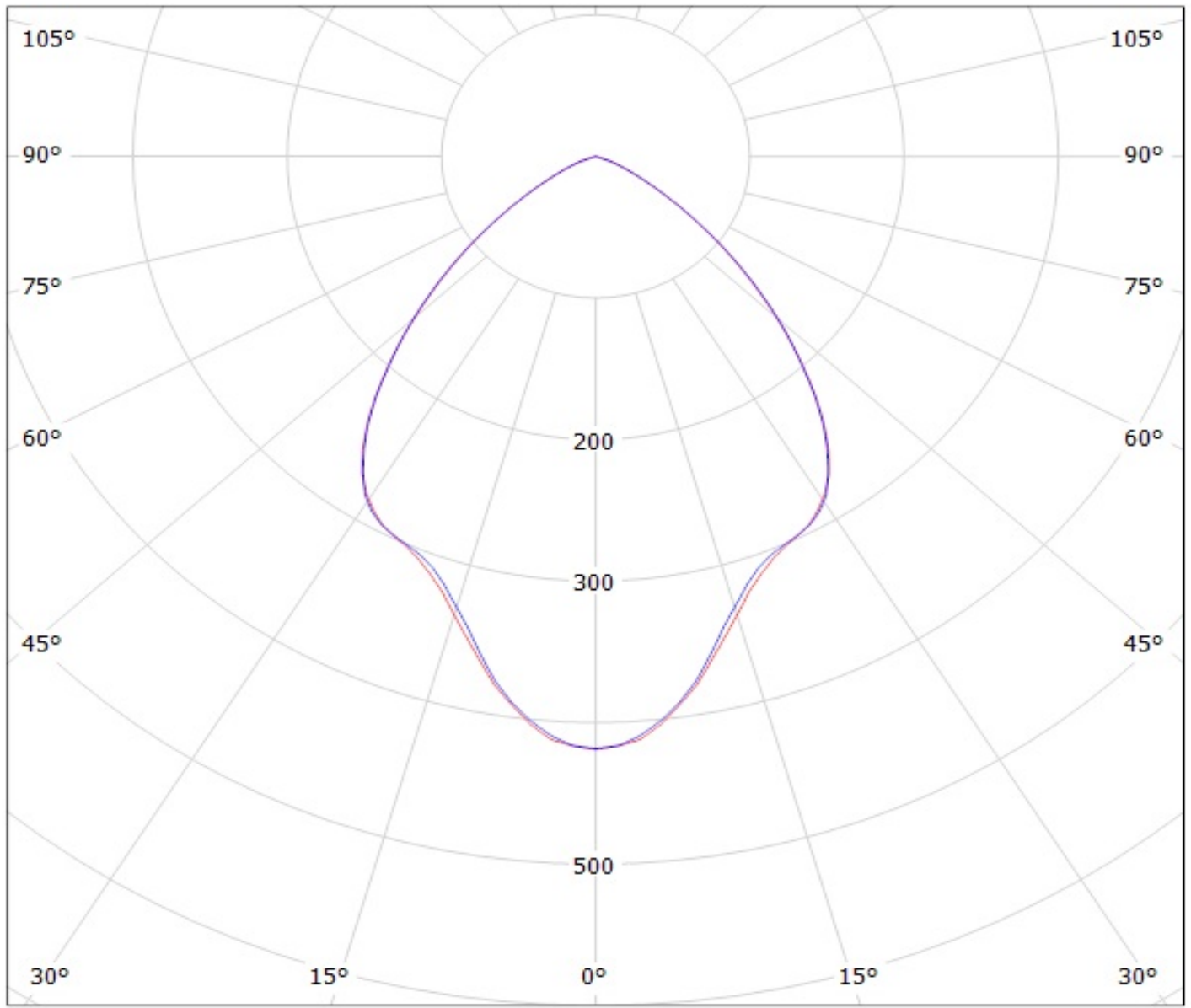


cd/klm

— C0 - C180 — C90 - C270

$\eta = 88\%$

Luminaire: Ledil Oy Lisa2-WWW-XP Lisa2-WWW-XP
Lamps: 1 x cree xp-e white



cd/klm

— C0 - C180

— C90 - C270