

**Product number FA11208\_TINA-RS**

Family	Tina	FWHM	15 degrees
Type	Assembly	Efficiency	88 %
LED	XB-H	cd/lm	10.600
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.5 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["tape", "pin"]		
Status	Production ready		

**Product number FA11212\_TINA-RS**

Family	Tina	FWHM	15 degrees
Type	Assembly	Efficiency	88 %
LED	XB-H	cd/lm	10.300
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.4 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["pin", "tape"]		
Status	Production ready		

**Product number FA11205\_TINA-D**

Family	Tina	FWHM	17 degrees
Type	Assembly	Efficiency	87 %
LED	XB-H	cd/lm	7.300
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.5 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["tape", "pin"]		
Status	Production ready		

**Product number FA11209\_TINA-D**

Family	Tina	FWHM	17 degrees
Type	Assembly	Efficiency	87 %
LED	XB-H	cd/lm	7.500
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.4 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["tape", "pin"]		
Status	Production ready		

**Product number FA11210\_TINA-M**

Family	Tina	FWHM	30 degrees
Type	Assembly	Efficiency	81 %
LED	XB-H	cd/lm	2.300
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.4 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["pin", "tape"]		
Status	Production ready		

**Product number FA11206\_TINA-M**

Family	Tina	FWHM	31 degrees
Type	Assembly	Efficiency	80 %
LED	XB-H	cd/lm	2.300
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.5 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["pin", "tape"]		
Status	Production ready		

**Product number FA11203\_TINA-O**

Family	Tina	FWHM	35+17 degrees
Type	Assembly	Efficiency	83 %
LED	XB-H	cd/lm	3.700
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.4 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["tape", "pin"]		
Status	Production ready		

**Product number FA11204\_TINA-O**

Family	Tina	FWHM	38+16 degrees
Type	Assembly	Efficiency	83 %
LED	XB-H	cd/lm	3.600
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.5 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["pin", "tape"]		
Status	Production ready		

# PRODUCT DATASHEET

## Tina series

last update 10/10/2013

**Product number FA11207\_TINA-W**

Family	Tina	FWHM	53 degrees
Type	Assembly	Efficiency	87 %
LED	XB-H	cd/lm	1.200
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.5 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["tape", "pin"]		
Status	Production ready		

**Product number FA11211\_TINA-W**

Family	Tina	FWHM	56 degrees
Type	Assembly	Efficiency	89 %
LED	XB-H	cd/lm	1.000
Color	Black	Gerber File	Available
Diameter	16.1 mm		
Height	9.4 mm		
Style	Round		
Optic Material	PMMA		
Holder Material	-		
Fastening	["pin", "tape"]		
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

### Tina series

last update 10/10/2013

#### GENERAL INFORMATION

- Product series especially designed & optimized for XB-H 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%20UL94_Yellow%20Card.pdf)

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

D

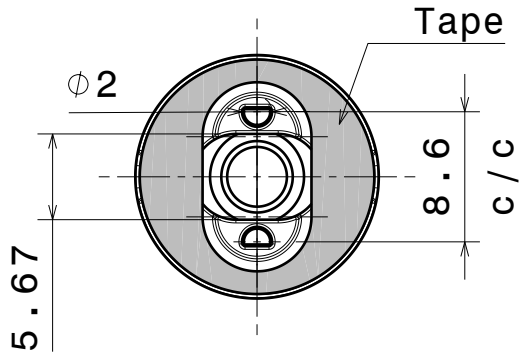
C

B

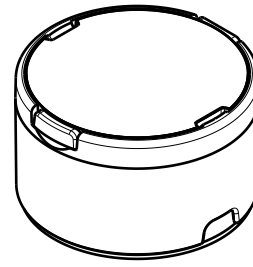
A

4

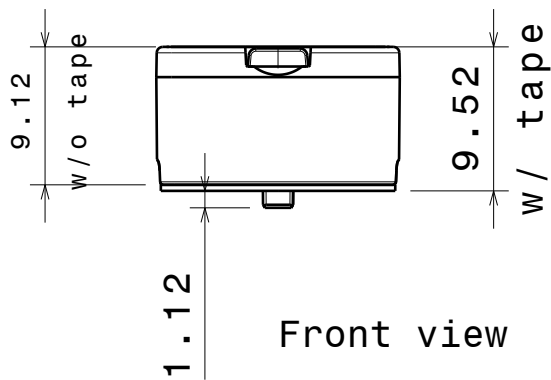
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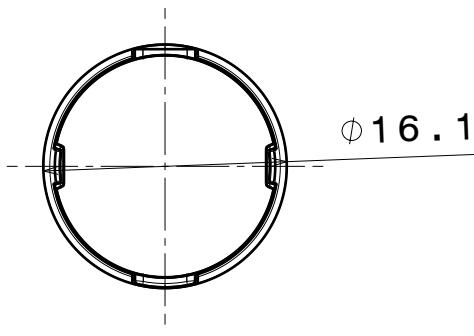
Bottom view



Isometric view



Front view



Top view

Materials  
 Lens: PMMA  
 Holder: PC  
 Tape: PU Foam

3

3

2

2

1

1

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Ledil Oy  
 Salorankatu 10  
 FIN 24240 SALO  
 Finland

DRAWING TITLE Mechanical Drawing

DRAWN BY  
 as

DATE  
 10.9.2012

TINA-OSL

CHECKED BY  
 sn

DATE  
 -

SIZE  
 A4

PART NUMBER  
 TINA-OSL

REV  
 001

DESIGNED BY  
 -

DATE  
 -

SCALE 2:1

WEIGHT

1,47 g

SHEET

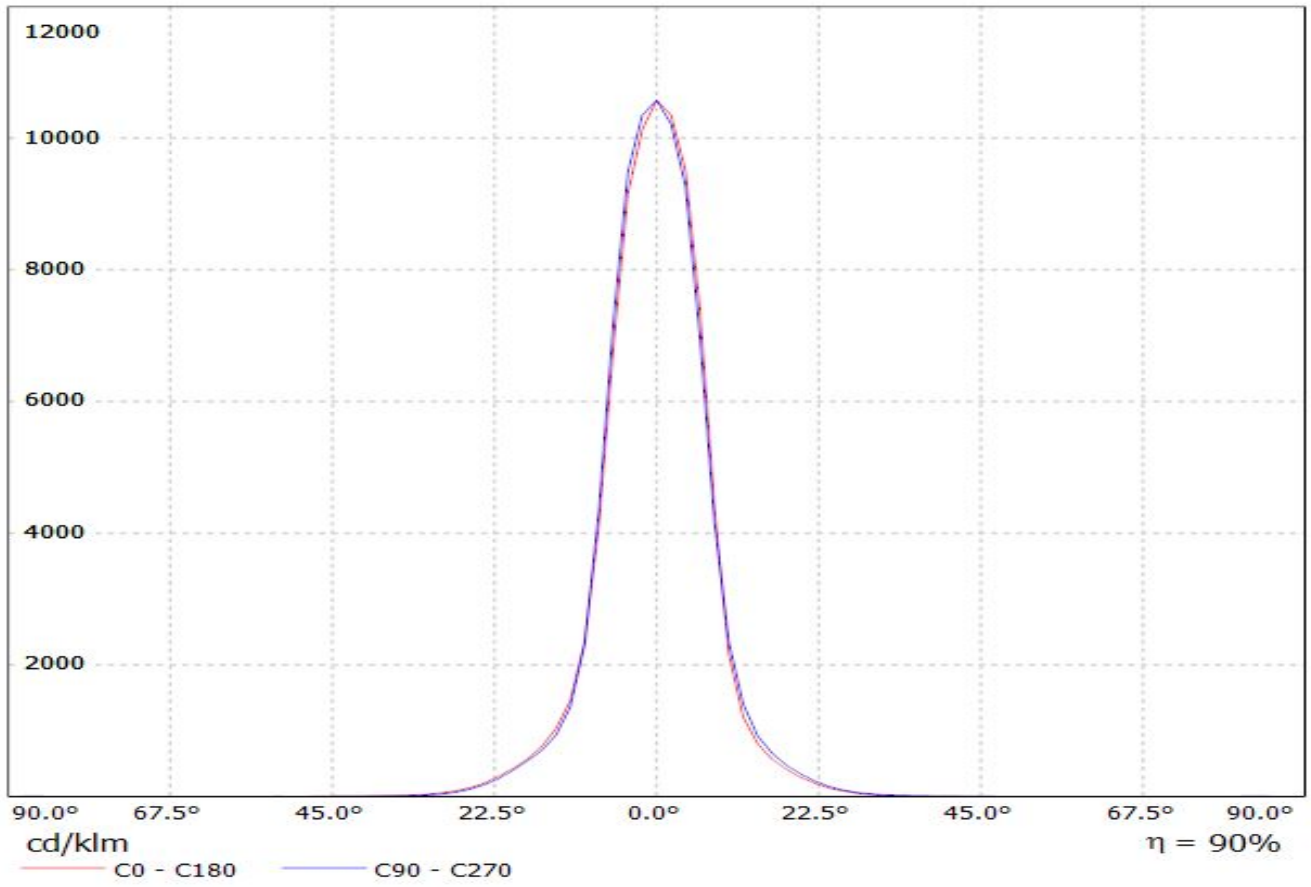
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D

A

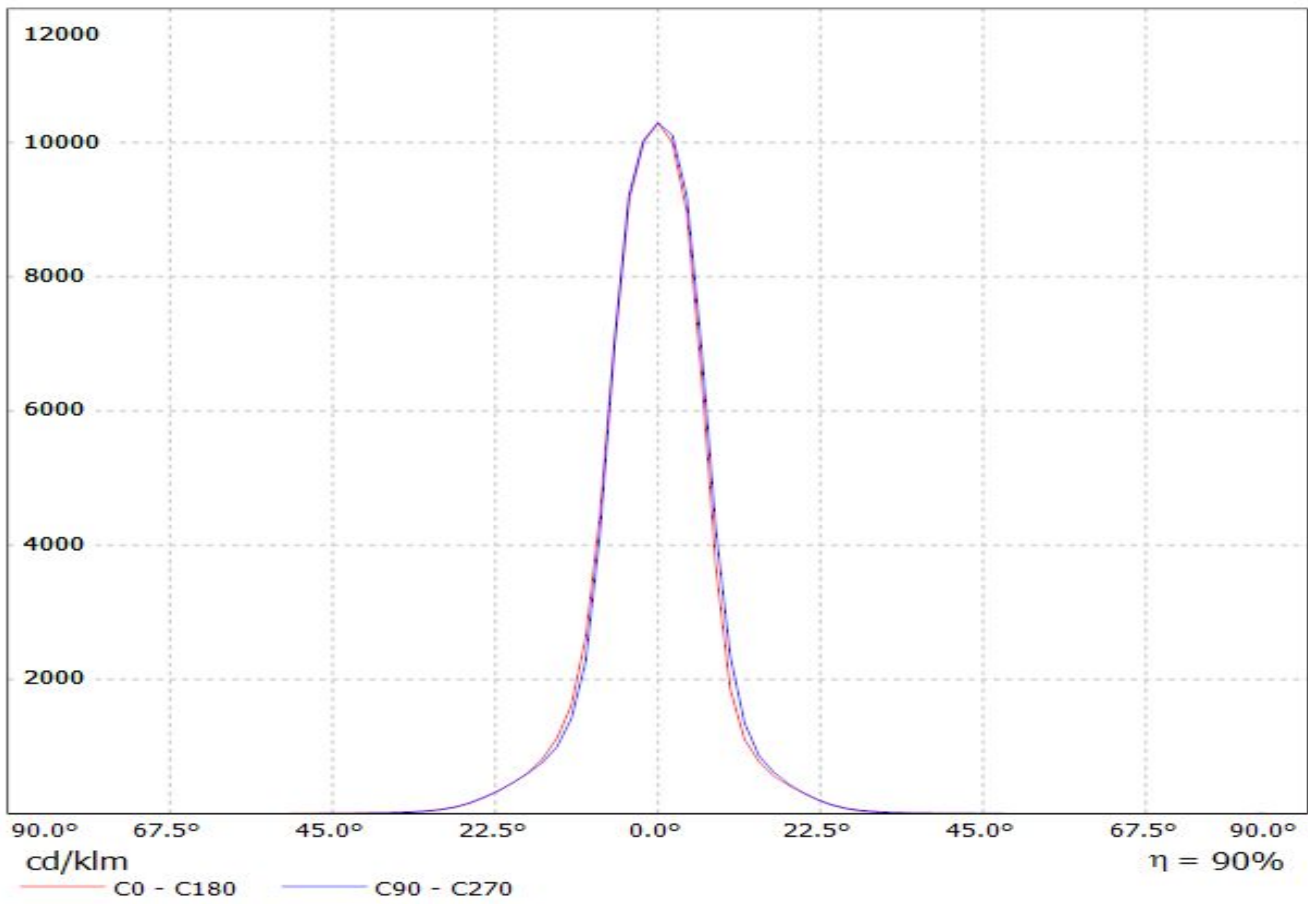
Luminaire: Ledil Oy FA11208\_TINA-RS\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



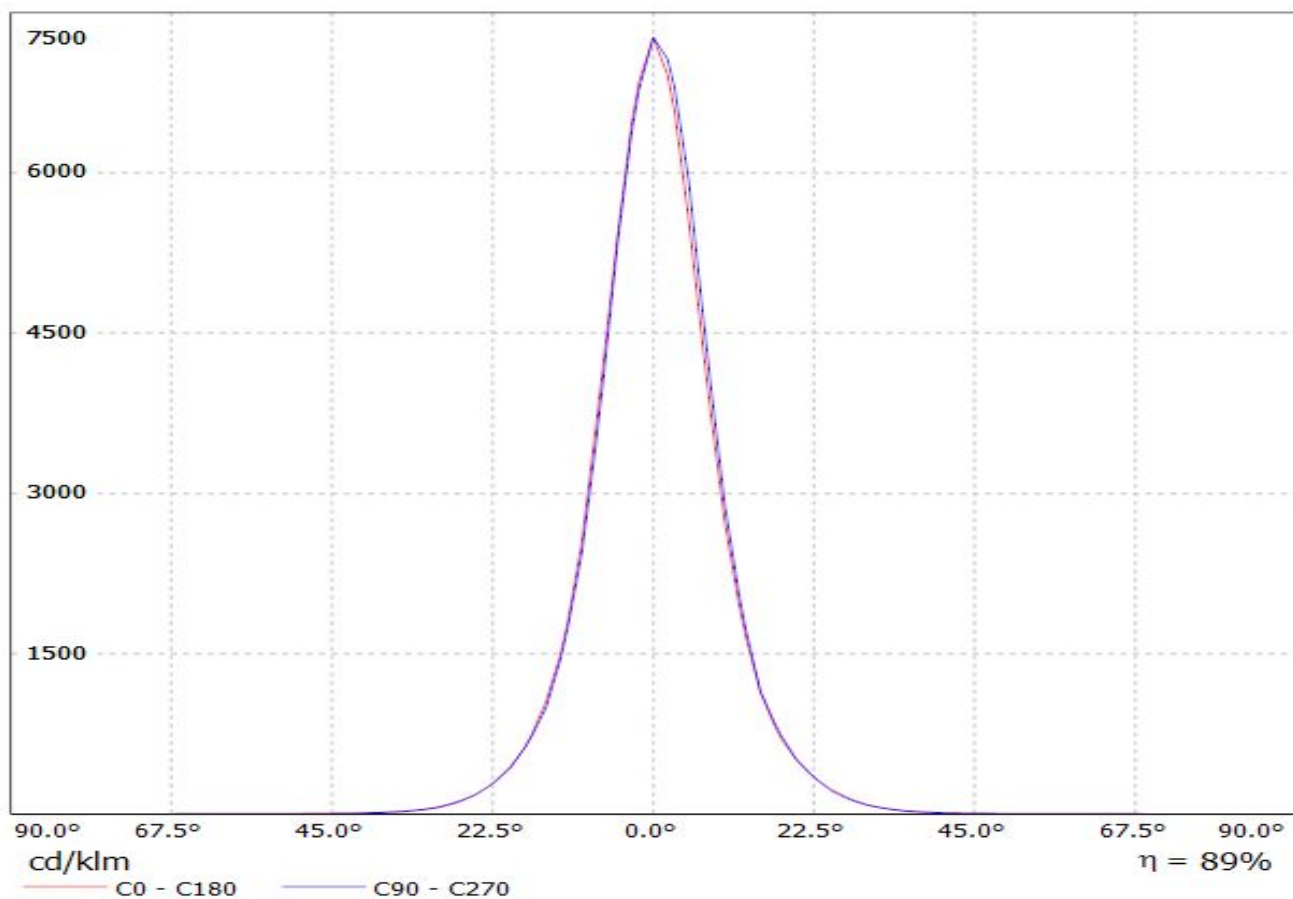
Luminaire: Ledil Oy FA11212\_TINA-RS\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



Luminaire: Ledil Oy FA11205\_TINA-D\_(XB-H)

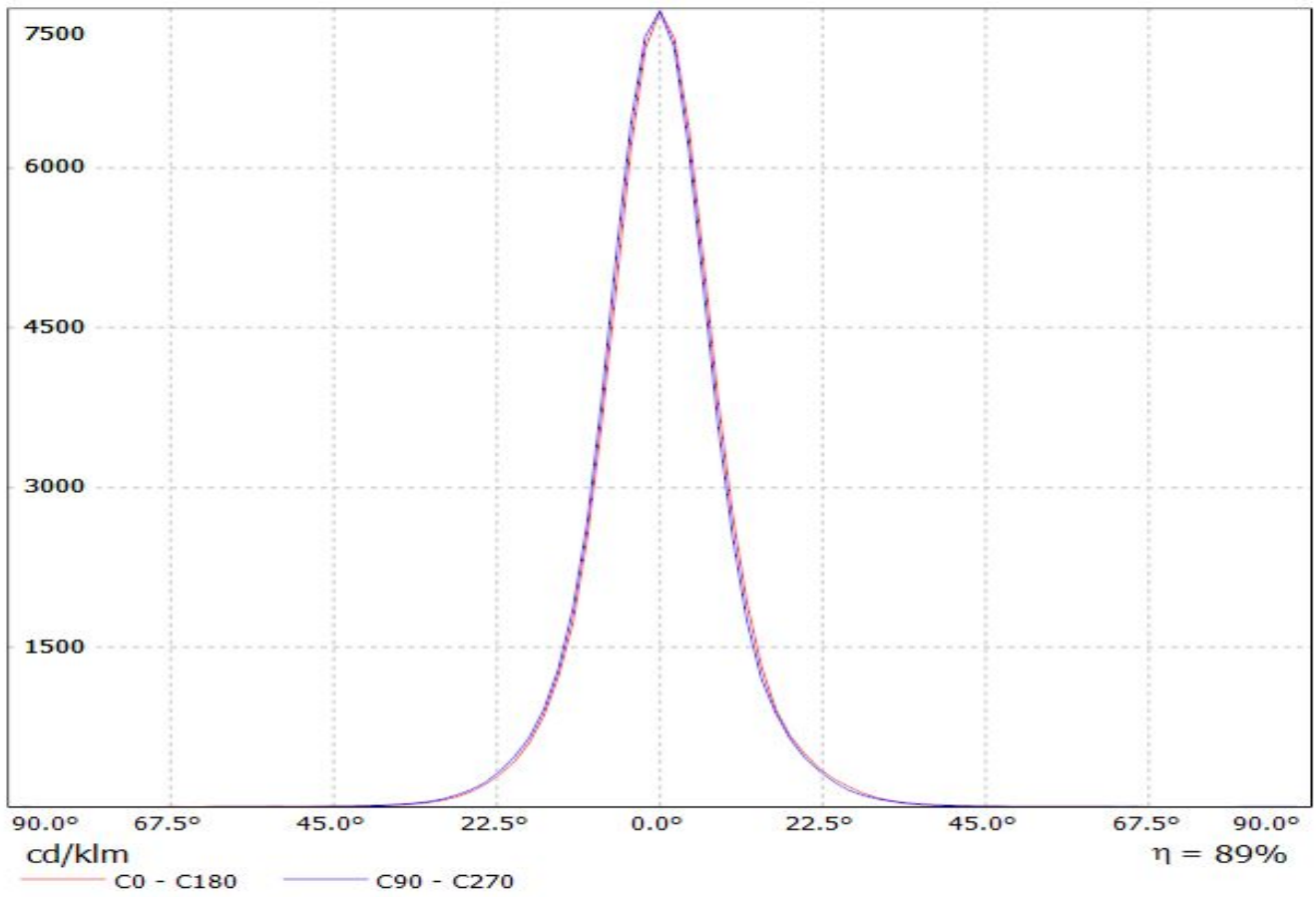
Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA





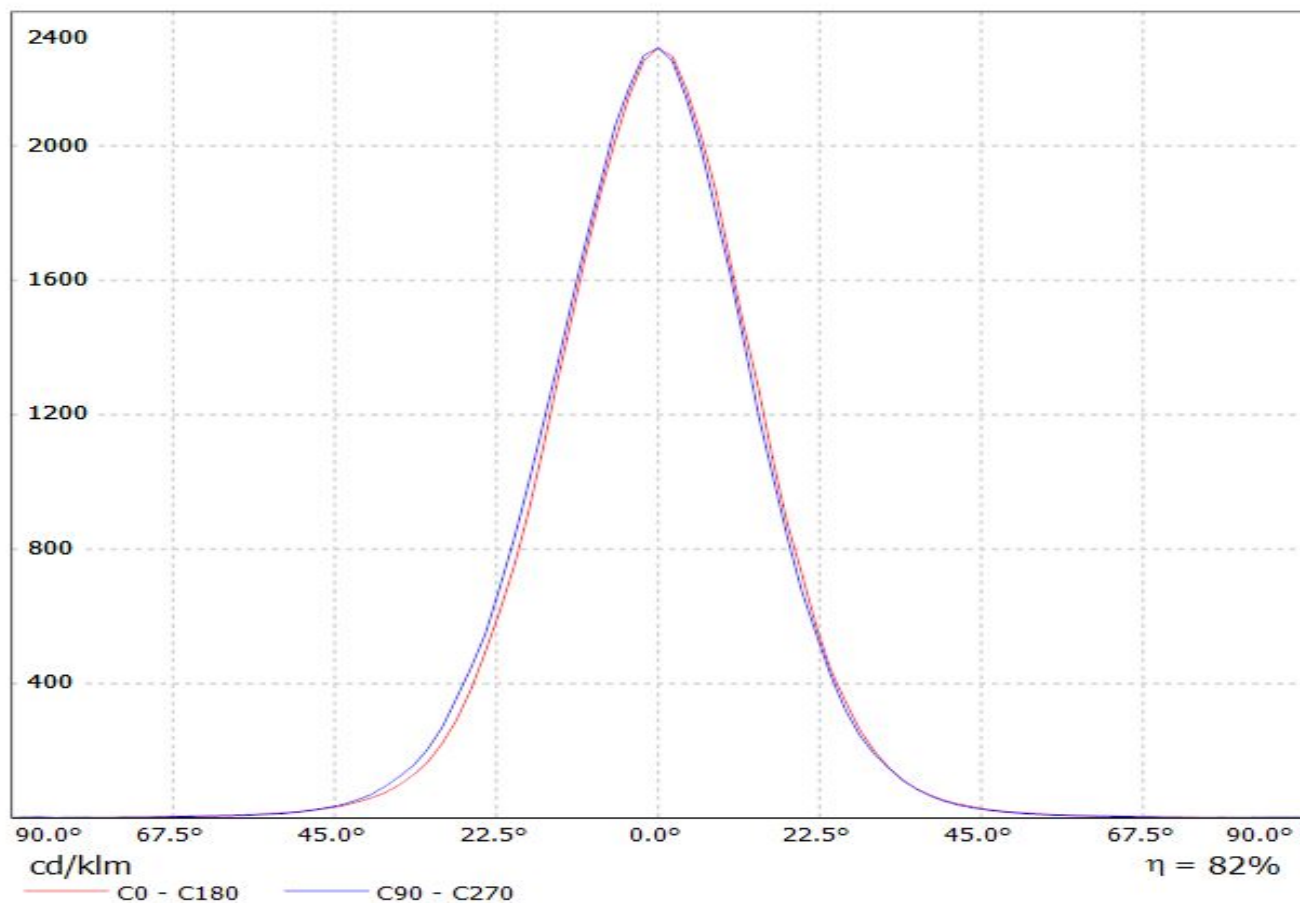
Luminaire: Ledil Oy FA11209\_TINA-D\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



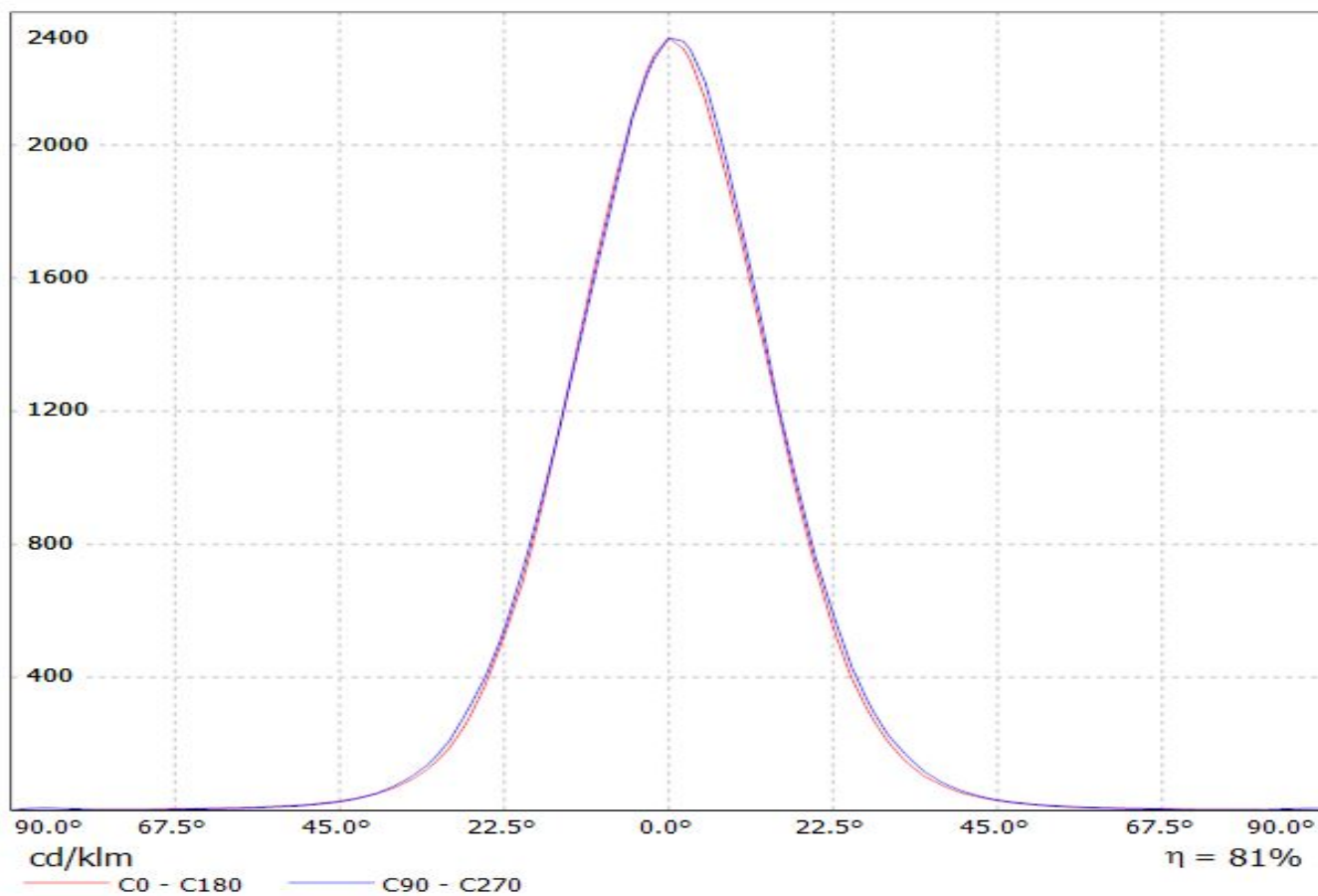
Luminaire: Ledil Oy FA11210\_TINA-M\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



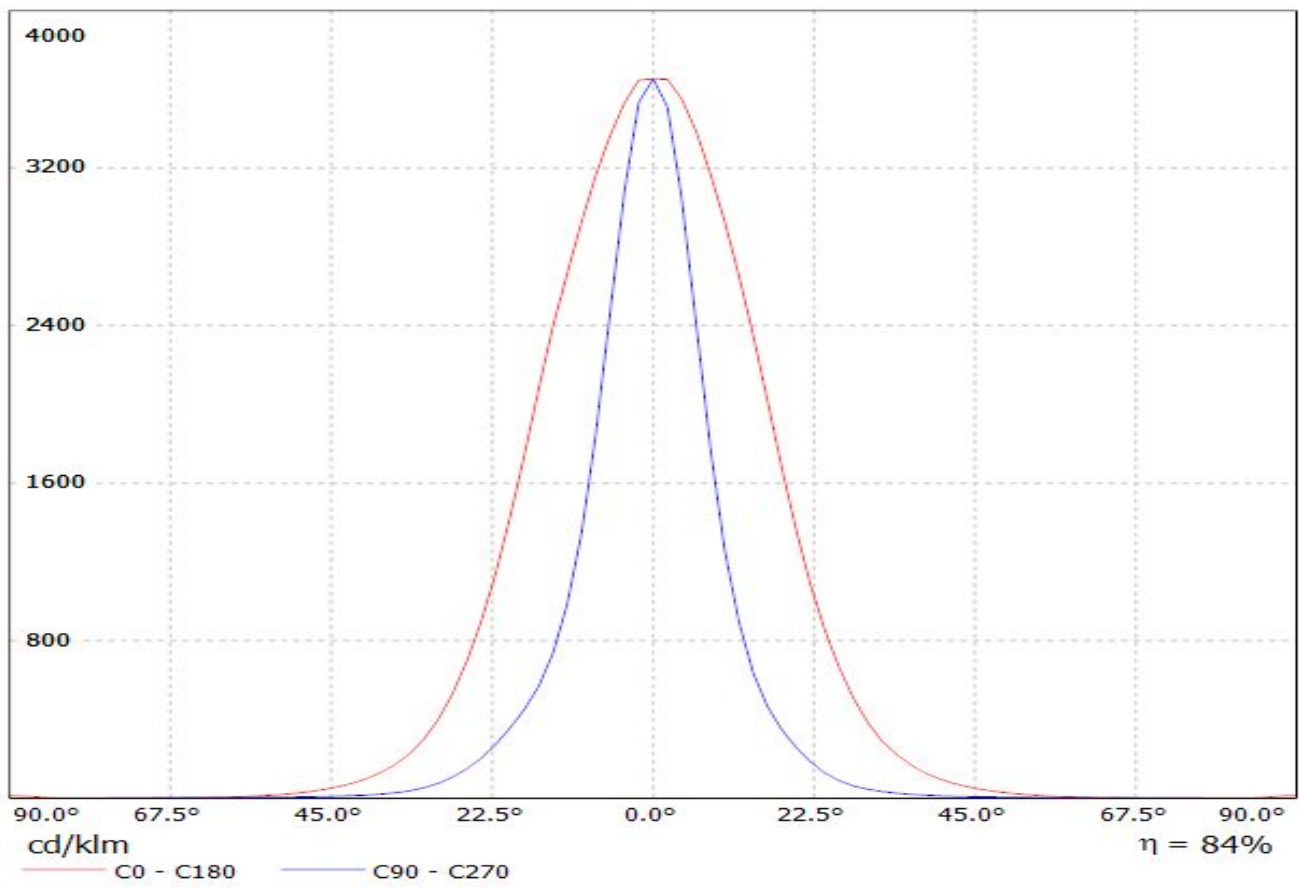
Luminaire: Ledil Oy FA11206\_TINA-M\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



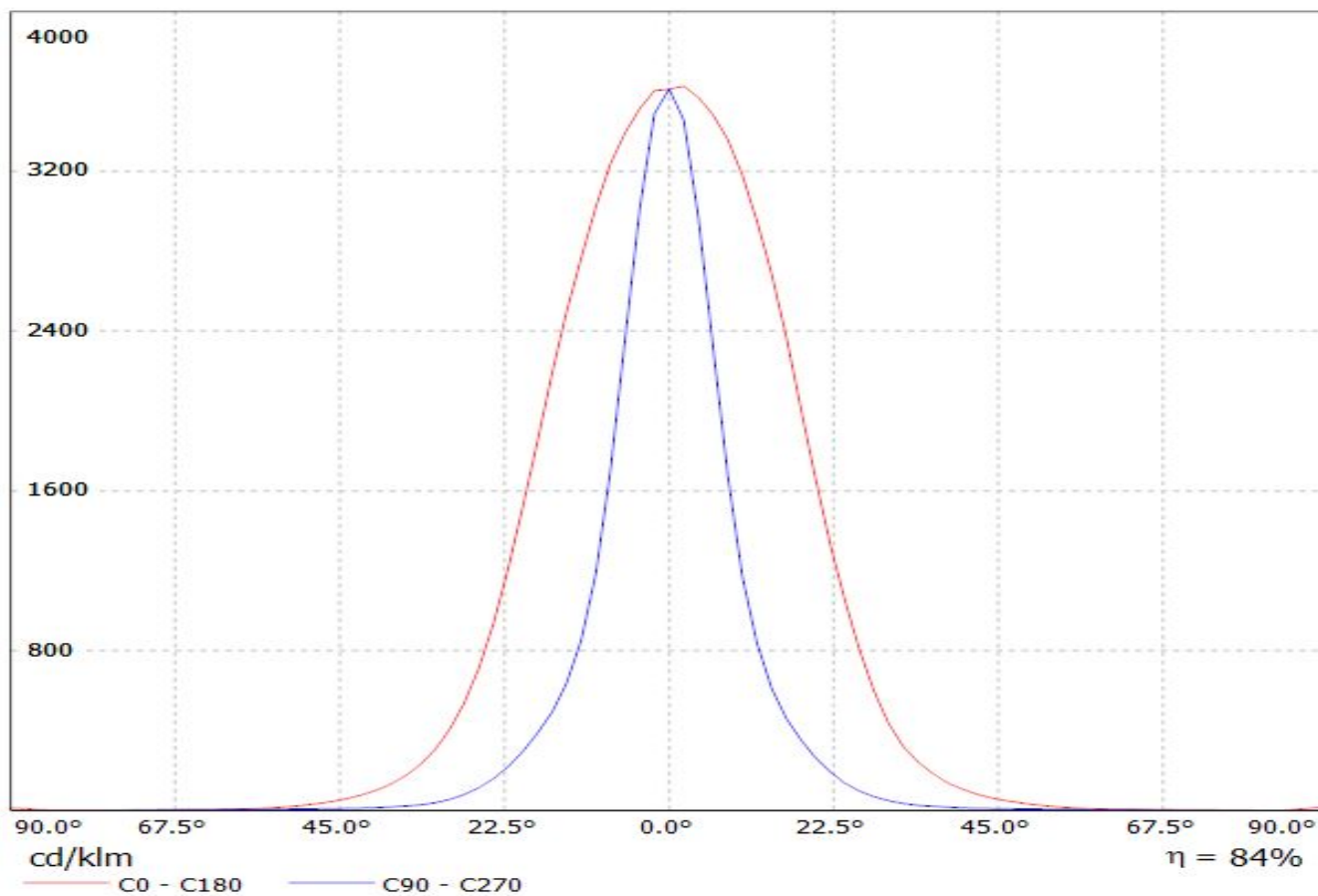
Luminaire: Ledil Oy FA11203\_TINA-O\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3CO-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



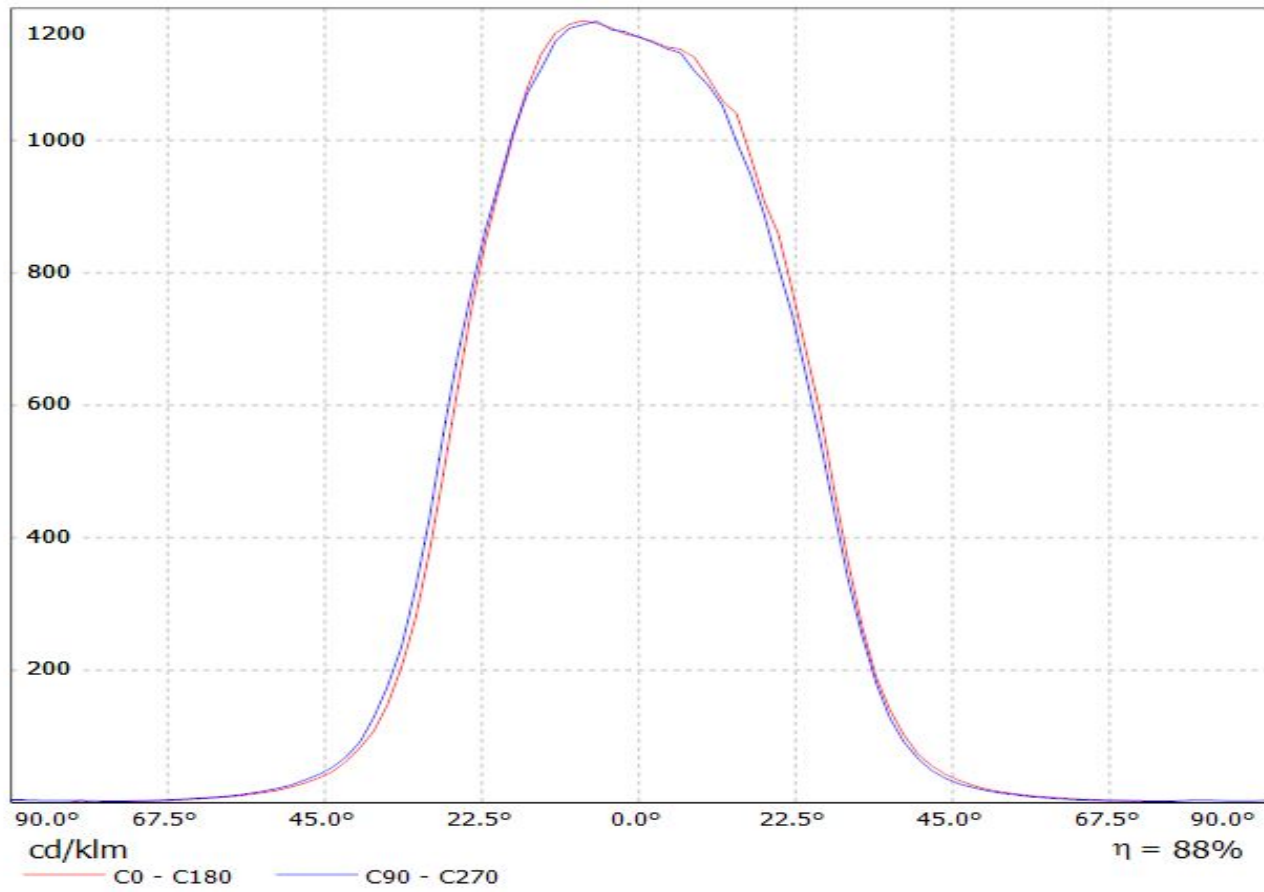
Luminaire: Ledil Oy FA11204\_TINA-O\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



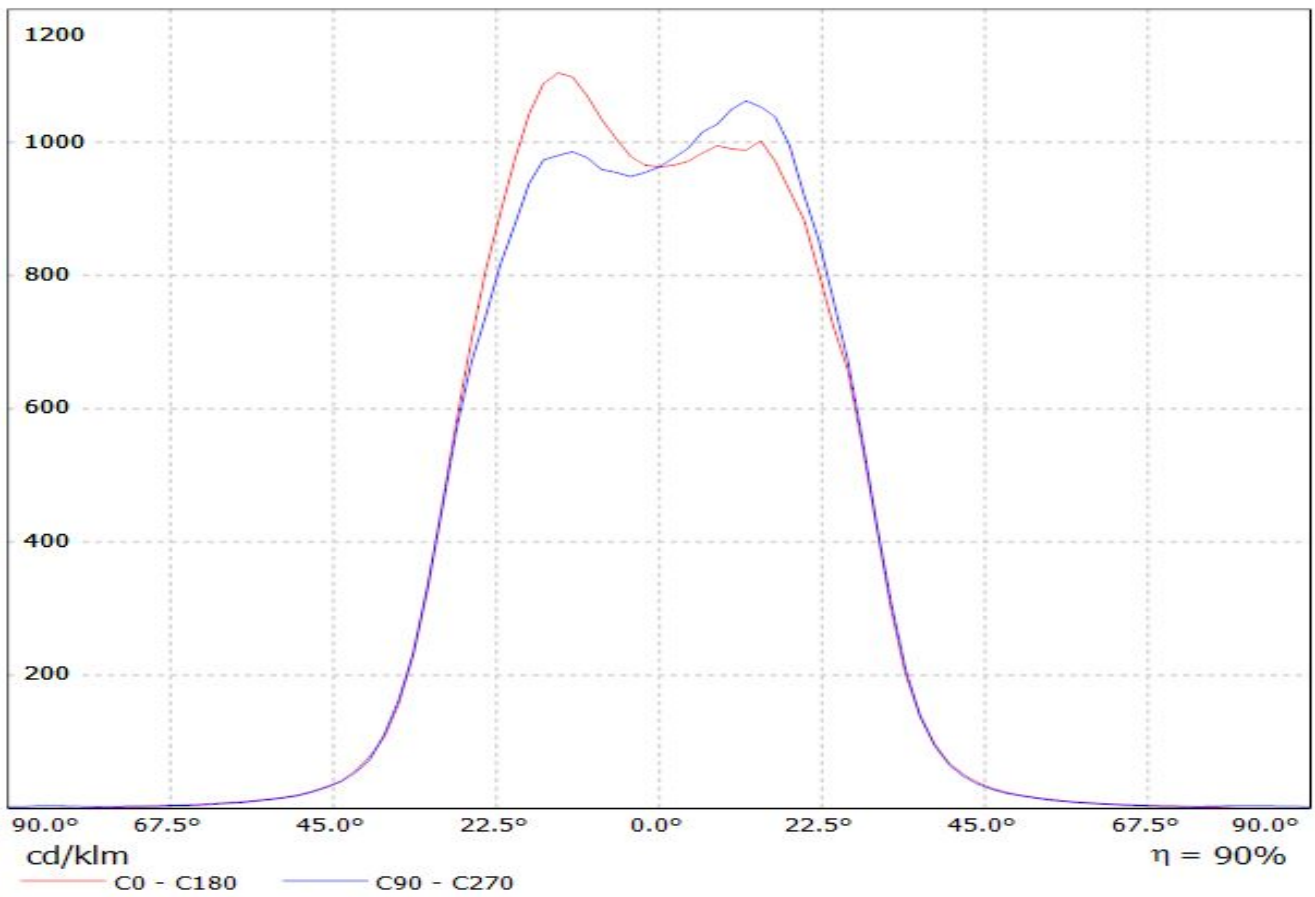
Luminaire: Ledil Oy FA11207\_TINA-W\_(XB-H)

Lamps: 1 x cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



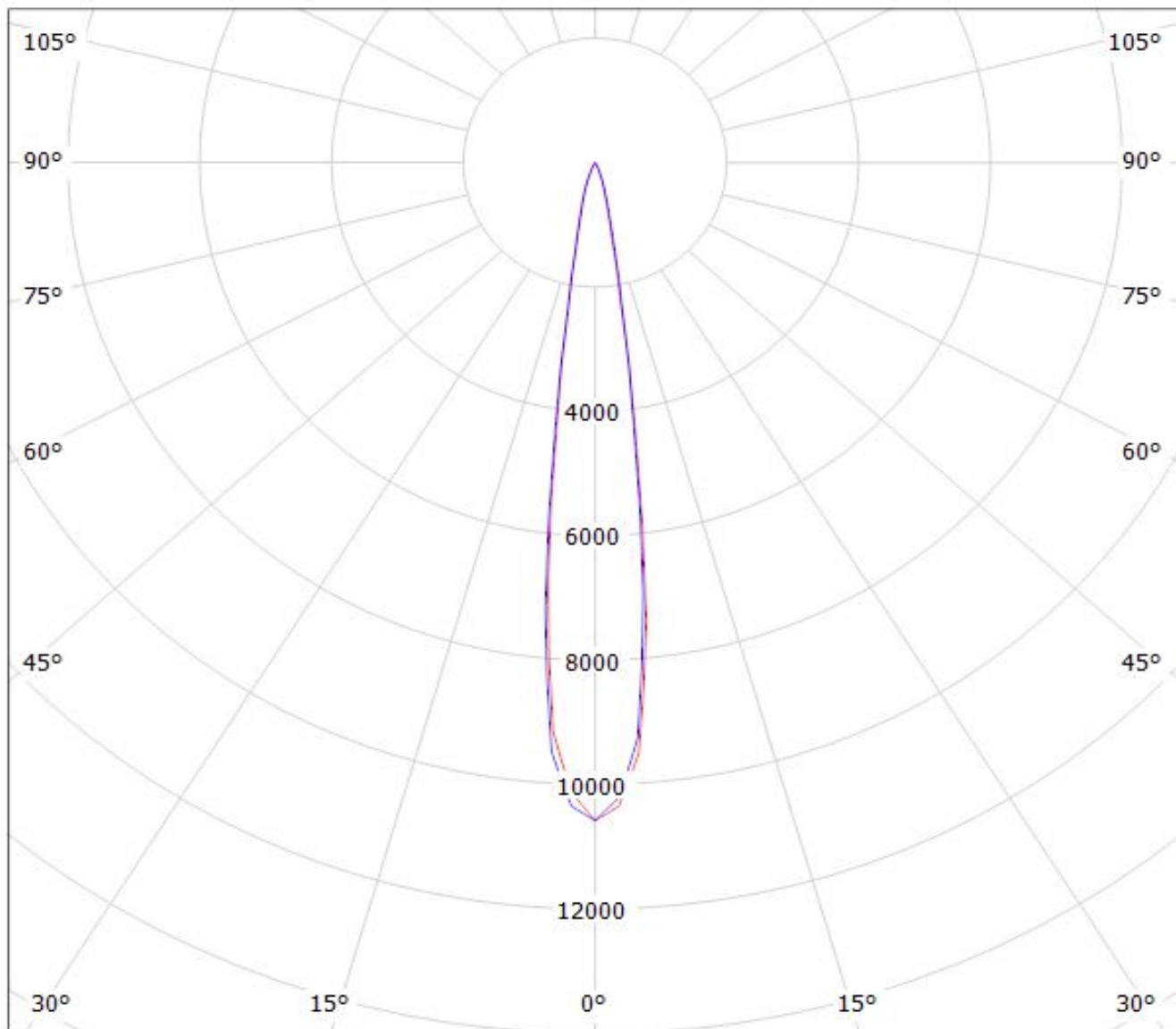
Luminaire: Ledil Oy FA11211\_TINA-W\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



Luminaire: Ledil Oy FA11208\_TINA-RS\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

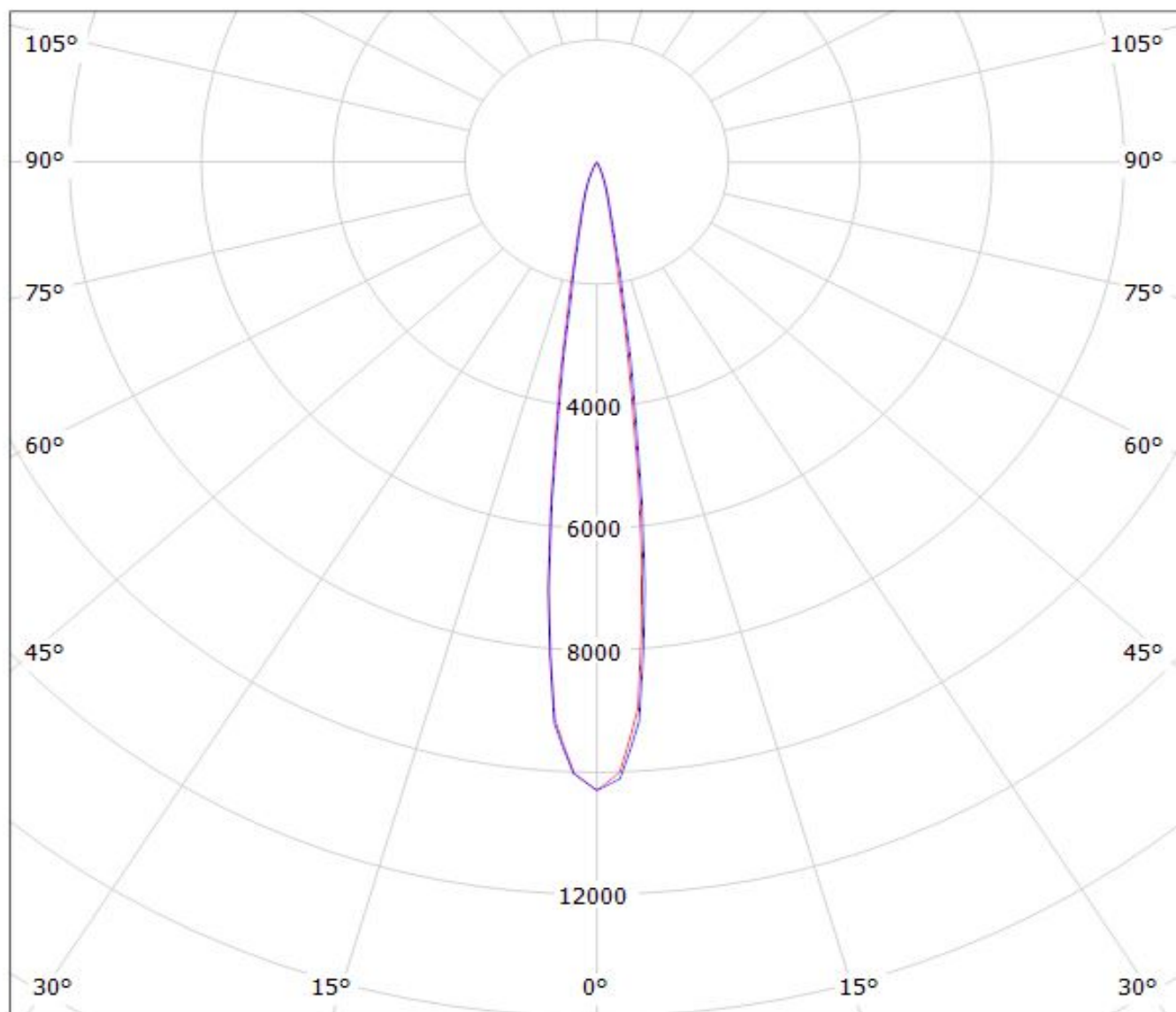
$\eta = 90\%$

— C0 - C180 — C90 - C270



Luminaire: Ledil Oy FA11212\_TINA-RS\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

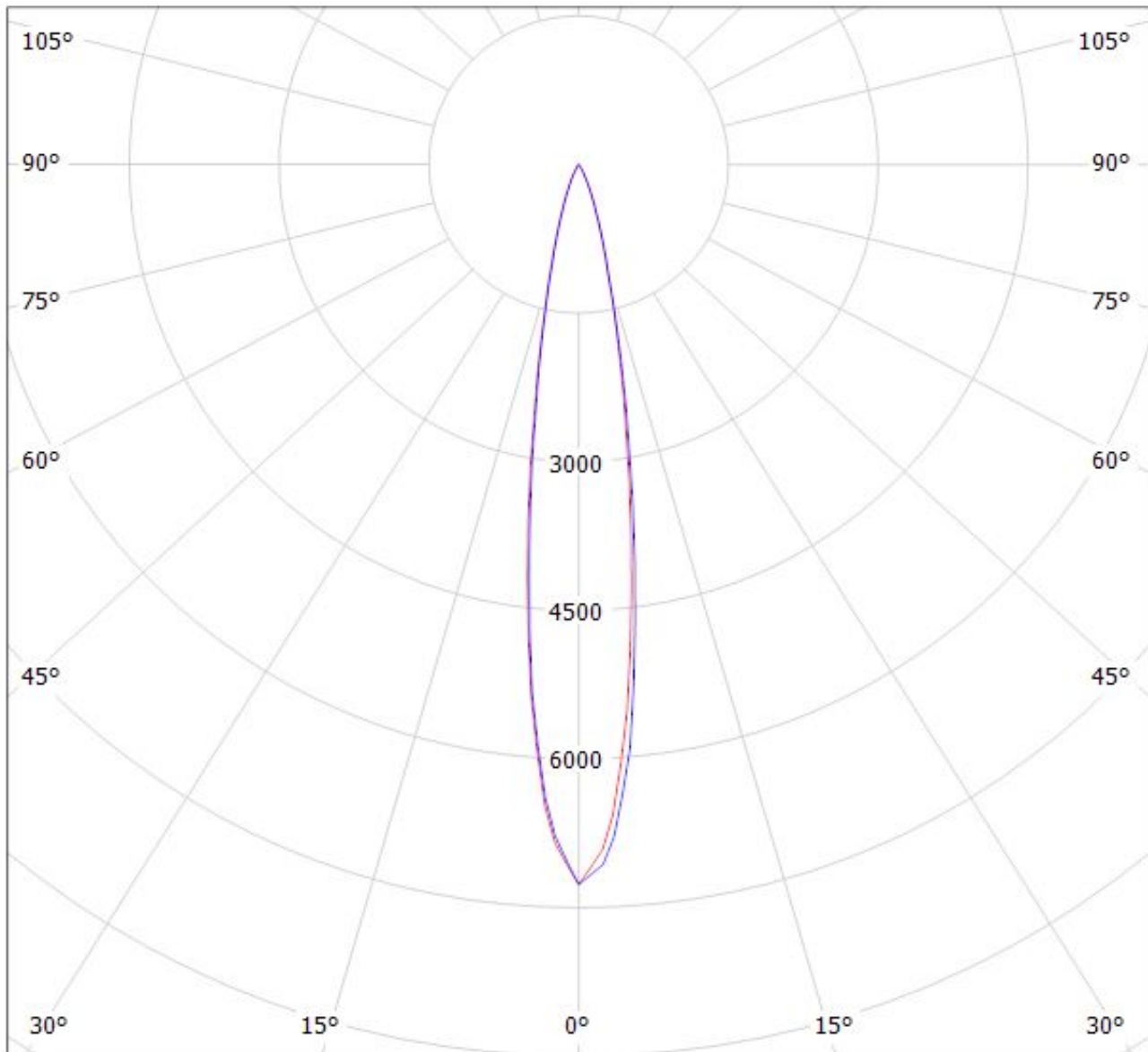
— C0 - C180

— C90 - C270

$\eta = 90\%$

Luminaire: Ledil Oy FA11205\_TINA-D\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

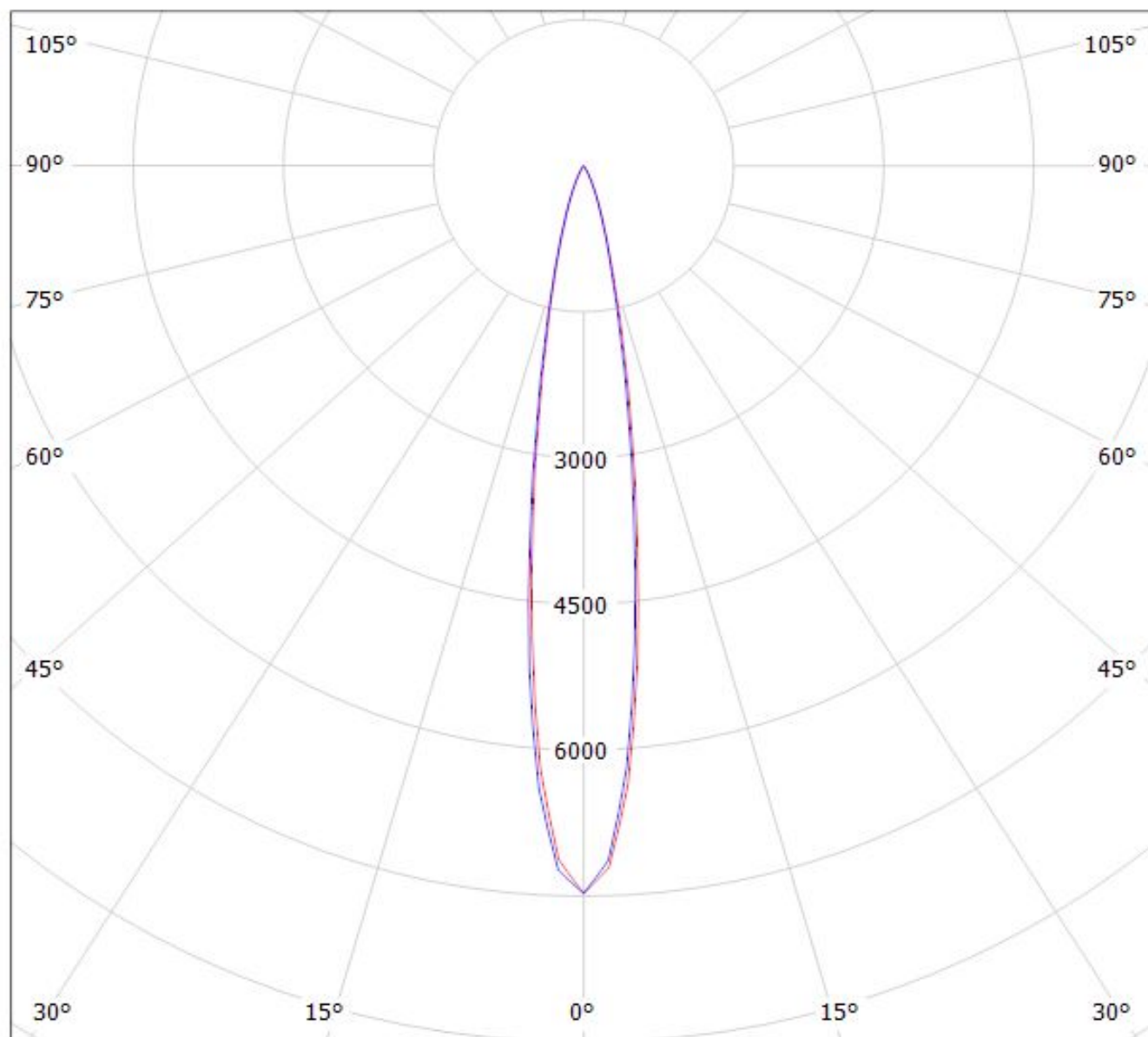
— C0 - C180

— C90 - C270

$\eta = 89\%$

Luminaire: Ledil Oy FA11209\_TINA-D\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

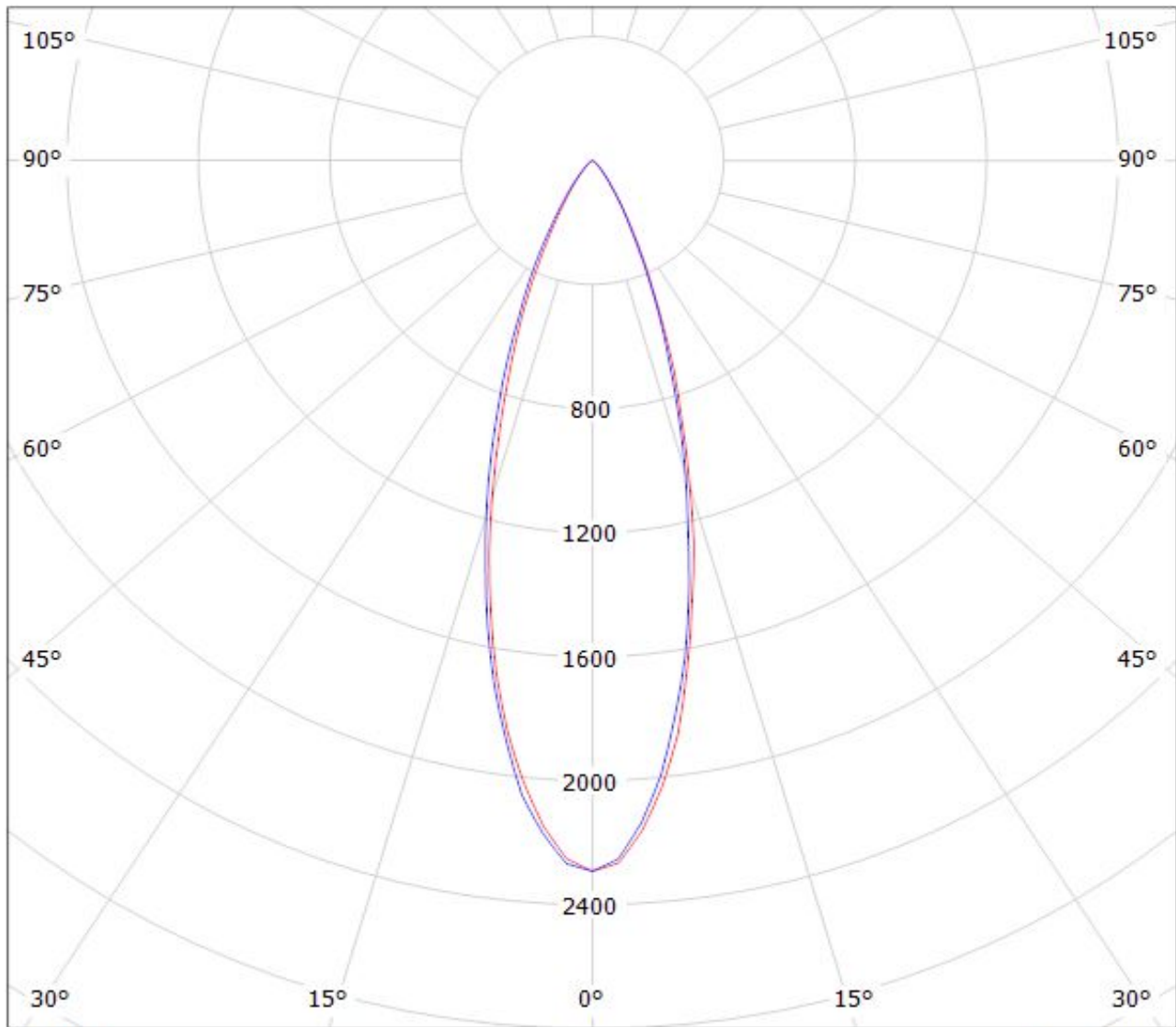
$\eta = 89\%$

— C0 - C180

— C90 - C270

Luminaire: Ledil Oy FA11210\_TINA-M\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

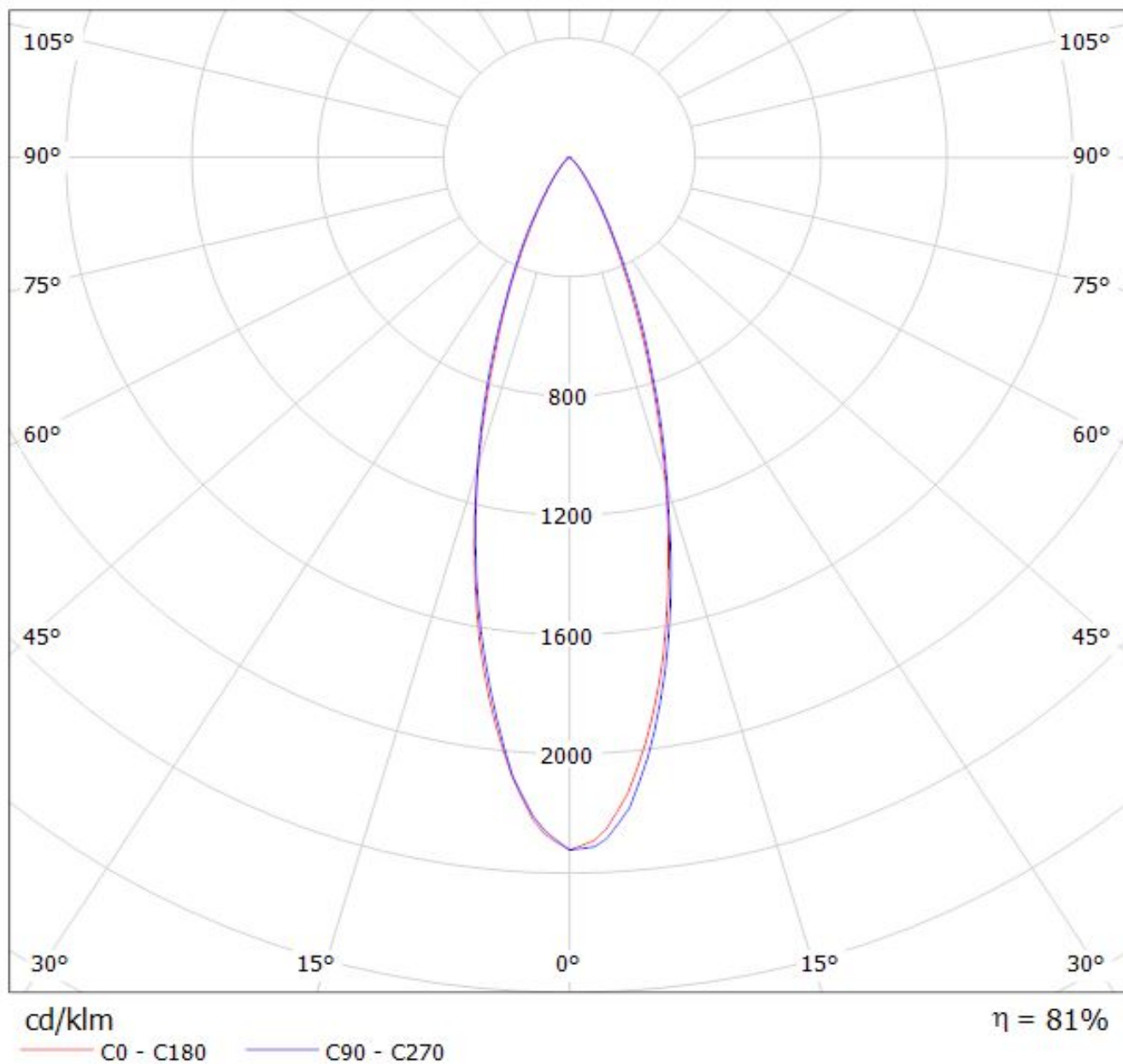
— C0 - C180

— C90 - C270

$\eta = 82\%$

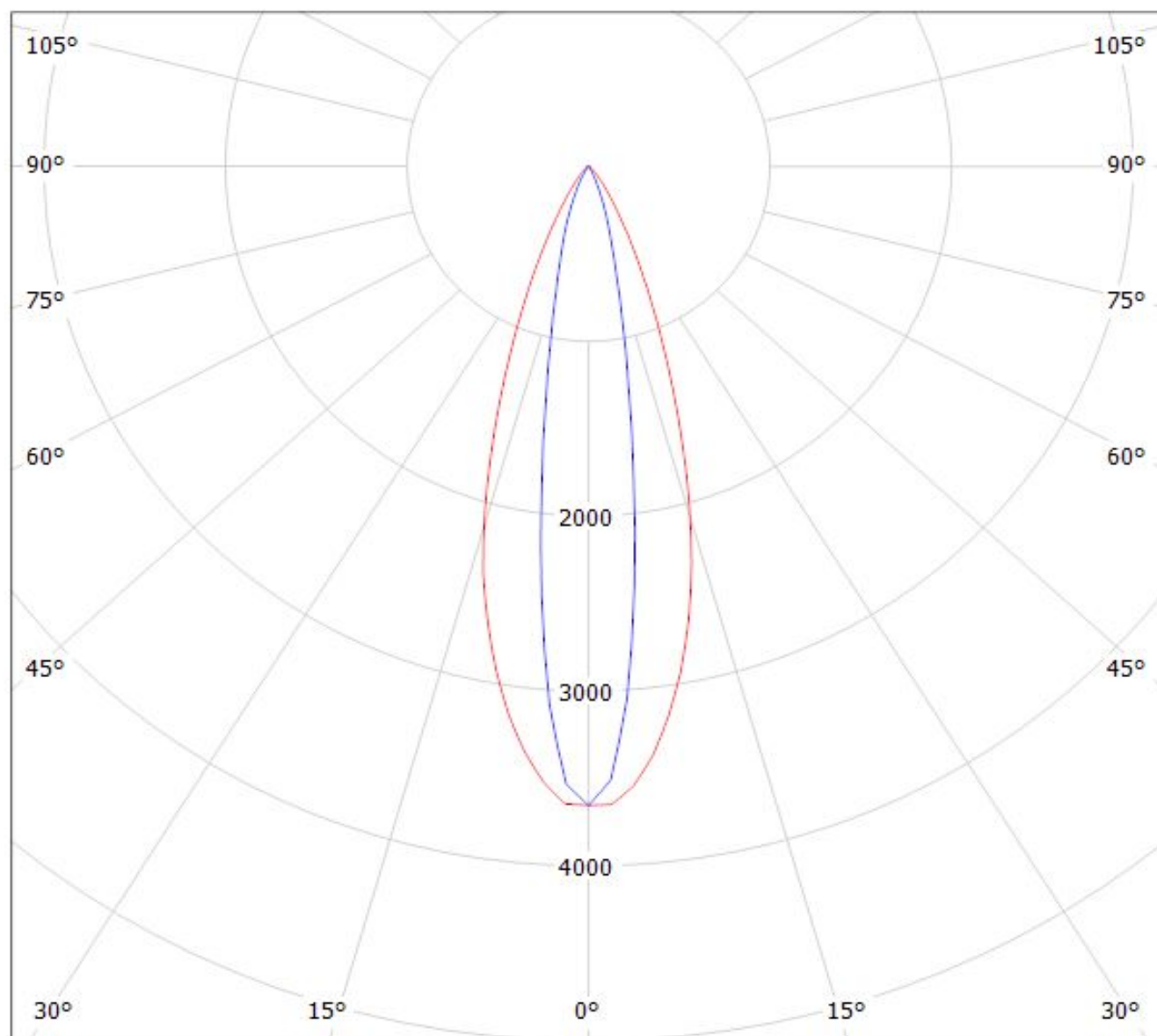
Luminaire: Ledil Oy FA11206\_TINA-M\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



Luminaire: Ledil Oy FA11203\_TINA-O\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3CO-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

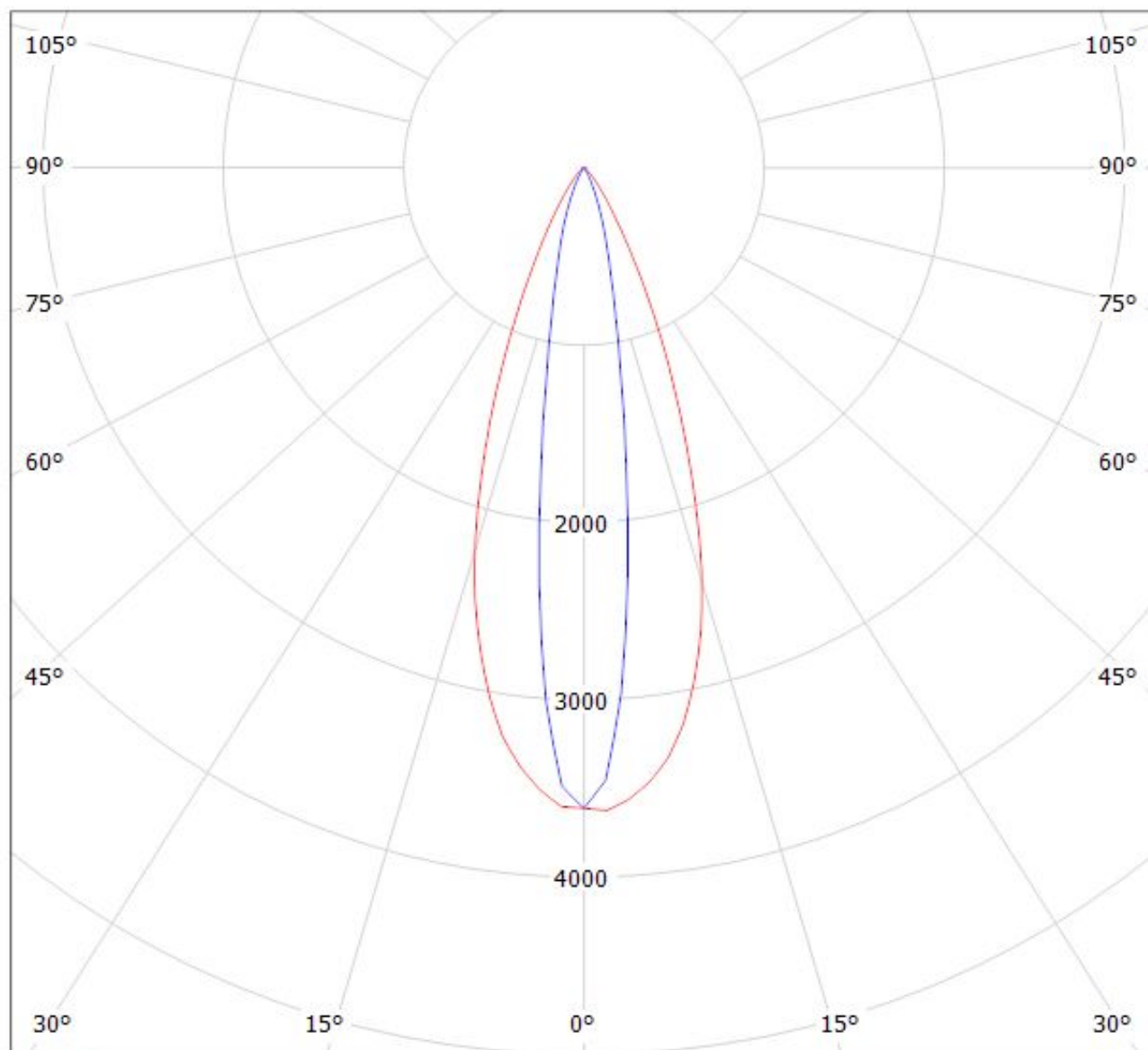
— C0 - C180

— C90 - C270

$\eta = 84\%$

Luminaire: Ledil Oy FA11204\_TINA-O\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



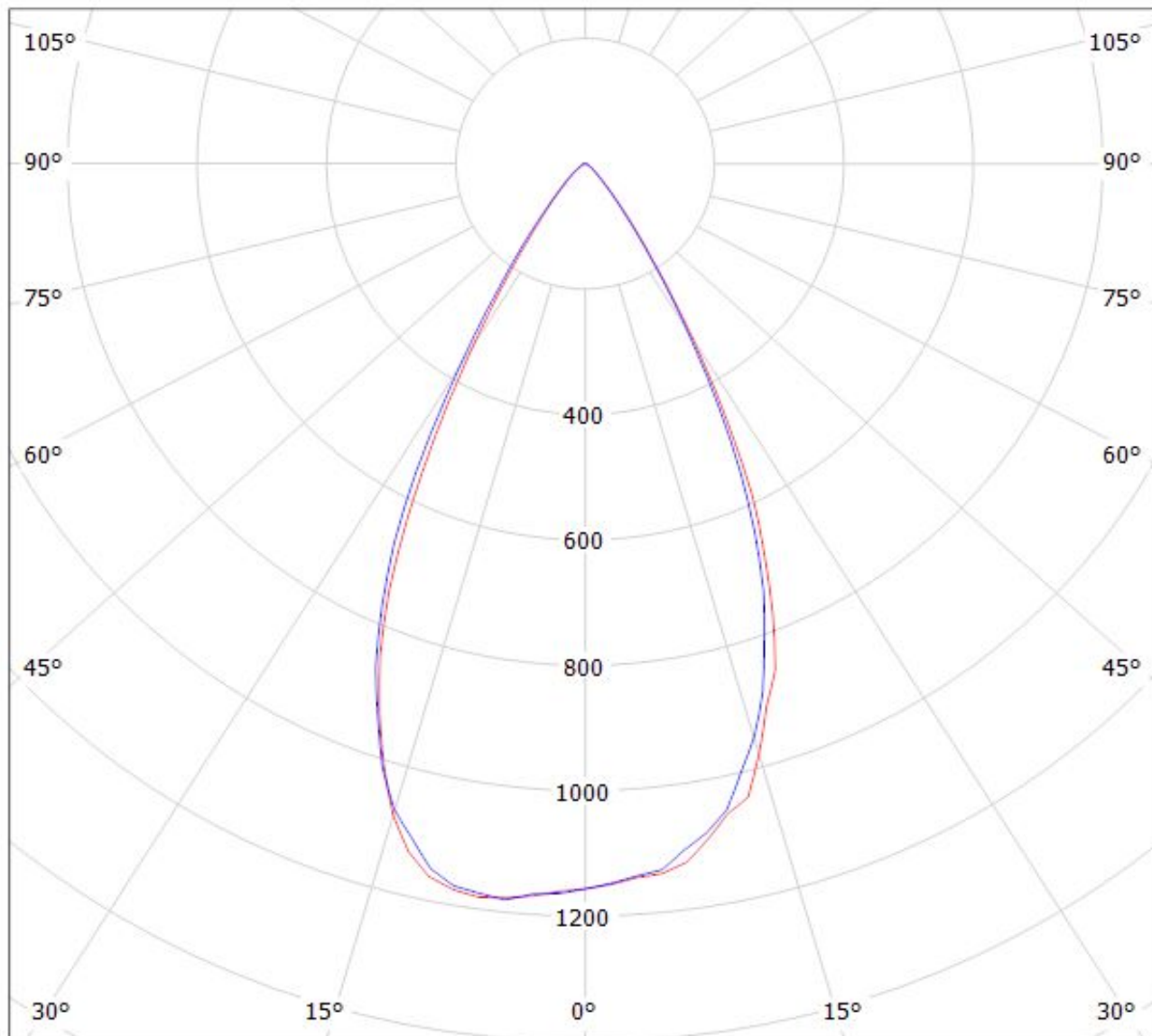
cd/klm

$\eta = 84\%$

— C0 - C180 — C90 - C270

Luminaire: Ledil Oy FA11207\_TINA-W\_(XB-H)

Lamps: 1 x cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

— C0 - C180

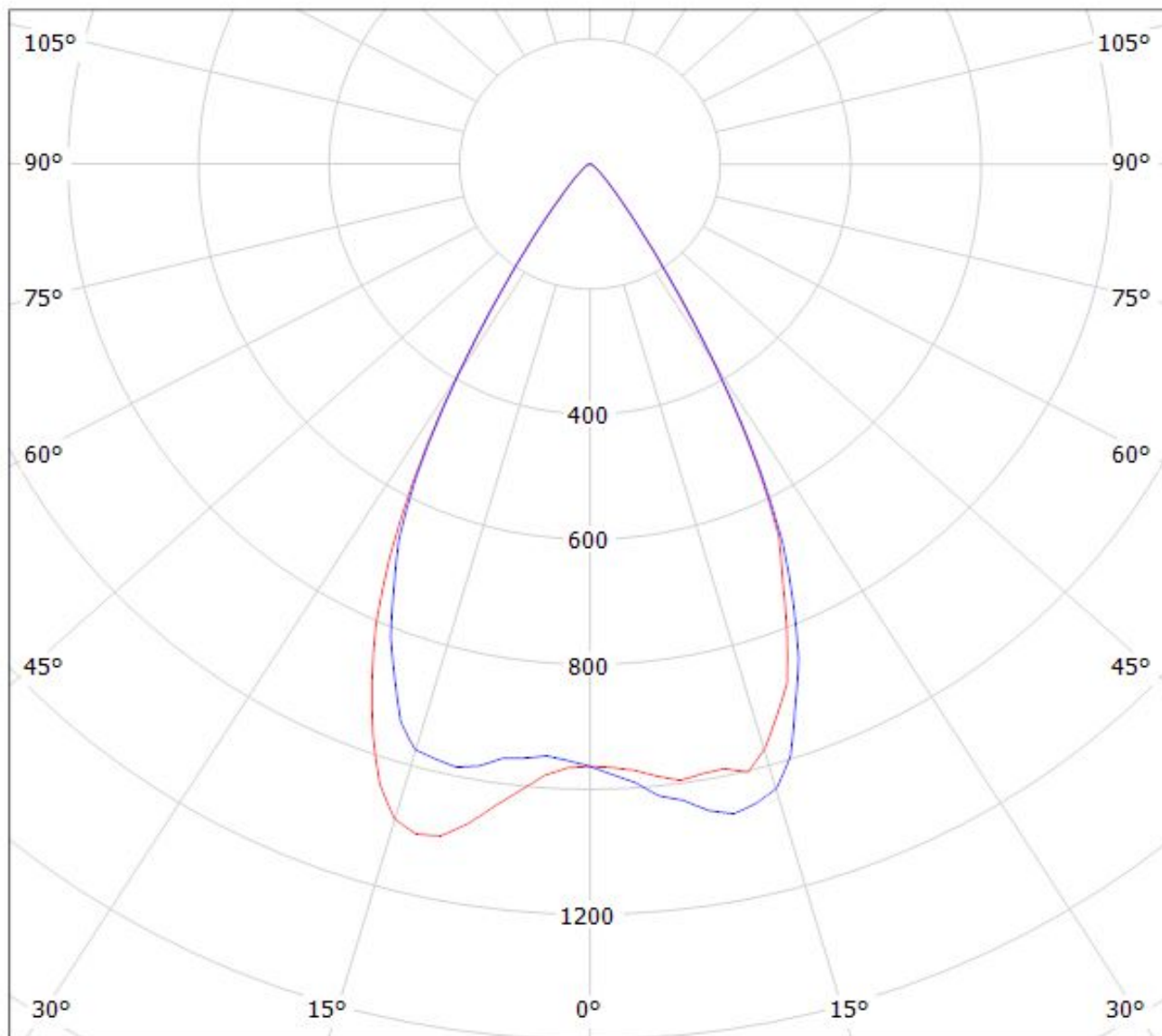
— C90 - C270

$\eta = 88\%$



Luminaire: Ledil Oy FA11211\_TINA-W\_(XB-H)

Lamps: 1 x Cree XB-H (XBHAWT-0-3C0-T50-0B-0001) 106lm @ 250mA CCT= P=0.73W I=250mA



cd/klm

— C0 - C180

— C90 - C270

$\eta = 90\%$