

**Ordering number CN13163\_LENA-WAS**

Family	Lena	FWHM	Asymmetric degrees
Type	Pack	Efficiency	81 %
LED	CLL030	cd/lm	1.160
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	-		
Style	Round		Reflector twist-and-locks into included base part that holds COE
Optic Material	PC		
Holder Material	-		
Fastening	Socket		
Status	On production		

**Ordering number CN13173\_LENA-WAS-DL**

Family	Lena	FWHM	Asymmetric degrees
Type	Pack	Efficiency	76 %
LED	CLL030	cd/lm	0.960
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	-		
Style	Round		Reflector twist-and-locks into included base part that holds COE
Optic Material	PC		
Holder Material	-		
Fastening	Socket		
Status	On production		

**Ordering number CN13369\_LENA-X-WAS**

Family	Lena	FWHM	Asymmetric degrees
Type	Pack	Efficiency	81 %
LED	CLL030	cd/lm	1.160
Color	White	Gerber File	Available
Diameter	111 mm		
Height	39.1 mm		
Style	Round		Reflector twist-and-locks into included base part that holds COE
Optic Material	PC		
Holder Material	PC		
Fastening	Screw, socket		
Status	On production		

**Ordering number CN13371\_LENA-X-WAS-DL**

Family	Lena	FWHM	Asymmetric degrees
Type	Pack	Efficiency	80 %
LED	CLL030	cd/lm	0.500
Color	White	Gerber File	Available
Diameter	111 mm		
Height	42 mm		
Style	Round		Reflector twist-and-locks into included base part that holds COE
Optic Material	PC		
Holder Material	PC		
Fastening	Screw, socket		
Status	On production		

**Ordering number CN12712\_LENA-S**

Family	Lena	FWHM	12 degrees
Type	Pack	Efficiency	88 %
LED	CLL030	cd/lm	(simulated) 0.000
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	85.4 mm		
Style	Round		
Optic Material	PC		
Holder Material	PC		
Fastening	Screw		
Status	On production		

**Ordering number CN12718\_LENA-S-DL**

Family	Lena	FWHM	12 degrees
Type	Pack	Efficiency	83 %
LED	CLL030	cd/lm	(simulated) 0.000
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	85.4 mm		
Style	Round		
Optic Material	PC		
Holder Material	PC		
Fastening	Screw		
Status	On production		

**Ordering number CN12713\_LENA-M**

Family	Lena	FWHM	19 degrees
Type	Pack	Efficiency	86 %
LED	CLL030	cd/lm	(simulated) 0.000
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	85.4 mm		
Style	Round		
Optic Material	PC		
Holder Material	PC		
Fastening	Screw		
Status	On production		

**Ordering number CN12719\_LENA-M-DL**

Family	Lena	FWHM	20 degrees
Type	Pack	Efficiency	81 %
LED	CLL030	cd/lm	(simulated) 0.000
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	85.4 mm		
Style	Round		
Optic Material	PC		
Holder Material	PC		
Fastening	Screw		
Status	On production		

**Ordering number CN12714\_LENA-W**

Family	Lena	FWHM	43 degrees
Type	Pack	Efficiency	83 %
LED	CLL030	cd/lm	(simulated) 0.000
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	85.4 mm		
Style	Round		
Optic Material	PC		
Holder Material	PC		
Fastening	Screw		
Status	On production		

**Ordering number CN12720\_LENA-W-DL**

Family	Lena	FWHM	44 degrees
Type	Pack	Efficiency	78 %
LED	CLL030	cd/lm	(simulated) 0.000
Color	Metal	Gerber File	Available
Diameter	111 mm		
Height	85.4 mm		
Style	Round		
Optic Material	PC		
Holder Material	PC		
Fastening	Screw		
Status	On production		

**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

### Lena series

last update 5/7/2012

CITIZEN

#### GENERAL INFORMATION

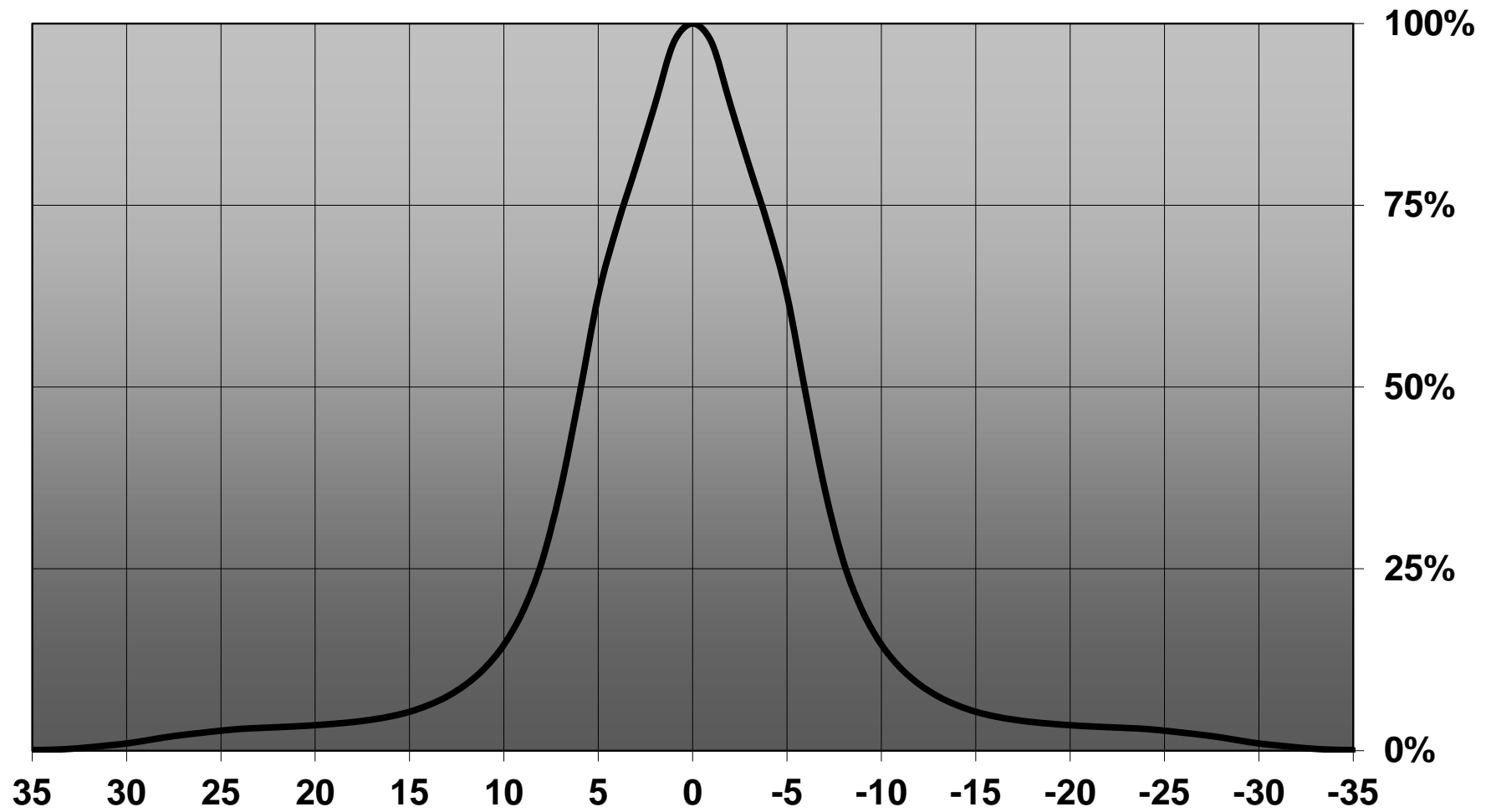
- Product series especially designed & optimized for CLL030 series of LEDs.
- Special care taken to make light distribution as uniform as possible.
- Lens material optical grade PC with high UV and temperature resistance (120 degrees of Celcius / 248 degrees of Fahrenheit). Allows use of high current and temperature conditions.

Please find more information about used materials from below:

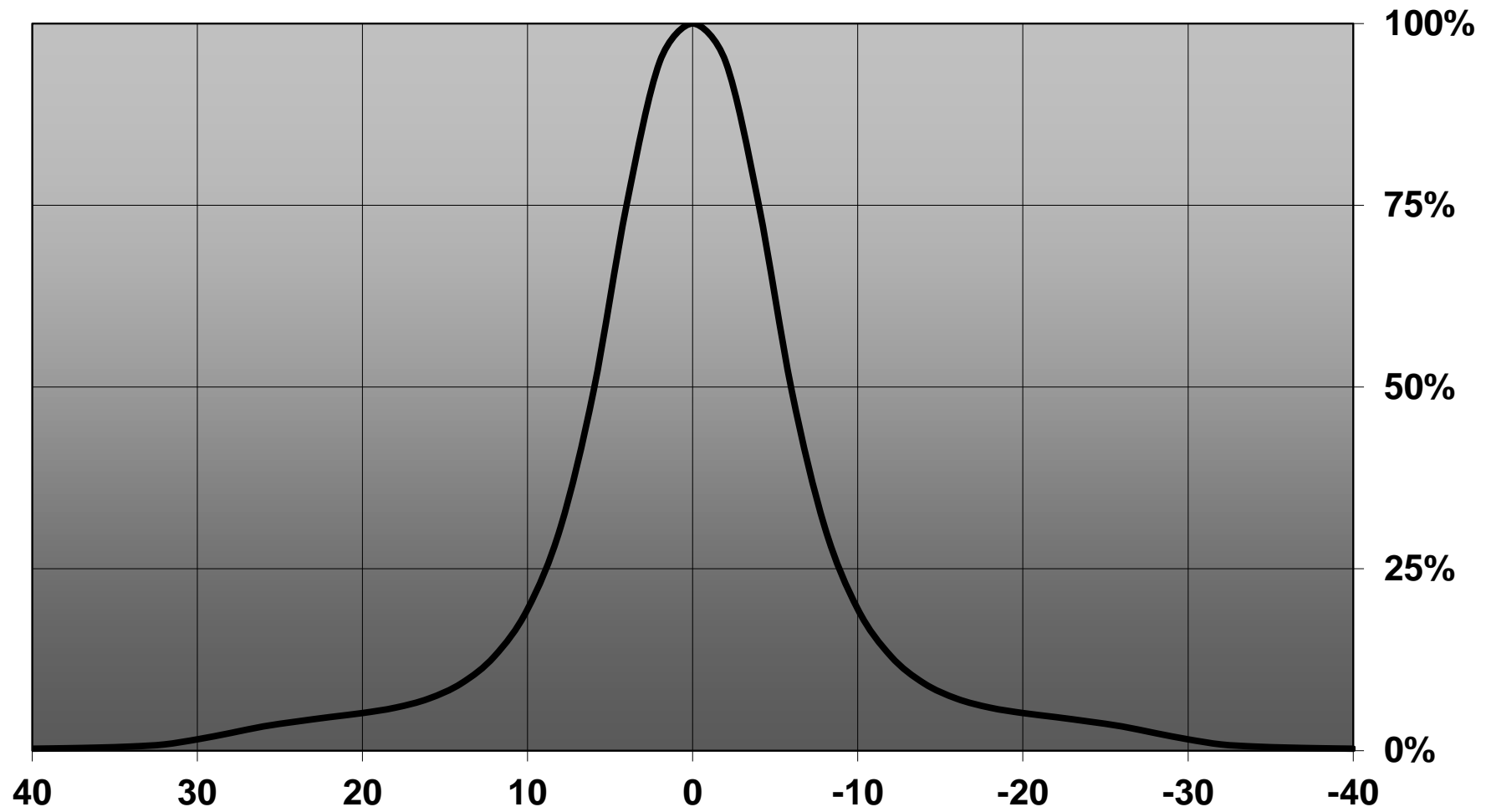
[http://ledil.fi/sites/default/files/Documents/Technical/Material/PC%20Makrolon%202400\\_2407\\_2456\\_2458-UL.pdf](http://ledil.fi/sites/default/files/Documents/Technical/Material/PC%20Makrolon%202400_2407_2456_2458-UL.pdf)

- Reflector is made of aluminium coated PC (120 degrees of Celcius / 248 degrees of Fahrenheit) with protective lacquer (110 degrees of Celcius / 230 degrees of Fahrenheit).
- Optic holder molded by high quality PC material (120 dergees of Celcius / 248 degrees of Fahrenheit).

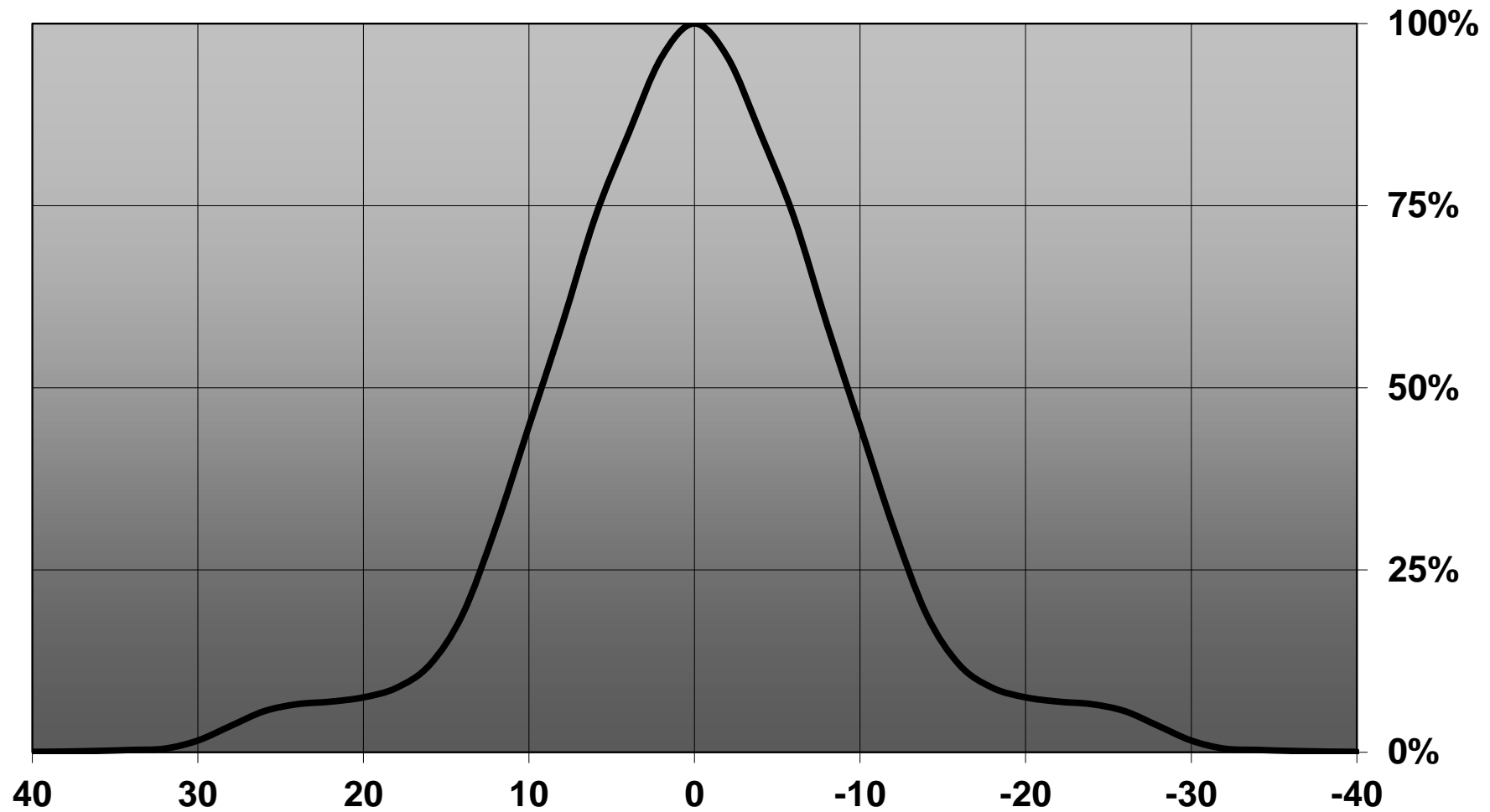
Relative intensity of CN12712\_LENA-S (CLL030-1208)



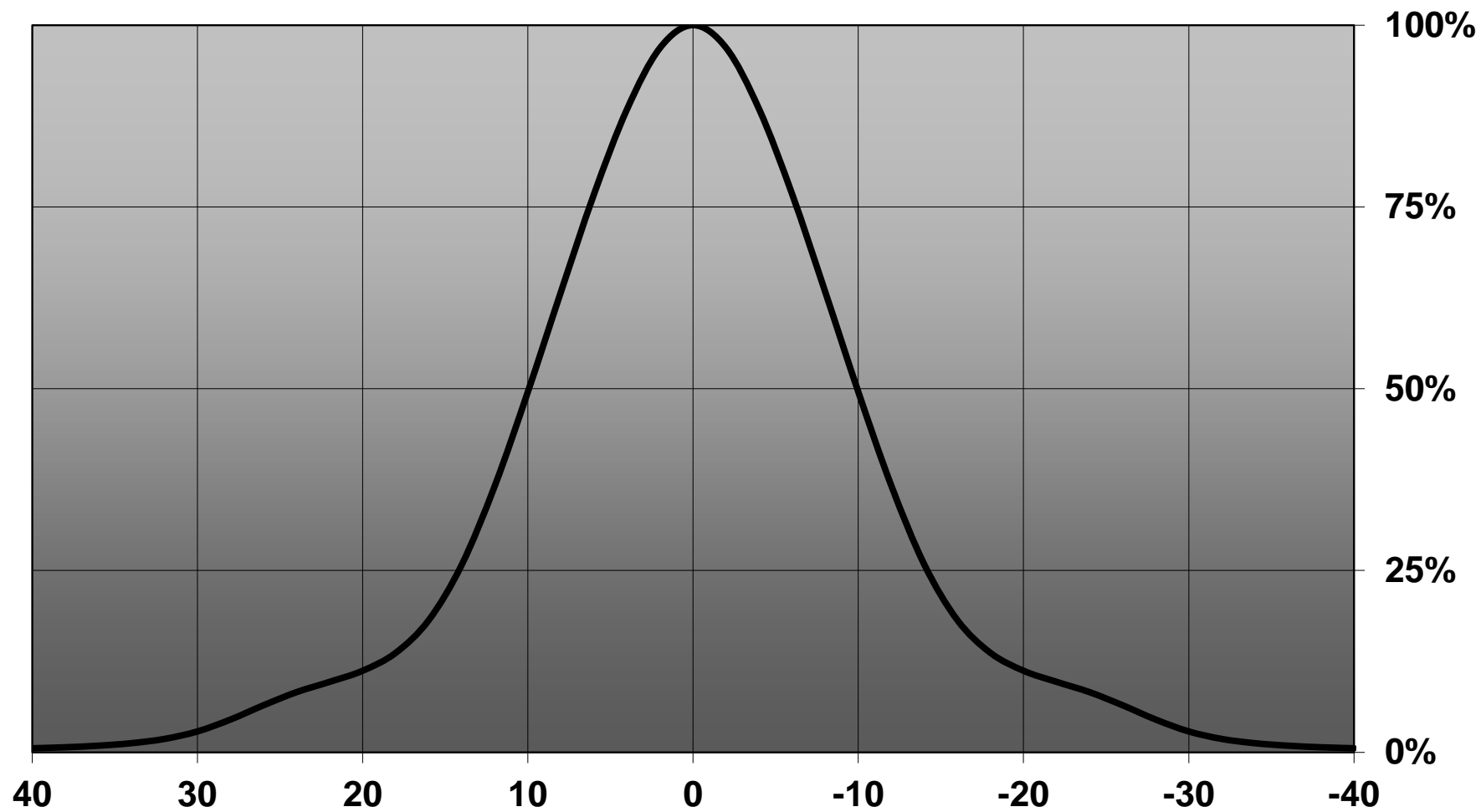
Relative intensity of CN12718\_LENA-S-DL (CLL030-1208)



Relative intensity of CN12713\_LENA-M (CLL030-1208)

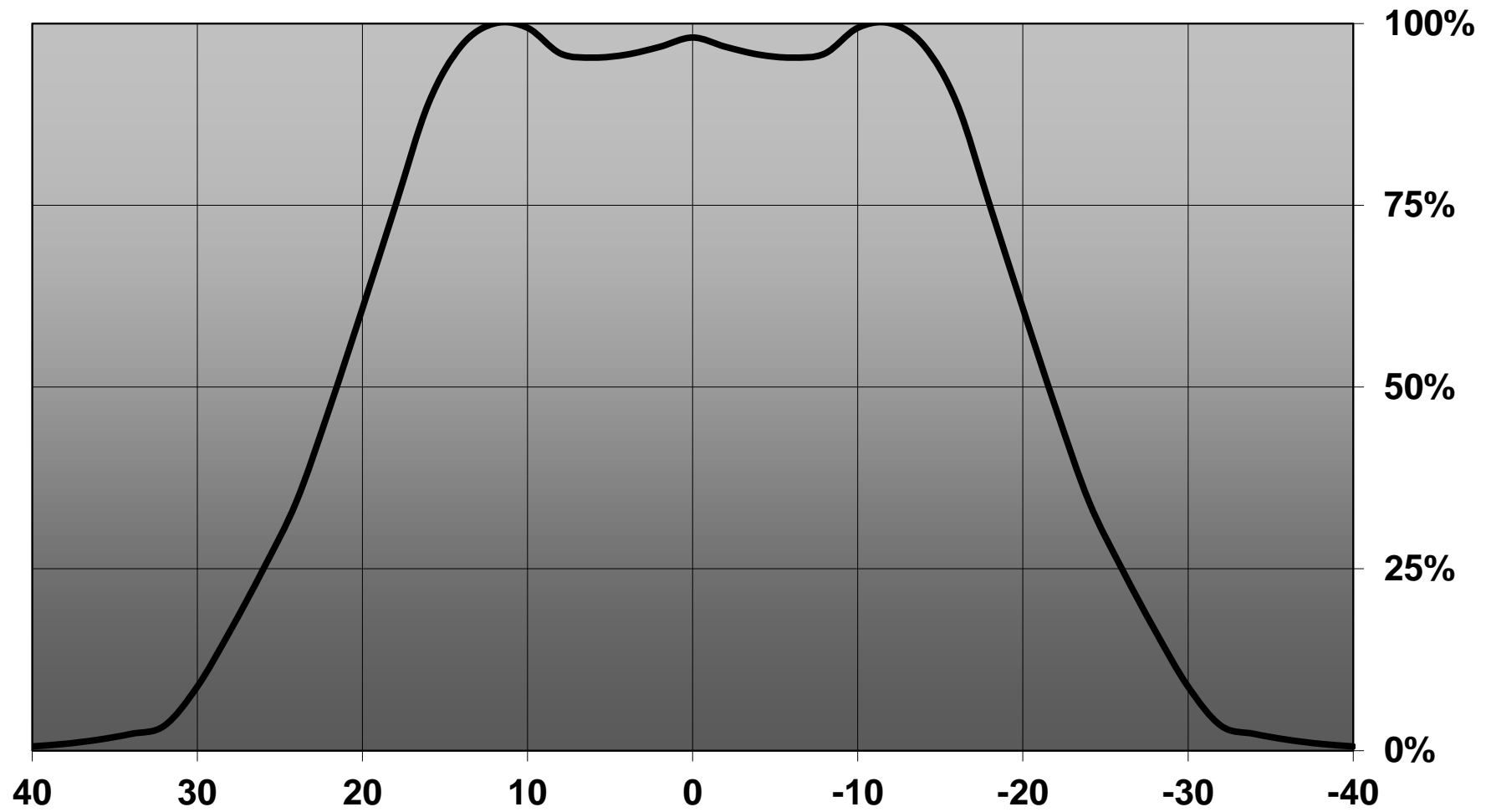


Relative intensity of CN12719\_LENA-M-DL (CLL030-1208)

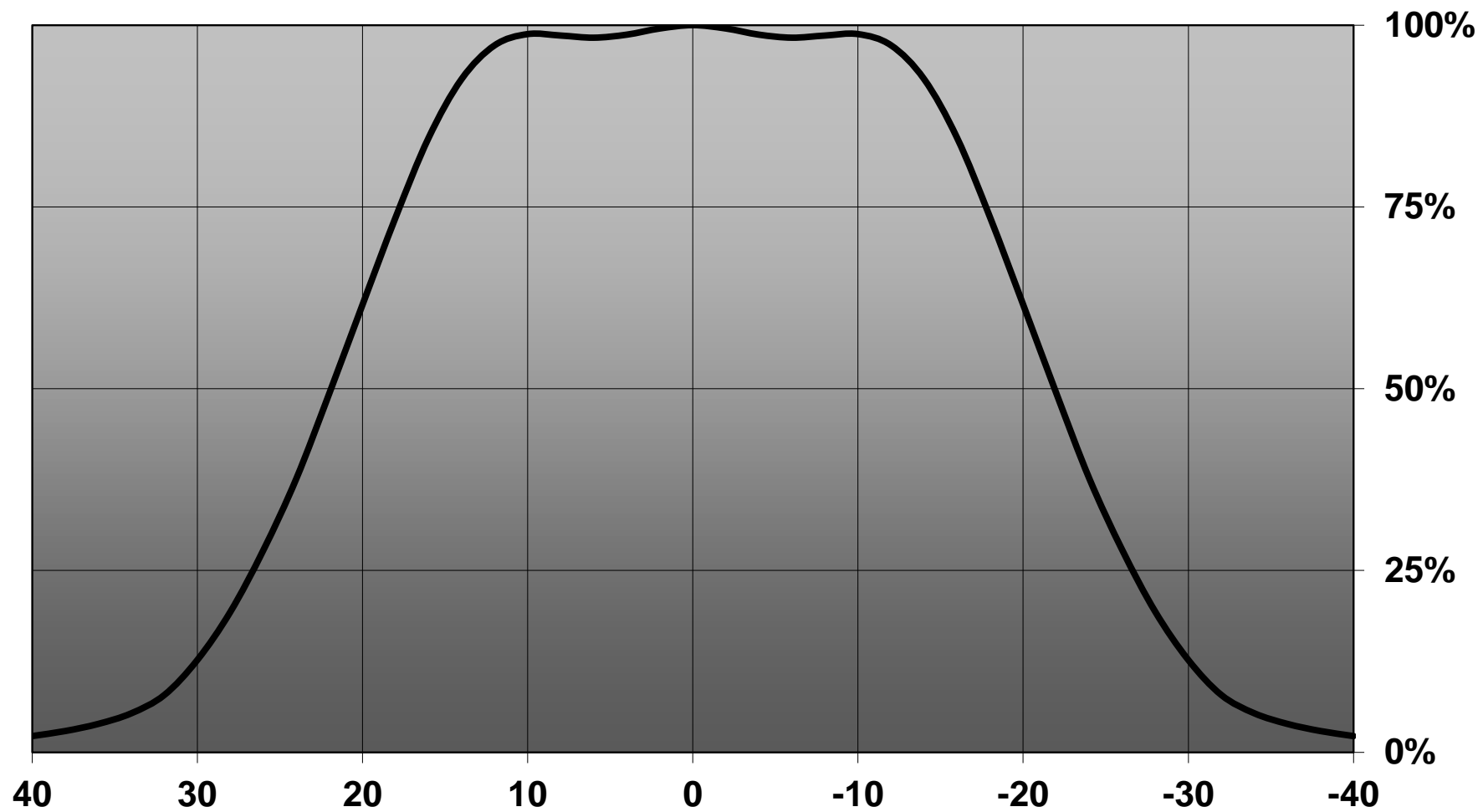




Relative intensity of CN12714\_LENA-W (CLL030-1208)



Relative intensity of CN12720\_LENA-W-DL (CLL030-1208)



D

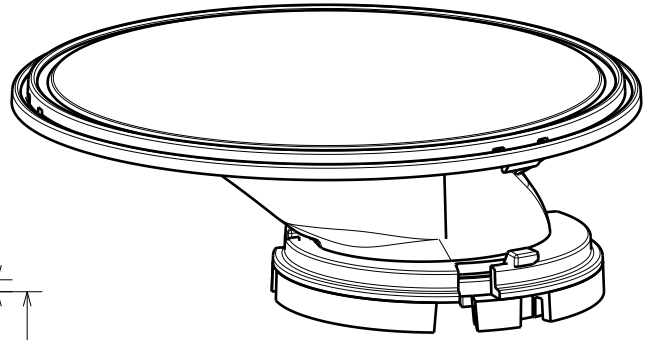
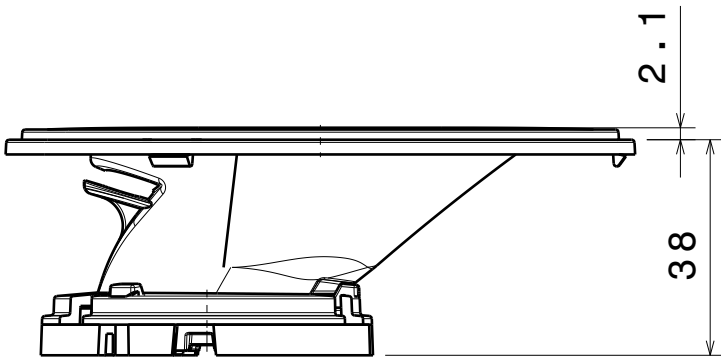
C

B

A

4

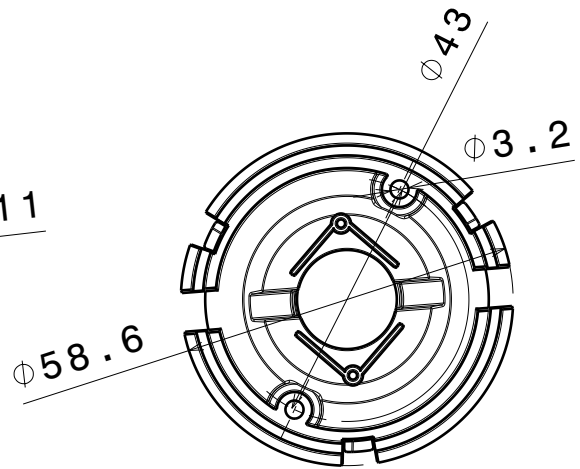
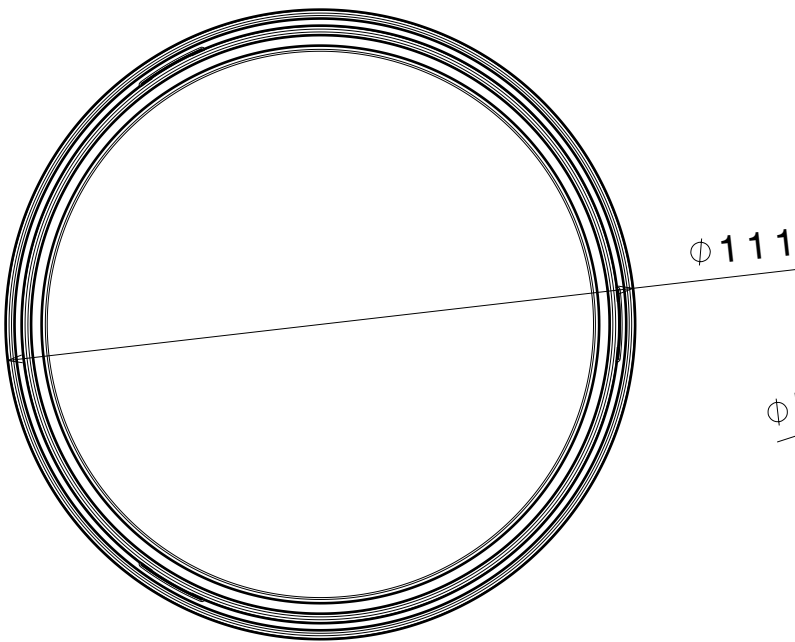
4



Isometric view

3

3



2

2

Materials

Reflector: PC  
 Base part: PC  
 Sublens: PC

Note: Using additional sublens add  
 2,1mm to total height.

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Ledil Oy  
 Salorankatu 10  
 FIN 24240 SALO  
 Finland

DRAWING TITLE Mechanical drawing

DRAWN BY  
 as

DATE  
 26.9.2012

LENA-WAS

CHECKED BY  
 VS

DATE  
 -

SIZE A4 PART NUMBER

REV  
 001

DESIGNED BY  
 -

DATE  
 -

SCALE 1:4 WEIGHT - mg

SHEET 1/1

1

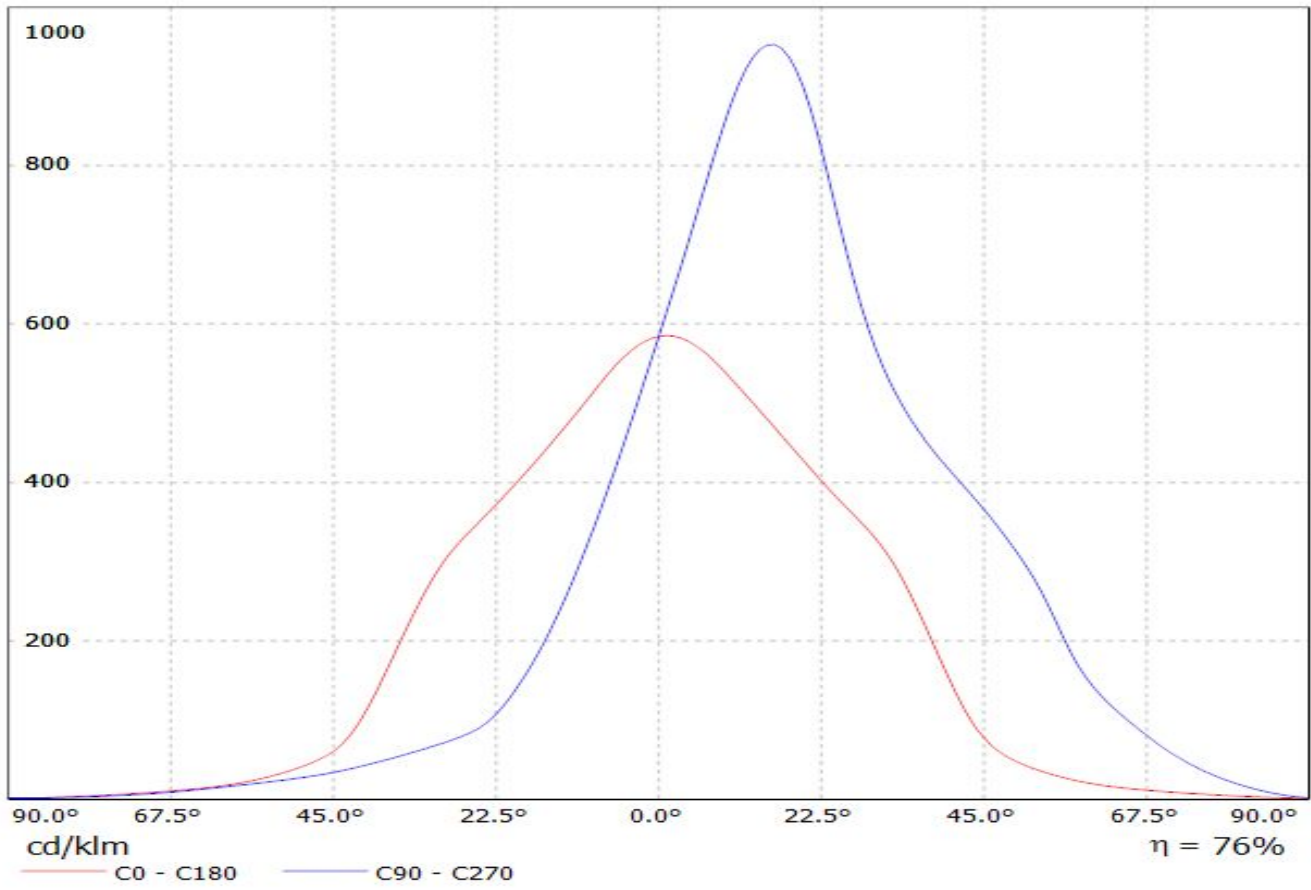
1

D

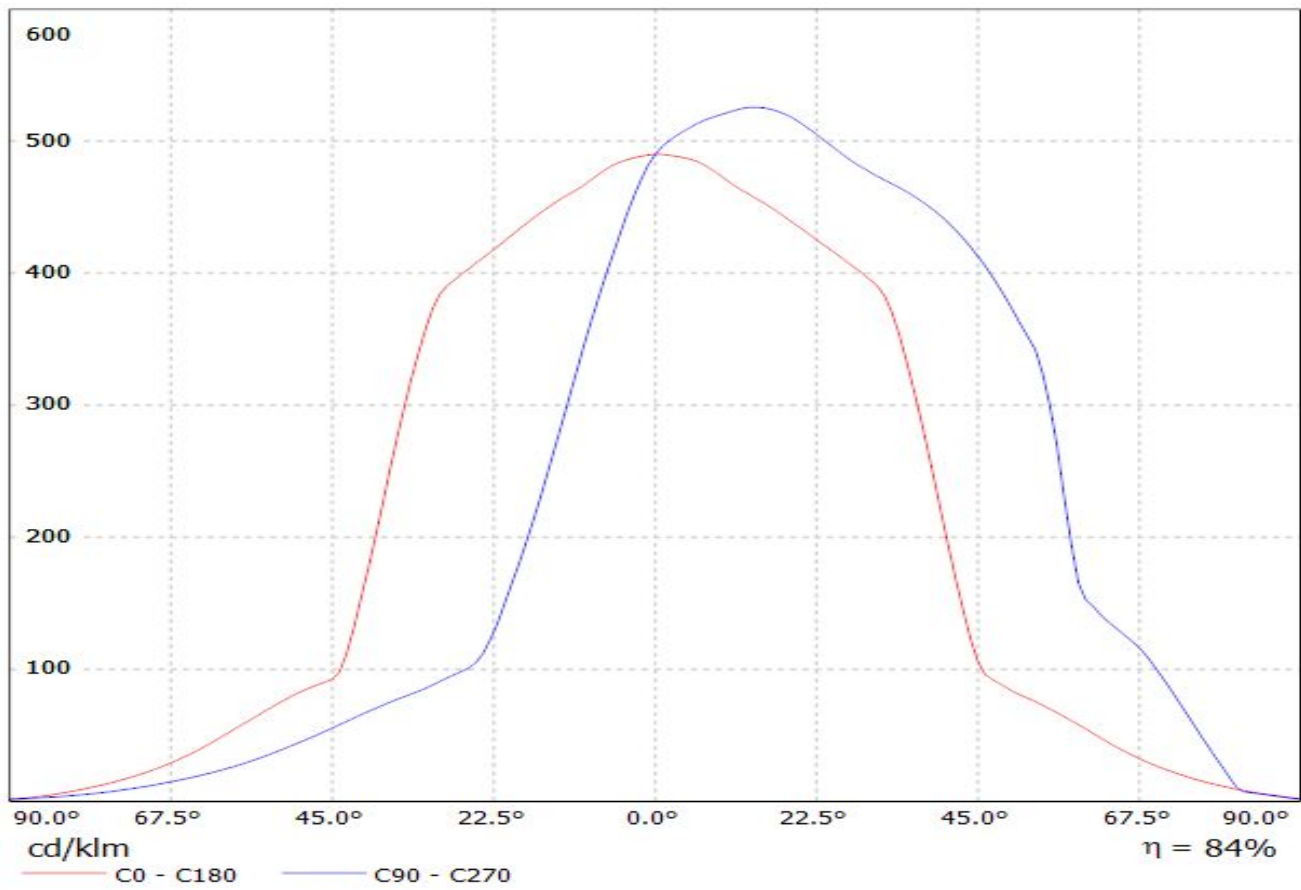
A



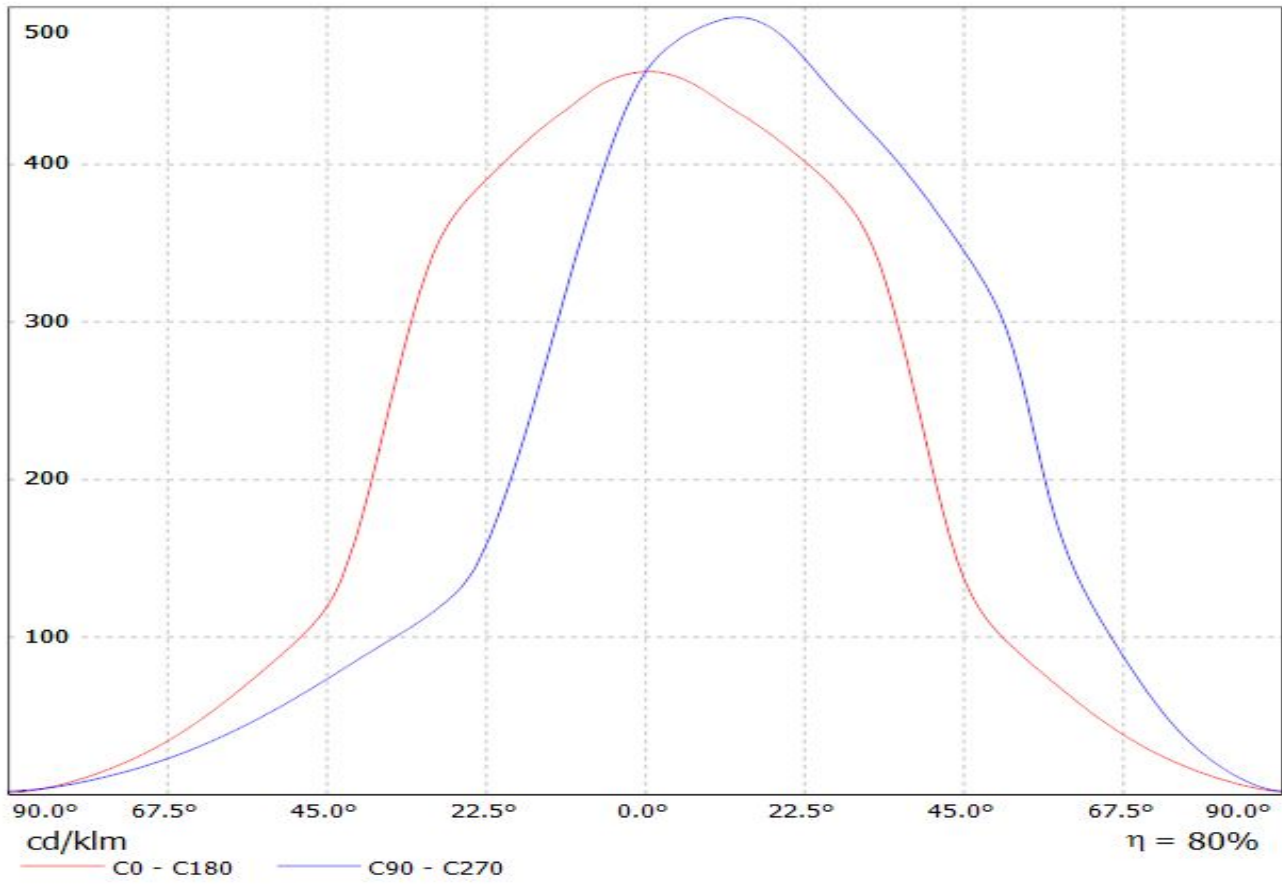
Luminaire: LEDiL Oy CN13173\_LENA-WAS-DL\_(CLL030) Eff.76.3%  
Lamps: 4 x CLL030 (231.104lm@250mA)



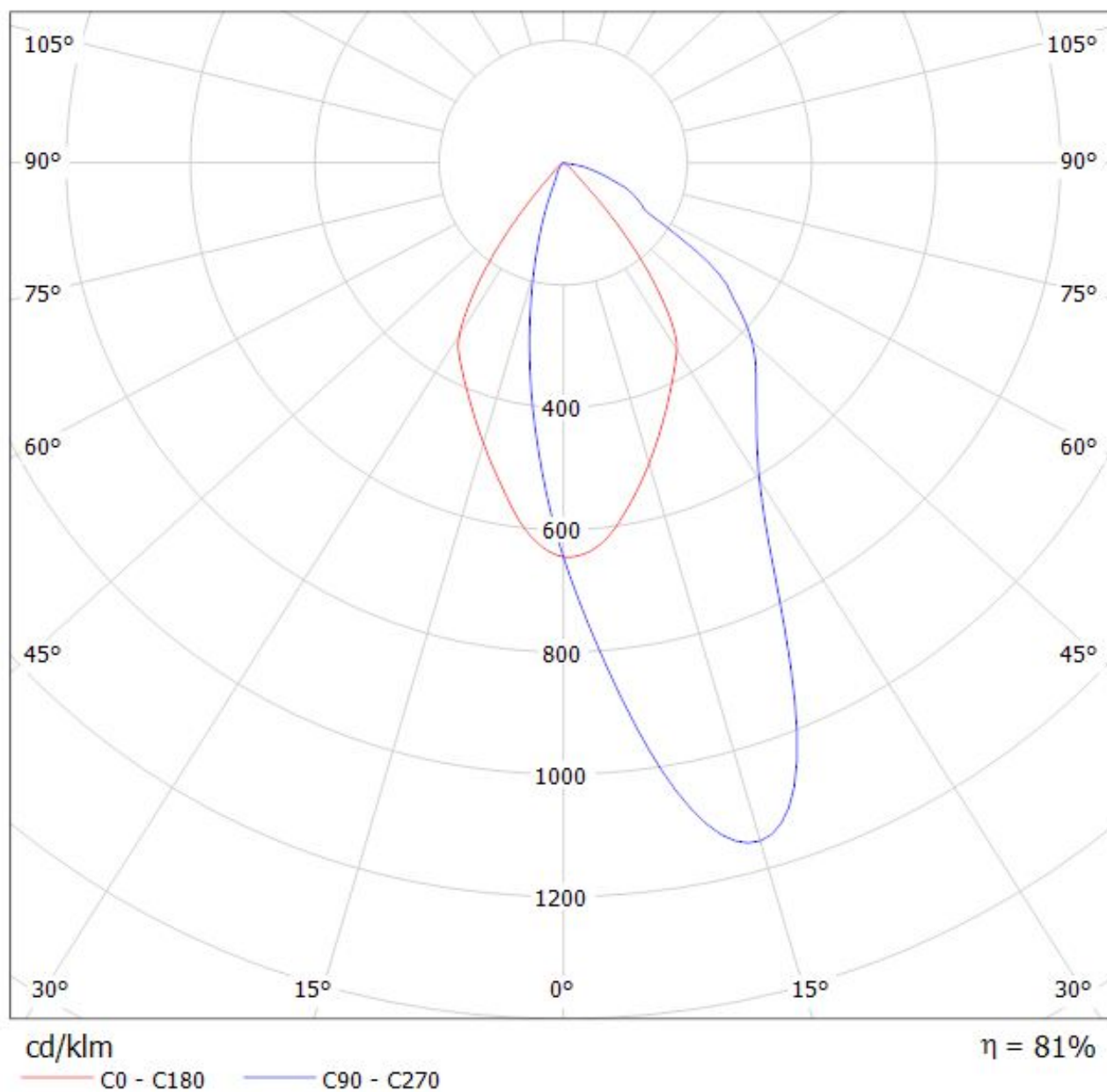
Luminaire: LEDiL Oy CN13369\_LENA-X-WAS\_(CLL030) Eff.83.6%  
Lamps: 4 x CLL030 (231.104lm@250mA)



Luminaire: LEDiL Oy CN13371\_LENA-X-WAS-DL\_(CLL030) Eff.81.6%  
Lamps: 4 x CLL030 (231.104lm@250mA)

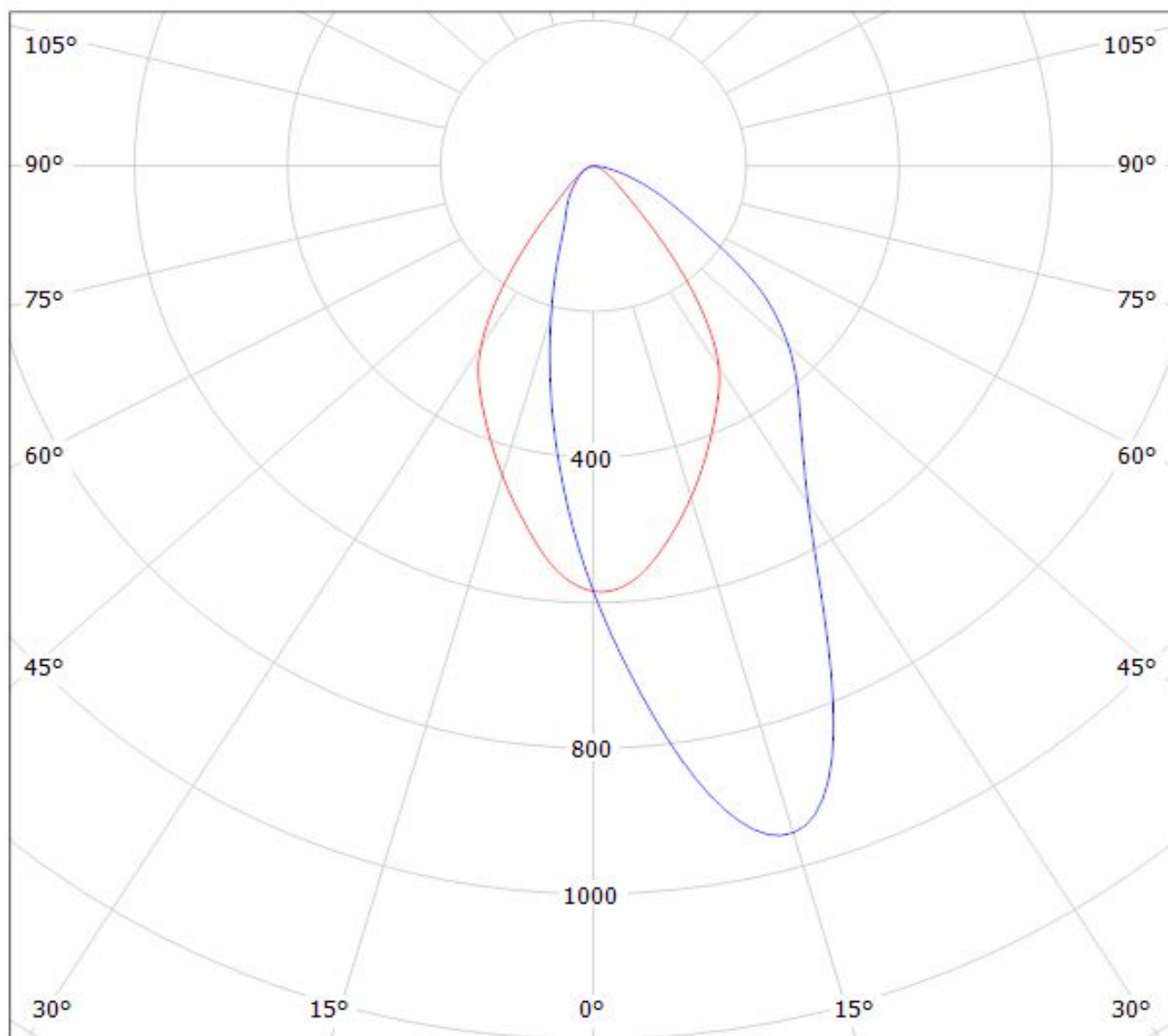


Luminaire: LEDiL Oy CN13163\_LENA-WAS\_(CLL030) Eff.80.7%  
Lamps: 4 x CLL030 (231.104lm@250mA)





Luminaire: LEDiL Oy CN13173\_LENA-WAS-DL\_(CLL030) Eff.76.3%  
Lamps: 4 x CLL030 (231.104lm@250mA)

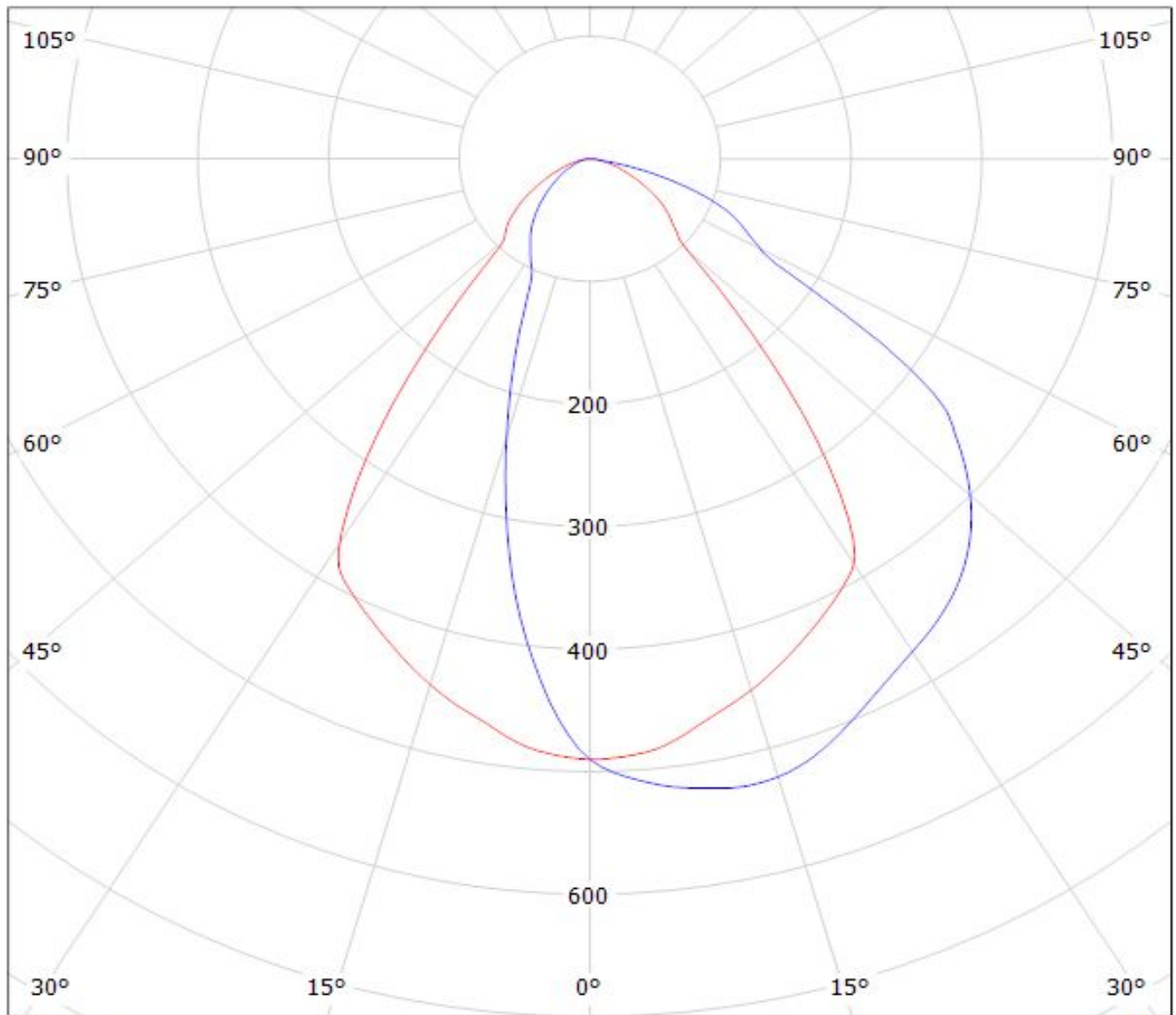


cd/klm

— C0 - C180 — C90 - C270

$\eta = 76\%$

Luminaire: LEDiL Oy CN13369\_LENA-X-WAS\_(CLL030) Eff.83.6%  
Lamps: 4 x CLL030 (231.104lm@250mA)



cd/klm

— C0 - C180    — C90 - C270

$\eta = 84\%$

Luminaire: LEDiL Oy CN13371\_LENA-X-WAS-DL\_(CLL030) Eff.81.6%  
Lamps: 4 x CLL030 (231.104lm@250mA)

