

**Ordering number CN13163\_LENA-WAS**

|                 |        |
|-----------------|--------|
| Family          | Lena   |
| Type            | Pack   |
| LED             | CLL030 |
| Color           | Metal  |
| Diameter        | 111 mm |
| Height          | -      |
| Style           | Round  |
| Optic Material  | PC     |
| Holder Material | -      |
| Fastening       | Socket |
| Status          | Ready  |

|             |                    |
|-------------|--------------------|
| FWHM        | Asymmetric degrees |
| Efficiency  | 81 %               |
| cd/Im       | 1.160              |
| Gerber File | Available          |

Reflector twist-and-locks into included base part that holds COB

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

|                 |        |
|-----------------|--------|
| Family          | Lena   |
| Type            | Pack   |
| LED             | CLL030 |
| Color           | Metal  |
| Diameter        | 111 mm |
| Height          | -      |
| Style           | Round  |
| Optic Material  | PC     |
| Holder Material | -      |
| Fastening       | Socket |
| Status          | Ready  |

|             |                    |
|-------------|--------------------|
| FWHM        | Asymmetric degrees |
| Efficiency  | 76 %               |
| cd/Im       | 0.960              |
| Gerber File | Available          |

Reflector twist-and-locks into included base part that holds COB

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

|                 |               |
|-----------------|---------------|
| Family          | Lena          |
| Type            | Pack          |
| LED             | CLL030        |
| Color           | White         |
| Diameter        | 111 mm        |
| Height          | 39.1 mm       |
| Style           | Round         |
| Optic Material  | PC            |
| Holder Material | PC            |
| Fastening       | Screw, socket |
| Status          | Ready         |

|             |                    |
|-------------|--------------------|
| FWHM        | Asymmetric degrees |
| Efficiency  | 81 %               |
| cd/Im       | 1.160              |
| Gerber File | Available          |

Reflector twist-and-locks into included base part that holds COB

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

|                 |               |
|-----------------|---------------|
| Family          | Lena          |
| Type            | Pack          |
| LED             | CLL030        |
| Color           | White         |
| Diameter        | 111 mm        |
| Height          | 42 mm         |
| Style           | Round         |
| Optic Material  | PC            |
| Holder Material | PC            |
| Fastening       | Screw, socket |
| Status          | Ready         |

|             |                    |
|-------------|--------------------|
| FWHM        | Asymmetric degrees |
| Efficiency  | 80 %               |
| cd/Im       | 0.500              |
| Gerber File | Available          |

Reflector twist-and-locks into included base part that holds COB

**Ordering number CN12712\_LENA-S**

|                 |         |             |            |
|-----------------|---------|-------------|------------|
| Family          | Lena    | FWHM        | 12 degrees |
| Type            | Pack    | Efficiency  | 88 %       |
| LED             | CLL030  | cd/Im       | -          |
| Color           | Metal   | Gerber File | Available  |
| Diameter        | 111 mm  |             |            |
| Height          | 85.4 mm |             |            |
| Style           | Round   |             |            |
| Optic Material  | PC      |             |            |
| Holder Material | PC      |             |            |
| Fastening       | Screw   |             |            |
| Status          | Ready   |             |            |

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

|                 |         |             |            |
|-----------------|---------|-------------|------------|
| Family          | Lena    | FWHM        | 12 degrees |
| Type            | Pack    | Efficiency  | 83 %       |
| LED             | CLL030  | cd/Im       | -          |
| Color           | Metal   | Gerber File | Available  |
| Diameter        | 111 mm  |             |            |
| Height          | 85.4 mm |             |            |
| Style           | Round   |             |            |
| Optic Material  | PC      |             |            |
| Holder Material | PC      |             |            |
| Fastening       | Screw   |             |            |
| Status          | Ready   |             |            |

**Ordering number CN12713\_LENA-M**

|                 |         |             |            |
|-----------------|---------|-------------|------------|
| Family          | Lena    | FWHM        | 19 degrees |
| Type            | Pack    | Efficiency  | 86 %       |
| LED             | CLL030  | cd/Im       | -          |
| Color           | Metal   | Gerber File | Available  |
| Diameter        | 111 mm  |             |            |
| Height          | 85.4 mm |             |            |
| Style           | Round   |             |            |
| Optic Material  | PC      |             |            |
| Holder Material | PC      |             |            |
| Fastening       | Screw   |             |            |
| Status          | Ready   |             |            |

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

|                 |         |             |            |
|-----------------|---------|-------------|------------|
| Family          | Lena    | FWHM        | 20 degrees |
| Type            | Pack    | Efficiency  | 81 %       |
| LED             | CLL030  | cd/Im       | -          |
| Color           | Metal   | Gerber File | Available  |
| Diameter        | 111 mm  |             |            |
| Height          | 85.4 mm |             |            |
| Style           | Round   |             |            |
| Optic Material  | PC      |             |            |
| Holder Material | PC      |             |            |
| Fastening       | Screw   |             |            |
| Status          | Ready   |             |            |

**Ordering number** CN12714\_LENA-W

|                 |         |             |            |
|-----------------|---------|-------------|------------|
| Family          | Lena    | FWHM        | 43 degrees |
| Type            | Pack    | Efficiency  | 83 %       |
| LED             | CLL030  | cd/Im       | -          |
| Color           | Metal   | Gerber File | Available  |
| Diameter        | 111 mm  |             |            |
| Height          | 85.4 mm |             |            |
| Style           | Round   |             |            |
| Optic Material  | PC      |             |            |
| Holder Material | PC      |             |            |
| Fastening       | Screw   |             |            |
| Status          | Ready   |             |            |

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

|                 |         |             |            |
|-----------------|---------|-------------|------------|
| Family          | Lena    | FWHM        | 44 degrees |
| Type            | Pack    | Efficiency  | 78 %       |
| LED             | CLL030  | cd/Im       | -          |
| Color           | Metal   | Gerber File | Available  |
| Diameter        | 111 mm  |             |            |
| Height          | 85.4 mm |             |            |
| Style           | Round   |             |            |
| Optic Material  | PC      |             |            |
| Holder Material | PC      |             |            |
| Fastening       | Screw   |             |            |
| Status          | 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

### Lena series

last update 5/7/2012

CITIZEN

#### GENERAL INFORMATION

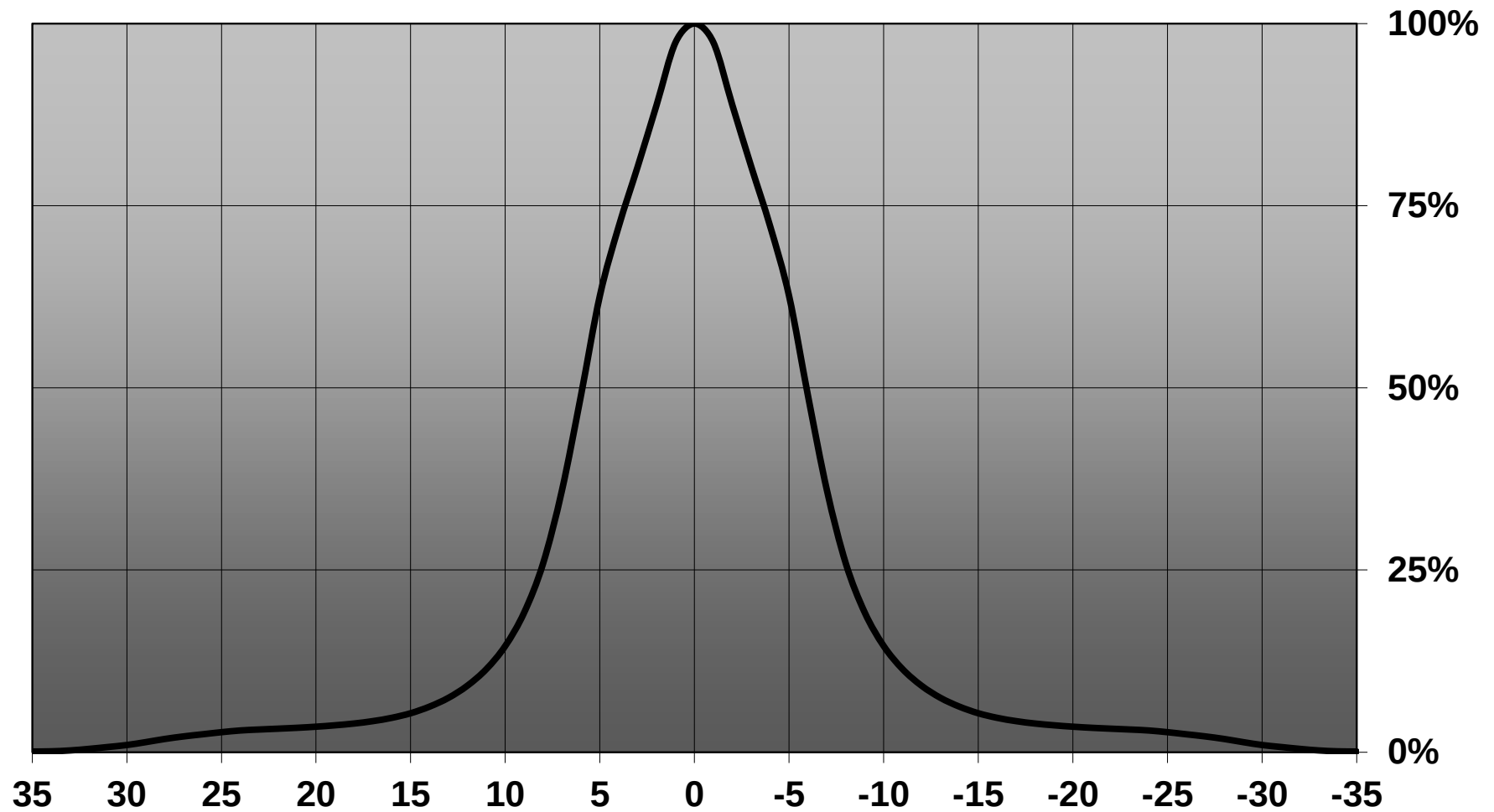
- Product series especially designed & optimized for CLL030 series of LEDs.
- Special care taken to make light distribution as uniform as possible.
- Lens material optical grade PC with high UV and temperature resistance (120 degrees of Celcius / 248 degrees of Fahrenheit). Allows use of high current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

Please find more information about used materials from below:

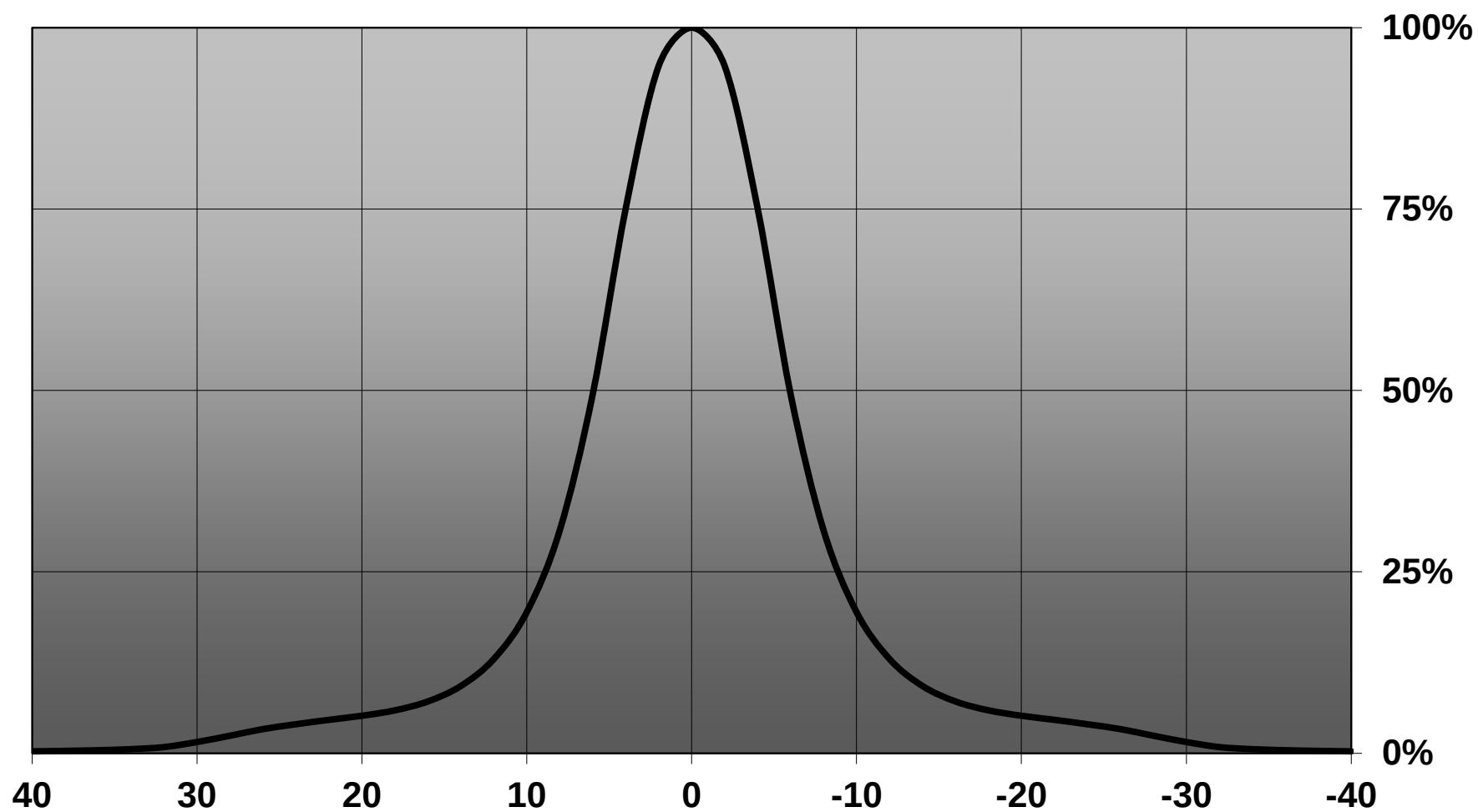
[http://ledil.fi/sites/default/files/Documents/Technical/Material/PC%20Makrolon%202400\\_2407\\_2456\\_2458-UL.pdf](http://ledil.fi/sites/default/files/Documents/Technical/Material/PC%20Makrolon%202400_2407_2456_2458-UL.pdf)

- 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).

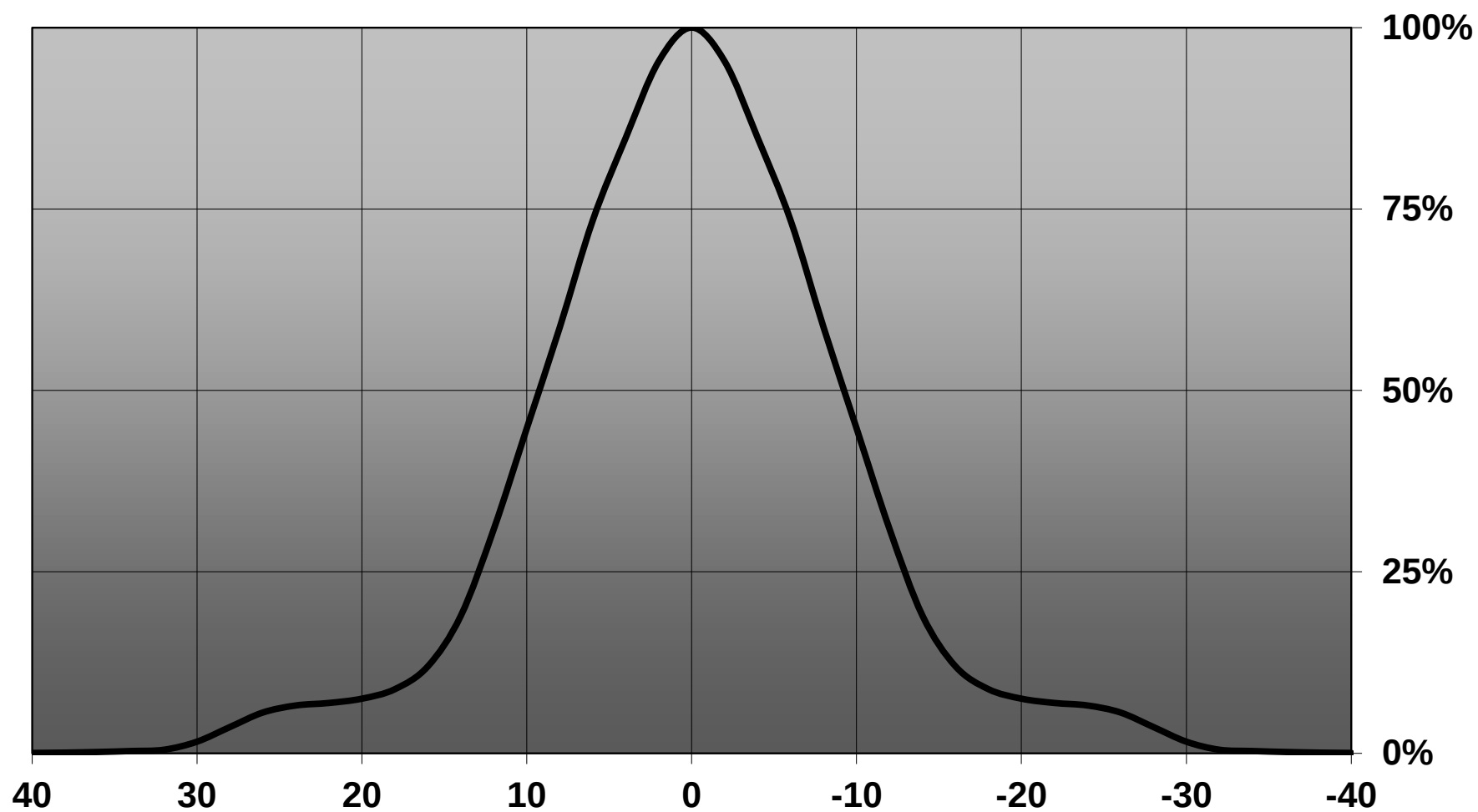
Relative intensity of CN12712\_LENA-S (CLL030-1208)



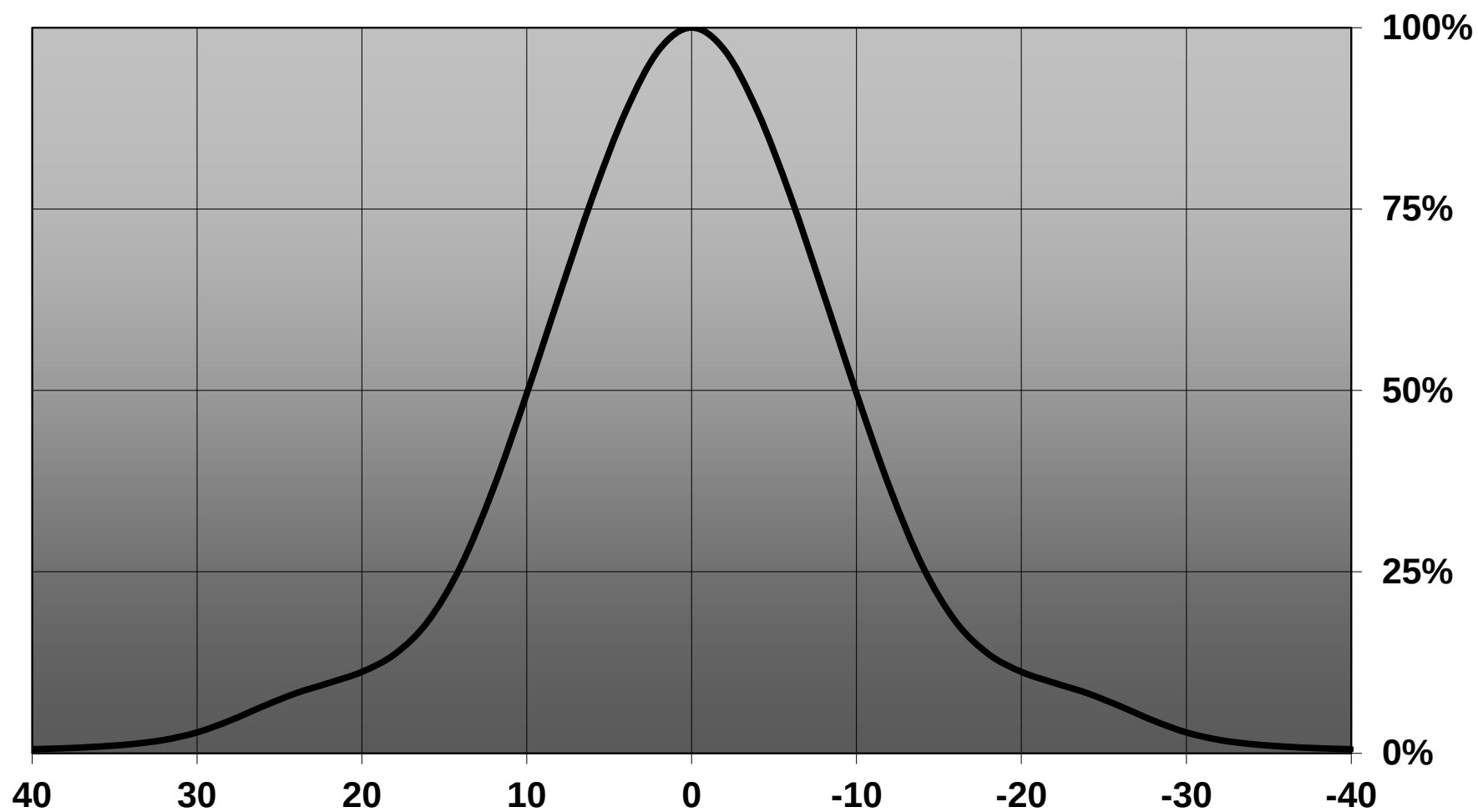
Relative intensity of CN12718\_LENA-S-DL (CLL030-1208)



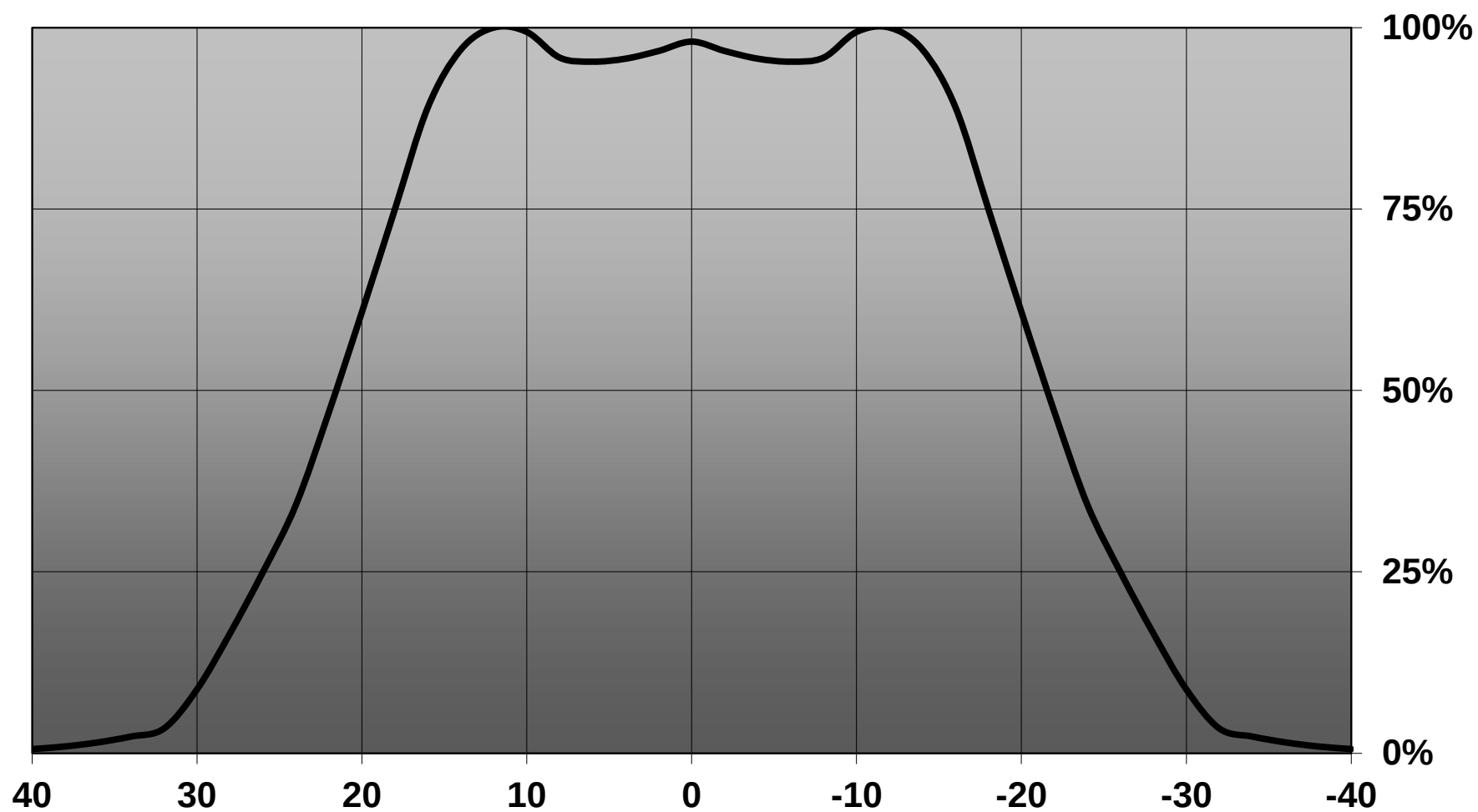
**Relative intensity of CN12713\_LENA-M (CLL030-1208)**



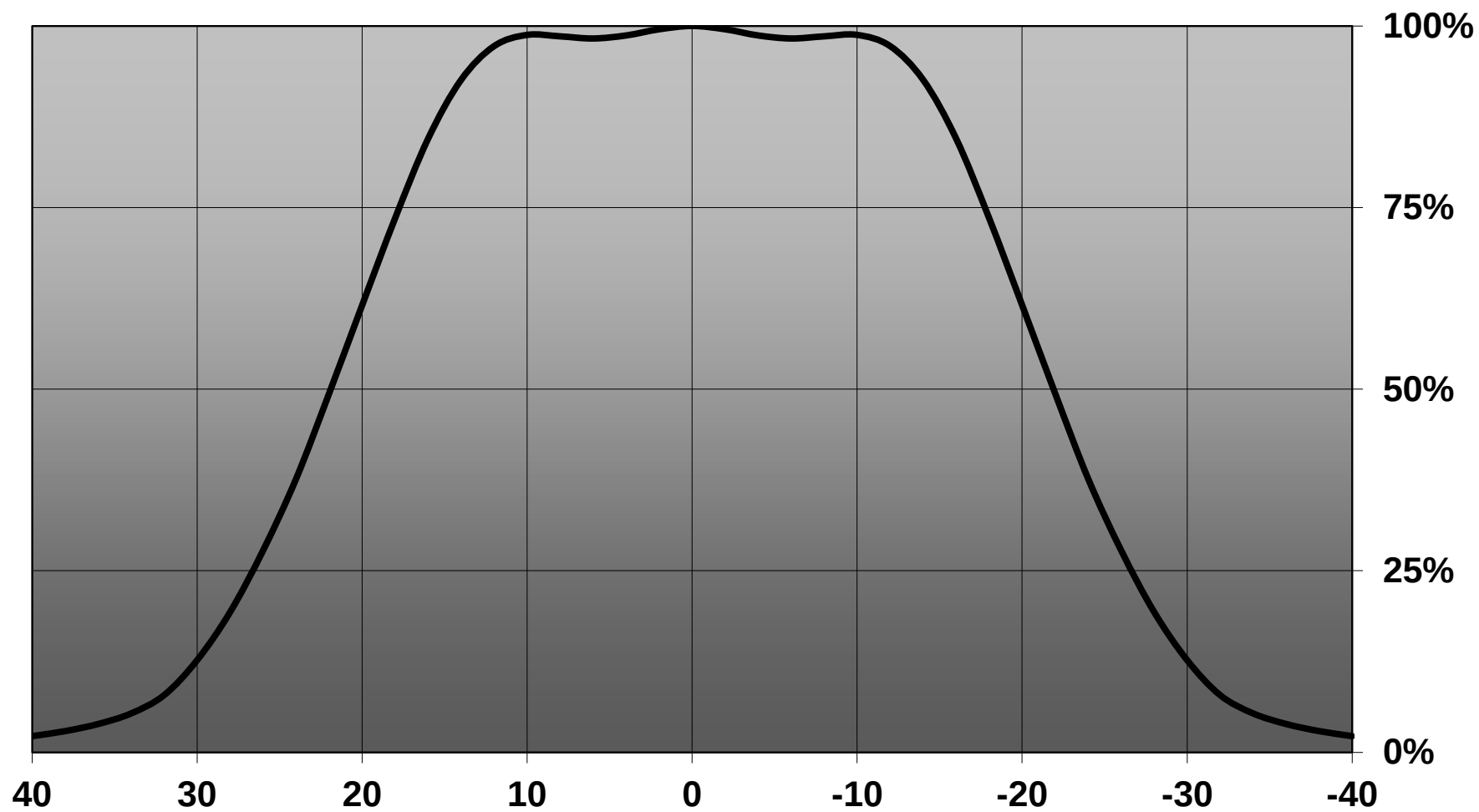
**Relative intensity of CN12719\_LENA-M-DL (CLL030-1208)**



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



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



D

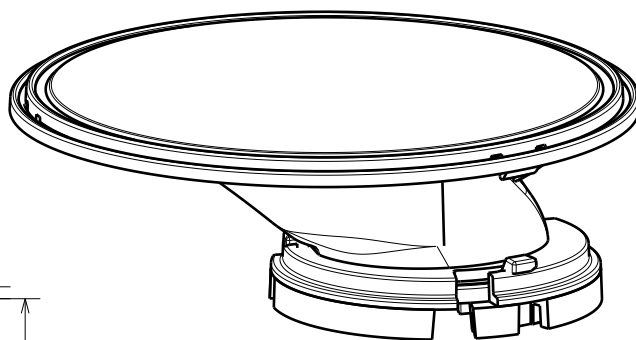
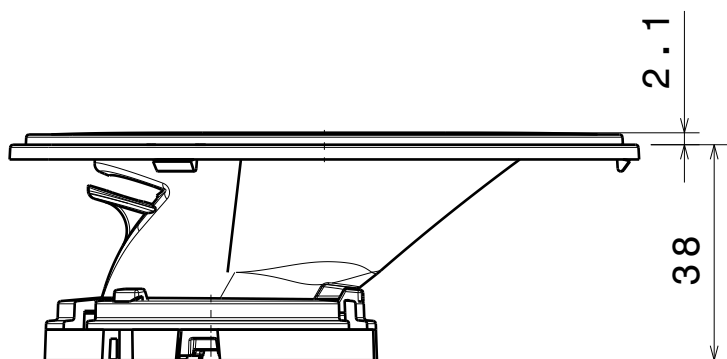
C

B

A

4

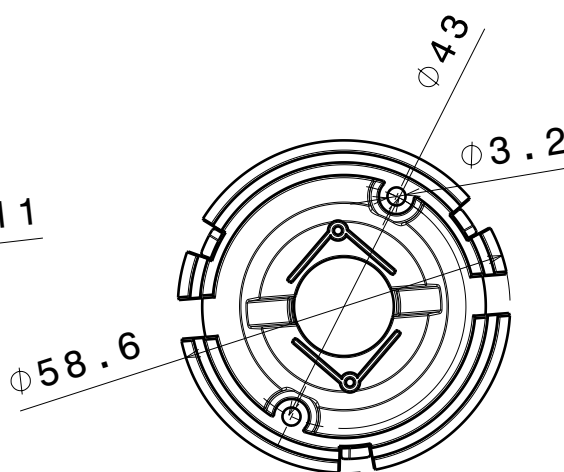
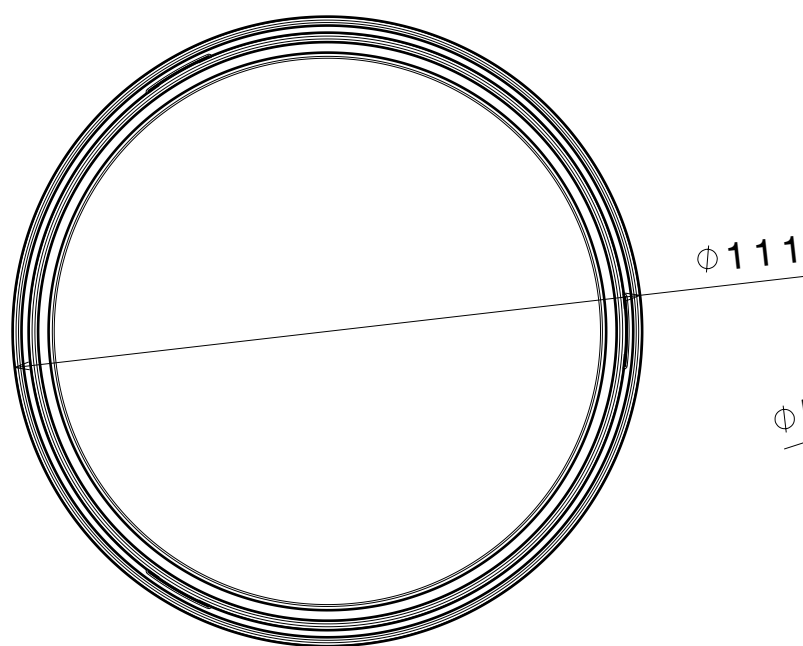
4



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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our written agreement.

**LEDiL**

Ledil Oy  
Salorankatu 10  
FIN 24240 SALO  
Finland

## DRAWING TITLE

Mechanical drawing

DRAWN BY

DATE

as

26.9.2012

LENA-WAS

CHECKED BY

DATE

VS

-

SIZE

PART NUMBER

REV

A4

001

DESIGNED BY

DATE

-

-

SCALE

1:4

WEIGHT

- mg

SHEET

1/1

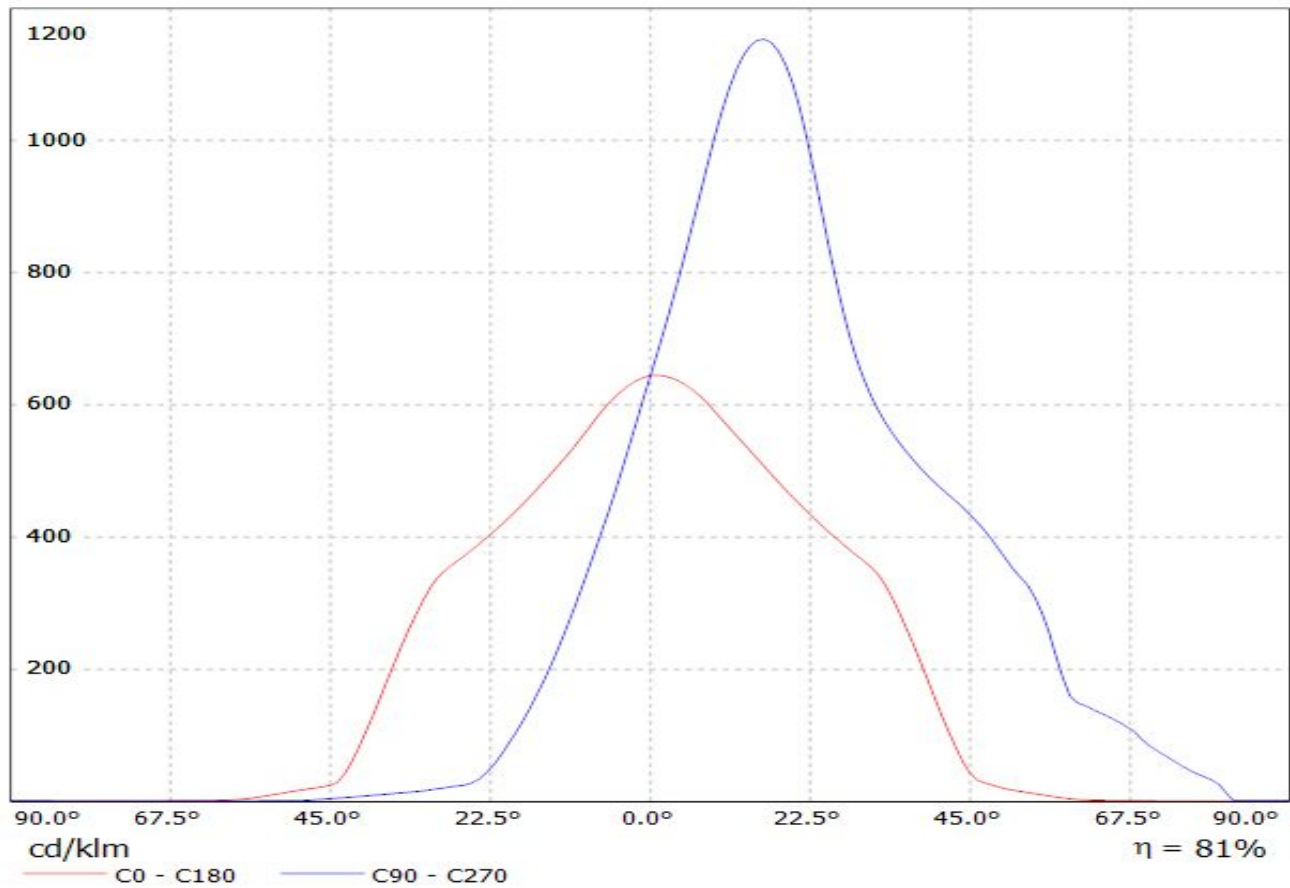
D

A

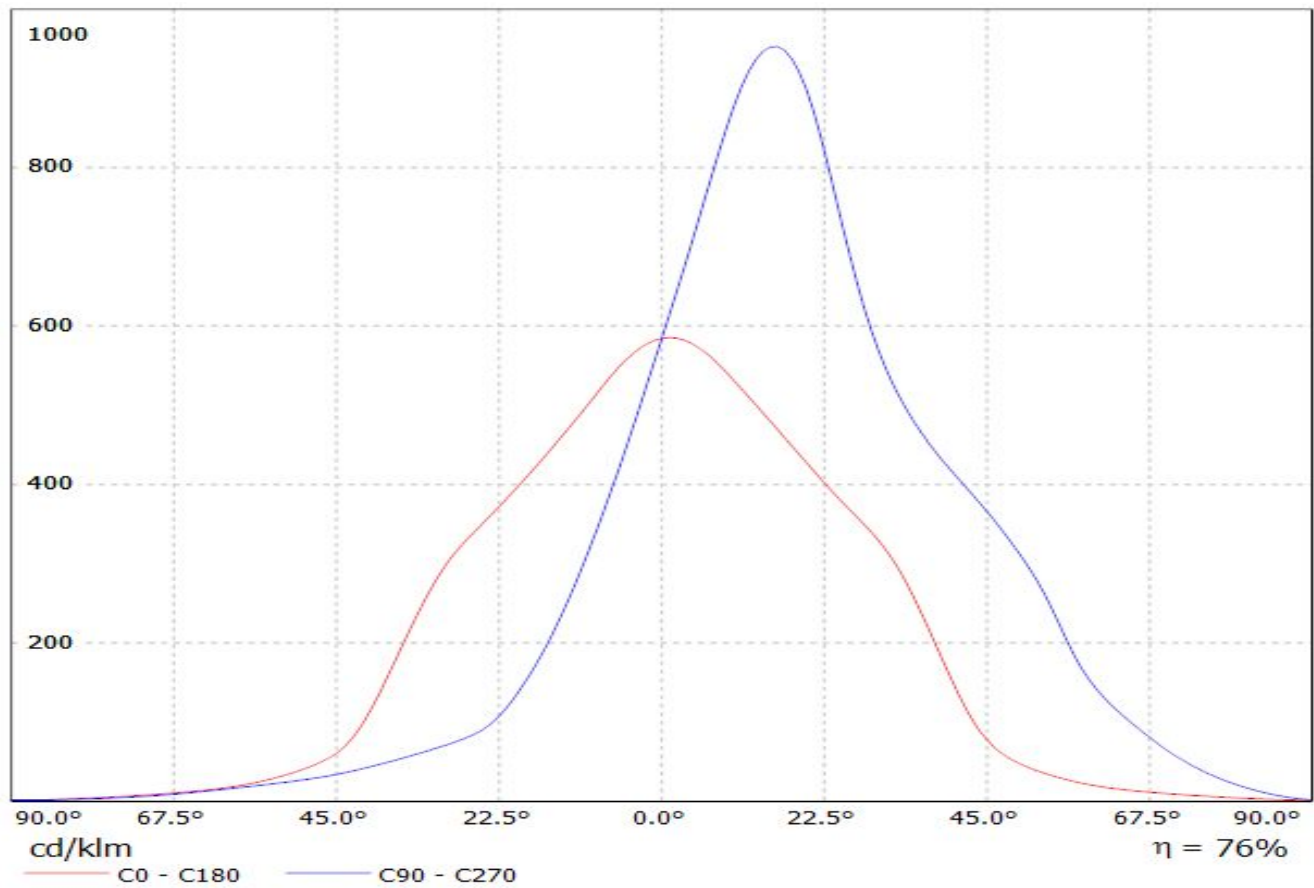
1

1

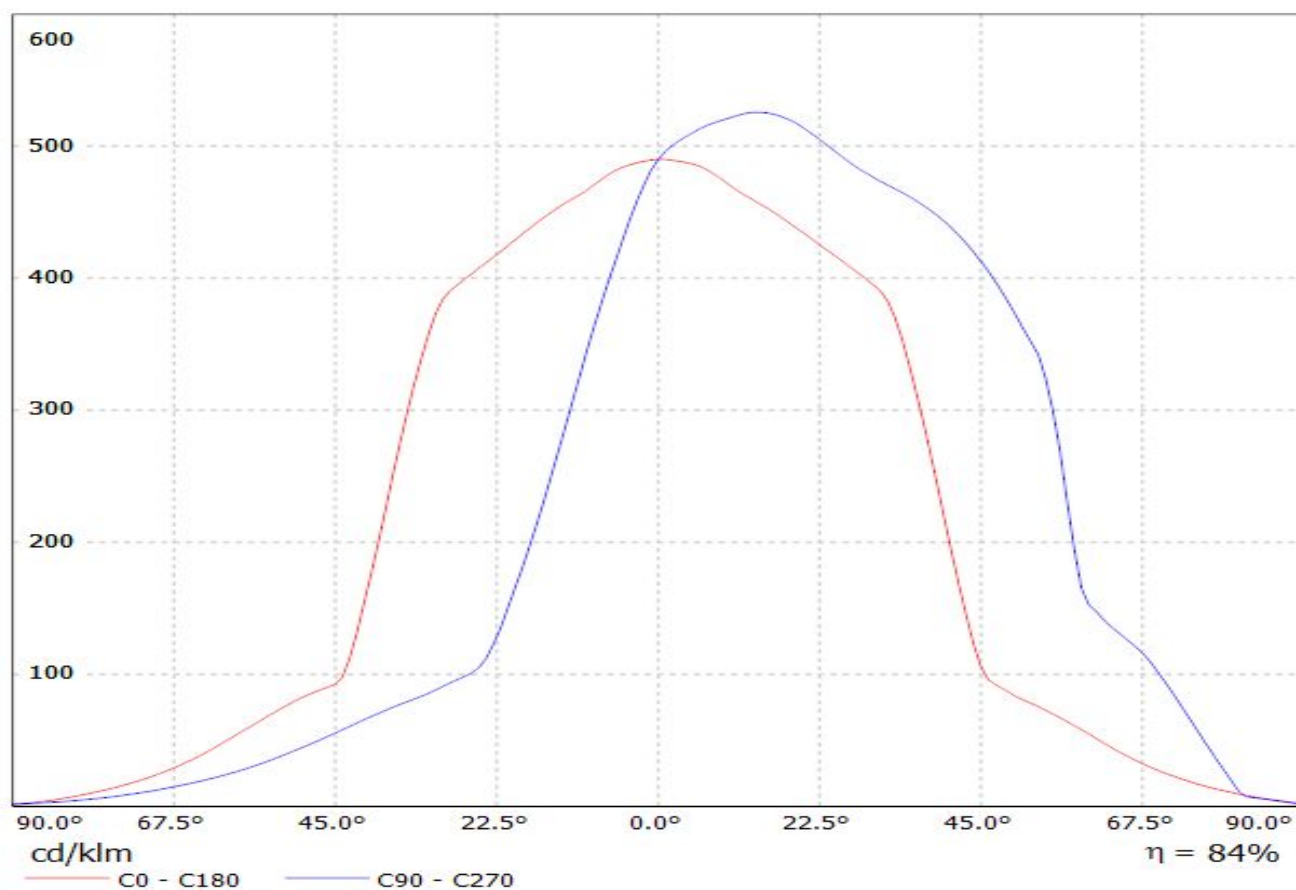
Luminaire: LEDiL Oy CN13163\_LENA-WAS\_(CLL030) Eff.80.7%  
Lamps: 4 x CLL030 (231.104lm@250mA)



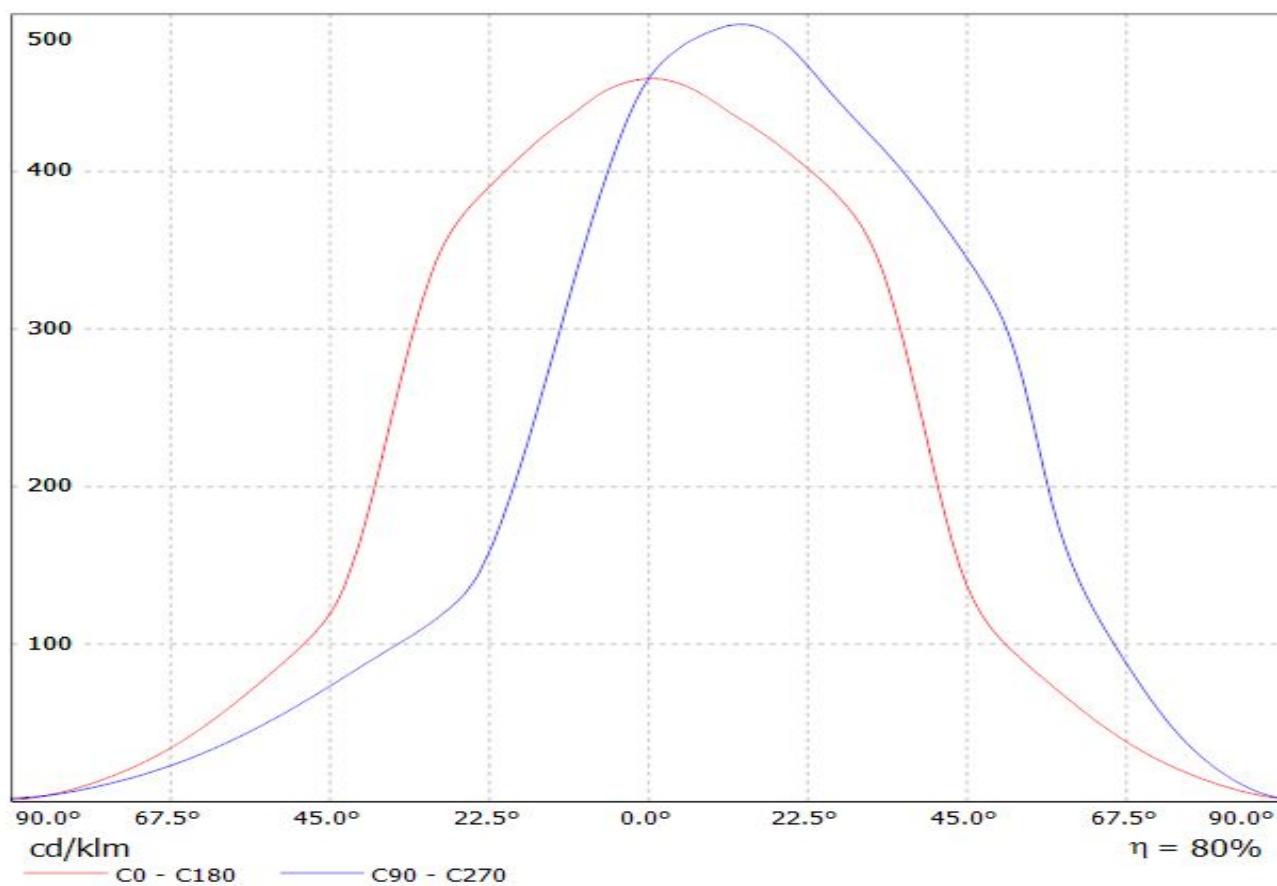
Luminaire: LEDiL Oy CN13173\_LENA-WAS-DL\_(CLL030) Eff.76.3%  
Lamps: 4 x CLL030 (231.104lm@250mA)



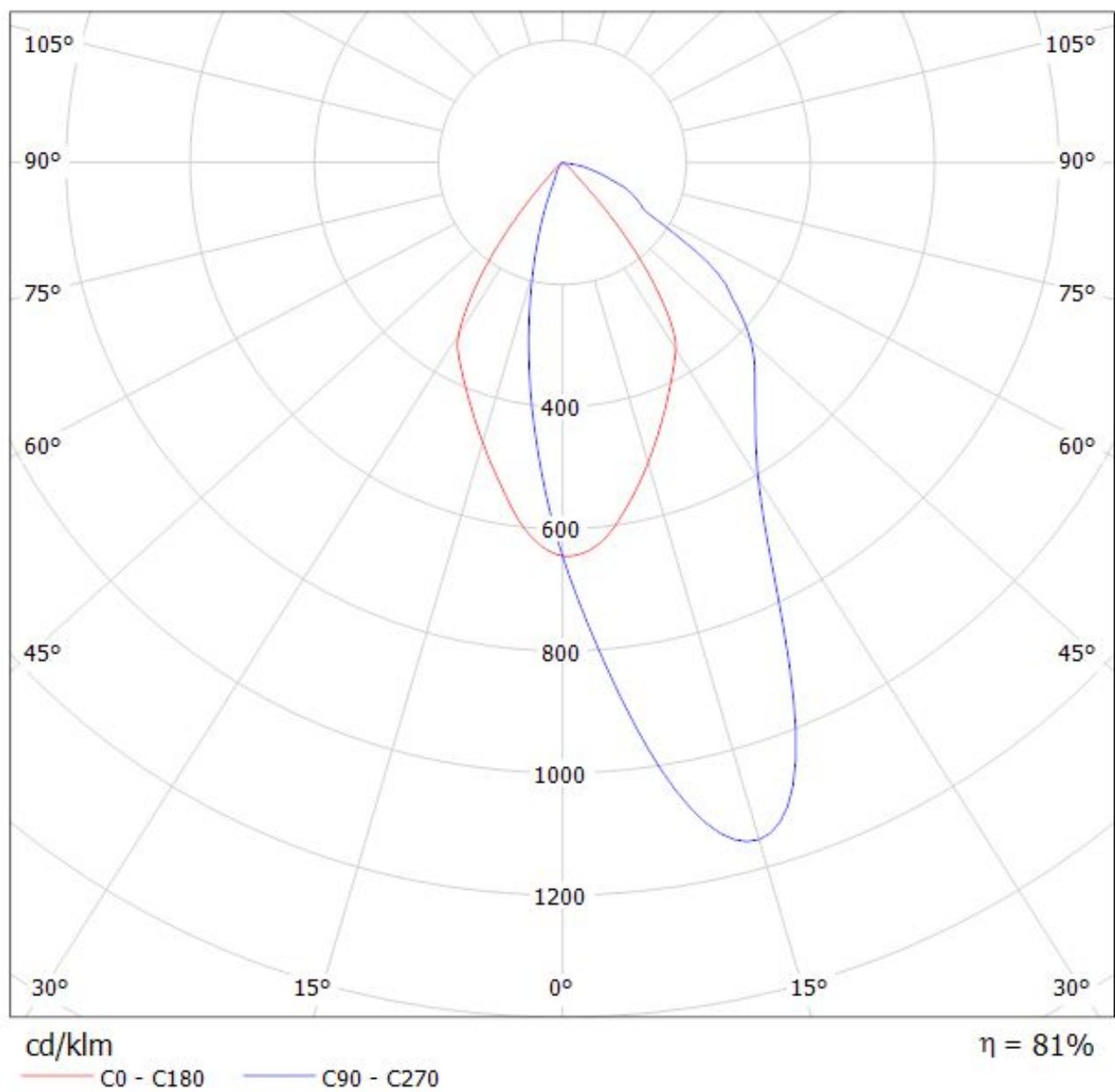
Luminaire: LEDiL Oy CN13369\_LENA-X-WAS\_(CLL030) Eff.83.6%  
Lamps: 4 x CLL030 (231.104lm@250mA)



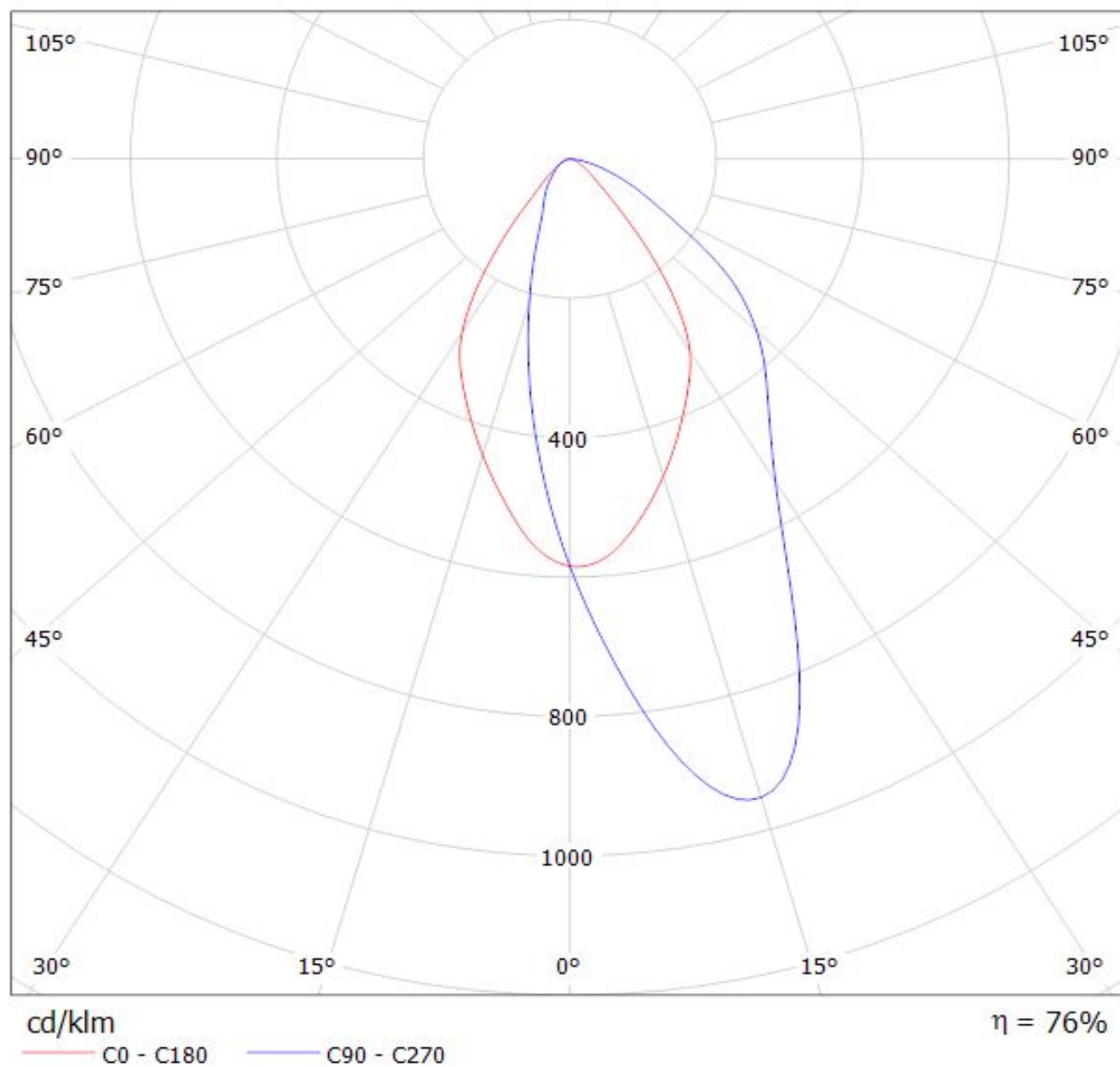
Luminaire: LEDiL Oy CN13371\_LENA-X-WAS-DL\_(CLL030) Eff.81.6%  
Lamps: 4 x CLL030 (231.104lm@250mA)



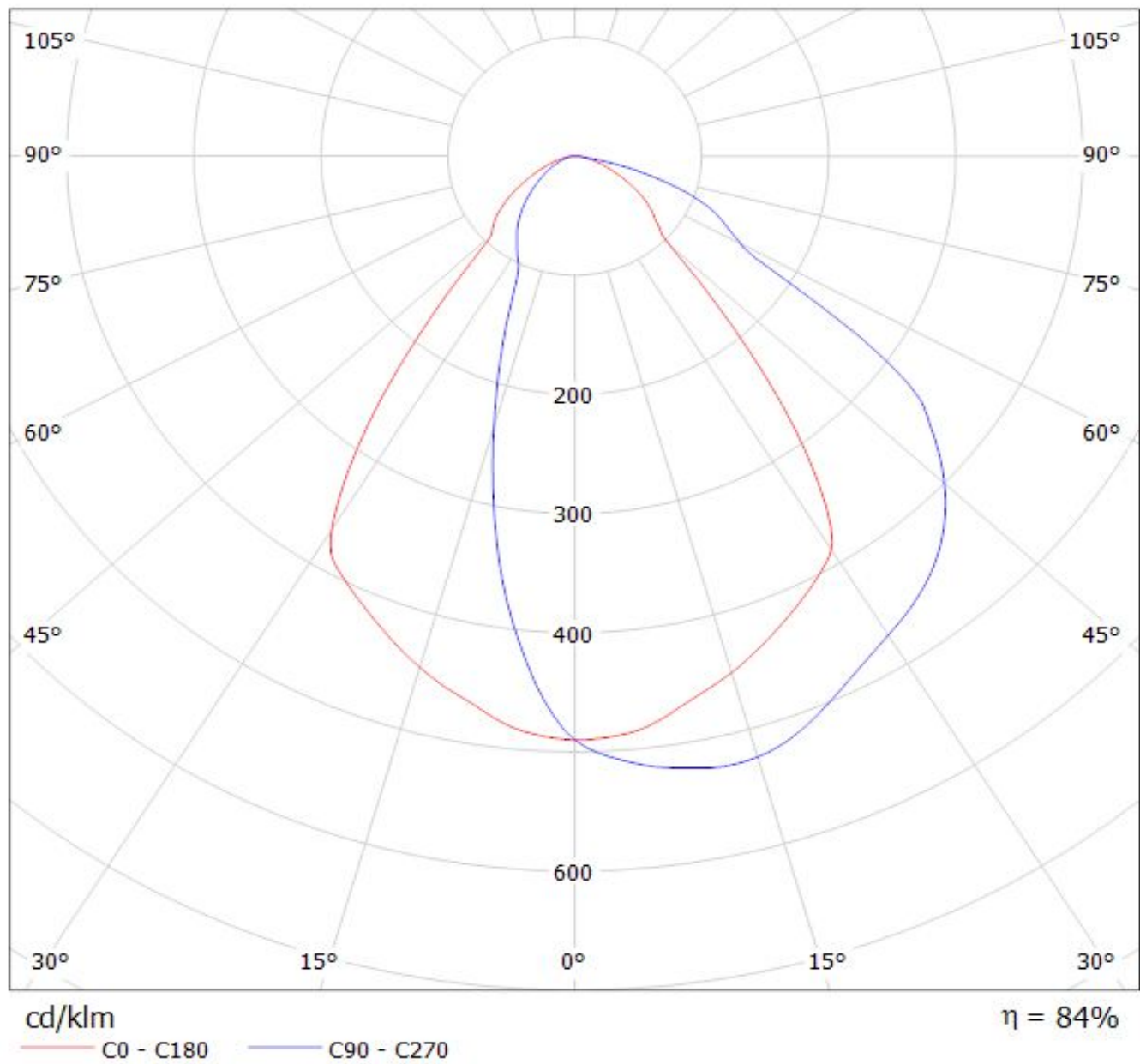
Luminaire: LEDiL Oy CN13163\_LENA-WAS\_(CLL030) Eff.80.7%  
Lamps: 4 x CLL030 (231.104lm@250mA)



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



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)

