

## DETAILS

<b>Product Number</b>	C13155_EMERALD-A
<b>Family</b>	EMERALD
<b>Type</b>	Lens
<b>Color</b>	clear
<b>Diameter</b>	21,6 mm
<b>Height</b>	6,9 mm
<b>Style</b>	round
<b>Optic Material</b>	PMMA
<b>Holder Material</b>	
<b>Fastening</b>	pin, glue
<b>Status</b>	production ready
<b>ROHS Compliant</b>	Yes
<b>Date Updated</b>	13/10/2015



## OPTICAL PROPERTIES

LED	Viewing	Light	Efficiency	cd/lm	Connector
	Angle	Beam			
XP-E	158+73 deg	Oval	93 %	2.300	-
XB-D	157+62 deg	Oval	90 %	2.000	-
XM-L	157+83 deg	Oval	94 %	1.100	-
XP-G	159+79 deg	Oval	89 %	1.600	-
XP-G2	158+79 deg	Oval	94 %	1.800	-
XT-E	157+61 deg	Oval	89 %	1.800	-
XP-E2	156+72 deg	Oval	93 %	2.500	-
XM-L2	169+73 deg	Oval	94 %	1.100	-
XP-L HI	sim: 159	Oval	sim: 89 %	sim: 1.300	-
XHP35 HD	sim: 164+68	Oval	sim: 91 %	sim: 0.770	-
H35C0 (LEMWA33)	159+72 deg	Oval	91 %	1.400	-
H35B0 (LEMWA32)	160+66 deg	Oval	94 %	1.700	-
LUXEON A	156+75 deg	Oval	92 %	1.600	-
LUXEON Rebel	152+67 deg	Oval	92 %	2.500	-
LUXEON R	153+73 deg	Oval	92 %	1.650	-
LUXEON Rebel ES	153+74 deg	Oval	90 %	1.700	-
LUXEON T	155+76 deg	Oval	93 %	2.300	-
LUXEON TX	156+73 deg	Oval	94 %	1.690	-
NCSxx19A	151+65 deg	Oval	92 %	2.200	-
NVSxx19A	153+71 deg	Oval	91 %	1.700	-
NVSxx19B/NVSxx19C	155+80 deg	Oval	92 %	1.400	-
Oslon Square PC	156+83 deg	Oval	93 %	1.700	-
Oslon Square EC	156+80 deg	Oval	93 %	1.700	-
Oslon SSL 80	147+52 deg	Oval	89 %	1.900	-
Oslon SSL 150	157+86 deg	Oval	92 %	2.900	-



**PRODUCT DATASHEET**  
**EMERALD series**  
last update 13/10/2015

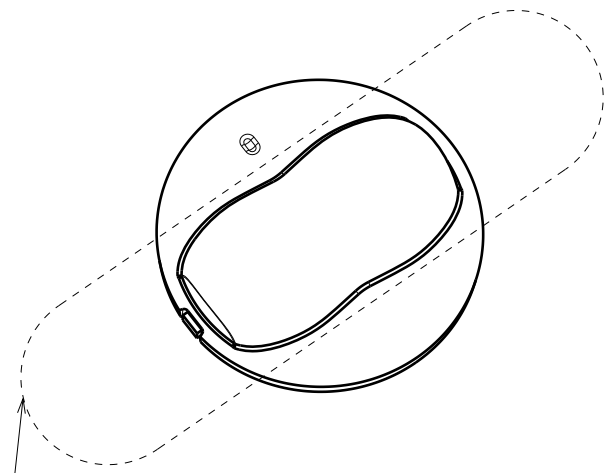
## OPTICAL PROPERTIES

LED	Viewing Angle	Light Beam	Effi- ciency	cd/lm	Connector
LH351Z	154+76 deg	Oval	94 %	1.700	-
Z5	TBA deg	Oval	sim: 89 %	-	-

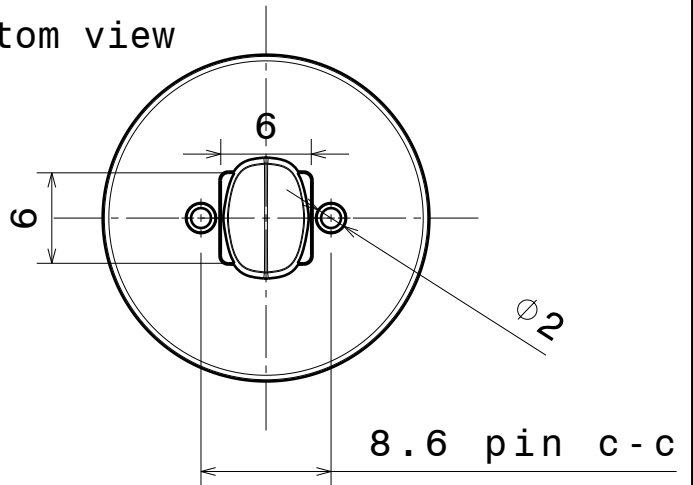
INDEX	PART NO	DESCRIPTION	MATERIAL
1	C13155	EMERALD-A	PMMA

4

Isometric view  
Scale: 2:1



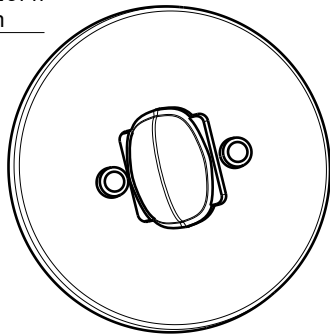
Bottom view



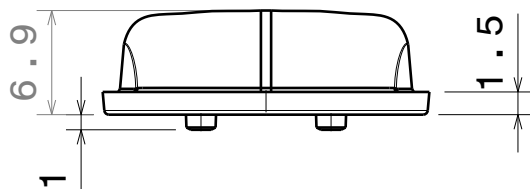
4

3

Beam pattern direction

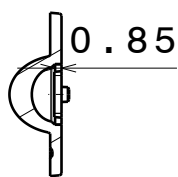


Front view



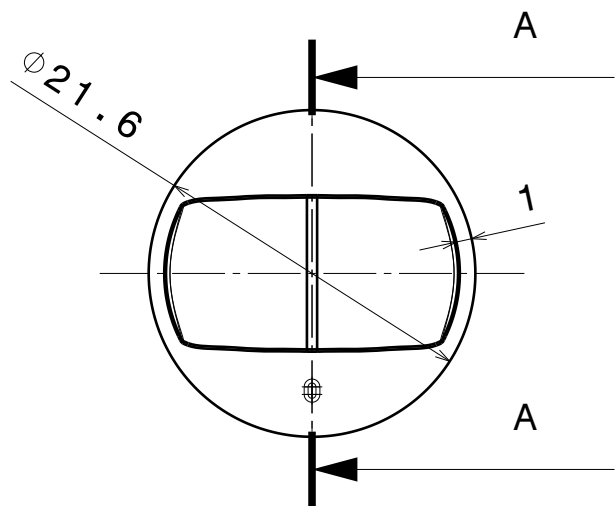
3

2



Section view A-A  
Scale: 1:1

Top view



2

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**LEDiL** Ledil Oy  
Salorankatu 10  
FIN 24240 SALO  
Finland

DATASHEET TITLE Mechanical Drawing

DRAWN BY  
**ol**  
DATE  
3.10.2012

**C13155 EMERALD-A**

CHECKED BY  
**as**  
DATE  
3.10.2012

SIZE <b>A4</b>	PART NUMBER <b>C13155</b>	REV <b>001</b>
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DESIGNED BY  
**ol**  
DATE  
3.10.2012

SCALE <b>2:1</b>	WEIGHT	SHEET <b>1/1</b>
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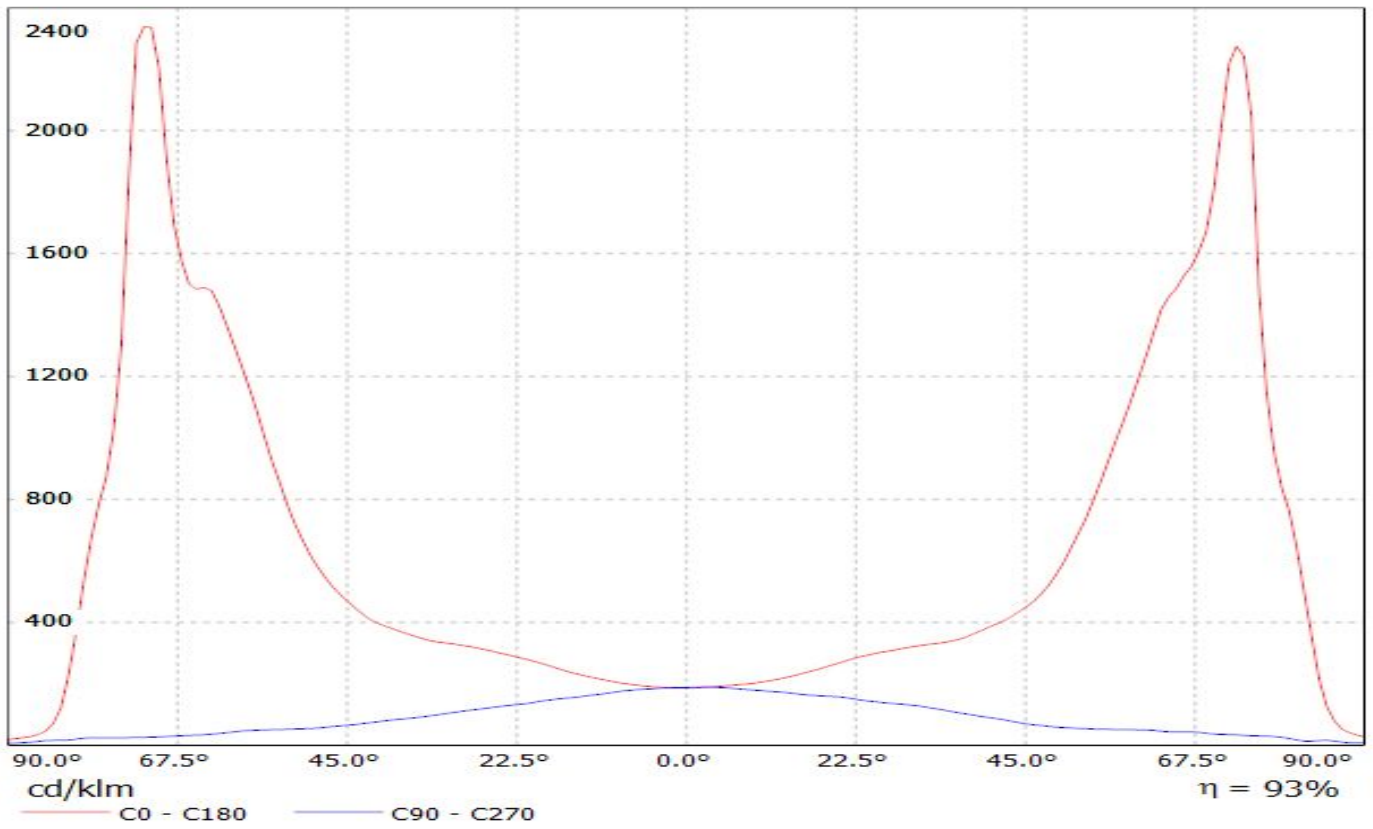
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D

A

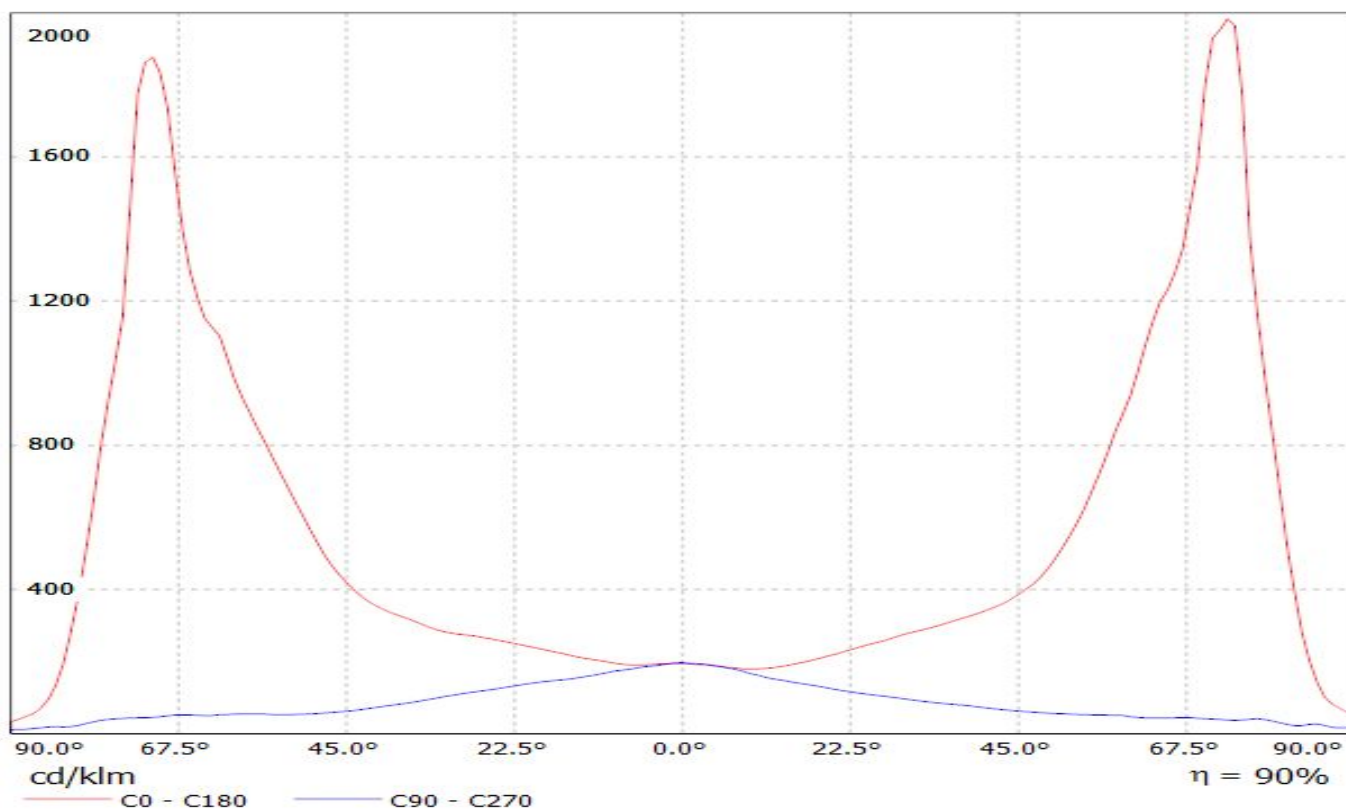
# LEDiL Oy C13155\_EMERALD-A\_(XP-E) Eff.93.3% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-E) Eff.93.3%  
Lamps: 1 x CREE XP-E (51.4197lm@250mA)



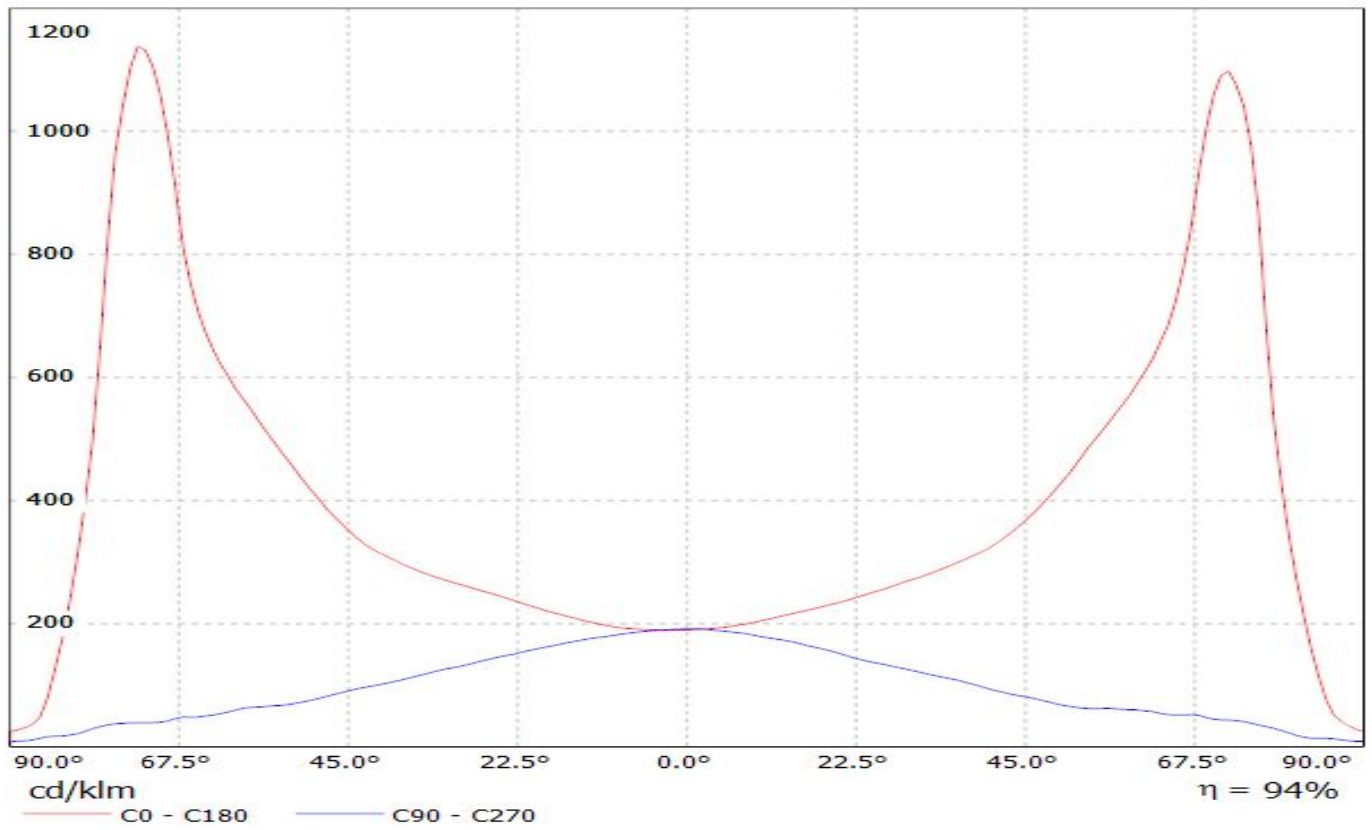
# LEDiL Oy C13155\_EMERALD-A\_(XB-D) / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XB-D)  
Lamps: 1 x Cree XB-D (95lm@250mA)



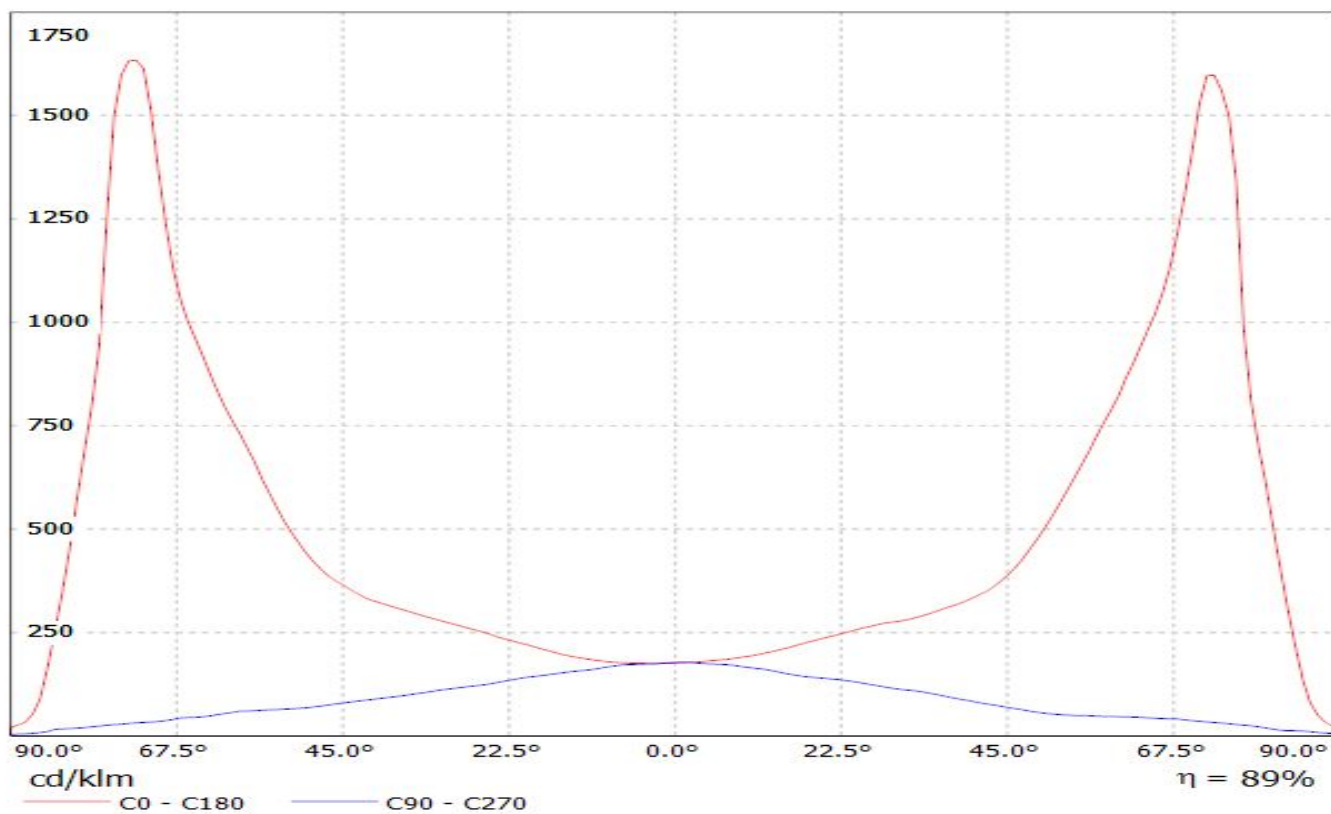
# LEDiL Oy C13155\_EMERALD-A\_(XM-L) Eff.94.5% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XM-L) Eff.94.5%  
Lamps: 1 x Cree XM-L (91.7822lm@250mA)



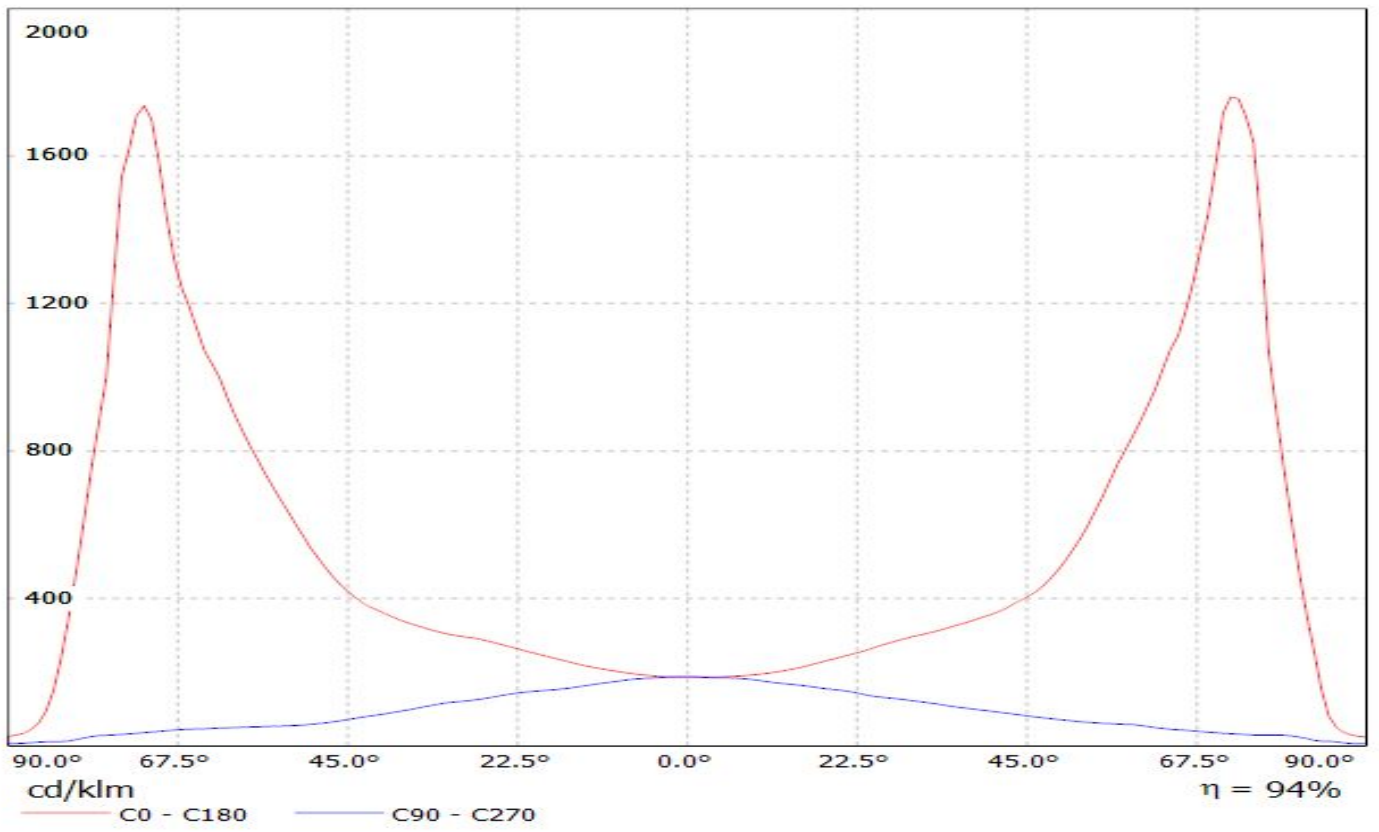
# LEDiL Oy C13155\_EMERALD-A\_(XP-G) Eff.89.2% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-G) Eff.89.2%  
Lamps: 1 x XP-G (70.6lm@250mA)



**LEDiL Oy C13155\_EMERALD-A\_(XP-G2) Eff.94.3% / LDC (Linear)**

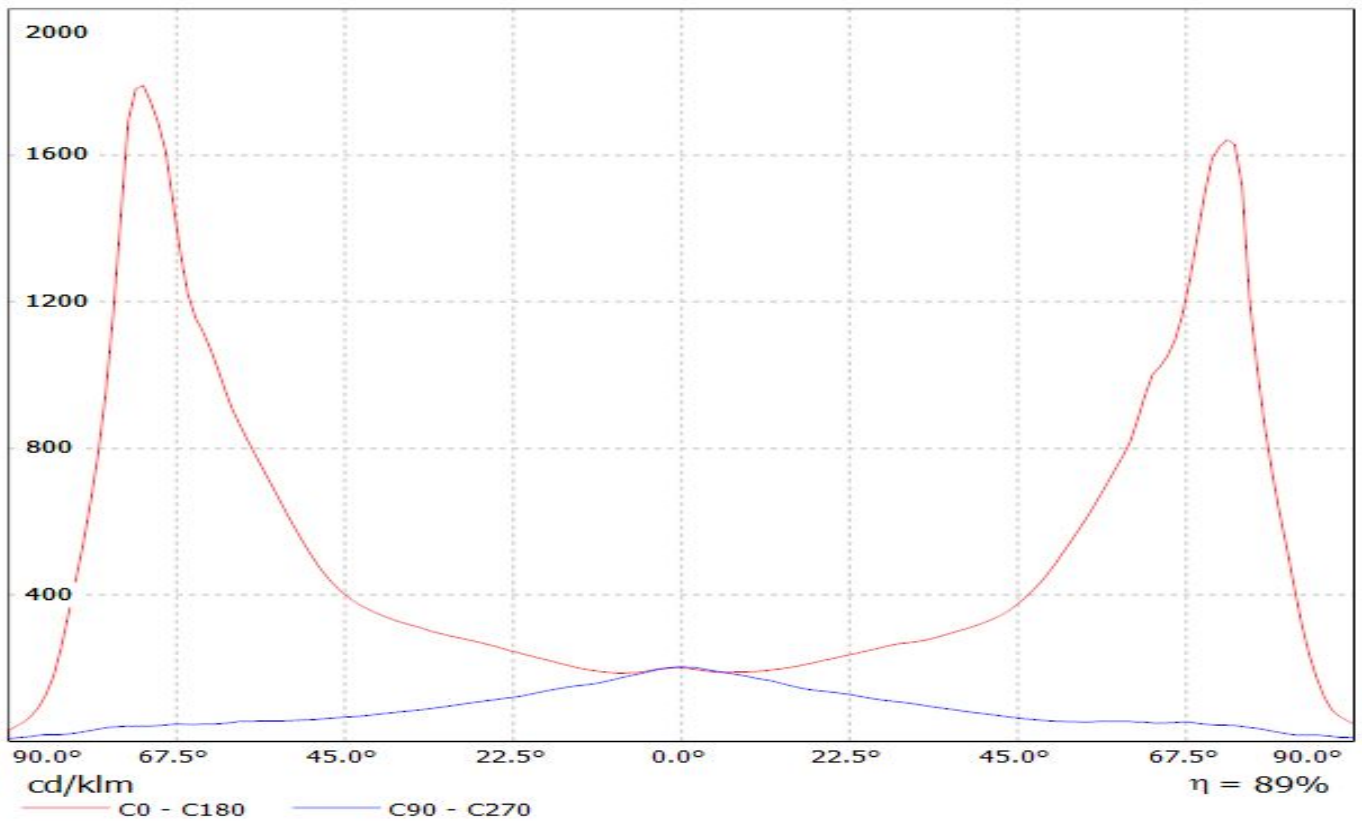
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-G2) Eff.94.3%  
Lamps: 1 x CREE XP-G2 (51.4197lm@250mA)





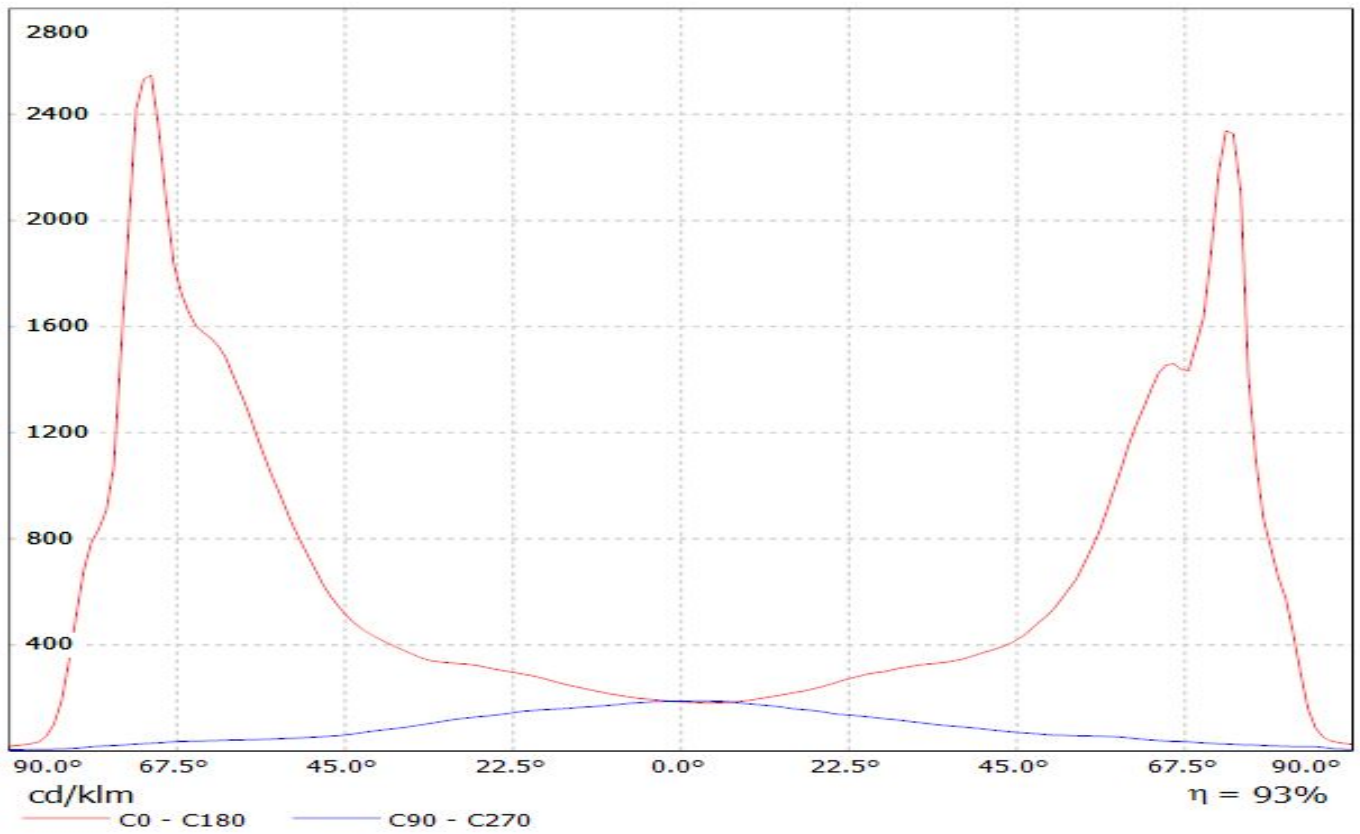
# LEDiL Oy C13155\_EMERALD-A\_(XB-D) Eff.89.2% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XB-D) Eff.89.2%  
Lamps: 1 x Cree XT-E (102.3lm@250mA)

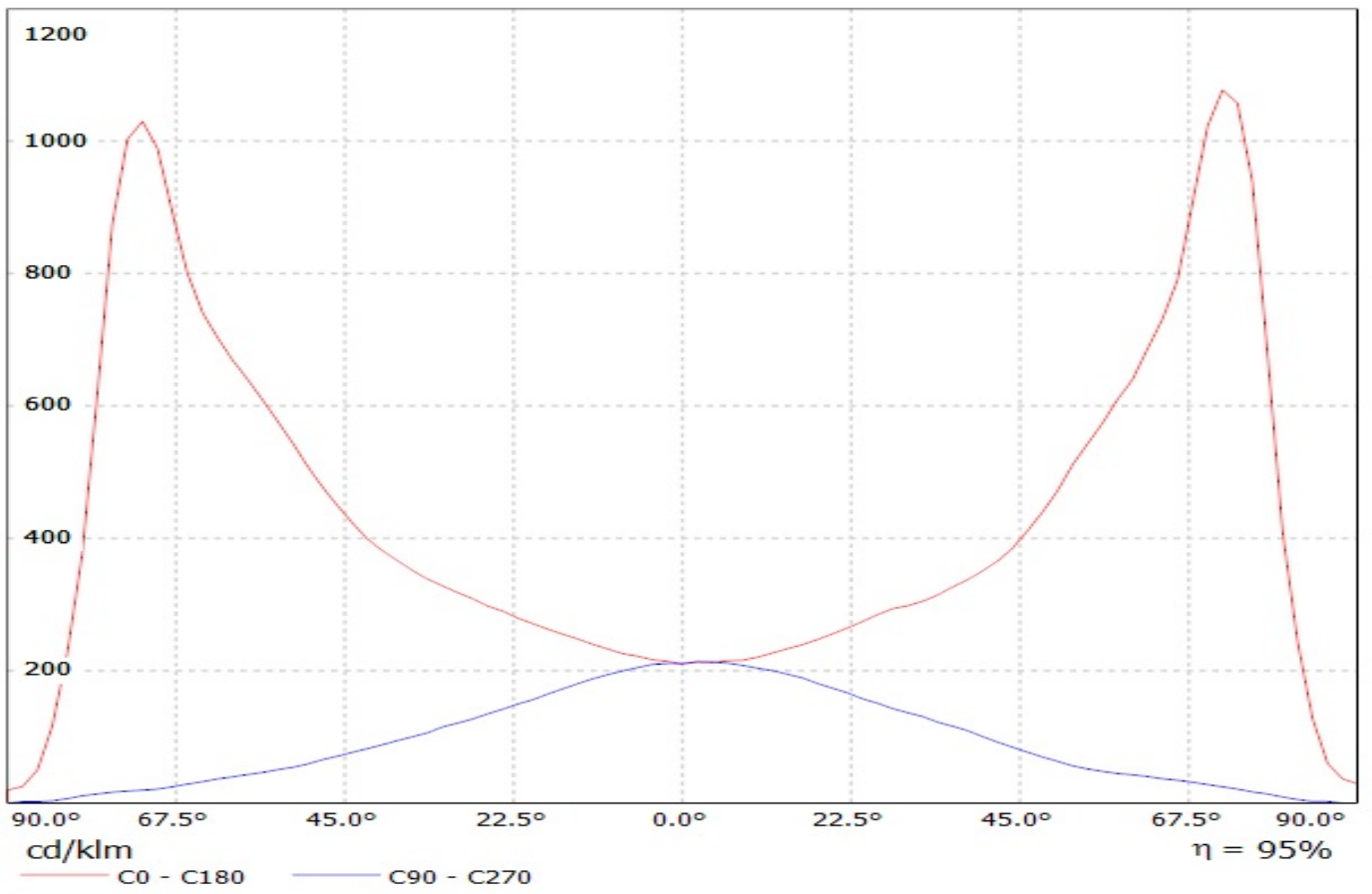


# LEDiL Oy C13155\_EMERALD-A\_(XP-E2) Eff.92.5% / LDC (Linear)

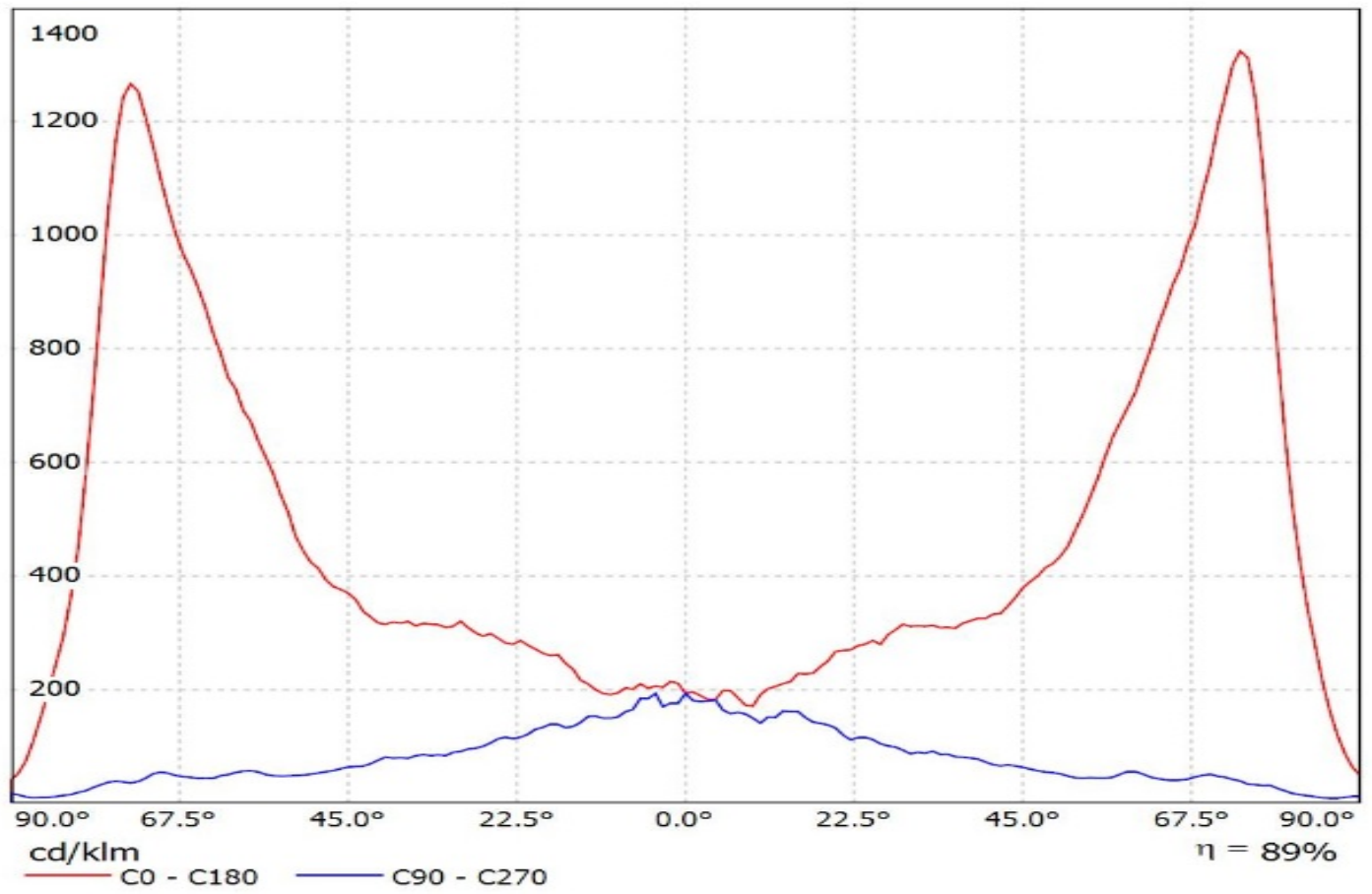
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-E2) Eff.92.5%  
Lamps: 1 x CREE XP-E2 (93.5lm@250mA)



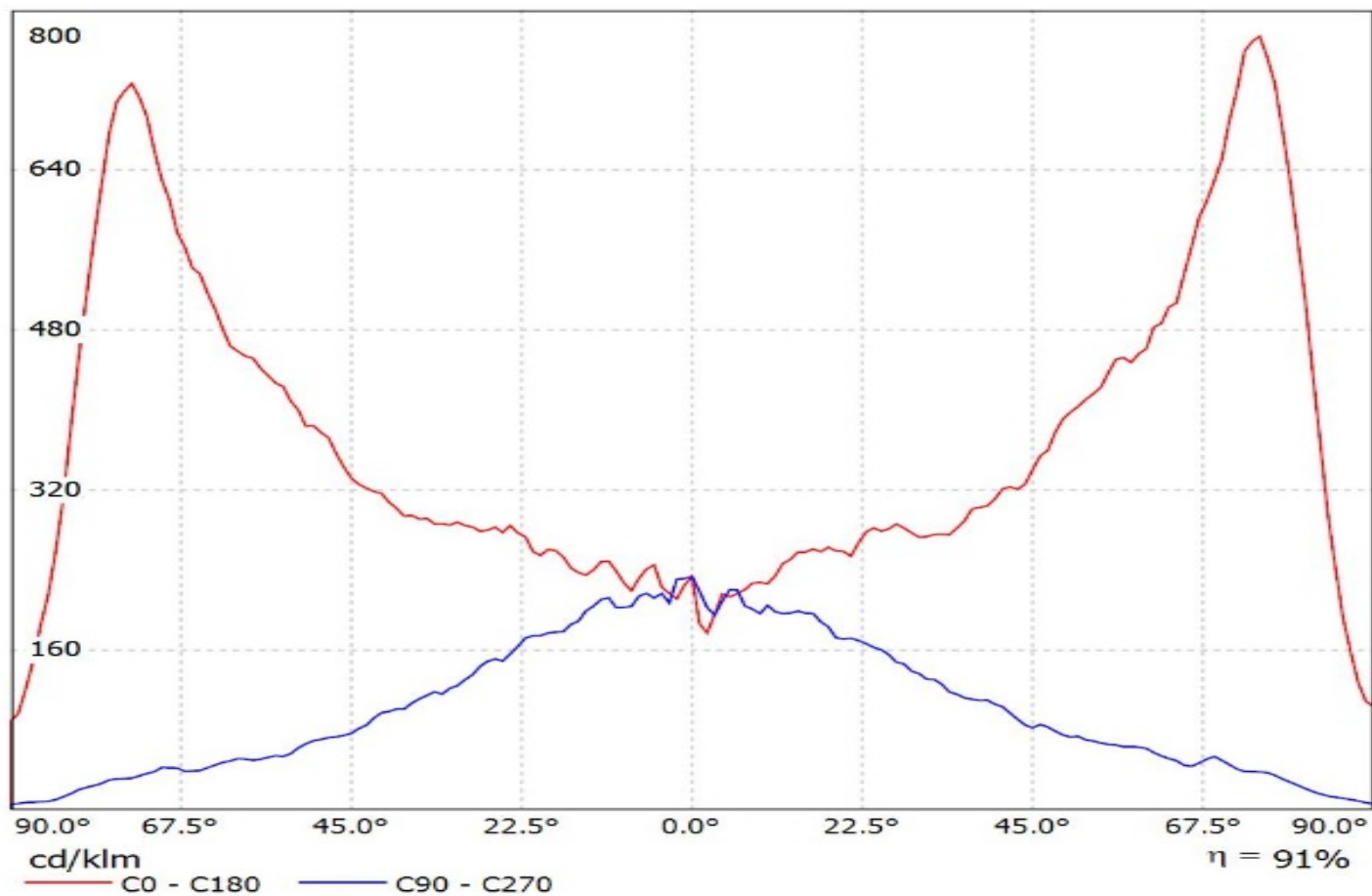
Luminaire: LEDil Oy C13155\_EMERALD-A\_(XM-L2) Efficiency=94%  
Lamps: 1 x Cree XM-L2 (XMLBWT-0-7B4-T30-0L-0001) 91lm @ 250mA CCT=3200K P=0.7W I=250mA



Luminaire: Ledil Oy C13155\_EMERALD-A\_(XP-L\_HI)\_SIMULATED  
Lamps: 1 x Cree XP-L HI

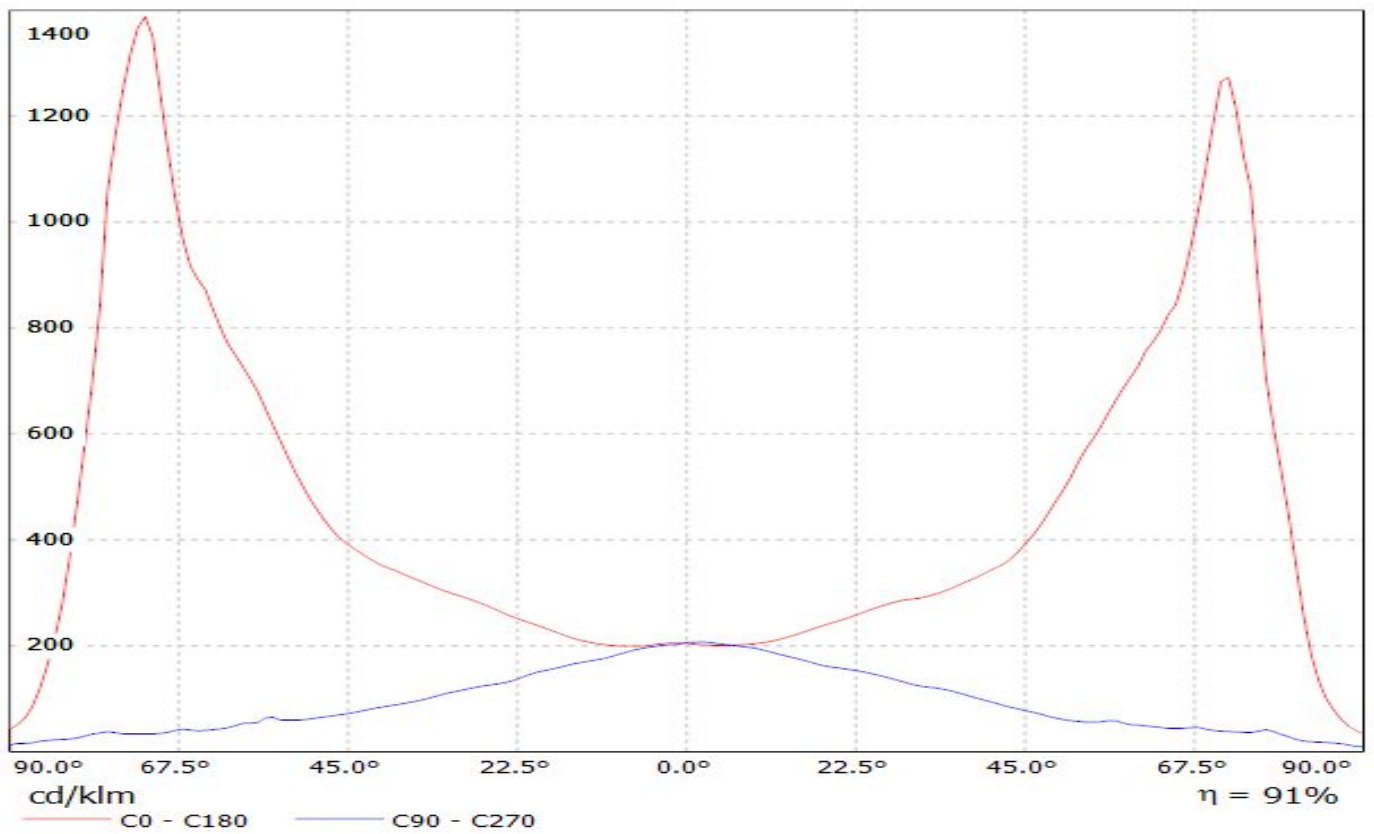


Luminaire: Ledil Oy C13155\_EMERALD-A\_(XHP35\_HD)\_SIMULATED  
Lamps: 1 x Cree XHP35 HD



# LEDiL Oy C13155\_EMERALD-A\_(LG3535) Eff.90.8% / LDC (Linear)

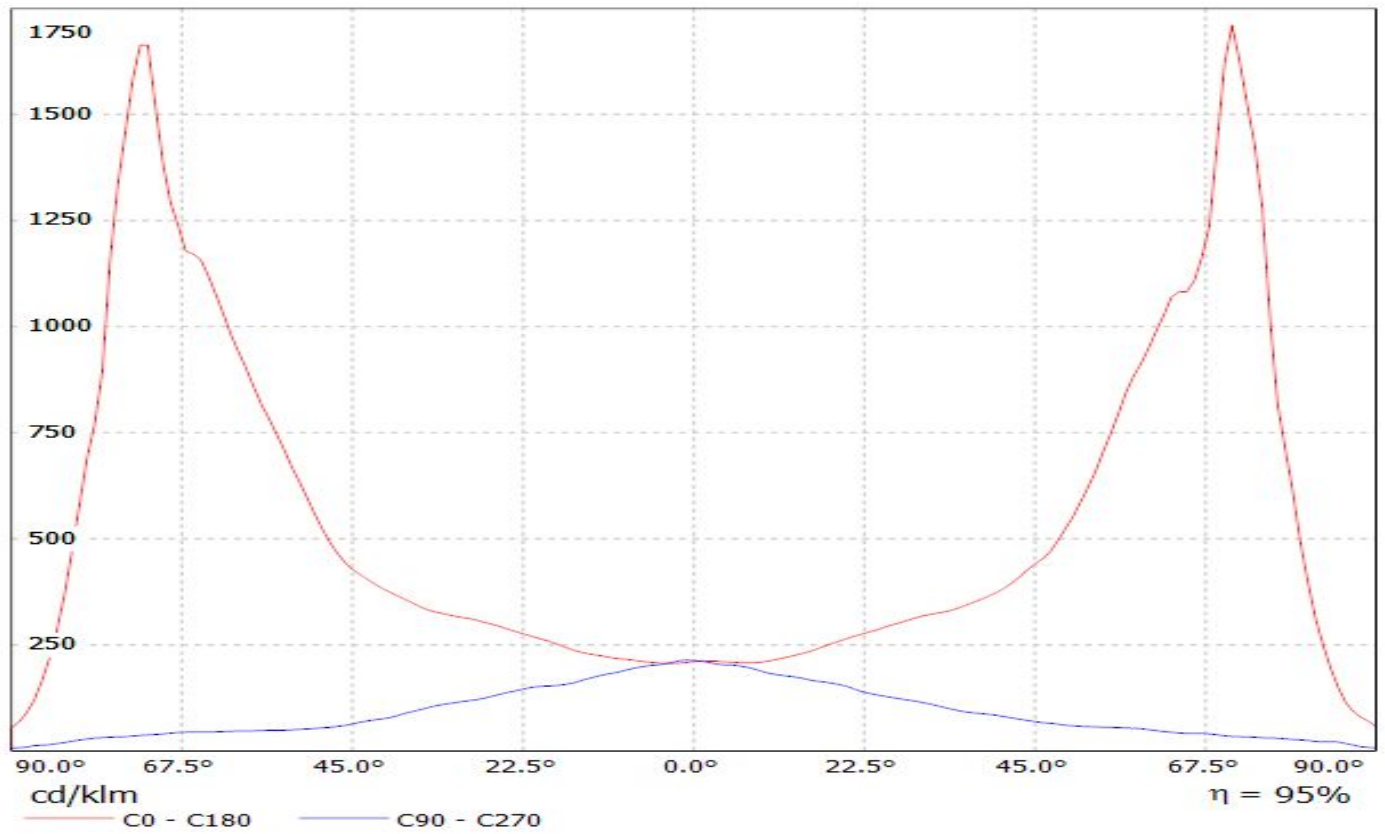
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LG3535) Eff.90.8%  
Lamps: 1 x LG 3535 Ceramic (94lm@250mA)



# LEDiL Oy C13155\_EMERALD-A\_(LG3535\_2W) Eff.95.1% / LDC (Linear)

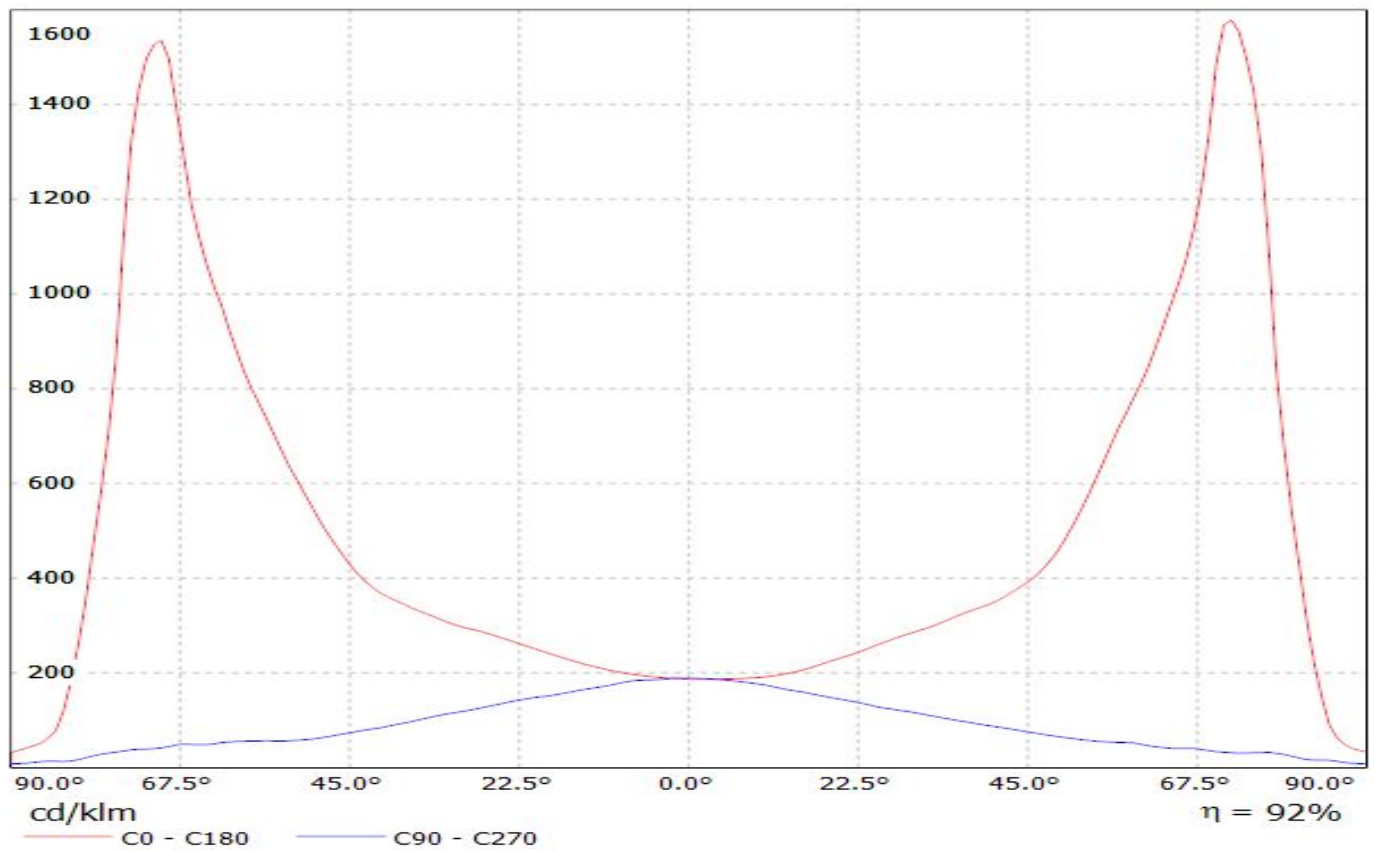
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LG3535\_2W) Eff.95.1%

Lamps: 1 x LG3535\_2W (97.3629lm@250mA)



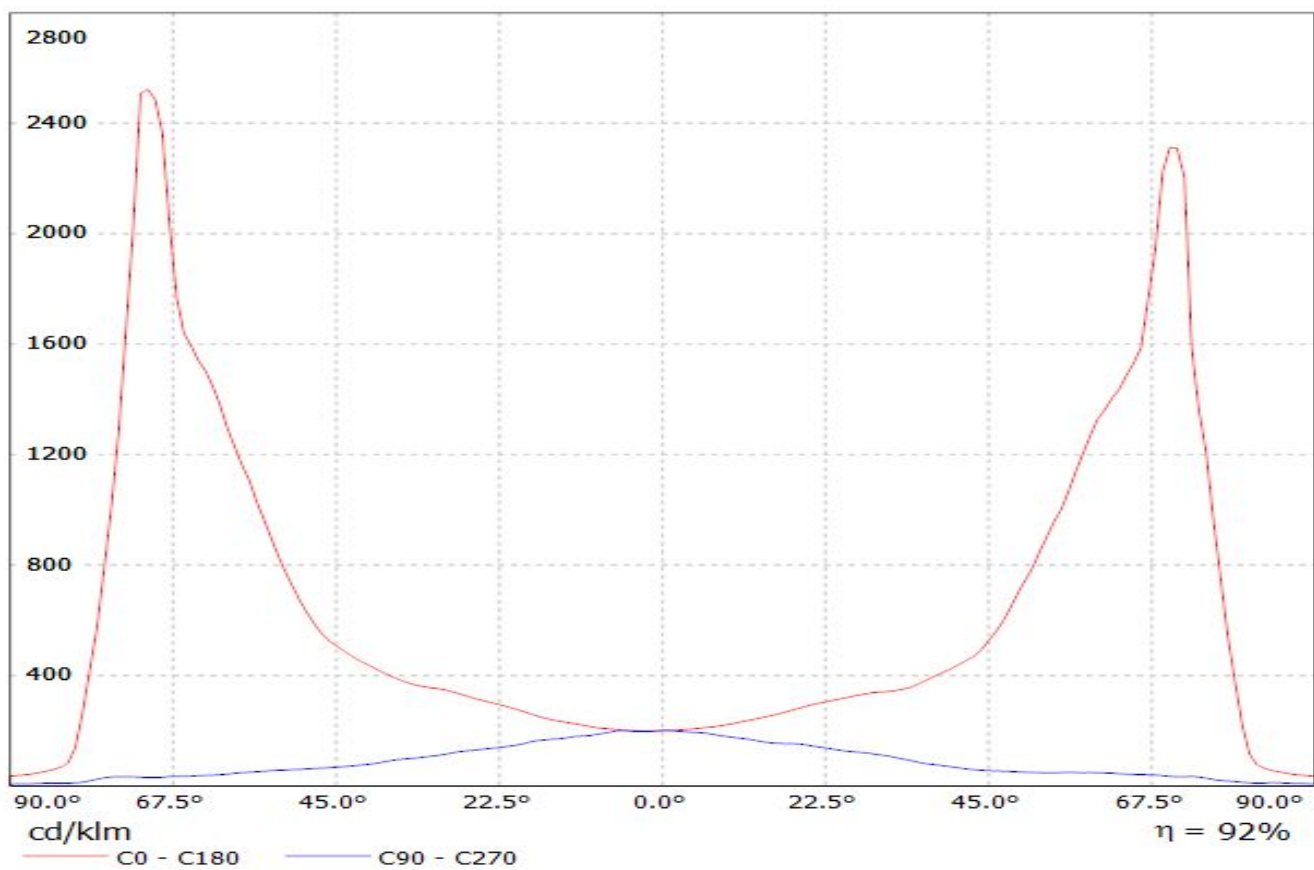
# LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_A) Eff.92.0% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_A) Eff.92.0%  
Lamps: 1 x LUXEON\_R (67.5lm@250mA)



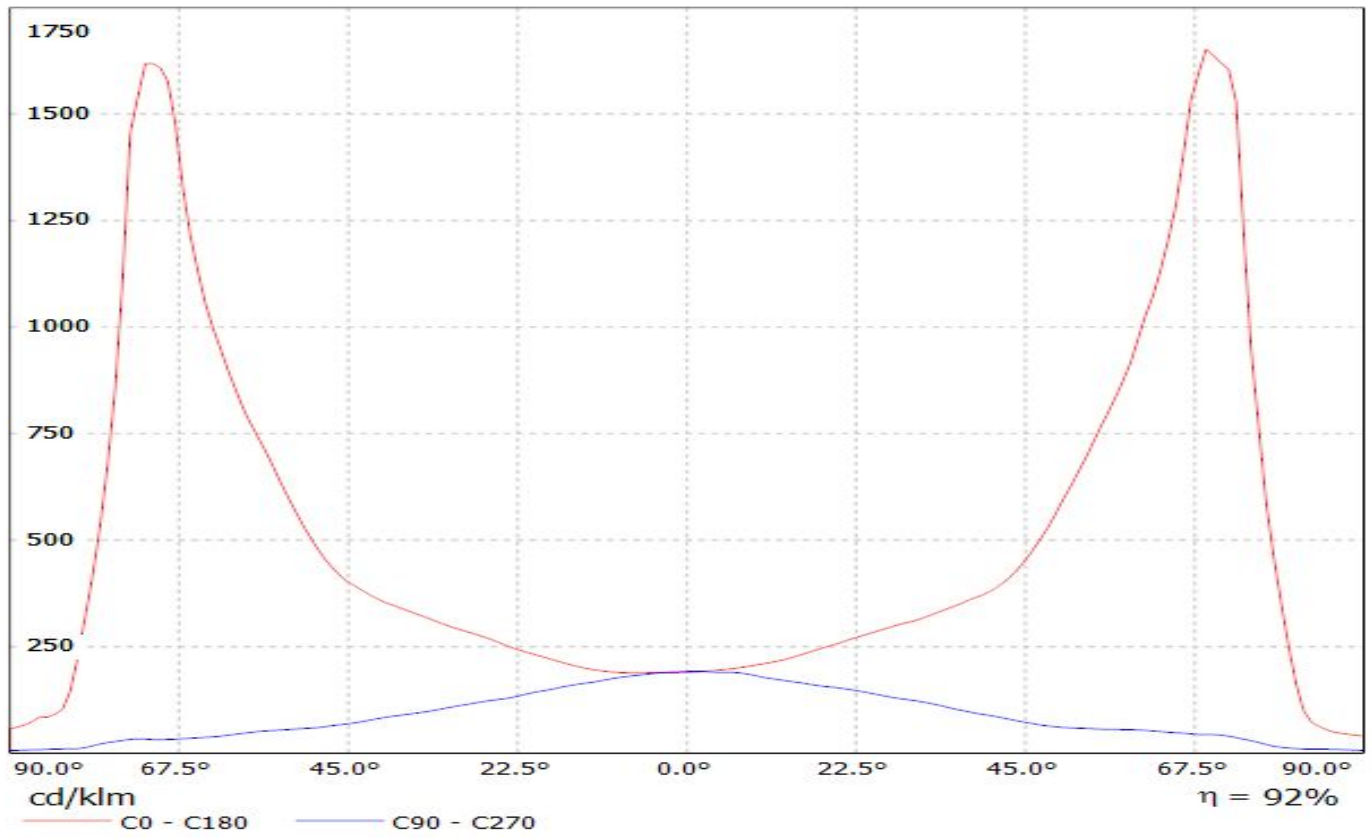


Luminaire: LEDiL Oy C13155\_EMERALD-A\_(Rebel) Eff. 91,7%  
Lamps: 1 x Luxeon Rebel (82lm@250mA)

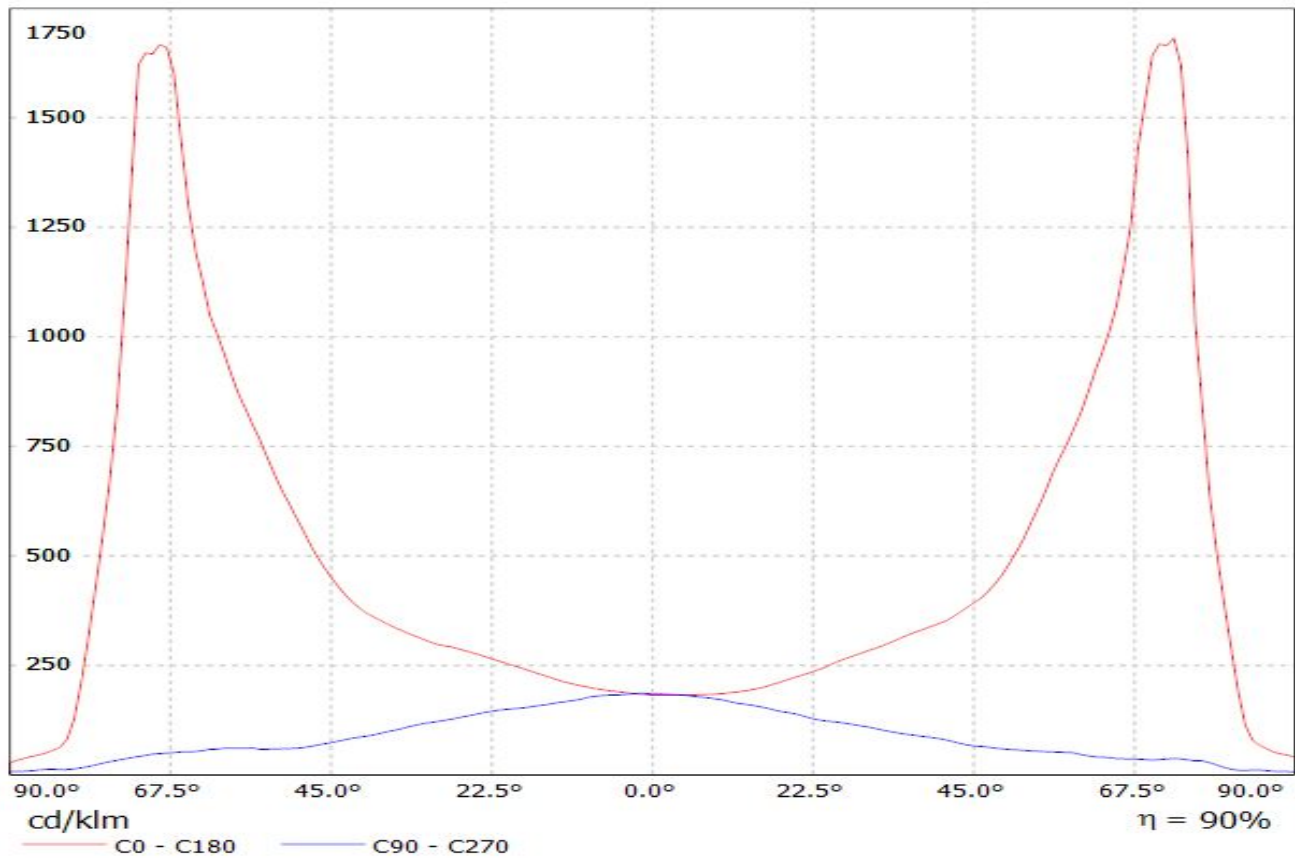


# LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_R) Eff.91.7% / LDC (Linear)

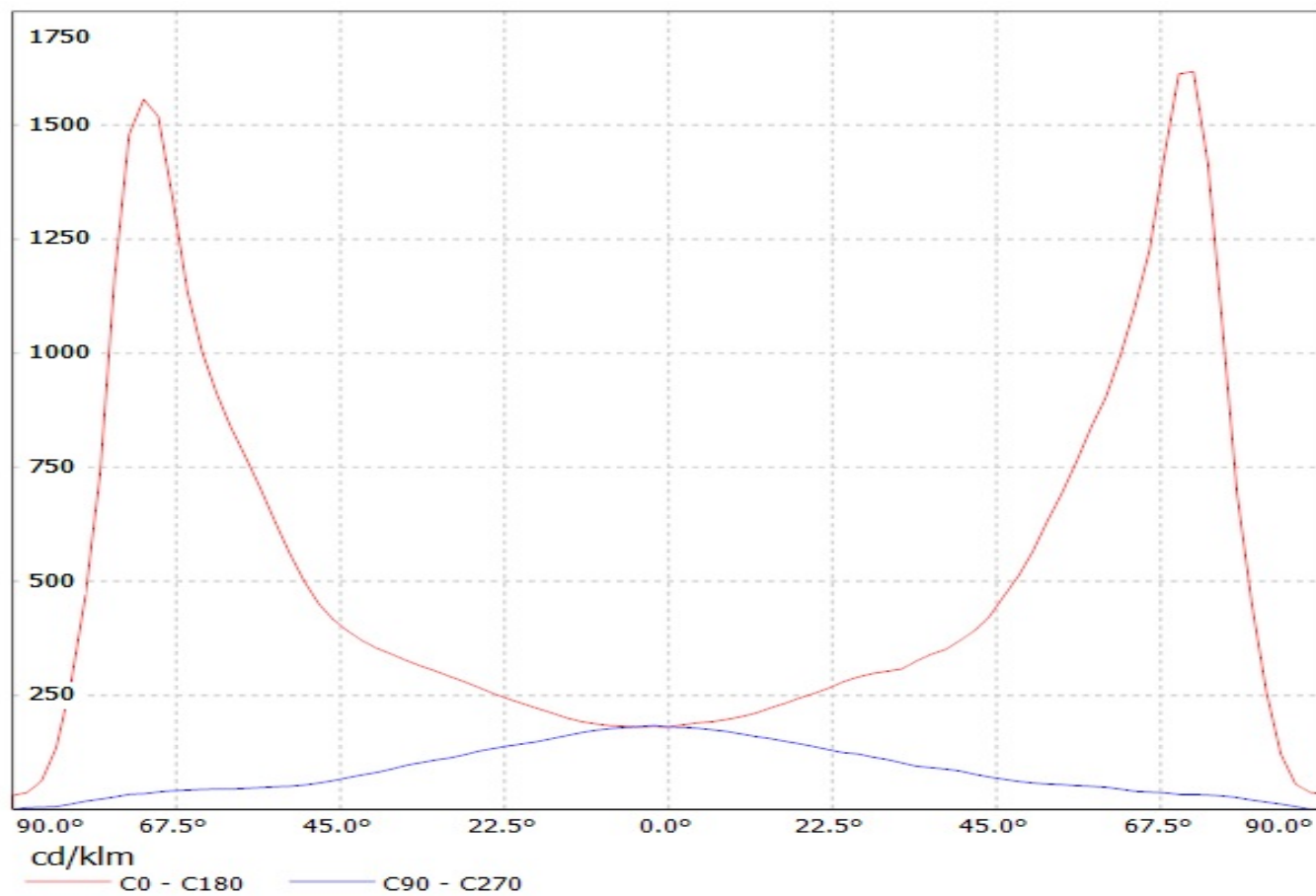
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_R) Eff.91.7%  
Lamps: 1 x LUXEON\_R (85.6lm@250mA)



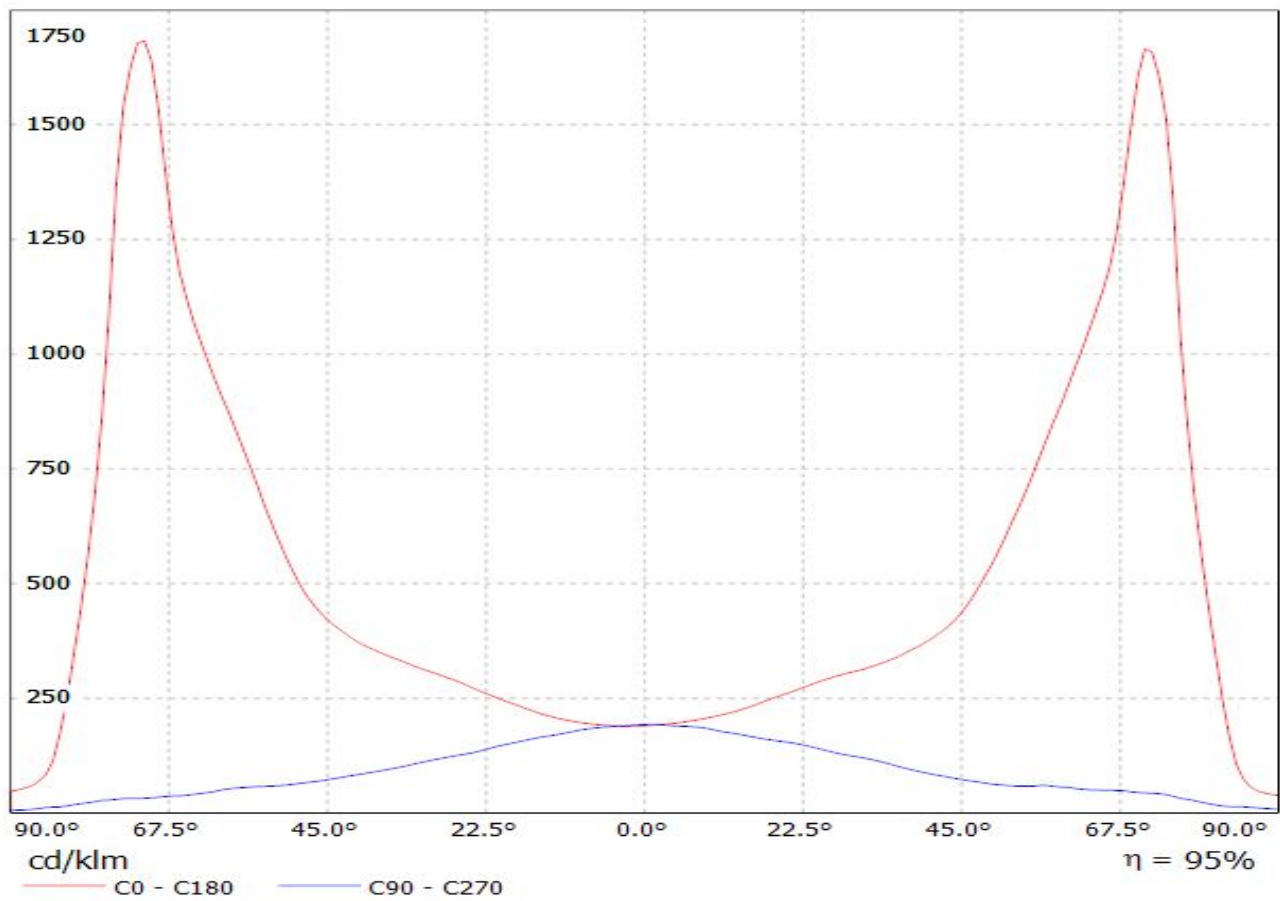
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(Rebel-ES) Eff. 90,4%  
Lamps: 1 x Luxeon Rebel-ES (90lm@250mA)



Luminaire: Ledil Oy C13155\_EMERALD-A (Luxeon T 71lm @ 250mA) Efficiency=93%  
Lamps: 1 x Luxeon T 71lm @ 250mA

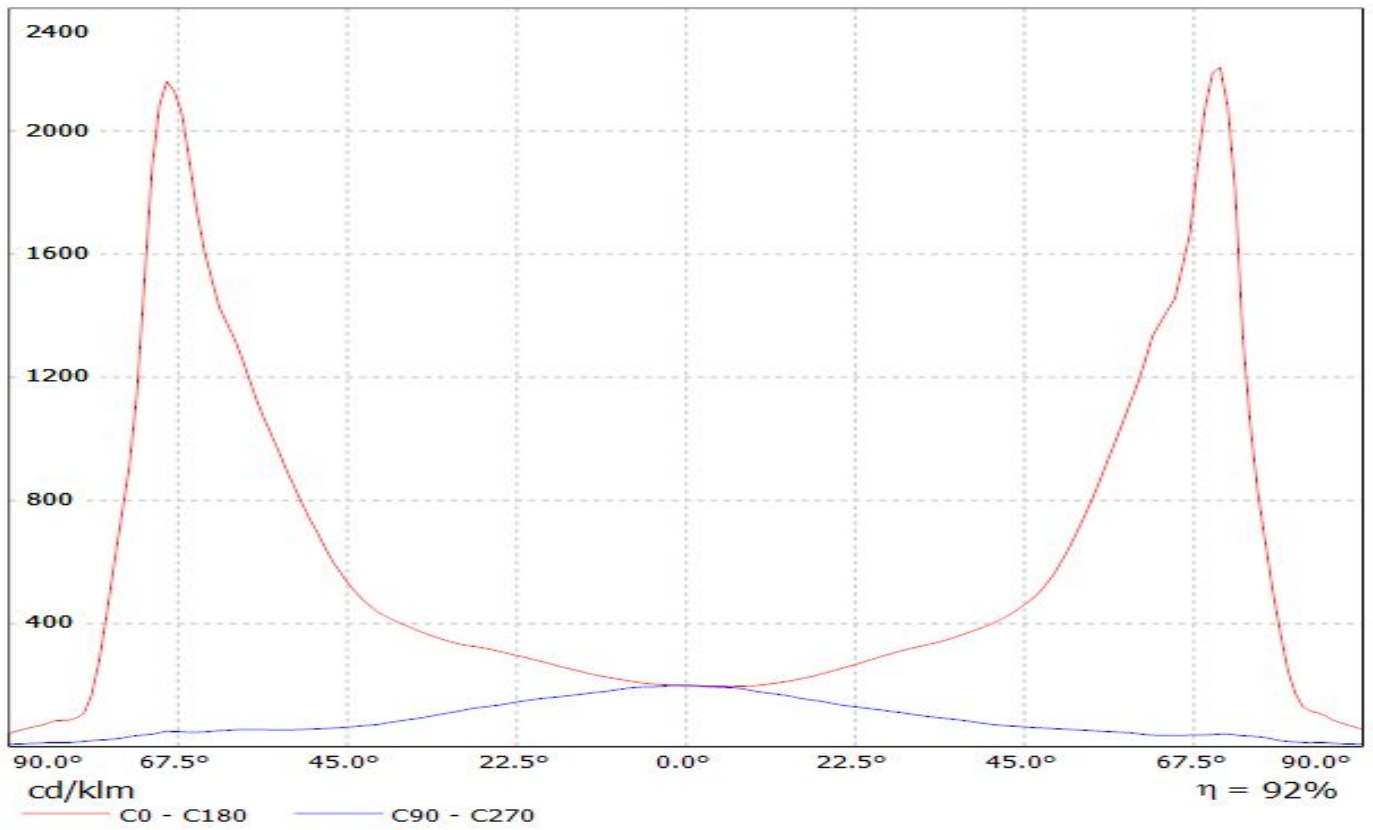


Luminaire: LEDiL Oy C13155\_EMERALD-A\_(Luxeon\_TX) Eff.95.0%  
Lamps: 1 x Luxeon\_TX\_(L1T2-3585)\_80.1801lm@250mA\_CCT=3500K\_P=0.731482W\_I=249.9mA



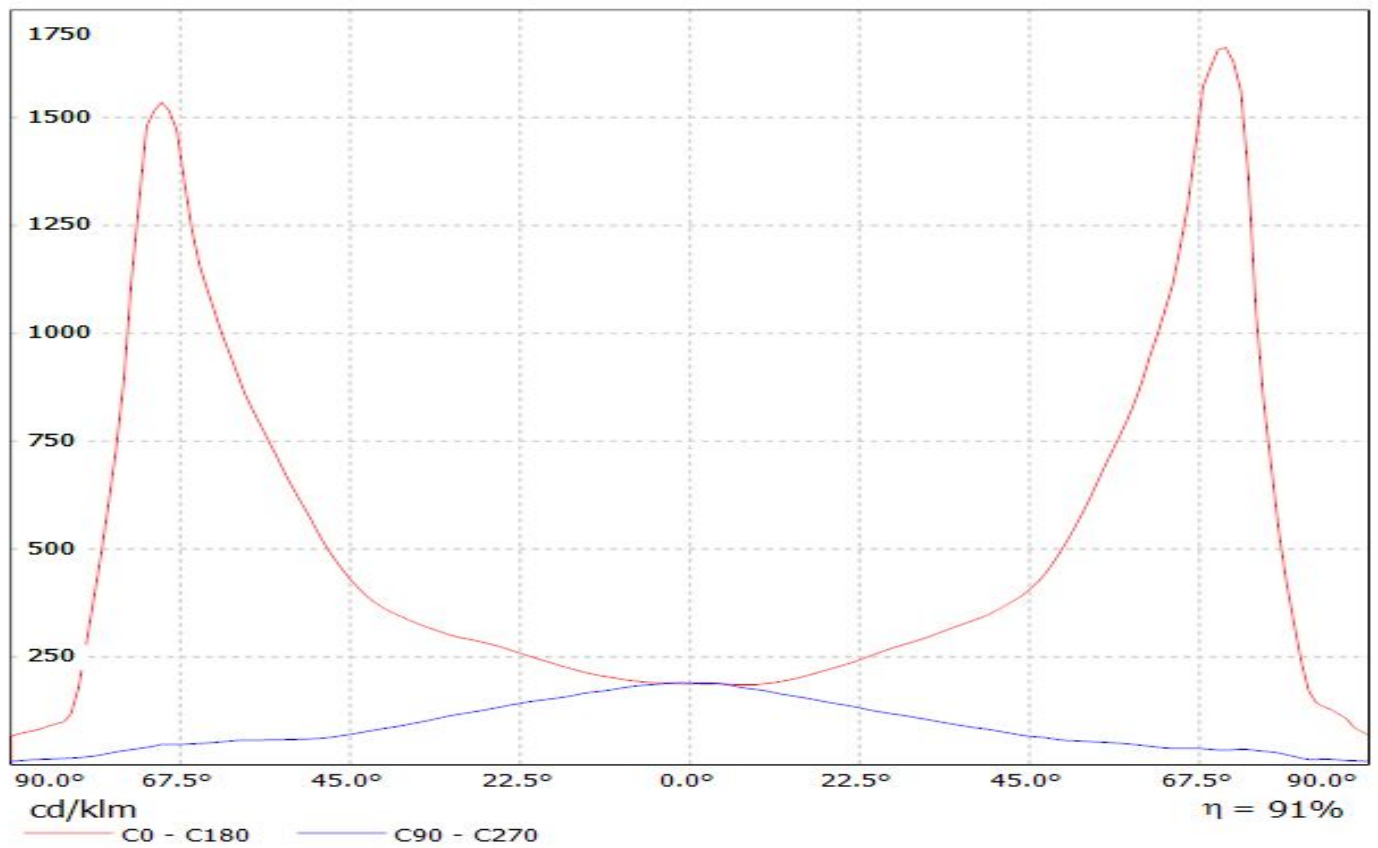
# LEDiL Oy C13155\_EMERALD-A\_(NCS19) Eff.91.8% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(NCS19) Eff.91.8%  
Lamps: 1 x NCS19 (89lm@250mA)

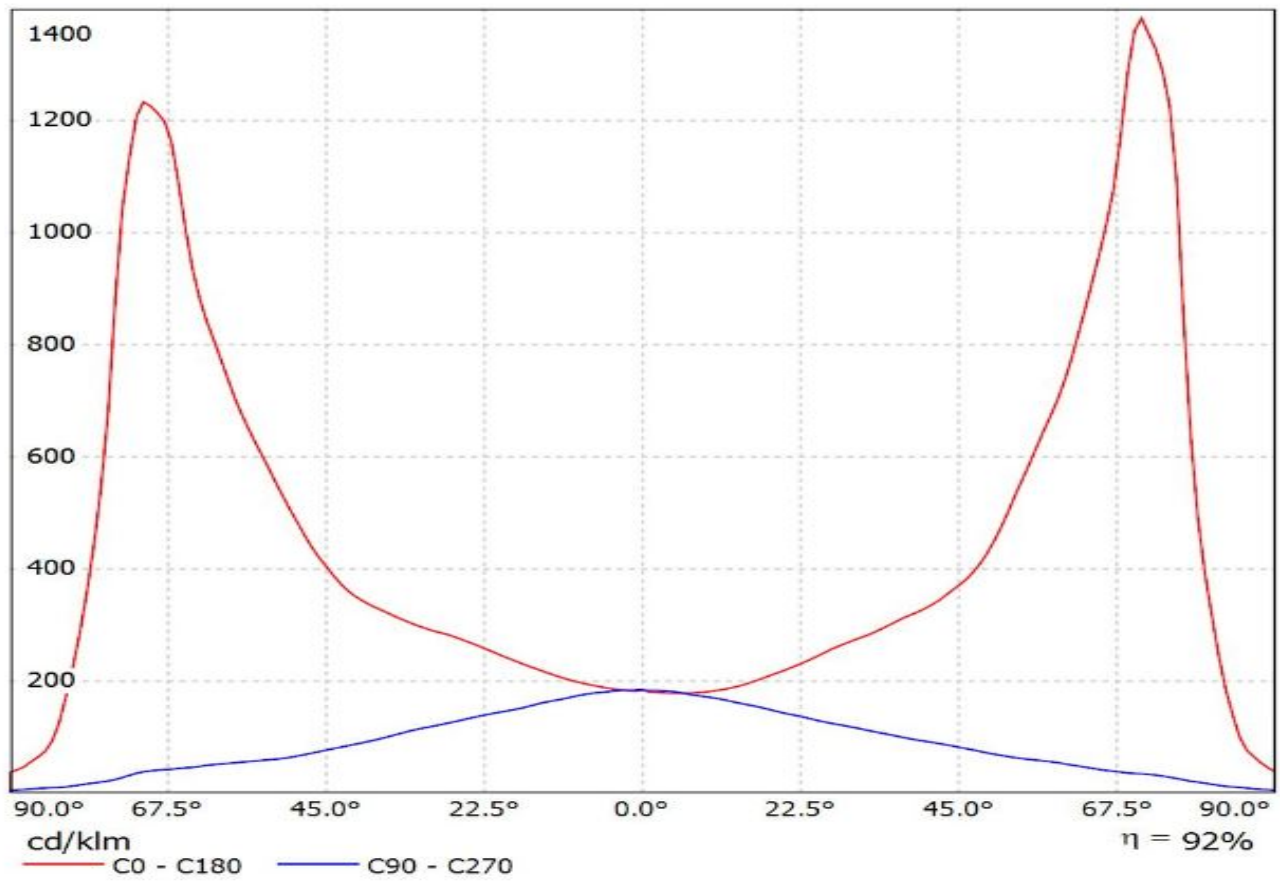


# LEDiL Oy C13155\_EMERALD-A\_(NVS19) Eff.90.8% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(NVS19) Eff.90.8%  
Lamps: 1 x NVS19 (98.3lm@250mA)



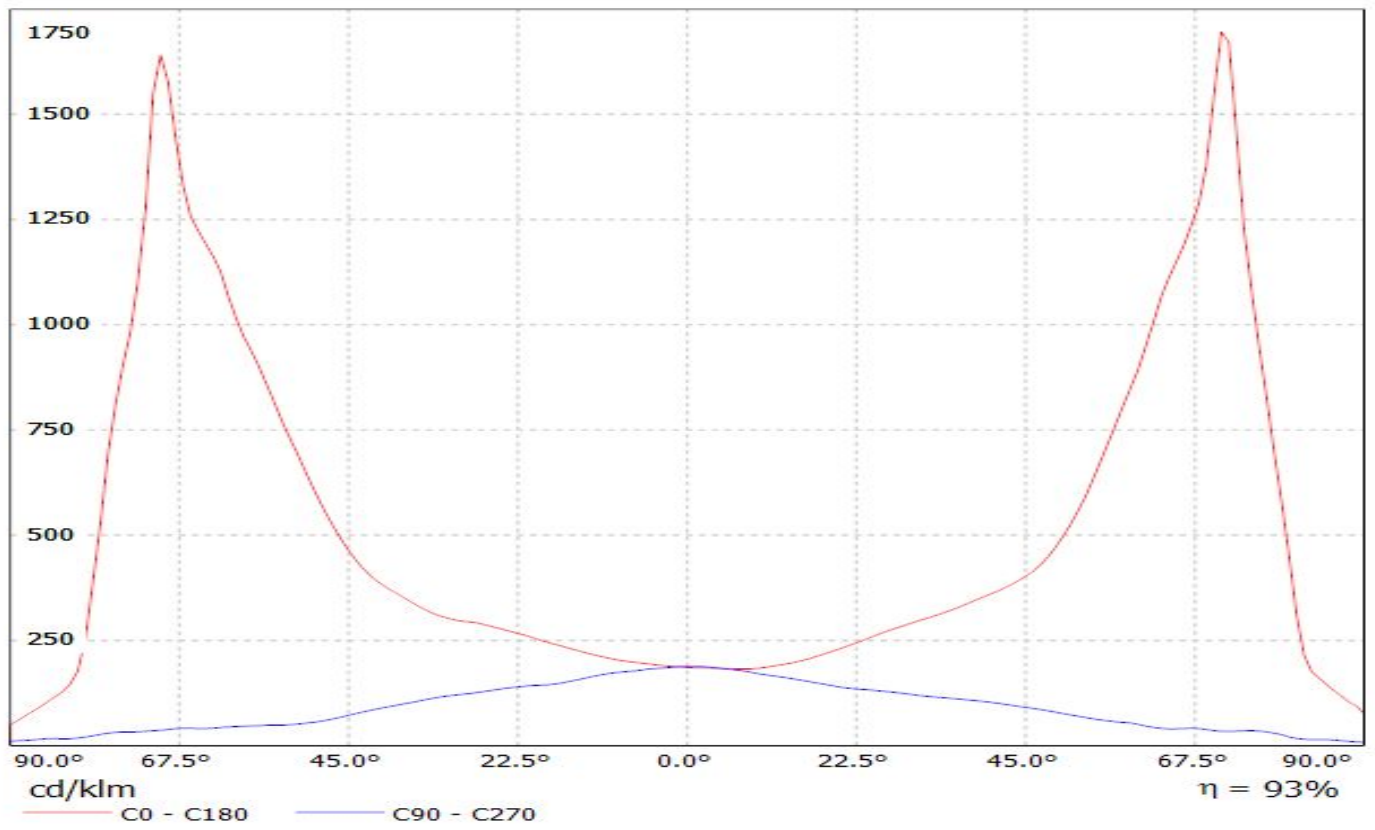
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(NVSL219CE)  
Lamps: 1 x Nichia\_NVSL219CE\_101.227lm@250mA\_P=0.713404W\_I=0.25A





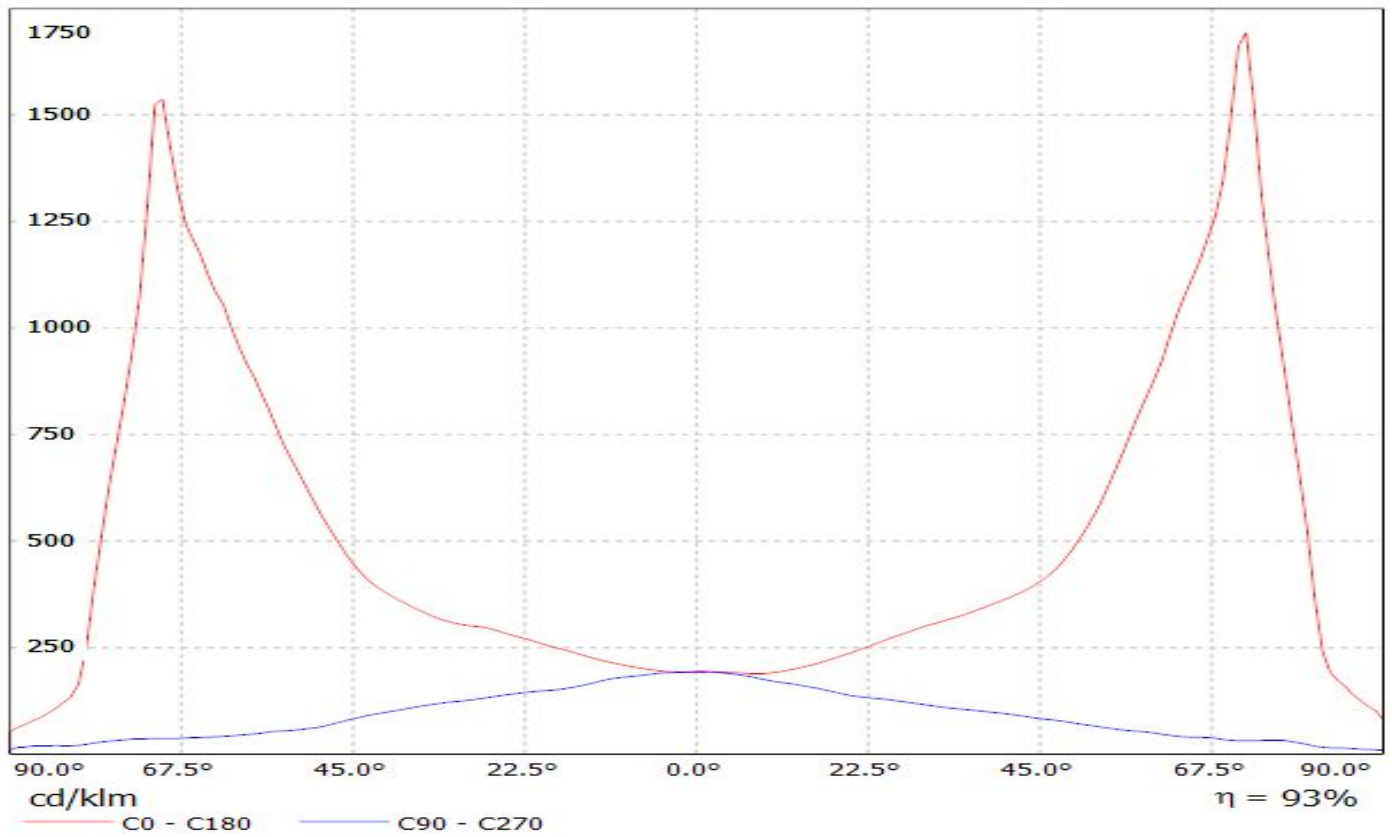
# LEDiL Oy C13155\_EMERALD-A\_(SQ-PC) Eff.93.3% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SQ-PC) Eff.93.3%  
Lamps: 1 x SQ-PC (79.1971lm@250mA)



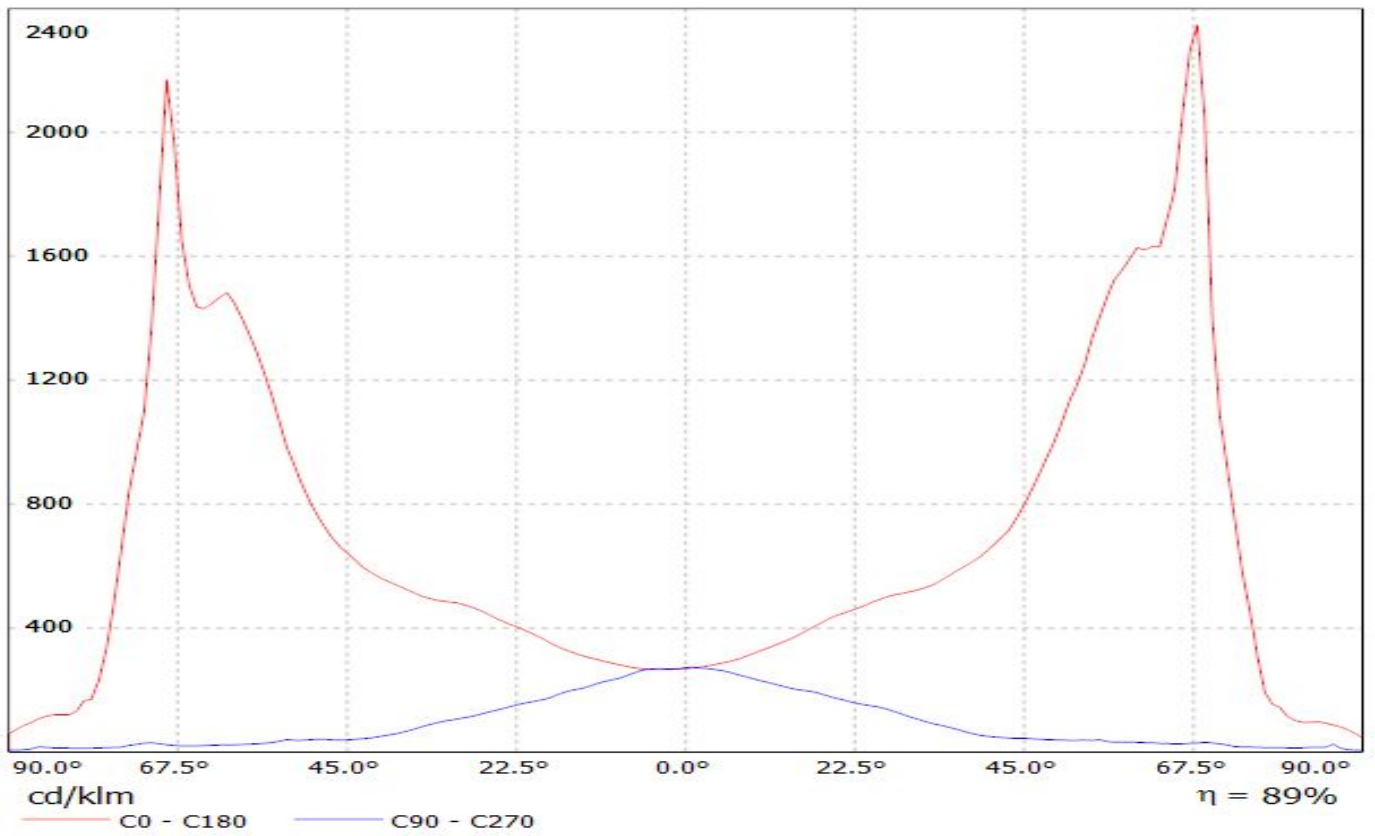
# LEDiL Oy C13155\_EMERALD-A\_(SQ-EC) Eff.92.8% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SQ-EC) Eff.92.8%  
Lamps: 1 x SQ-EC (64.5908lm@250mA)



# LEDiL Oy C13155\_EMERALD-A\_(SSL80) Eff.88.6% / LDC (Linear)

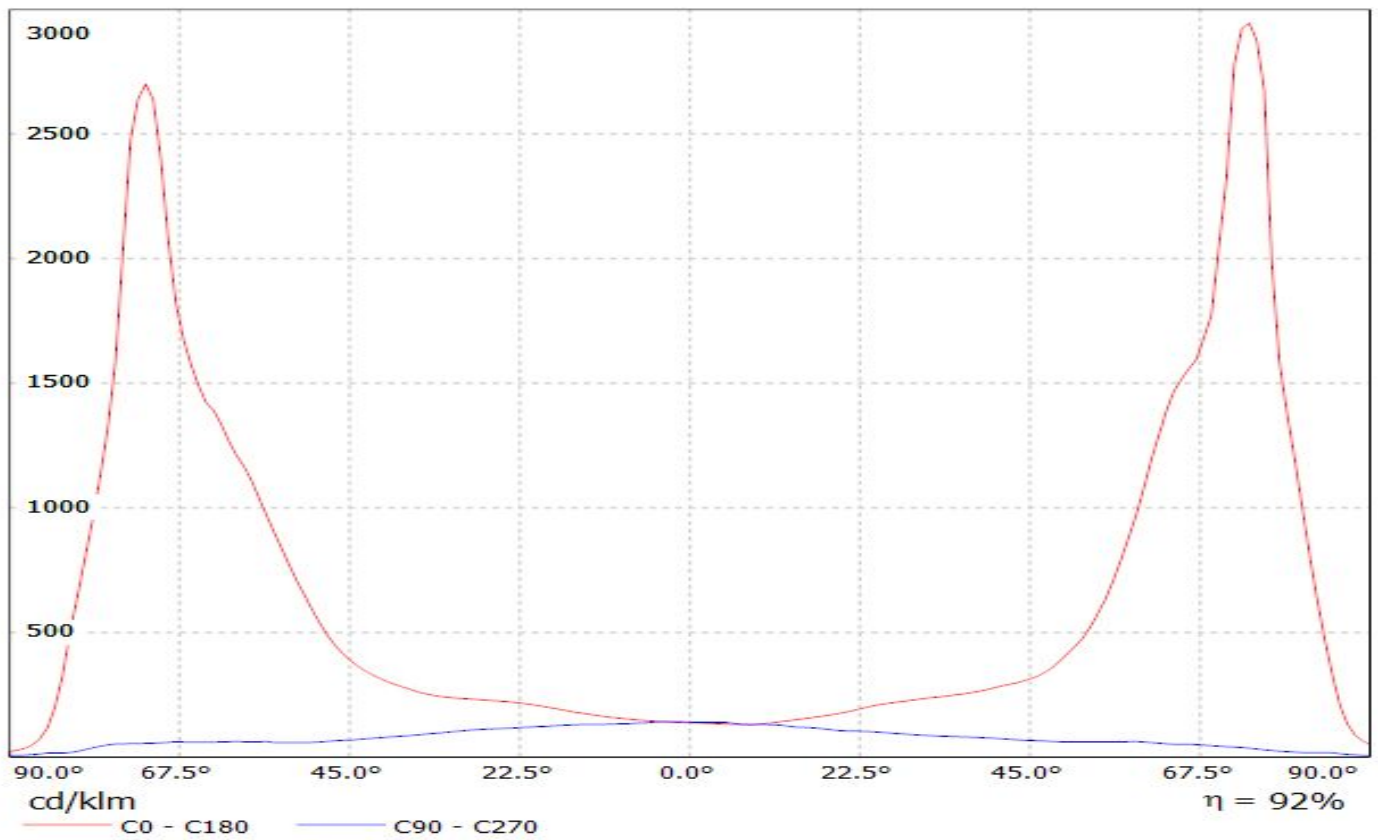
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SSL80) Eff.88.6%  
Lamps: 1 x OSLOM SSL80 (81.3lm@250mA)



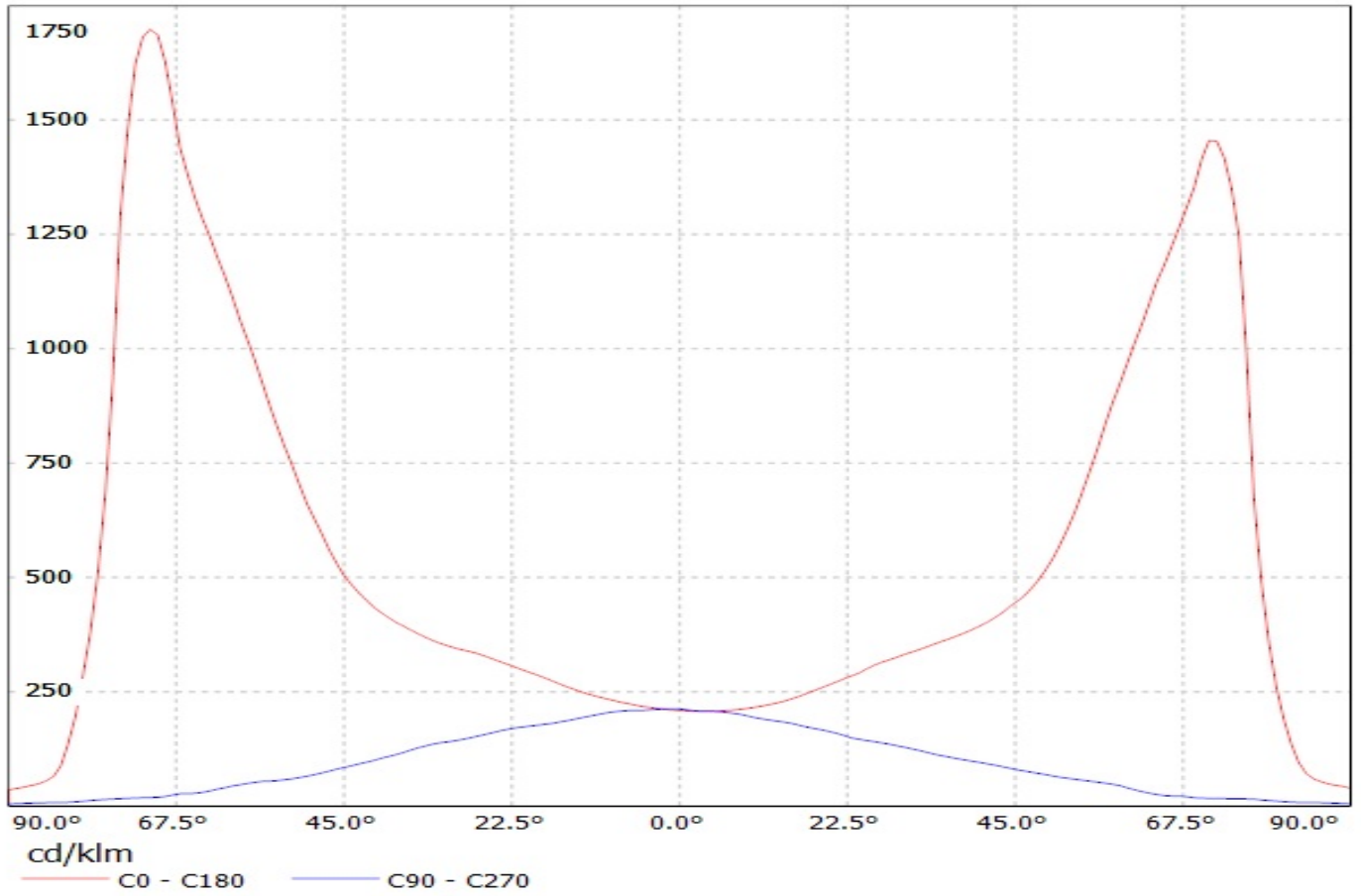
# LEDiL Oy C13155\_EMERALD-A\_(SSL150) Eff.91.6% / LDC (Linear)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SSL150) Eff.91.6%

Lamps: 1 x OSLOM SSL150 (71.5lm@250mA)



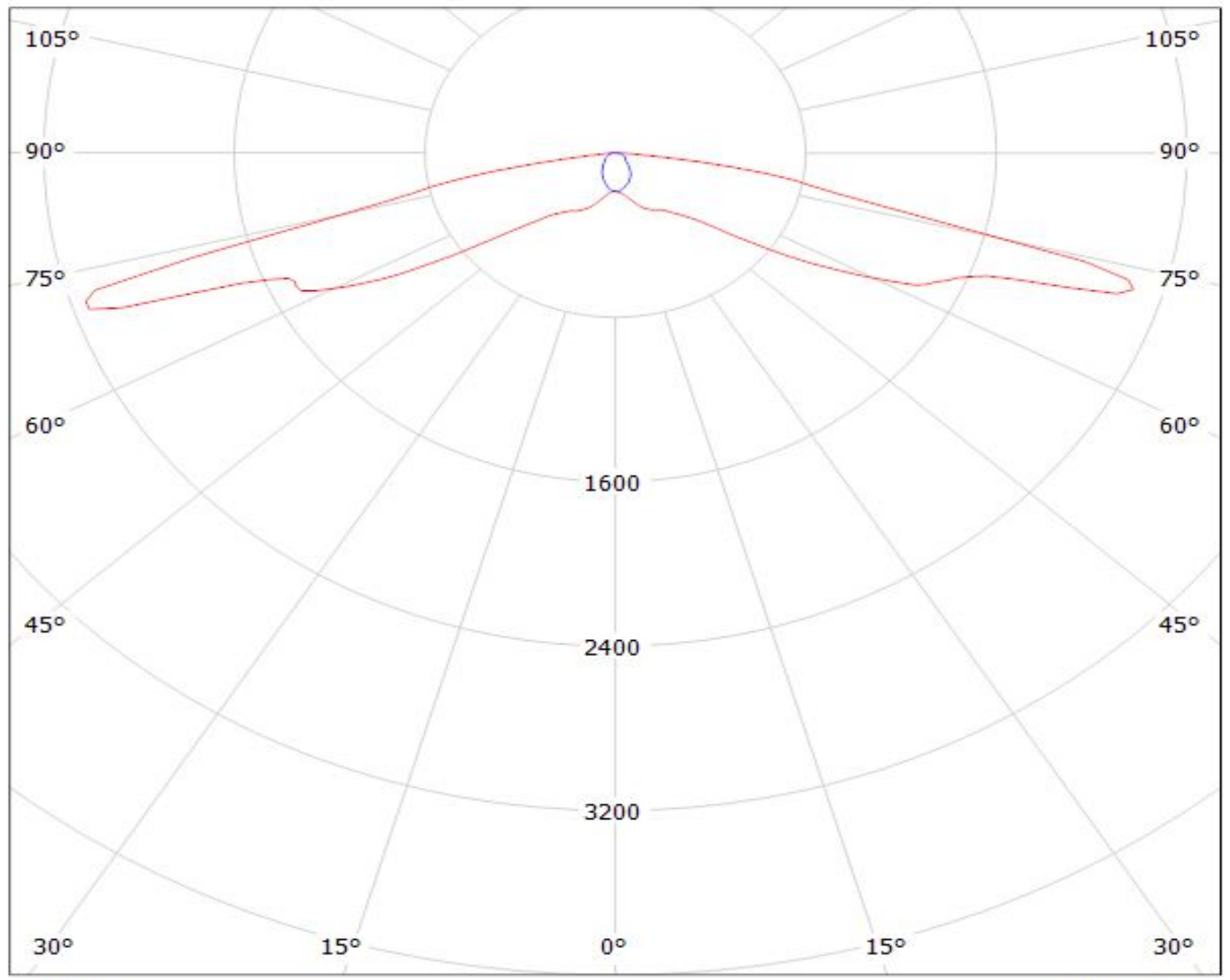
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LH351Z) Eff.93.6%  
Lamps: 1 x SAMSUNG\_LH351Z\_90.8111lm@250mA\_P=0.748076W\_I=249.9mA



# LEDiL Oy C13155\_EMERALD-A\_(XP-E) Eff.93.3% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-E) Eff.93.3%

Lamps: 1 x CREE XP-E (51.4197lm@250mA)



cd/klm

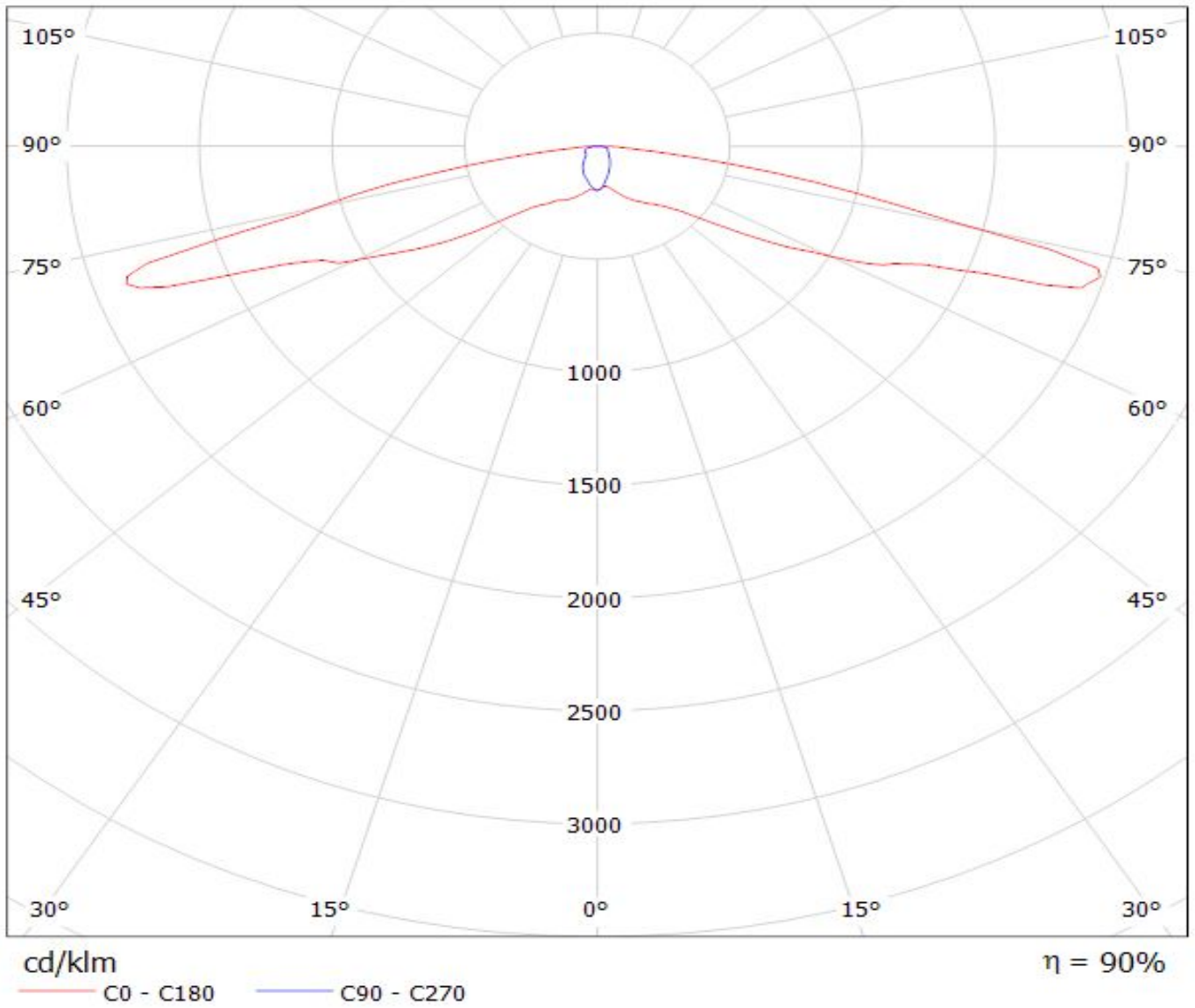
— C0 - C180

— C90 - C270

η = 93%

# LEDiL Oy C13155\_EMERALD-A\_(XB-D) / LDC (Polar)

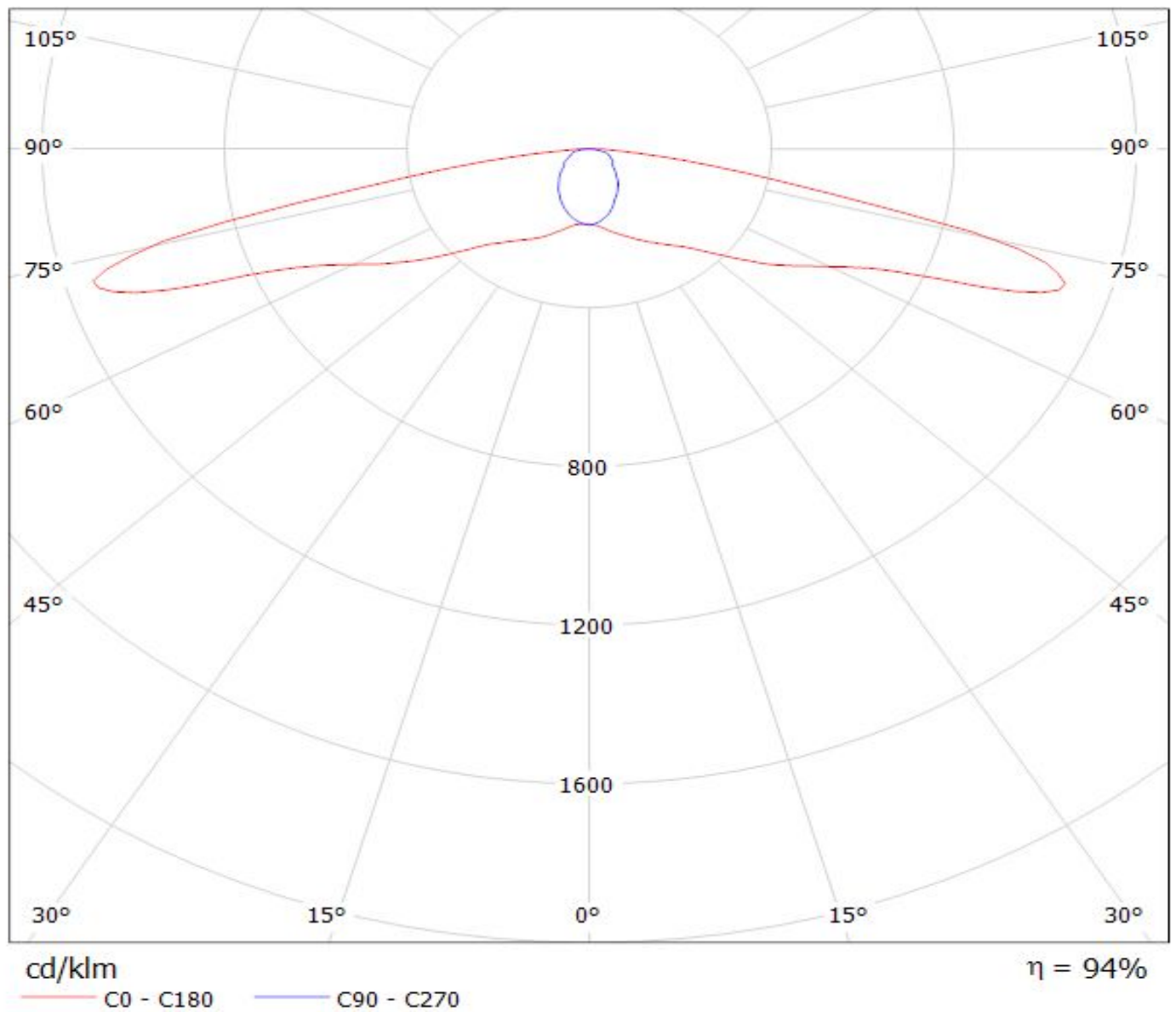
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XB-D)  
Lamps: 1 x Cree XB-D (95lm@250mA)



# LEDiL Oy C13155\_EMERALD-A\_(XM-L) Eff.94.5% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XM-L) Eff.94.5%

Lamps: 1 x Cree XM-L (91.7822lm@250mA)

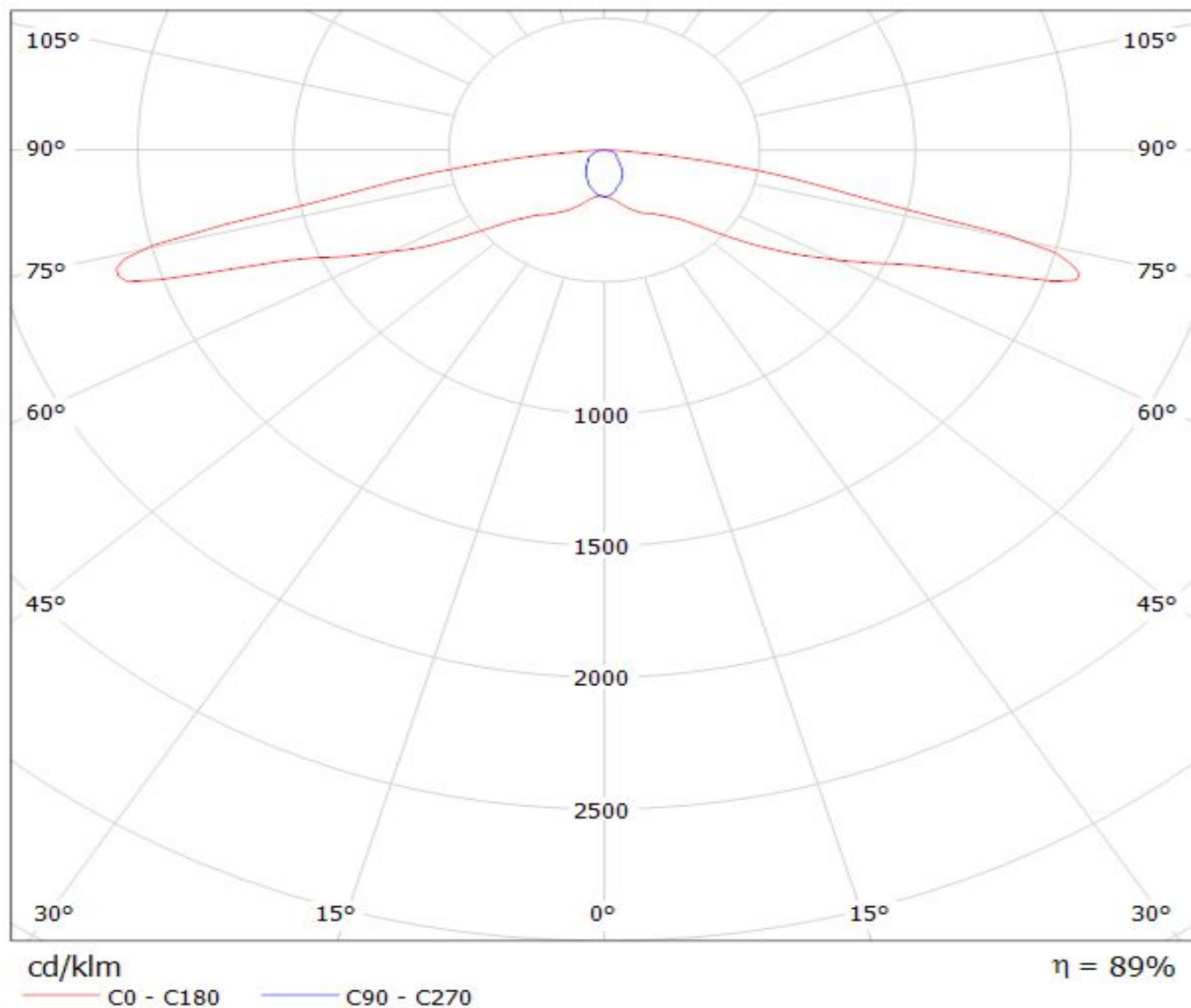




# LEDiL Oy C13155\_EMERALD-A\_(XP-G) Eff.89.2% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-G) Eff.89.2%

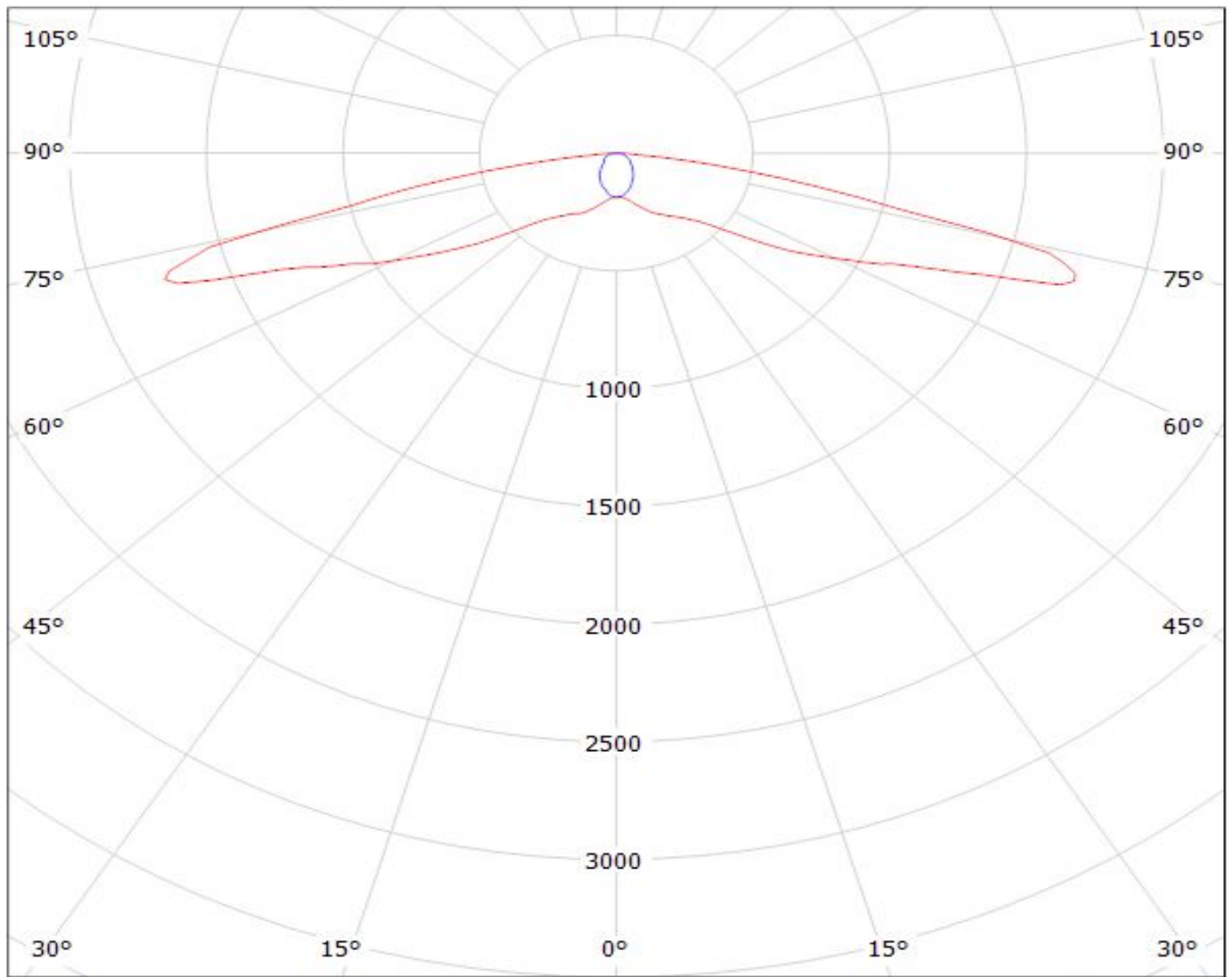
Lamps: 1 x XP-G (70.6lm@250mA)



# LEDiL Oy C13155\_EMERALD-A\_(XP-G2) Eff.94.3% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-G2) Eff.94.3%

Lamps: 1 x CREE XP-G2 (51.4197lm@250mA)



cd/klm

— C0 - C180

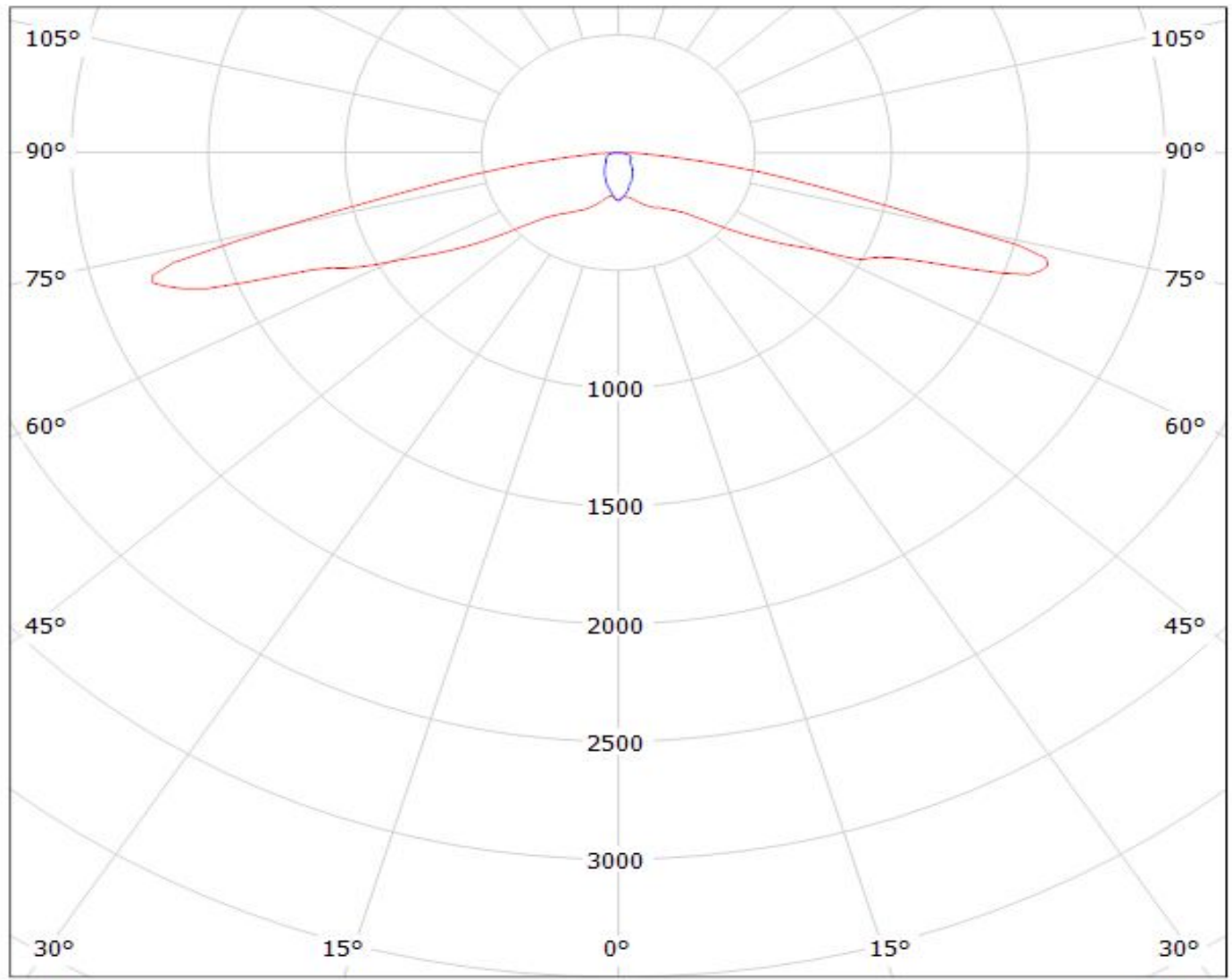
— C90 - C270

η = 94%

# LEDiL Oy C13155\_EMERALD-A\_(XB-D) Eff.89.2% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XB-D) Eff.89.2%

Lamps: 1 x Cree XT-E (102.3lm@250mA)



cd/klm

— C0 - C180

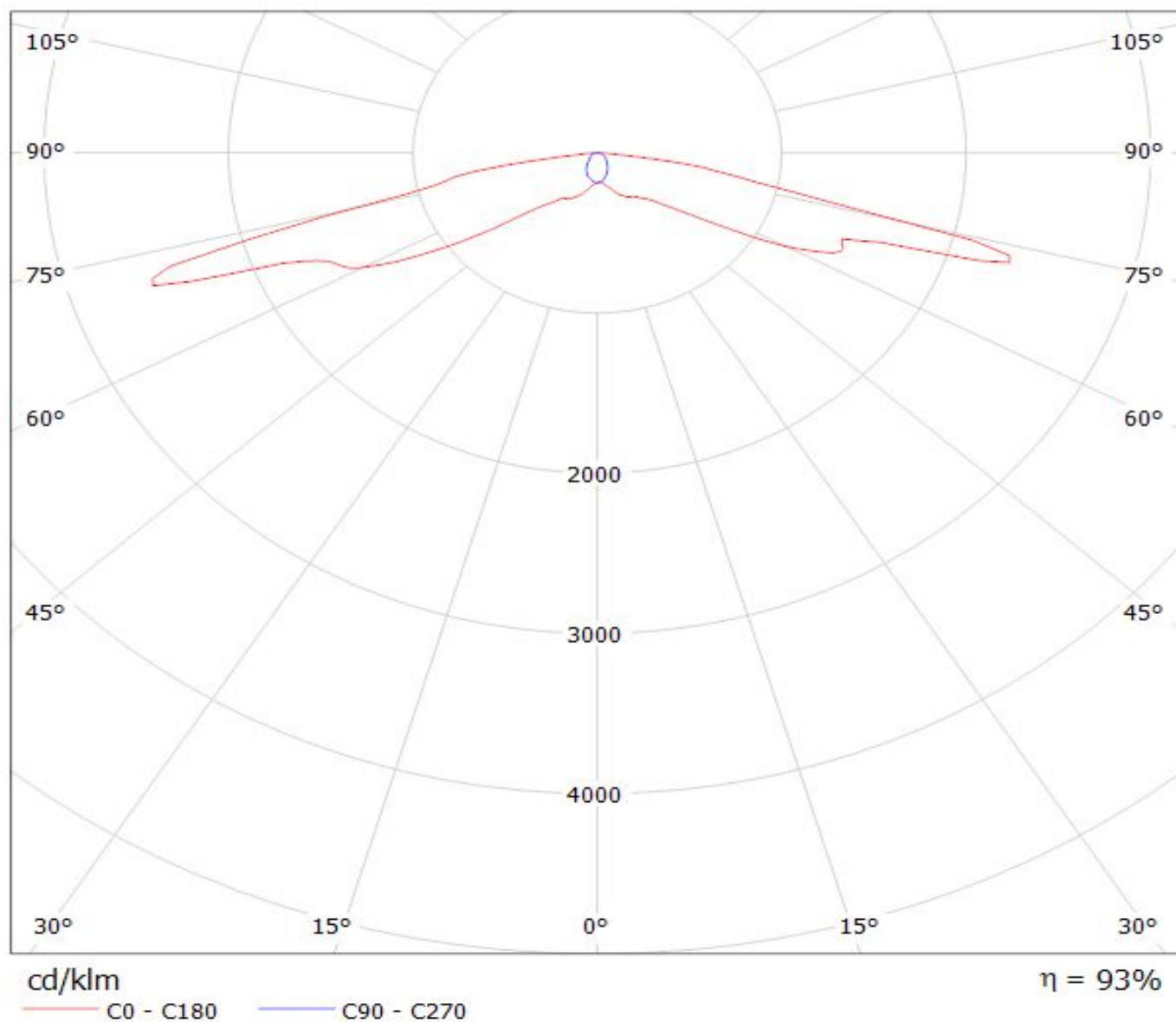
— C90 - C270

$\eta = 89\%$

# LEDiL Oy C13155\_EMERALD-A\_(XP-E2) Eff.92.5% / LDC (Polar)

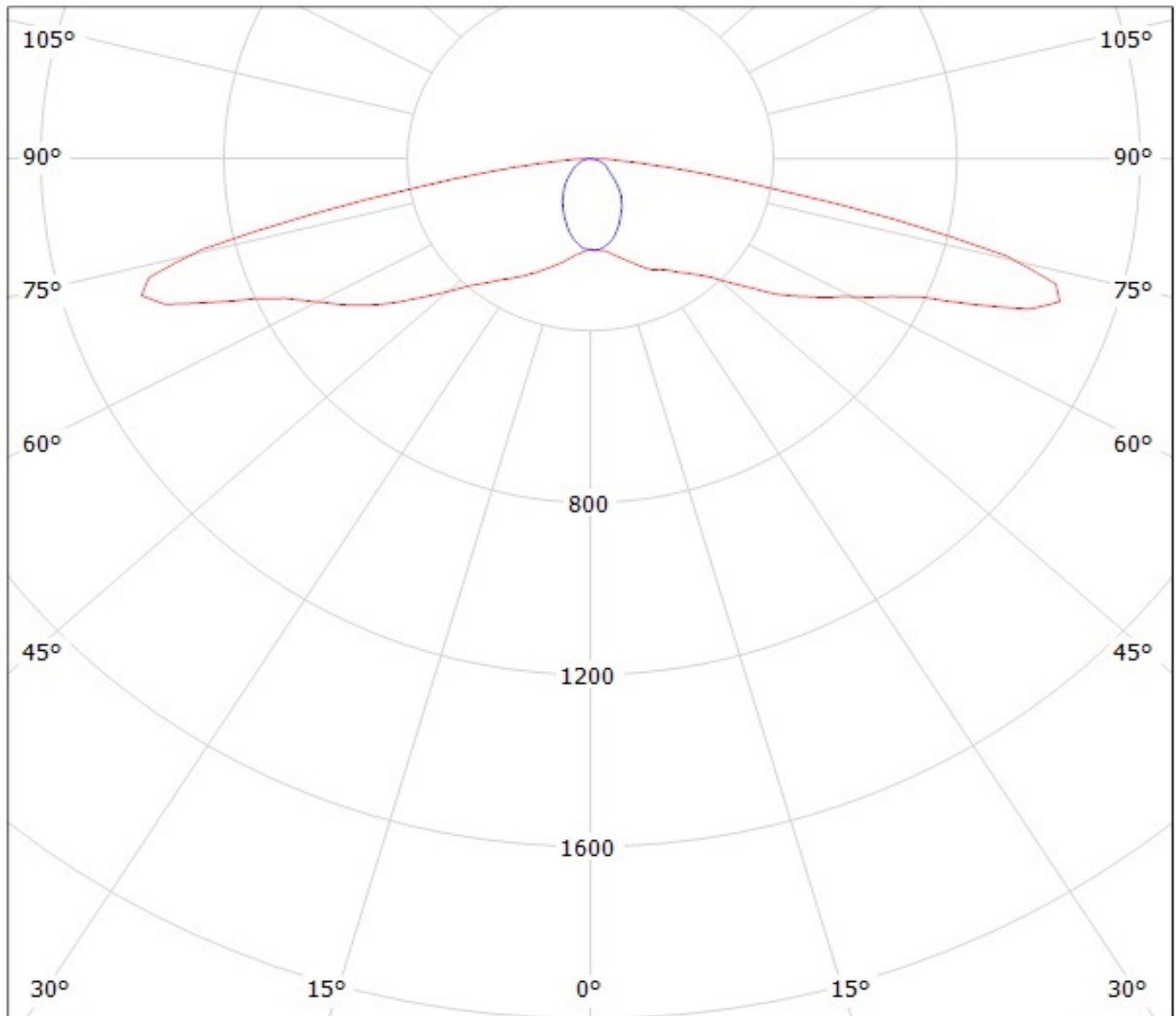
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(XP-E2) Eff.92.5%

Lamps: 1 x CREE XP-E2 (93.5lm@250mA)



Luminaire: LEDil Oy C13155\_EMERALD-A\_(XM-L2) Efficiency=94%

Lamps: 1 x Cree XM-L2 (XMLBWT-0-7B4-T30-0L-0001) 91lm @ 250mA CCT=3200K P=0.7W I=250mA

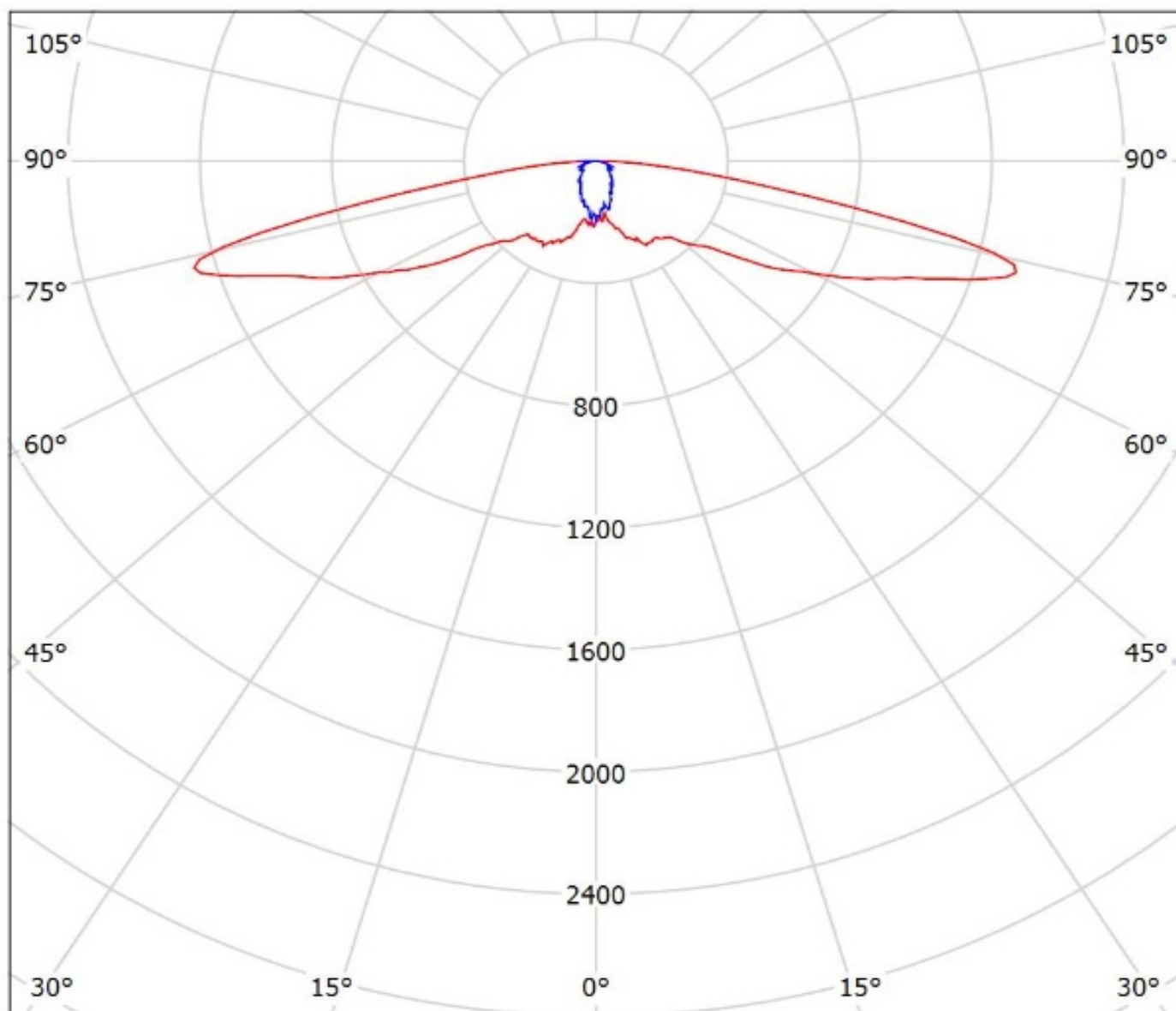


cd/klm

— C0 - C180

— C90 - C270

Luminaire: Ledil Oy C13155\_EMERALD-A\_(XP-L\_HI)\_SIMULATED  
Lamps: 1 x Cree XP-L HI

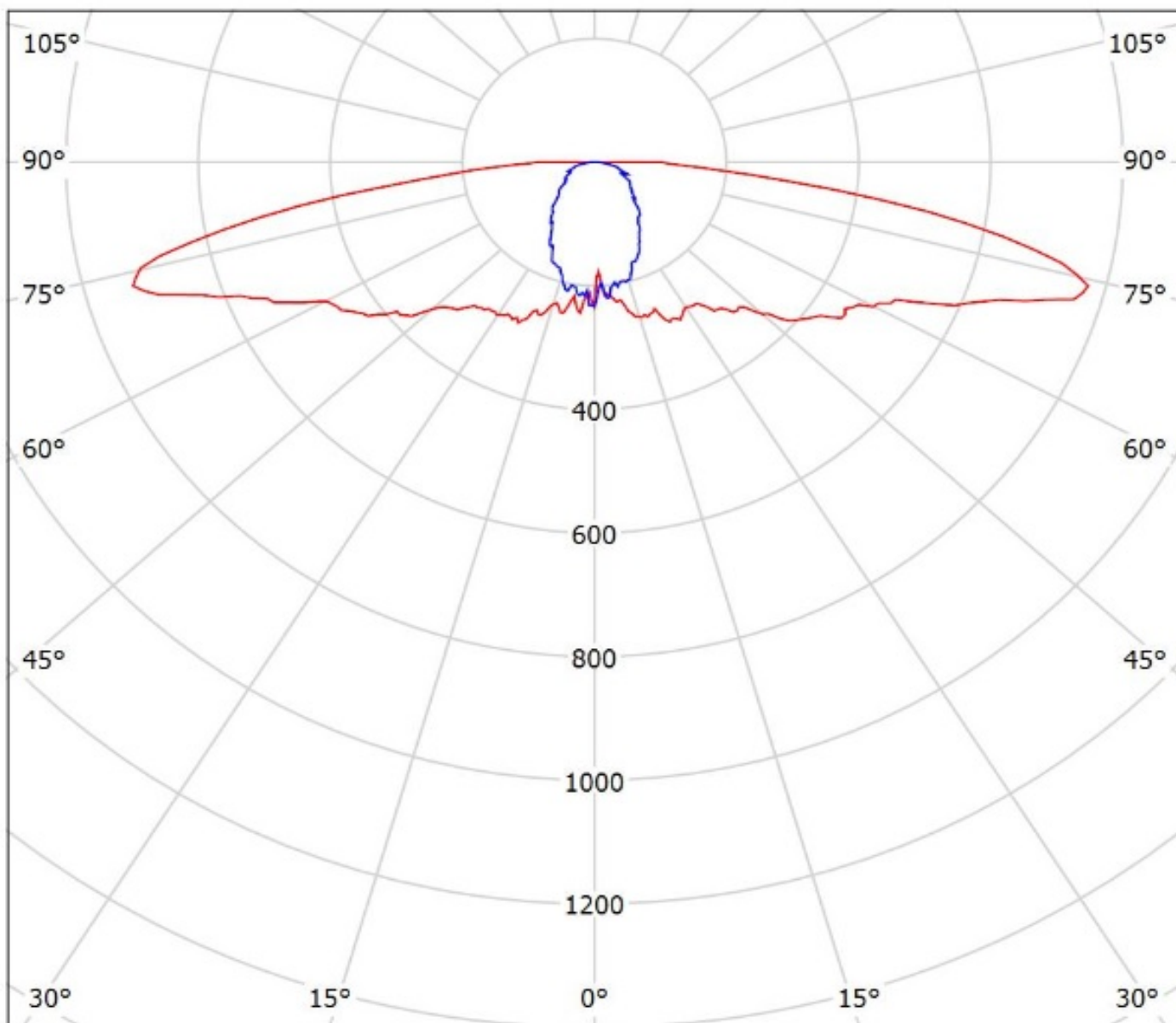


cd/klm  
— C0 - C180 — C90 - C270

$\eta = 89\%$

Luminaire: Ledil Oy C13155\_EMERALD-A\_(XHP35\_HD)\_SIMULATED

Lamps: 1 x Cree XHP35 HD



cd/klm

— C0 - C180

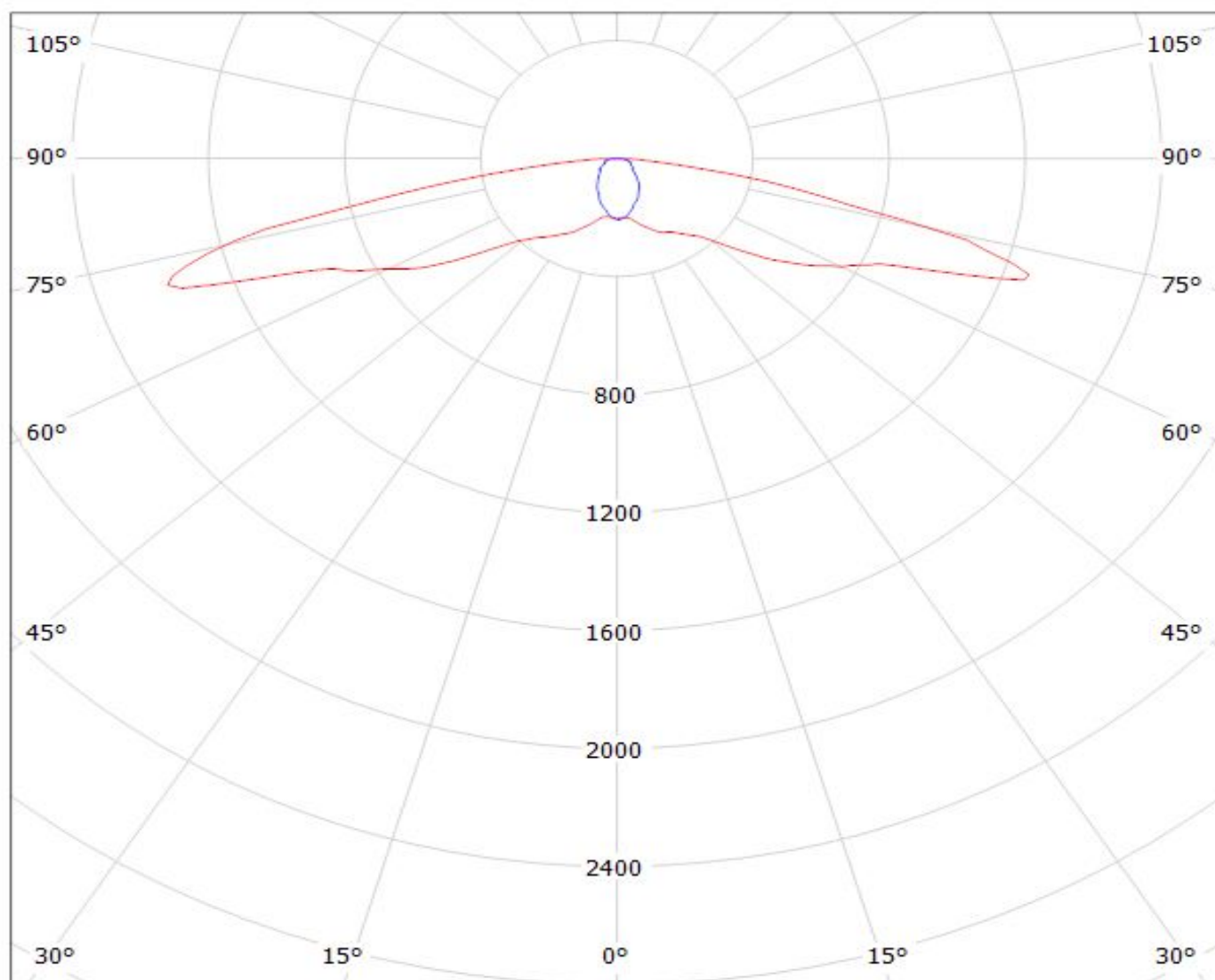
— C90 - C270

$\eta = 91\%$

# LEDiL Oy C13155\_EMERALD-A\_(LG3535) Eff.90.8% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LG3535) Eff.90.8%

Lamps: 1 x LG 3535 Ceramic (94lm@250mA)



cd/klm

— C0 - C180

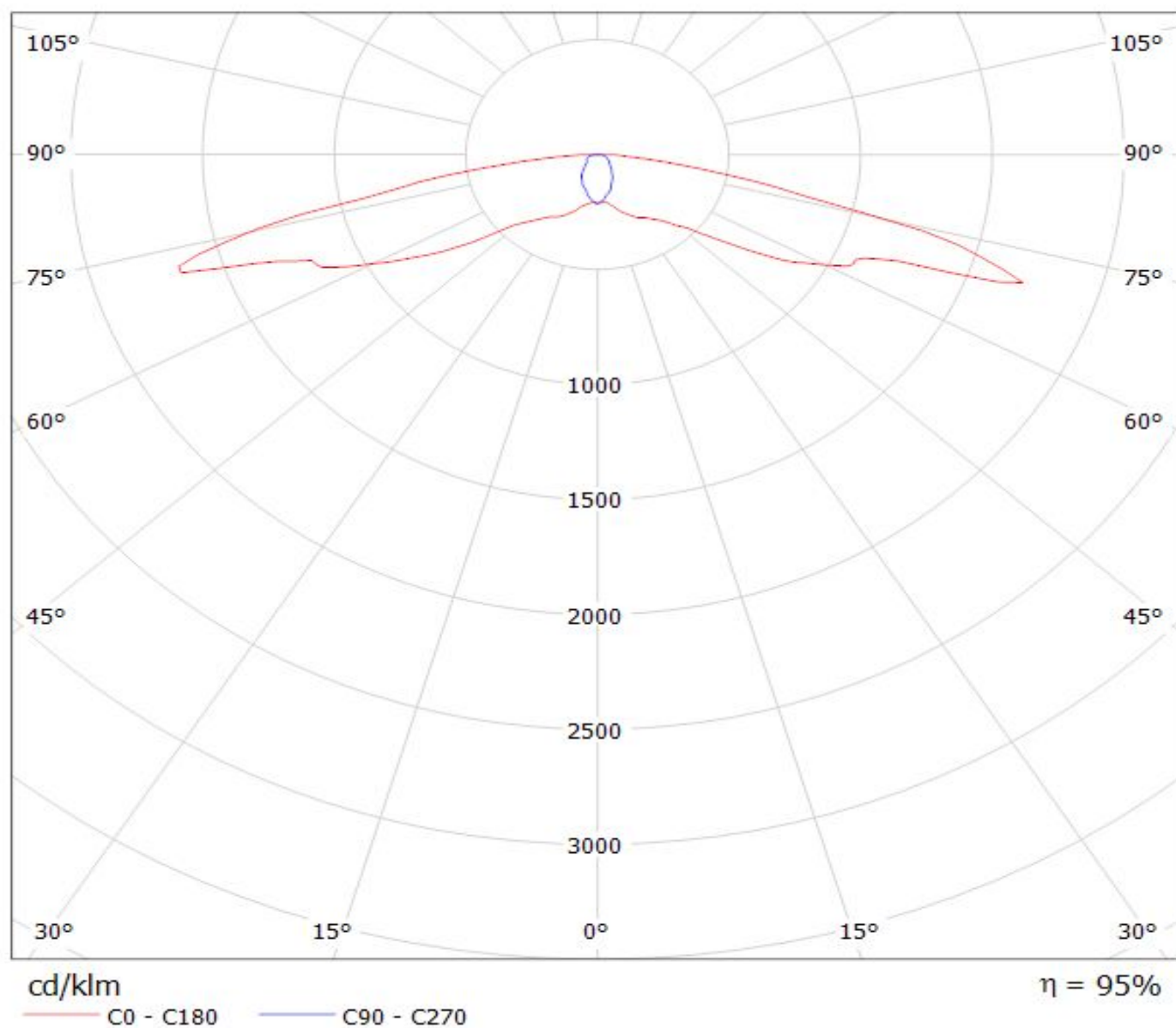
— C90 - C270

$\eta = 91\%$



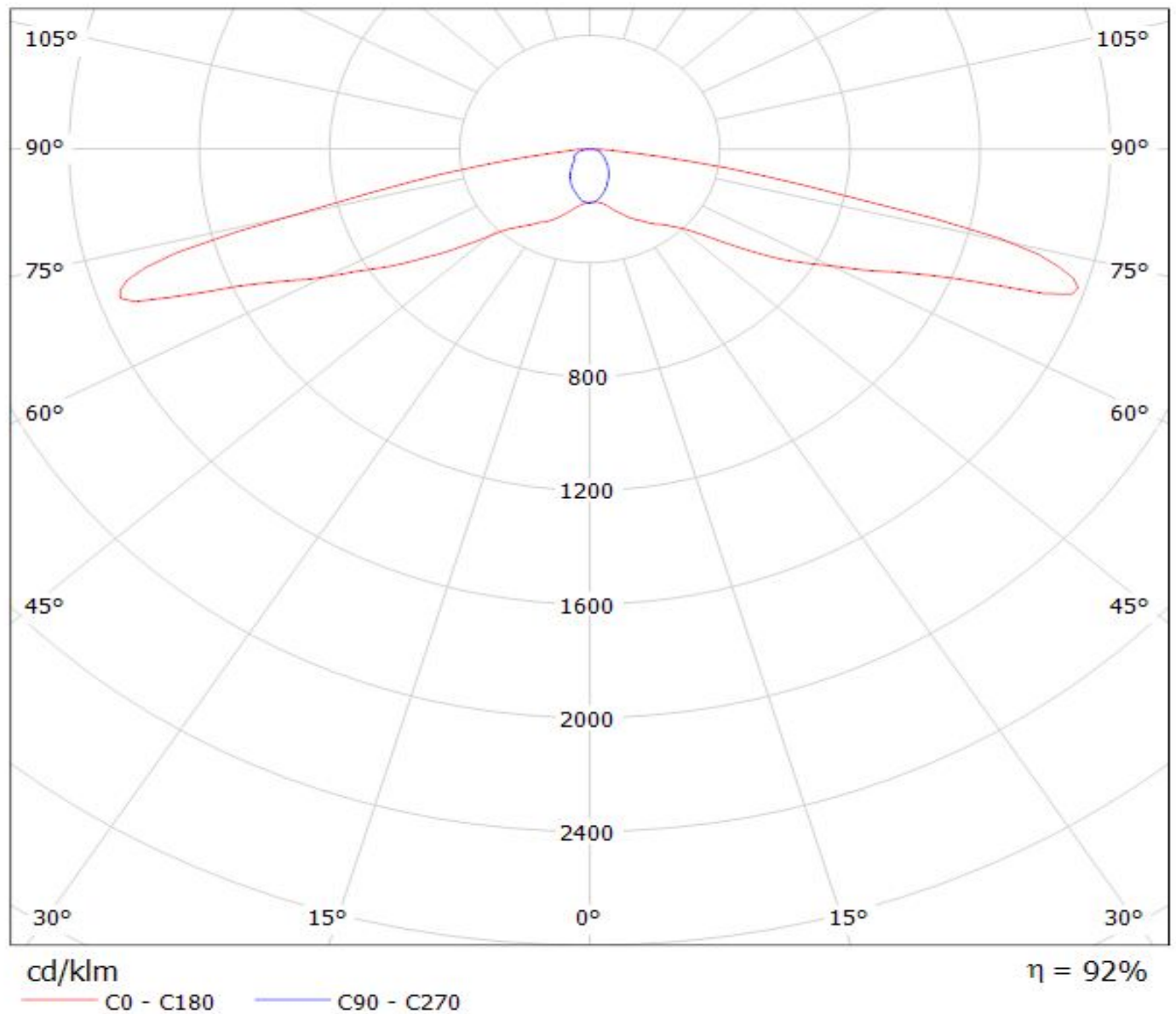
# LEDiL Oy C13155\_EMERALD-A\_(LG3535\_2W) Eff.95.1% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LG3535\_2W) Eff.95.1%  
Lamps: 1 x LG3535\_2W (97.3629lm@250mA)

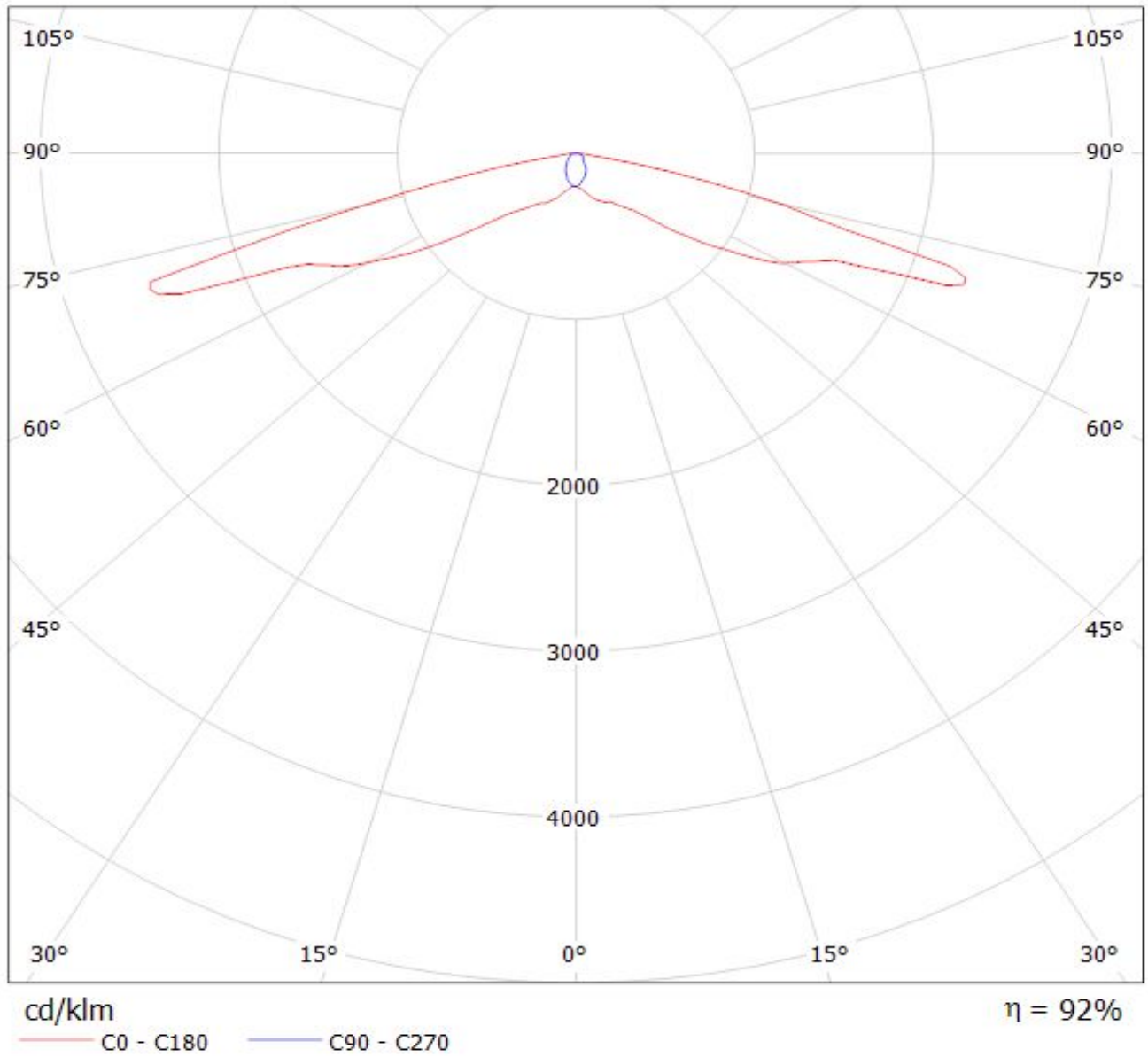


# LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_A) Eff.92.0% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_A) Eff.92.0%  
Lamps: 1 x LUXEON\_R (67.5lm@250mA)



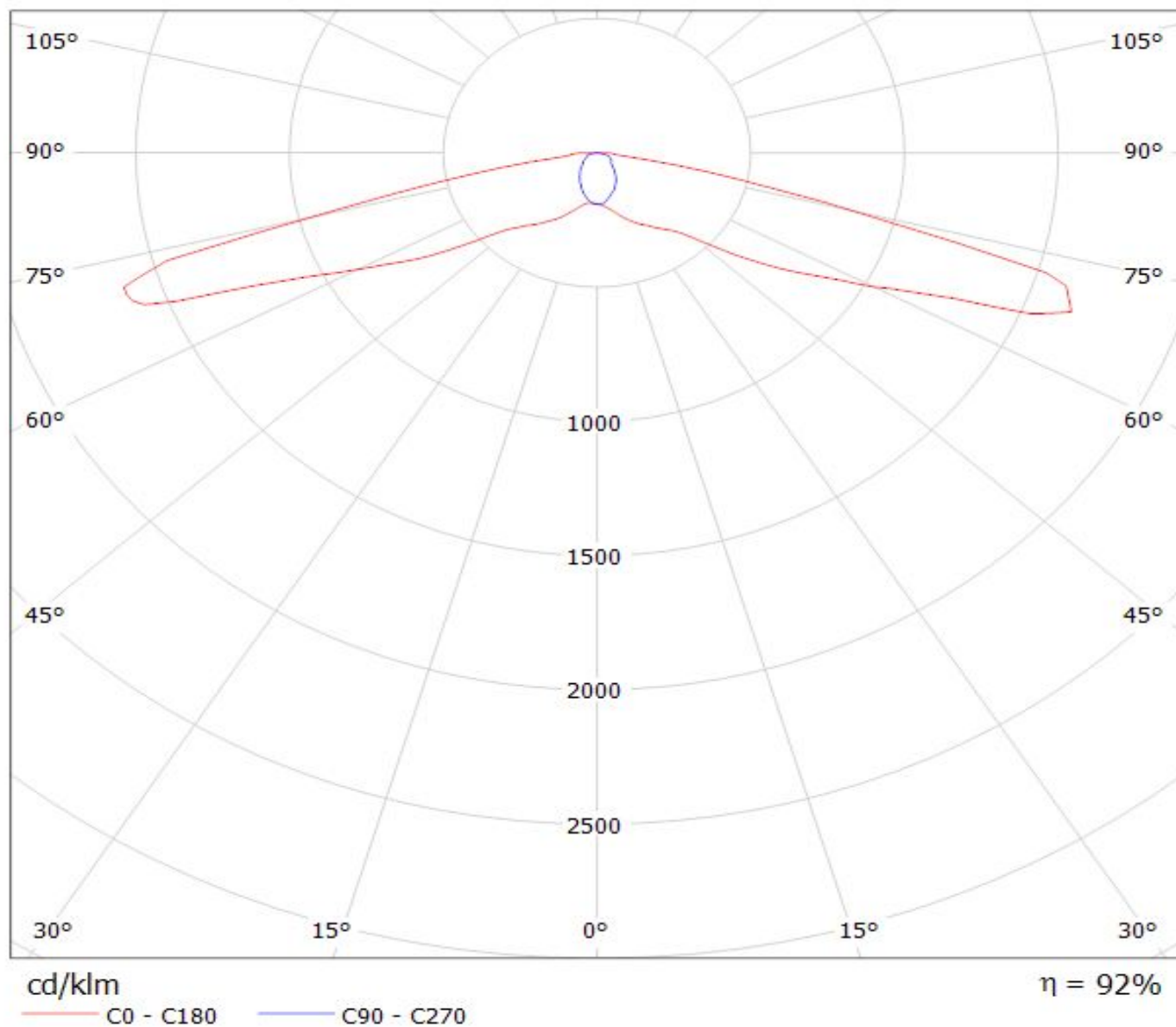
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(Rebel) Eff. 91,7%  
Lamps: 1 x Luxeon Rebel (82lm@250mA)



# LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_R) Eff.91.7% / LDC (Polar)

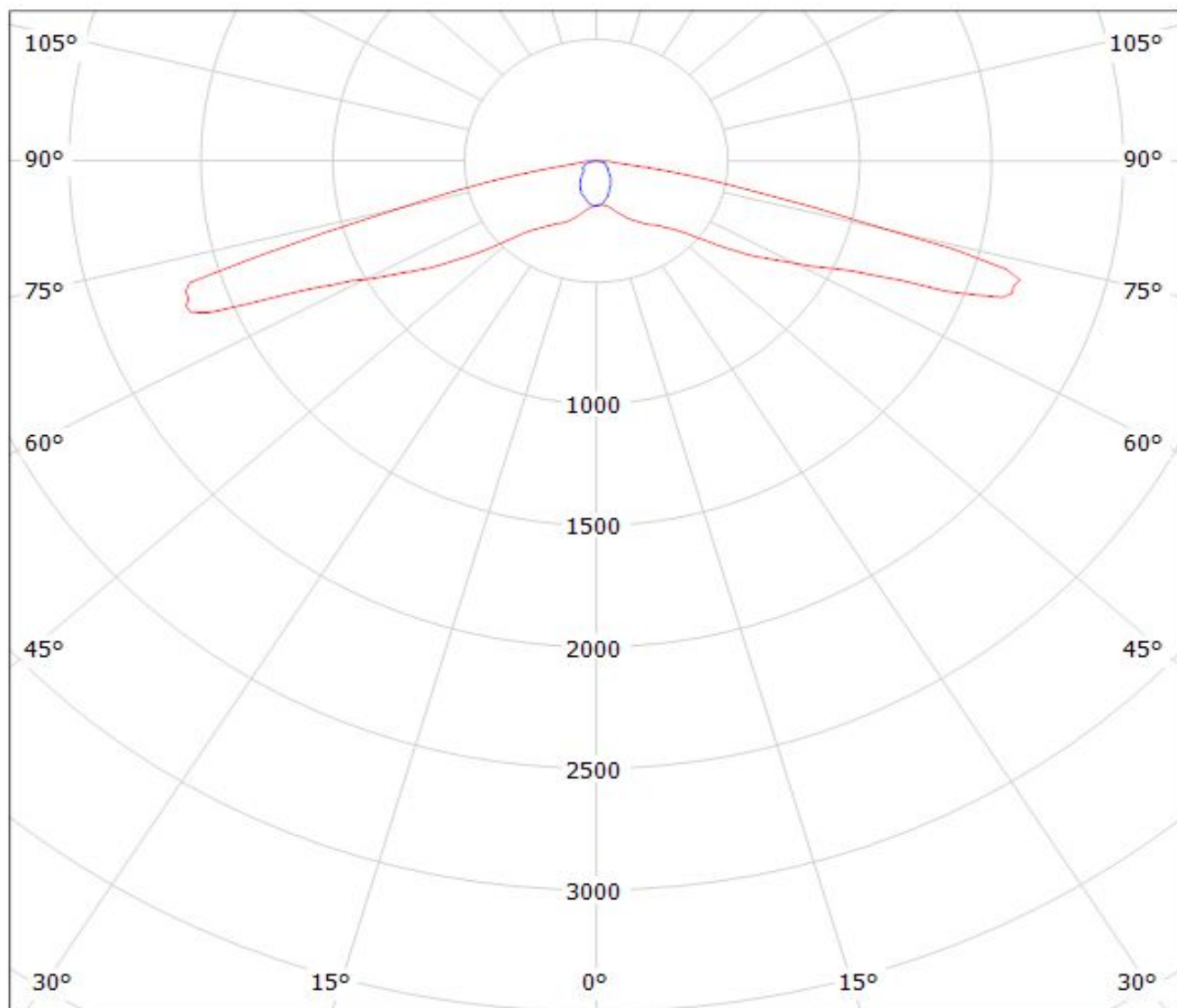
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LUXEON\_R) Eff.91.7%

Lamps: 1 x LUXEON\_R (85.6lm@250mA)



Luminaire: LEDiL Oy C13155\_EMERALD-A\_(Rebel-ES) Eff. 90,4%

Lamps: 1 x Luxeon Rebel-ES (90lm@250mA)



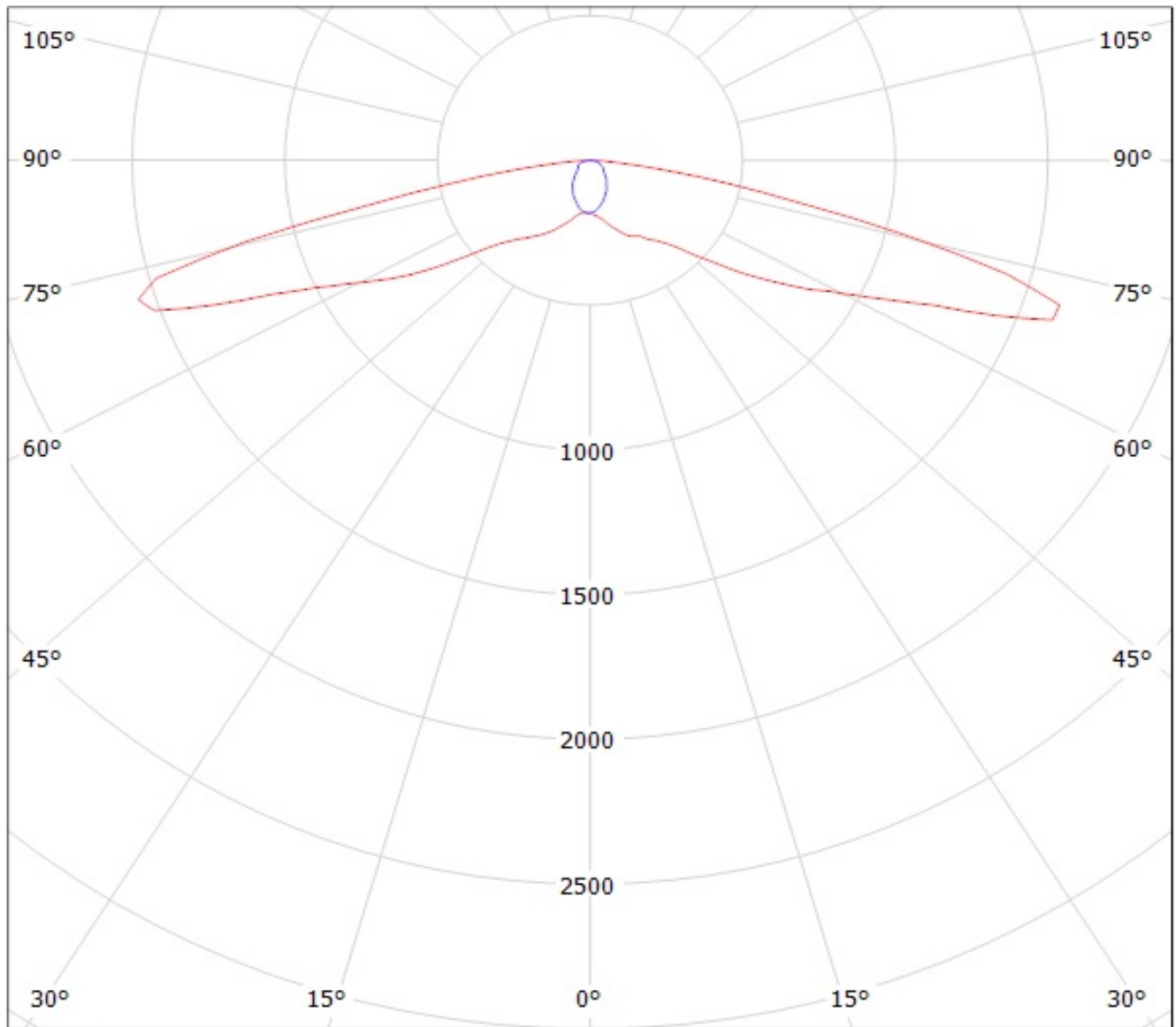
cd/klm

— C0 - C180

— C90 - C270

$\eta = 90\%$

Luminaire: Ledil Oy C13155\_EMERALD-A (Luxeon T 71lm @ 250mA) Efficiency=93%  
Lamps: 1 x Luxeon T 71lm @ 250mA



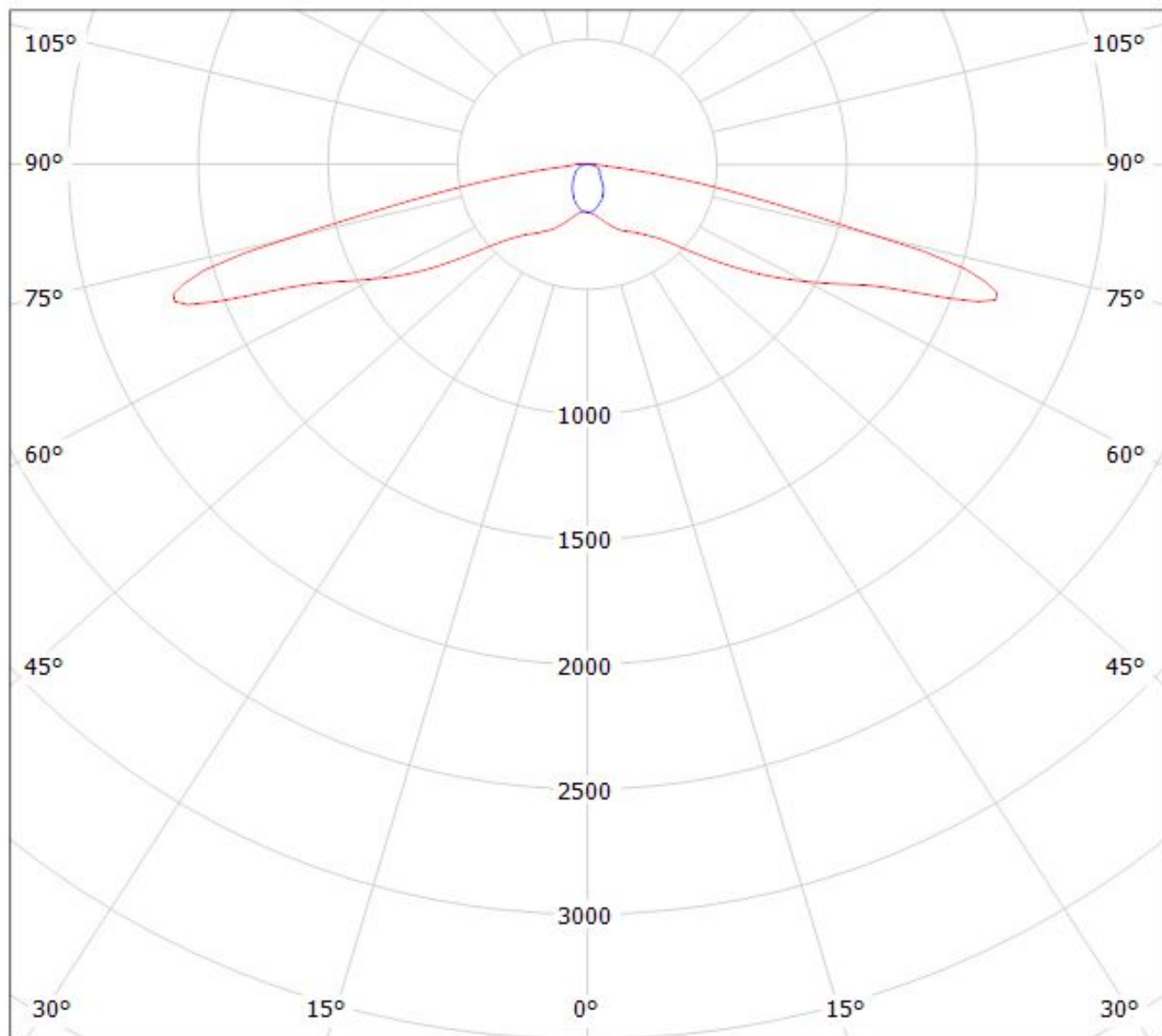
cd/klm

— C0 - C180

— C90 - C270

Luminaire: LEDiL Oy C13155\_EMERALD-A (Luxeon\_TX) Eff.95.0%

Lamps: 1 x Luxeon\_TX\_(L1T2-3585)\_80.180lm@250mA\_CCT=3500K\_P=0.731482W\_I=249.9mA



cd/klm

— C0 - C180

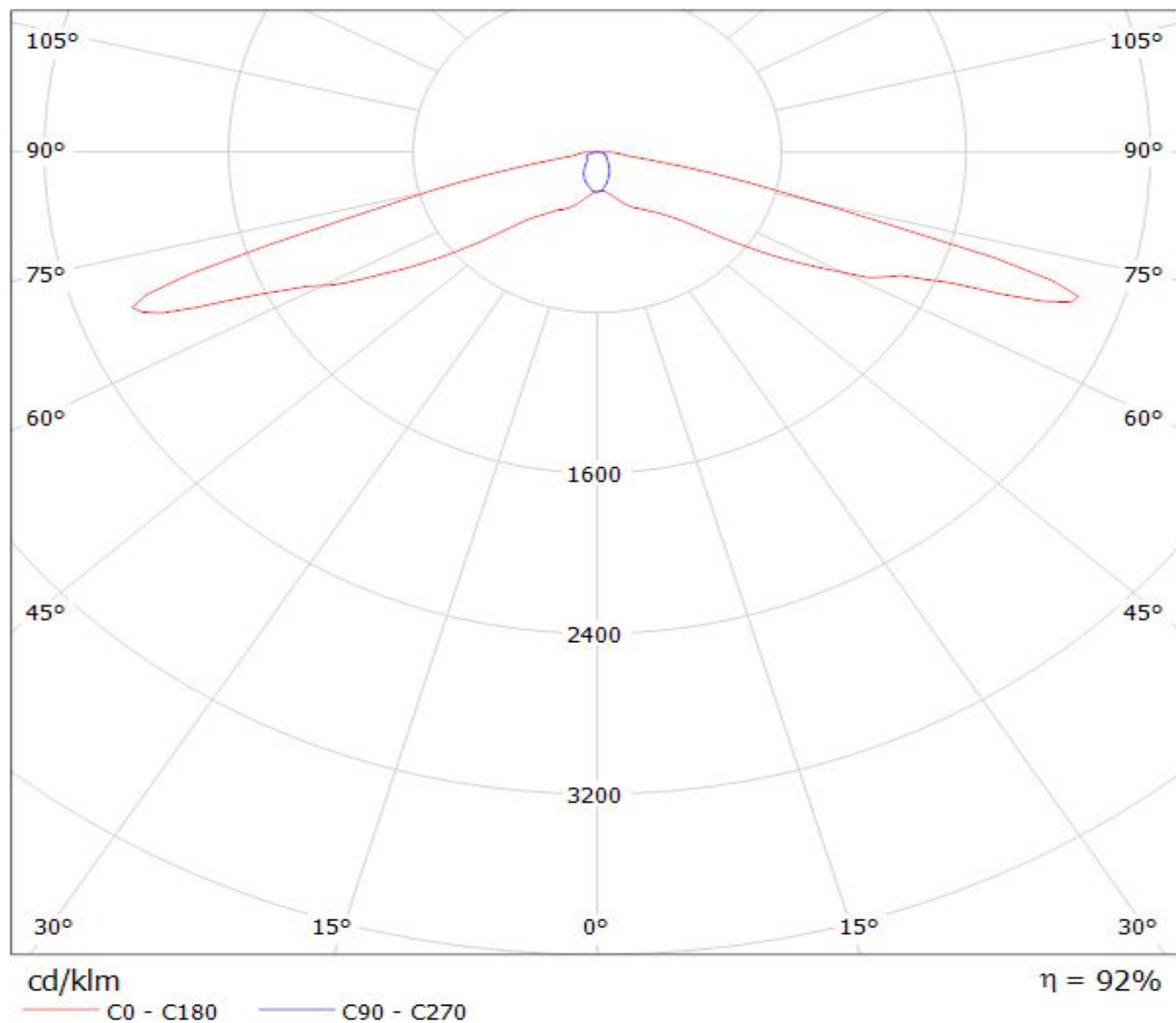
— C90 - C270

$\eta = 95\%$

# LEDiL Oy C13155\_EMERALD-A\_(NCS19) Eff.91.8% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(NCS19) Eff.91.8%

Lamps: 1 x NCS19 (89lm@250mA)

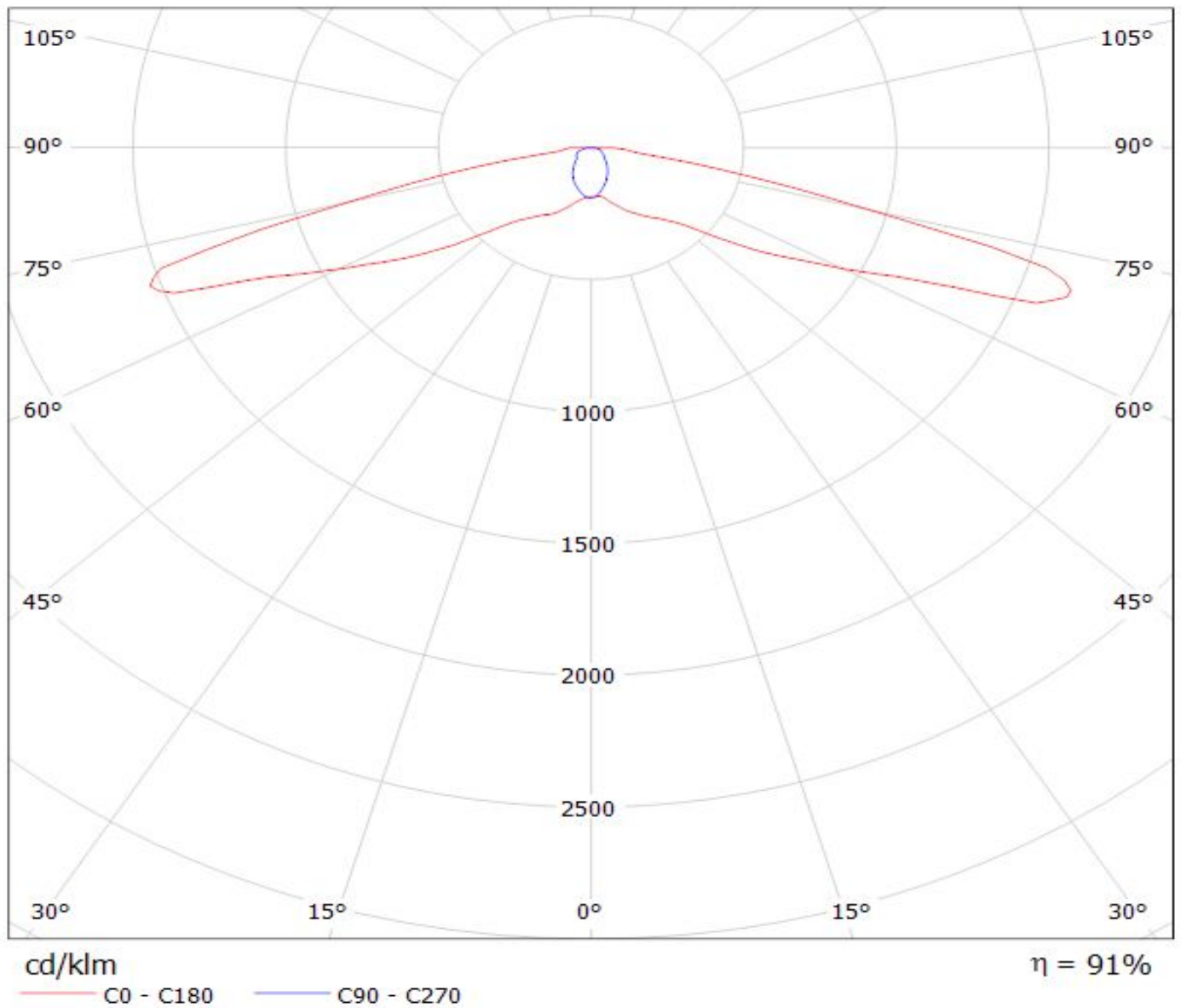




# LEDiL Oy C13155\_EMERALD-A\_(NVS19) Eff.90.8% / LDC (Polar)

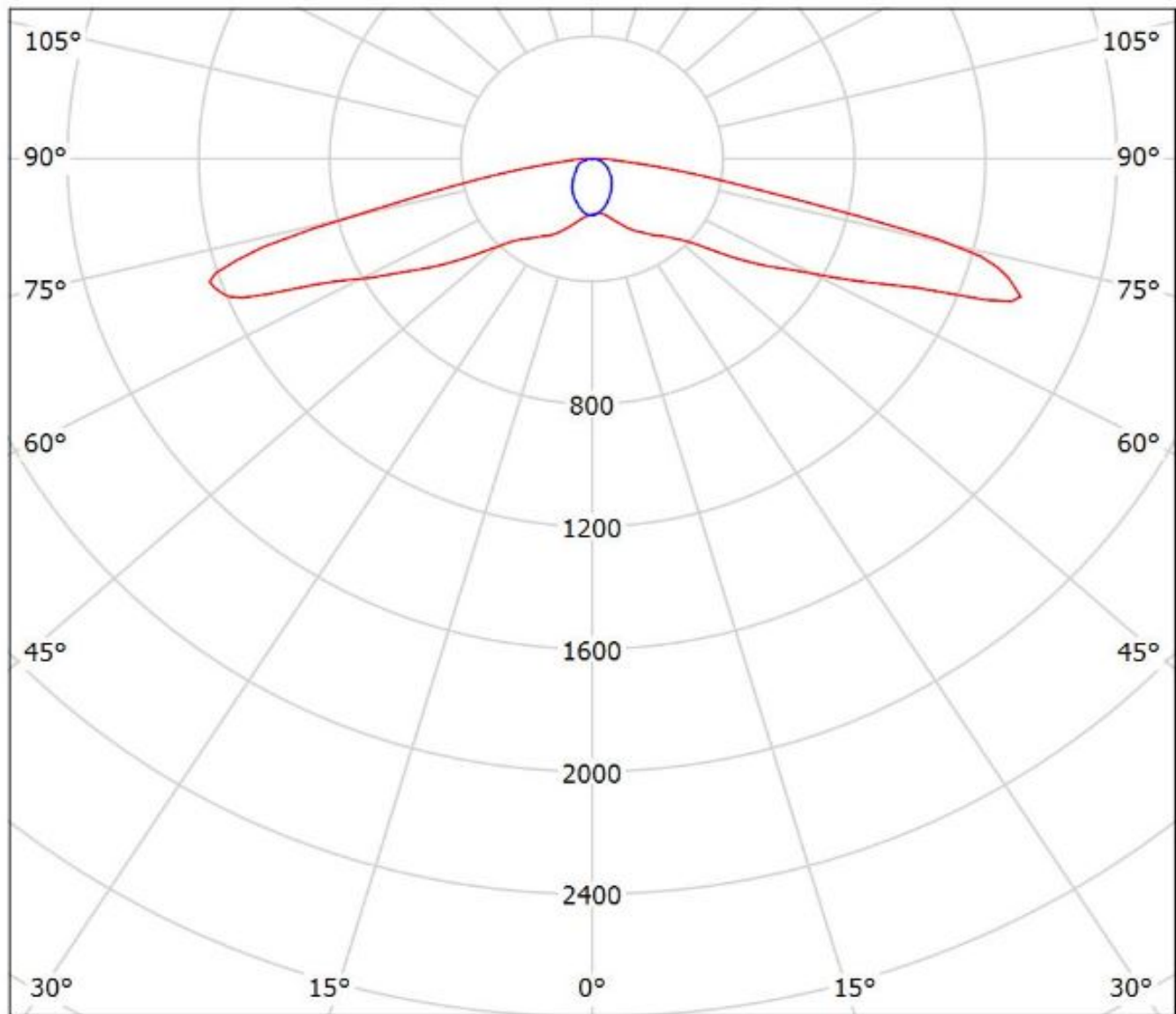
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(NVS19) Eff.90.8%

Lamps: 1 x NVS19 (98.3lm@250mA)



Luminaire: LEDiL Oy C13155\_EMERALD-A\_(NVSL219CE)

Lamps: 1 x Nichia\_NVSL219CE\_101.227lm@250mA\_P=0.713404W\_I=0.25A



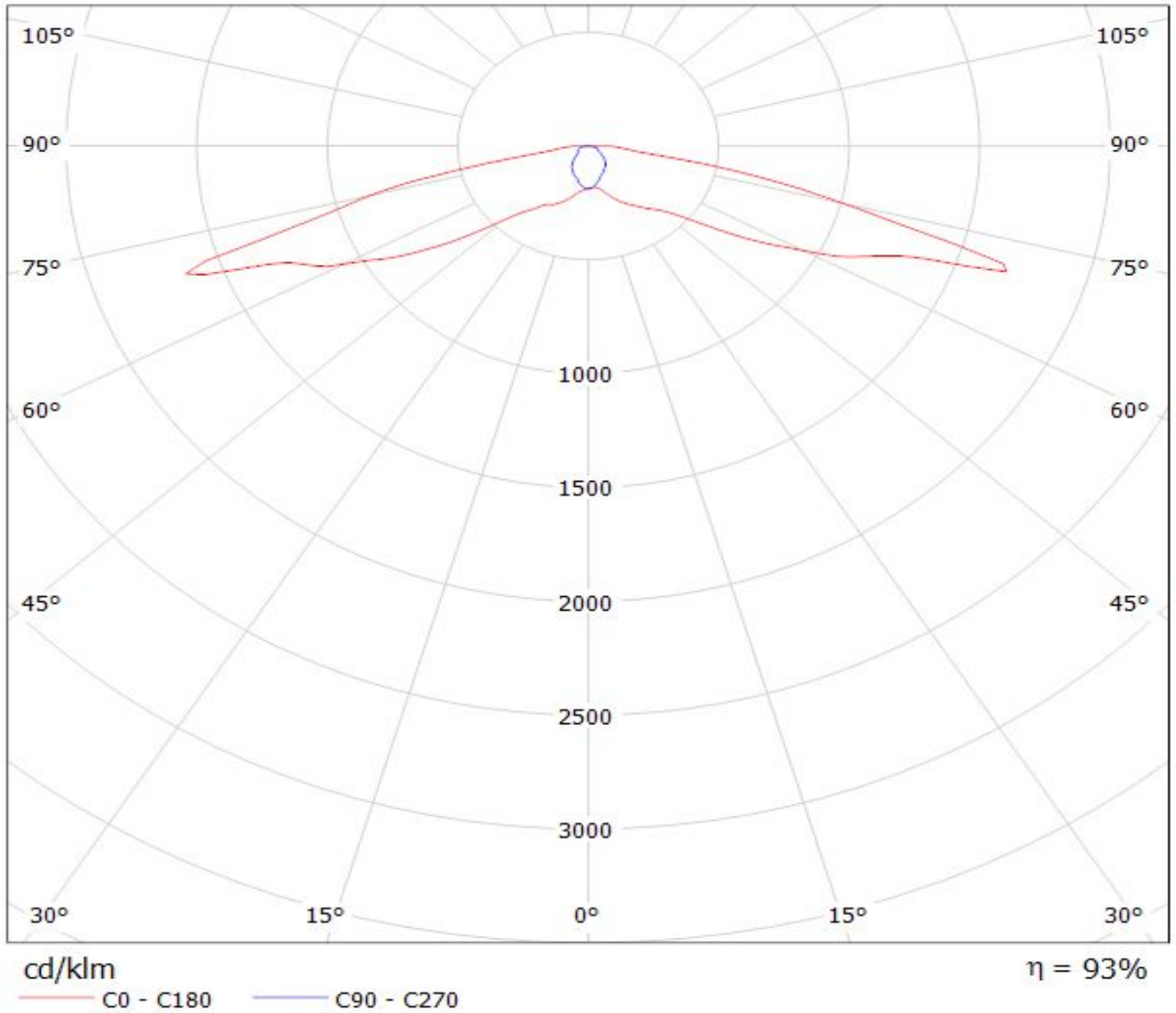
cd/klm

— C0 - C180 — C90 - C270

$\eta = 92\%$

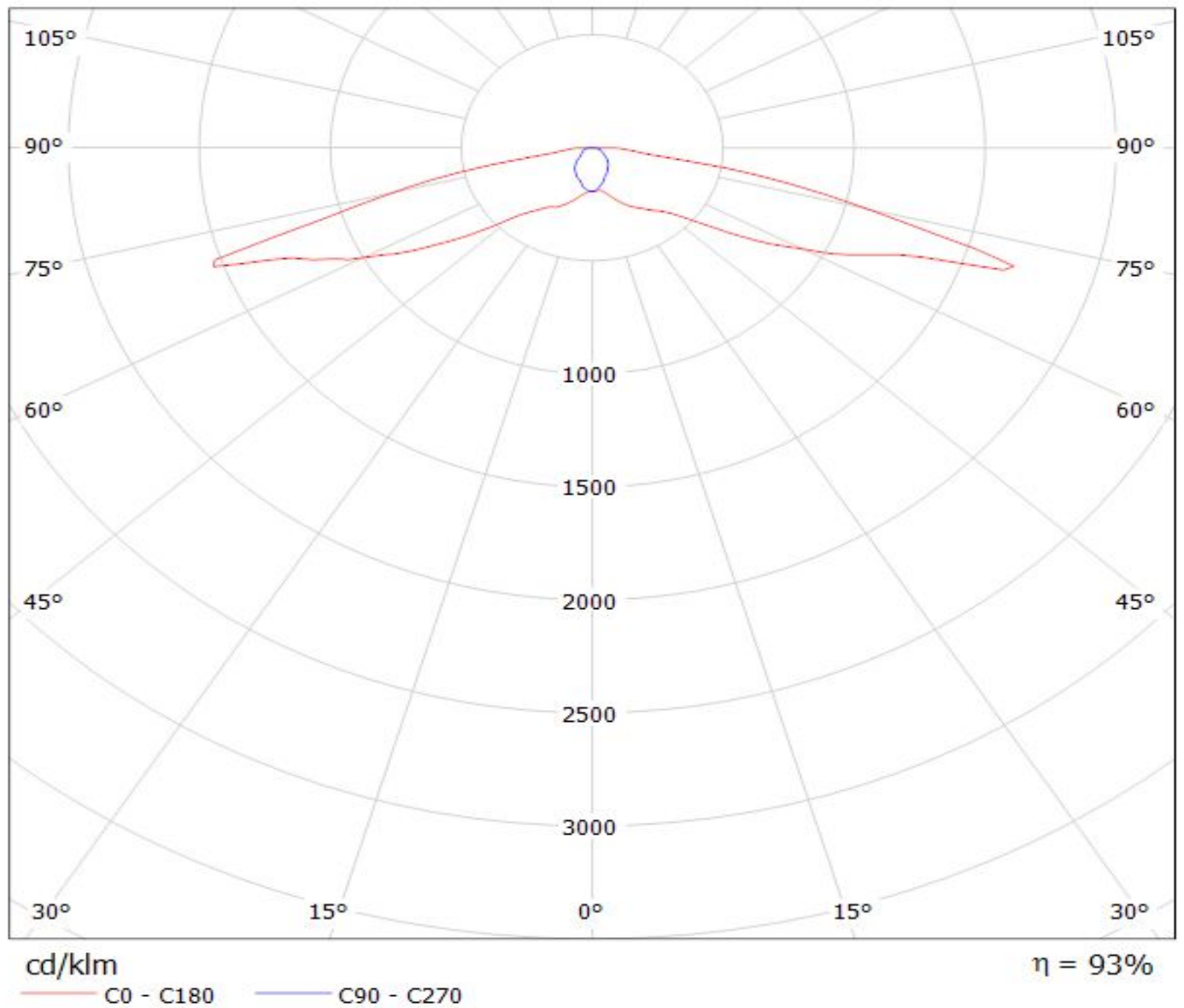
# LEDiL Oy C13155\_EMERALD-A\_(SQ-PC) Eff.93.3% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SQ-PC) Eff.93.3%  
Lamps: 1 x SQ-PC (79.1971lm@250mA)



# LEDiL Oy C13155\_EMERALD-A\_(SQ-EC) Eff.92.8% / LDC (Polar)

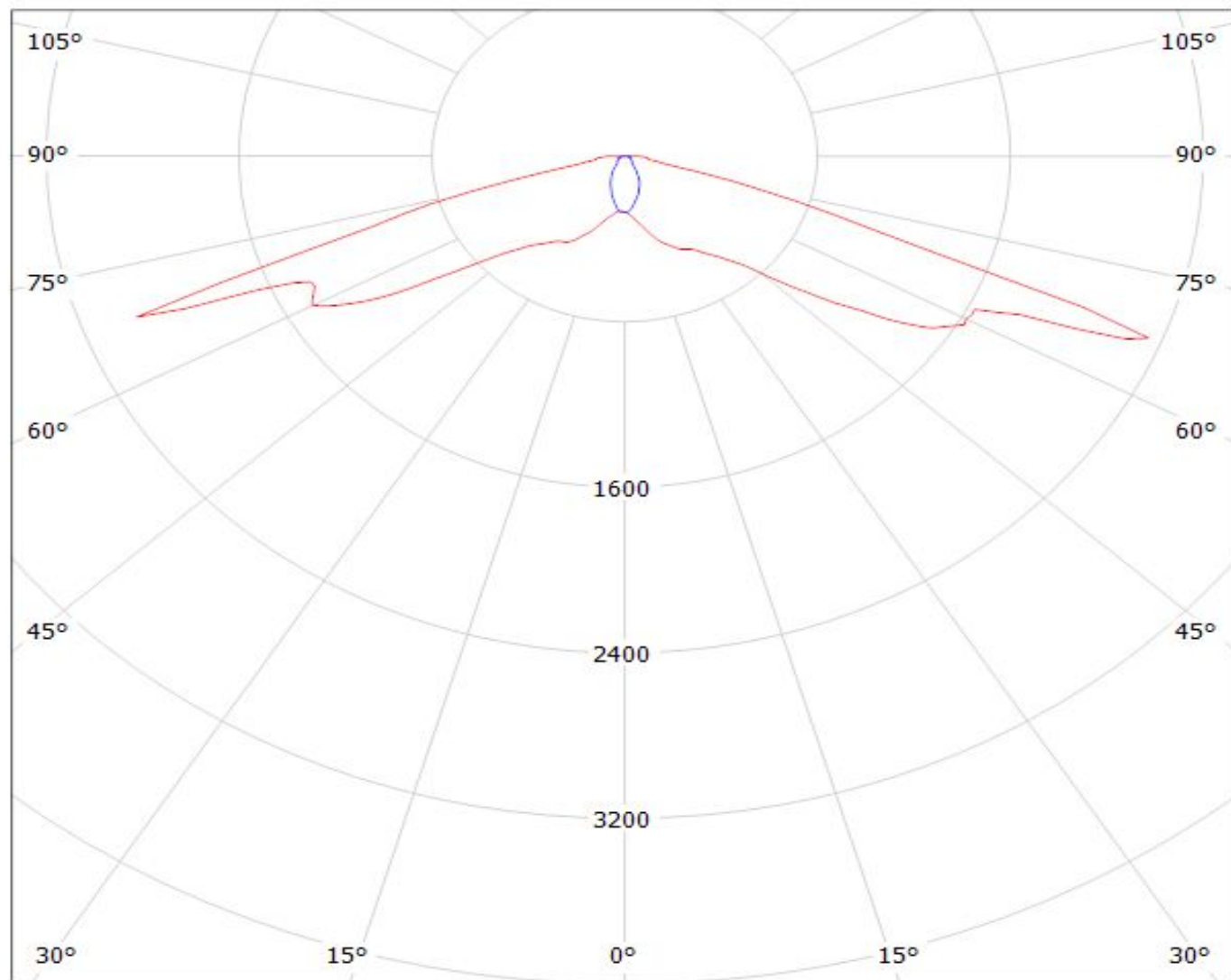
Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SQ-EC) Eff.92.8%  
Lamps: 1 x SQ-EC (64.5908lm@250mA)



# LEDiL Oy C13155\_EMERALD-A\_(SSL80) Eff.88.6% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SSL80) Eff.88.6%

Lamps: 1 x OSLOM SSL80 (81.3lm@250mA)



cd/klm

— C0 - C180

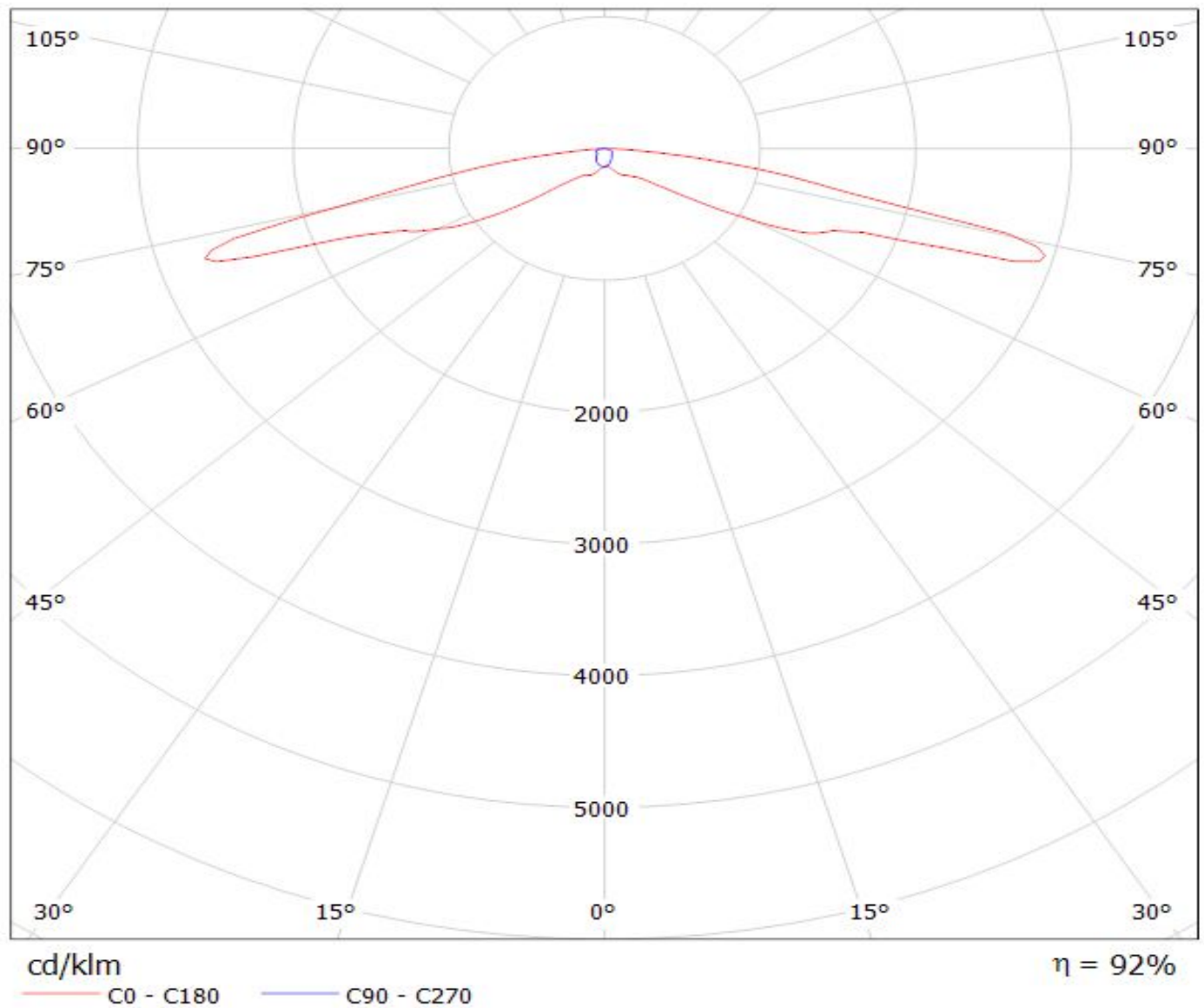
— C90 - C270

$\eta = 89\%$

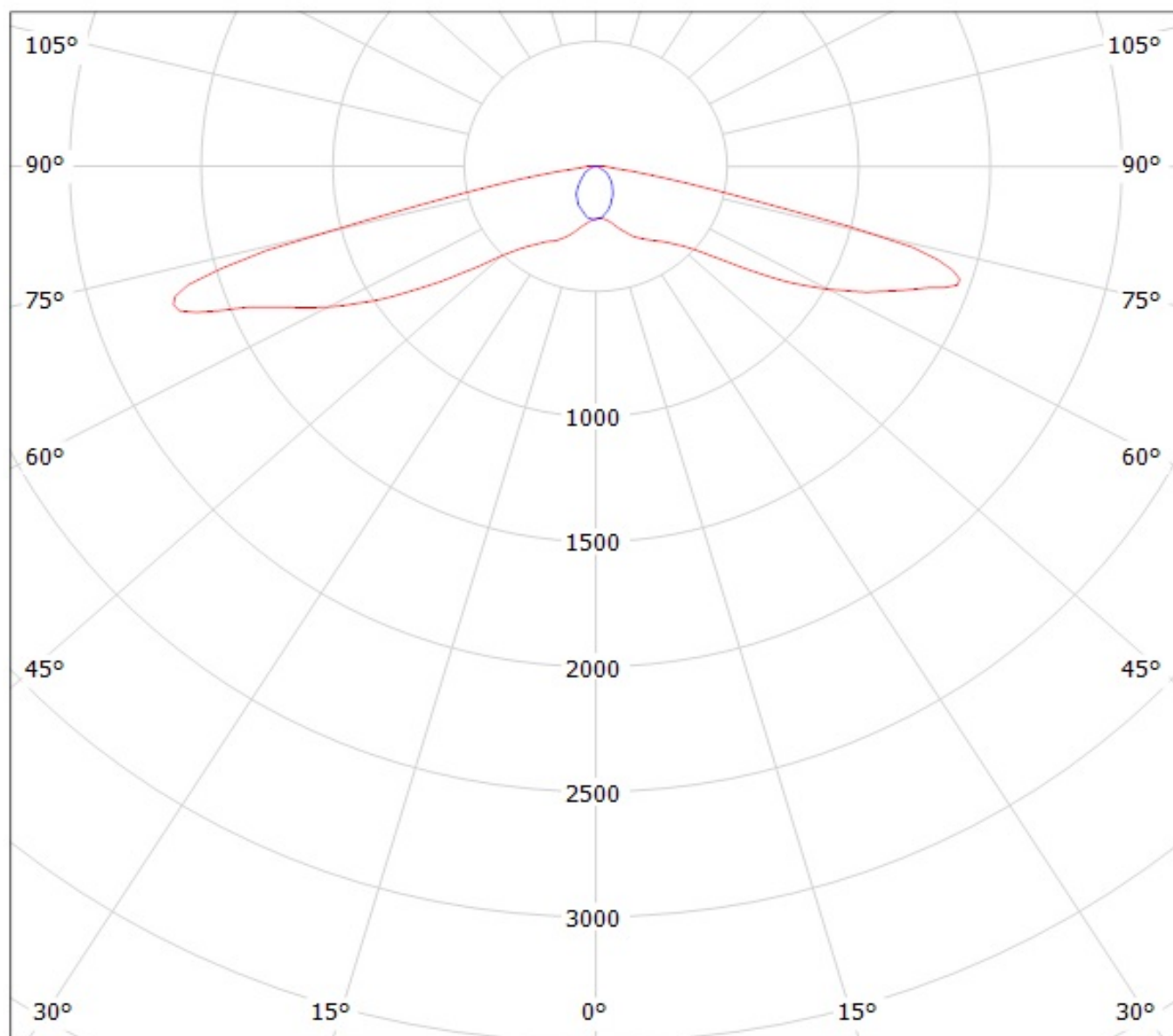
# LEDiL Oy C13155\_EMERALD-A\_(SSL150) Eff.91.6% / LDC (Polar)

Luminaire: LEDiL Oy C13155\_EMERALD-A\_(SSL150) Eff.91.6%

Lamps: 1 x OSLOM SSL150 (71.5lm@250mA)

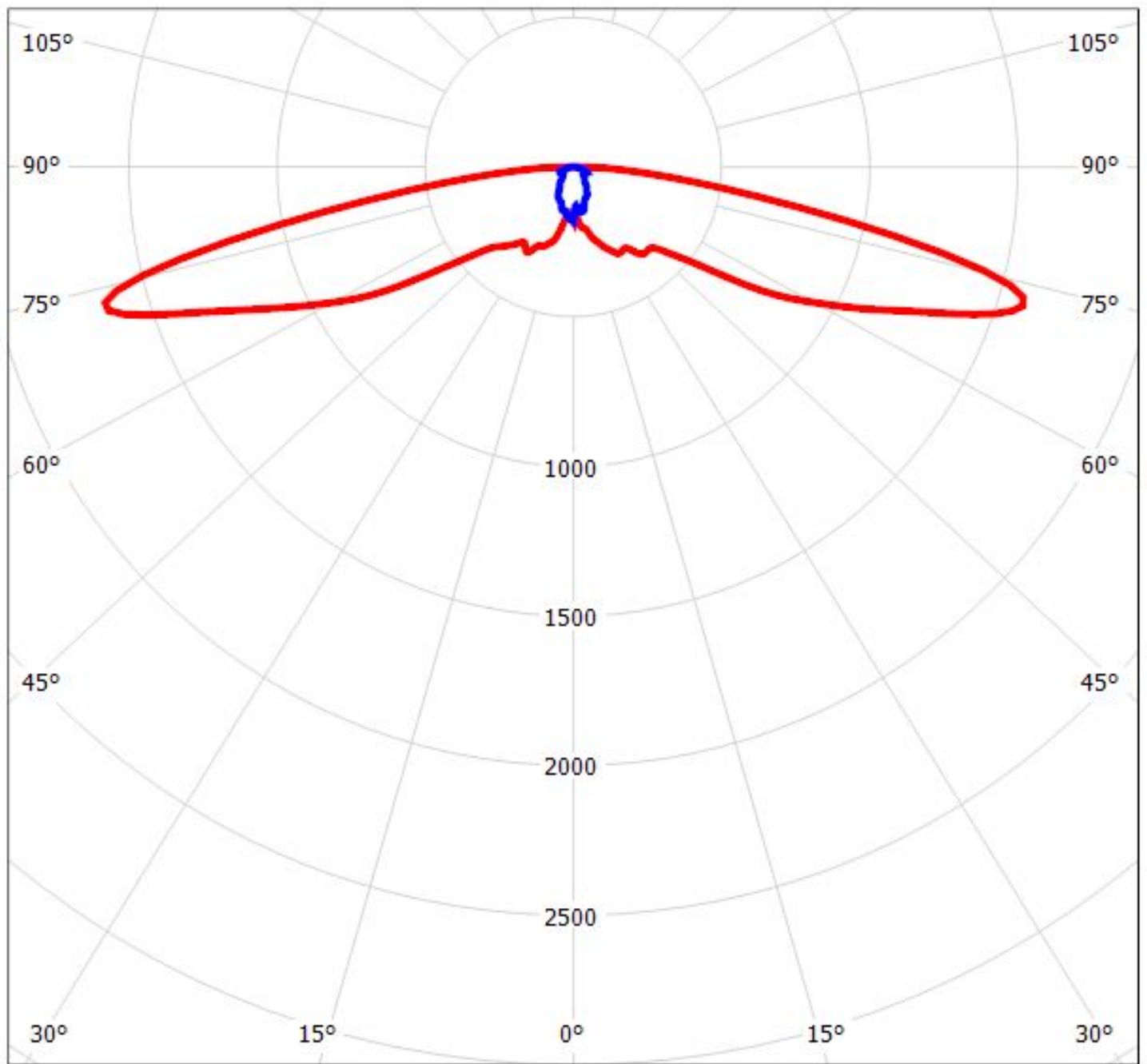


Luminaire: LEDiL Oy C13155\_EMERALD-A\_(LH351Z) Eff.93.6%  
Lamps: 1 x SAMSUNG\_LH351Z\_90.8111lm@250mA\_P=0.748076W\_I=249.9mA



cd/klm

— C0 - C180    — C90 - C270



cd/klm

— C0 - C180

— C90 - C270

$\eta = 89\%$



**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.**