

## DETAILS

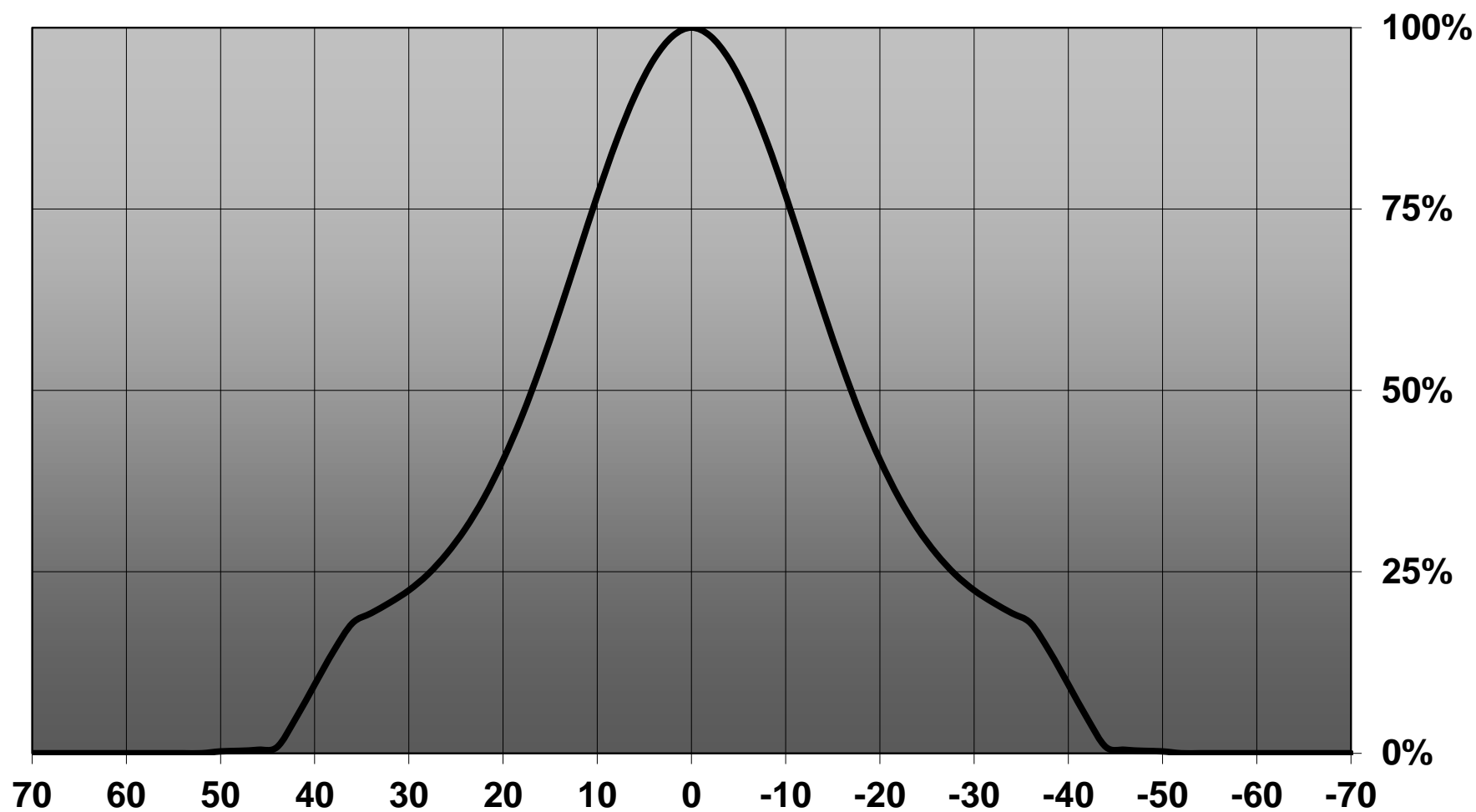
Product Number	C12478_MIRELLA-50-W
Family	Mirella
Type	Reflector
Color	metal
Diameter	49,9 mm
Height	23,9 mm
Style	round
Optic Material	PC
Holder Material	
Fastening	glue
Status	production ready
ROHS Compliant	Yes
Date Updated	8/03/2016

## OPTICAL PROPERTIES

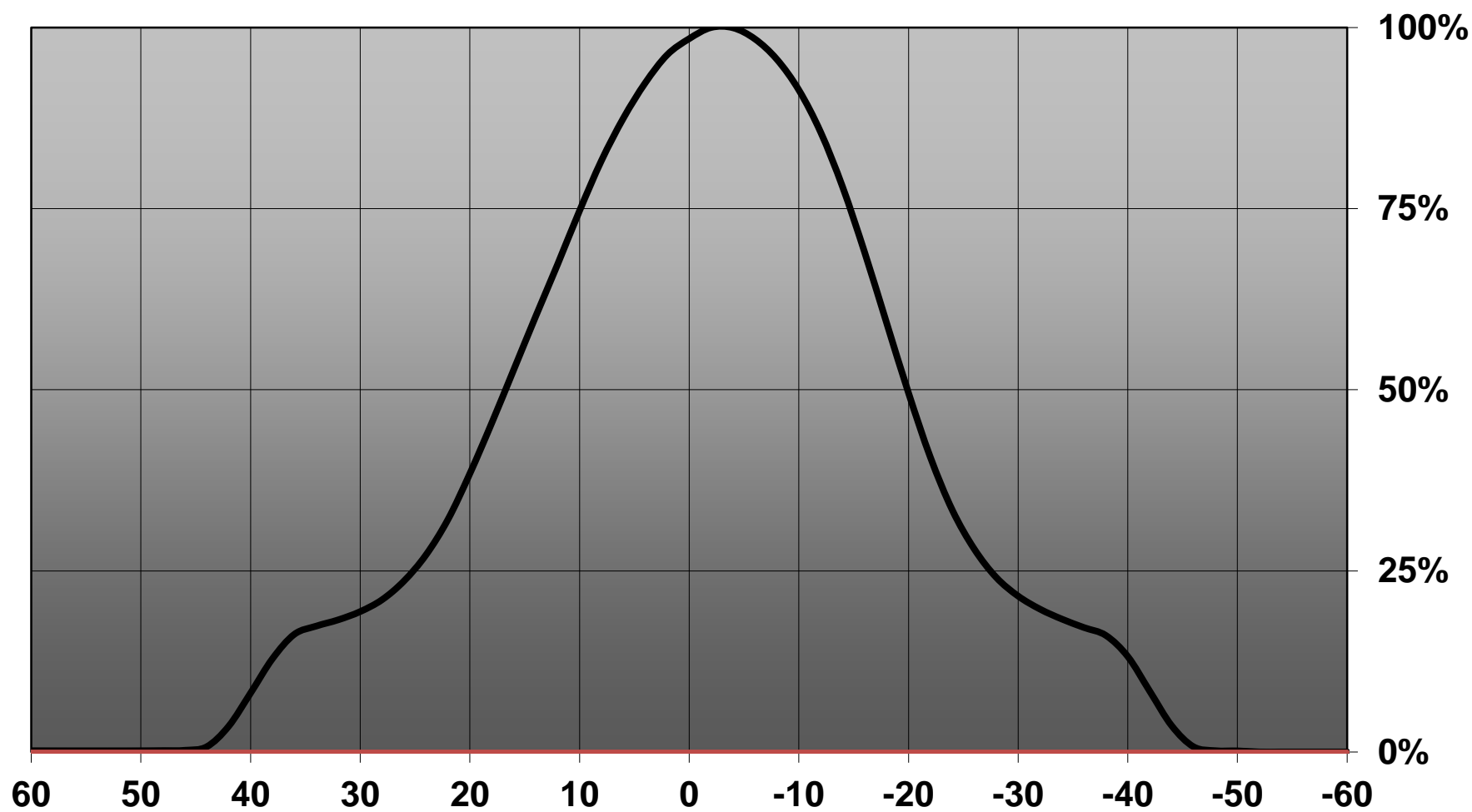
LED	Viewing	Light	Effi-		
	Angle	Beam	ciency	cd/lm	Connector
Duris P10	sim: 45	Wide	sim: 91 %	sim: 1.400	-
Soleriq S9	sim: 47	Wide	sim: 91 %	sim: 1.300	-
LUXEON S1000	34 deg	Wide	-	sim: 0.000	-
BXRA LS	35 deg	Wide	88 %	1.900	-
CXA/B 13xx	37 deg	Wide	86 %	1.800	-
COB 4W	38 deg	Wide	89 %	1.700	-
Mini Zenigata (GW6BM)	38 deg	Wide	88 %	1.500	-
Mini Zenigata (GW5BM)	39 deg	Wide	89 %	1.500	-
STARK SLE PURE G3 LES10	39 deg	Wide	86 %	1.600	-
SLE G5 LES6	39 deg	Wide	88 %	1.450	-
NSCxL036A	40 deg	Wide	87 %	1.500	-
CLU700	40 deg	Wide	88 %	1.400	-
Duris S10	40 deg	Wide	87 %	1.500	-
CLL02x/CLU02x (LES10)	42 deg	Wide	90 %	sim: 0.000	-
CXA/B 15xx	42 deg	Wide	91 %	1.400	-
NSBxL066A/NFCxL036B	42 deg	Wide	89 %	1.400	-
ZC4/6	42 deg	Wide	86 %	1.400	-
CXM-9	43 deg	Wide	89 %	1.300	-
CLL01x	44 deg	Wide	-	sim: 0.000	-
LUXEON CoB 1202/1203	44 deg	Wide	87 %	1.300	-
XHP50	45 deg	Wide	89 %	1.200	-
XHP70	45 deg	Wide	89 %	1.200	-
MT-G	46 deg	Wide	90 %	1.253	-
MT-G2	46 deg	Wide	91 %	1.400	-
MHD-E/G	46 deg	Wide	92 %	1.200	-



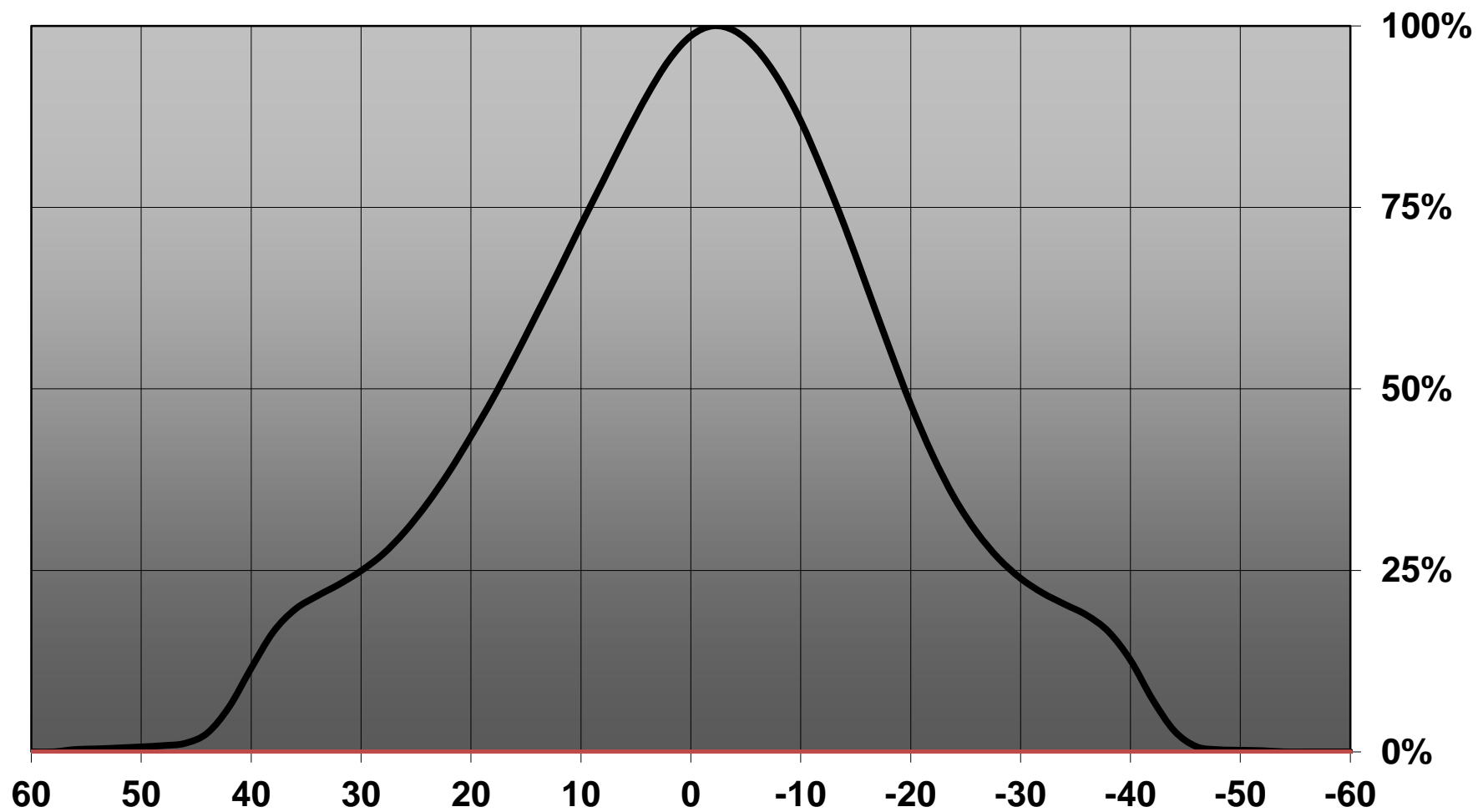
Relative intensity of C12478\_Mirella\_50-W\_(Luxeon\_S)



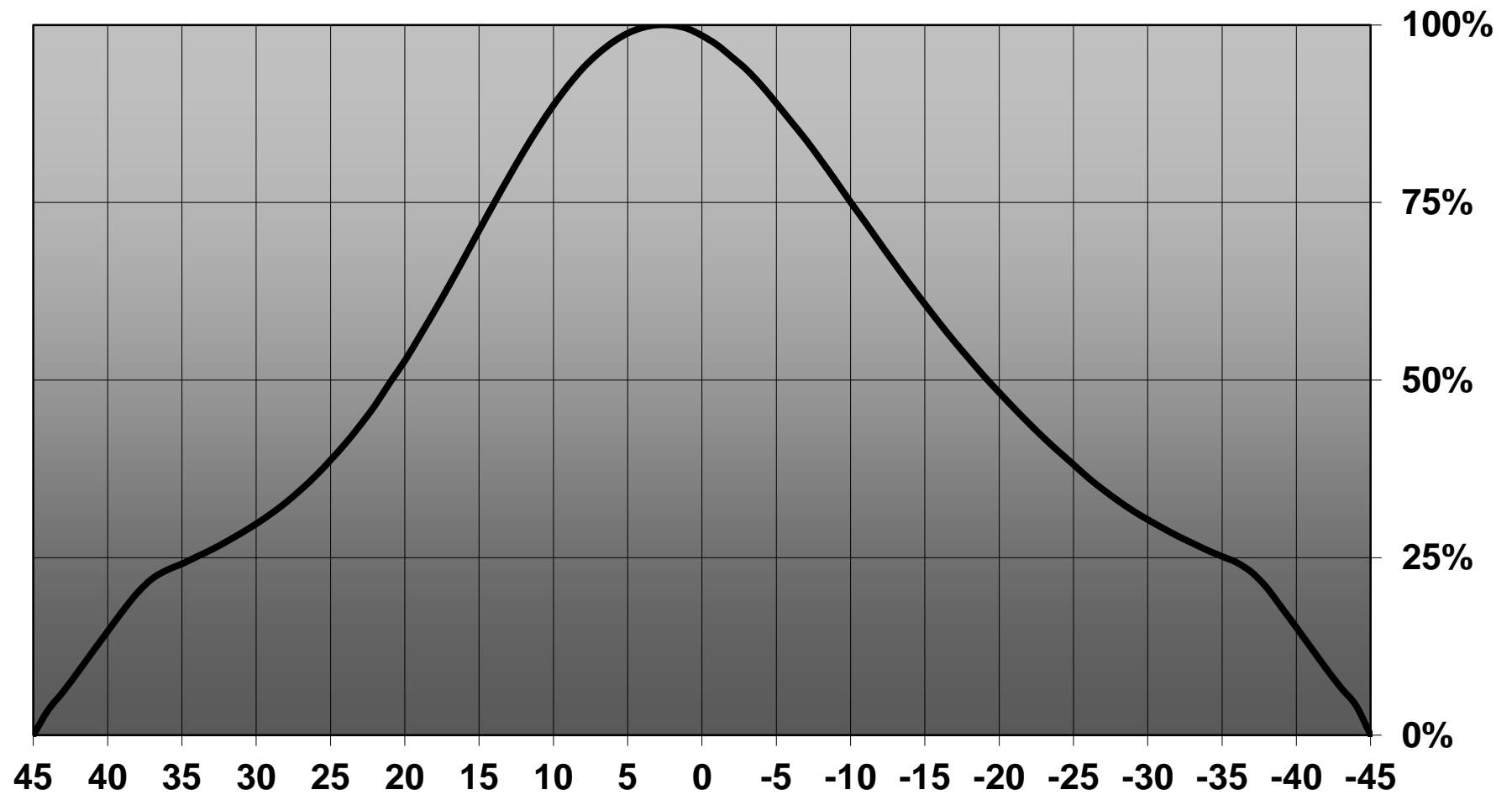
Relative intensity of C12478\_MIRELLA-50-W\_(CXA1304)



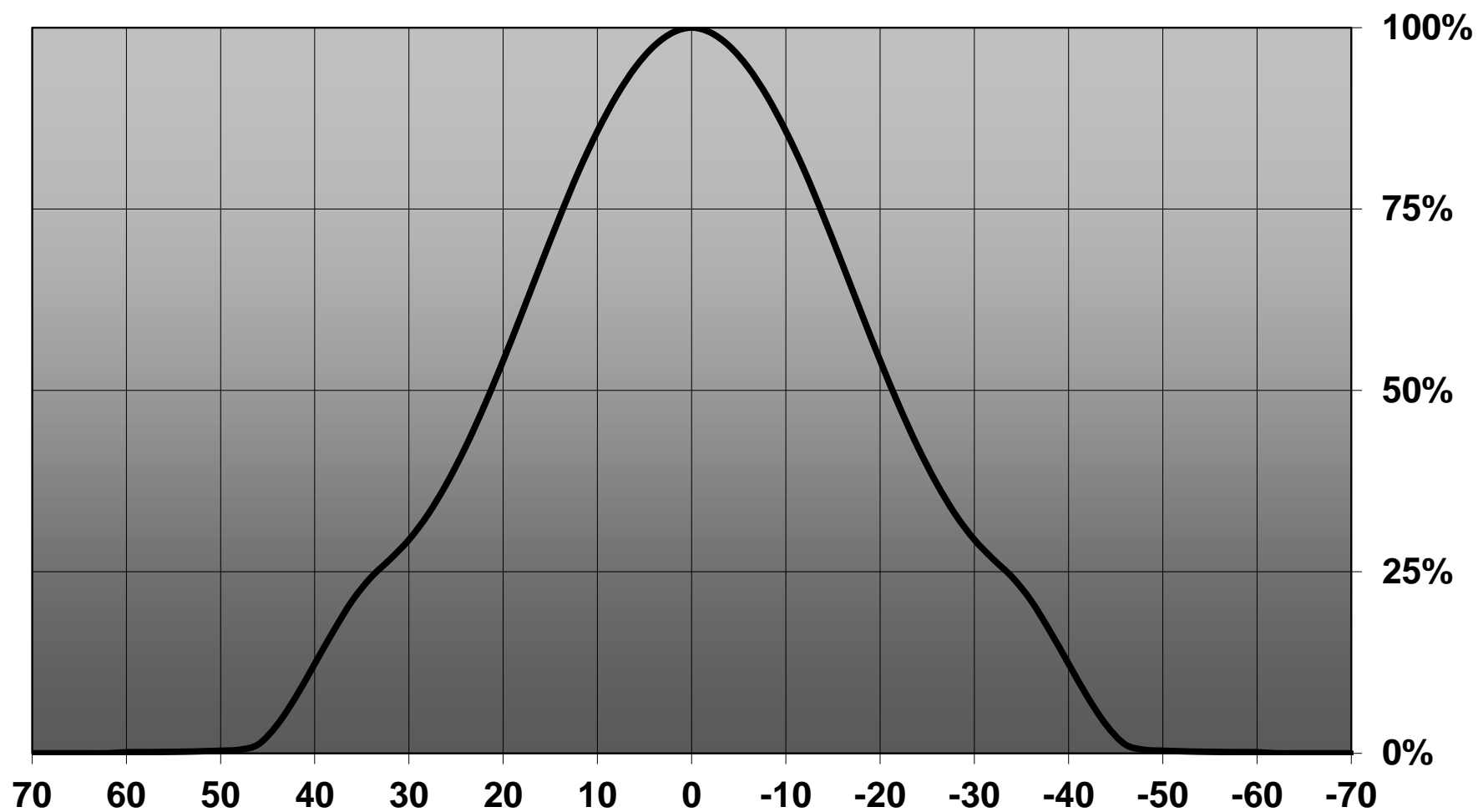
**Relative intensity of Mirella-W-4WLG**



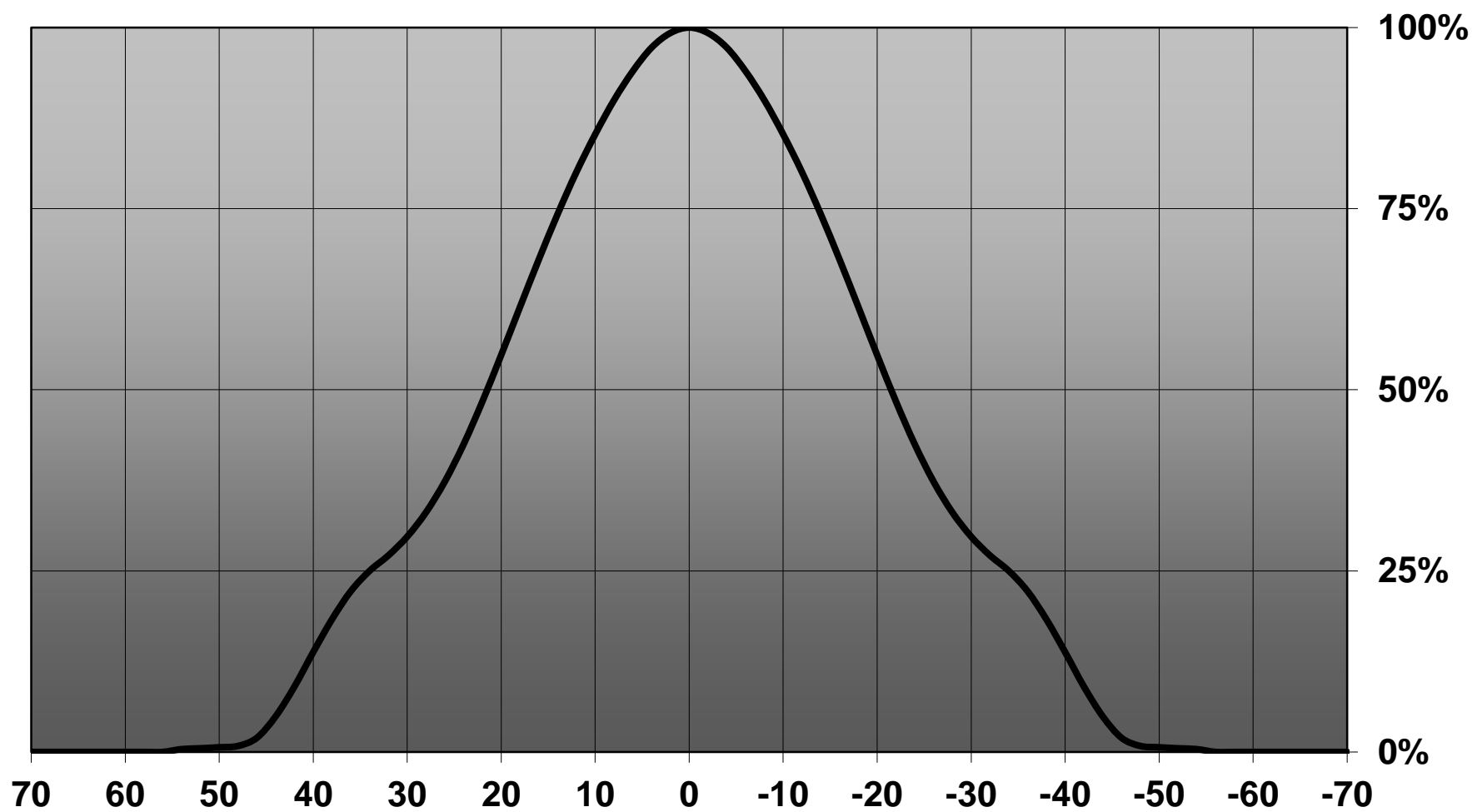
Relative intensity of C12478\_MIRELLA-50-W\_(Duris\_S10)



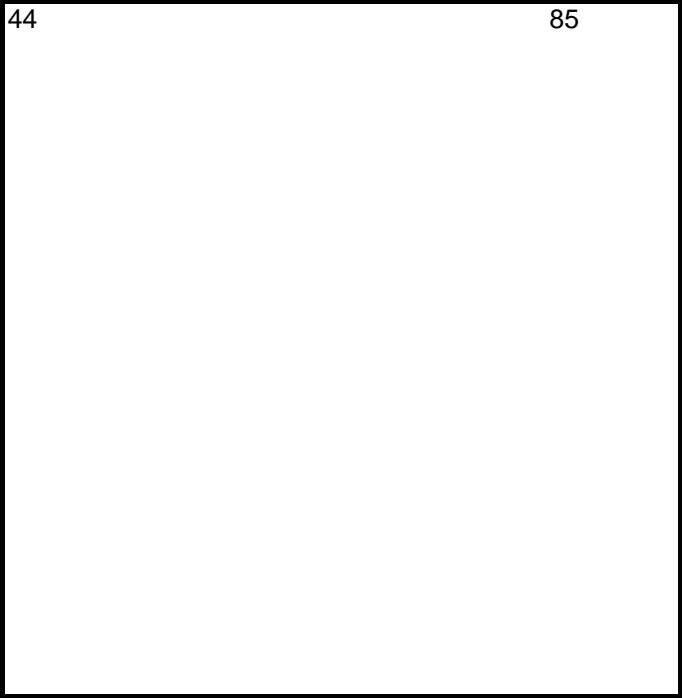
**Relative intensity of C12478\_Mirella\_50-W\_(CLL020)**



Relative intensity of C12478\_MIRELLA-50-W



<b>Lens type</b>	C12478_Mirella_50-W				Voltage		
<b>Led type</b>	CLL010				250mA	Current	
<b>Received</b>							<b>-90</b> 0
<b>Material</b>							-88 0
							-86 0
							-84 0
							-82 0
							<b>-80</b> 0
<b>Position</b>	<b>Horizontal</b>						-78 0
<b>Angle</b>	Negative	Positive	Average	Maximum			-76 0
<b>0</b>	28.78	28.81	28.80	1.00			-74 0
<b>2</b>	28.54	28.70	28.62	0.99			-72 0
<b>4</b>	27.94	28.29	28.12	0.98			<b>-70</b> 0
<b>6</b>	27.12	27.57	27.35	0.95			-68 0
<b>8</b>	26.14	26.52	26.33	0.91			-66 0
<b>10</b>	25.03	25.12	25.08	0.87			-64 0
<b>12</b>	23.78	23.51	23.65	0.82			-62 0
<b>14</b>	22.39	21.61	22.00	0.76			<b>-60</b> 0
<b>16</b>	20.81	19.51	20.16	0.70			-58 0
<b>18</b>	19.13	17.39	18.26	0.63			-56 0
<b>20</b>	17.38	15.29	16.34	0.57			-54 0
<b>22</b>	15.63	13.34	14.49	0.50			-52 0
<b>24</b>	13.90	11.68	12.79	0.44			<b>-50</b> 0.004341
<b>26</b>	12.26	10.26	11.26	0.39			-48 0.00605
<b>28</b>	10.82	9.16	9.99	0.35			-46 0.020116
<b>30</b>	9.62	8.29	8.96	0.31			-44 0.056638
<b>32</b>	8.70	7.59	8.15	0.28			-42 0.114013
<b>34</b>	7.96	7.01	7.48	0.26			<b>-40</b> 0.172756
<b>36</b>	7.32	6.51	6.92	0.24			-38 0.215367
<b>38</b>	6.80	5.60	6.20	0.22			-36 0.24025
<b>40</b>	6.04	3.91	4.97	0.17			-34 0.259854
<b>42</b>	4.40	2.17	3.28	0.11			-32 0.282896
<b>44</b>	2.64	0.62	1.63	0.06			<b>-30</b> 0.311061
<b>46</b>	1.01	0.15	0.58	0.02			-28 0.346848
<b>48</b>	0.24	0.10	0.17	0.01			-26 0.39104
<b>50</b>	0.17	0.08	0.13	0.00			-24 0.444174
<b>52</b>							-22 0.503039
<b>54</b>							<b>-20</b> 0.567286
<b>56</b>							-18 0.634138
<b>58</b>							-16 0.700122
<b>60</b>							-14 0.764022
<b>62</b>							-12 0.82115
<b>64</b>							<b>-10</b> 0.870811
<b>66</b>							-8 0.914395
<b>68</b>							-6 0.949644
<b>70</b>							-4 0.976385
<b>72</b>							-2 0.993923
<b>74</b>							<b>0</b> 1
<b>76</b>							2 0.993923
<b>78</b>							4 0.976385
<b>80</b>							6 0.949644
<b>82</b>							8 0.914395
<b>84</b>							<b>10</b> 0.870811
<b>86</b>							
<b>88</b>							



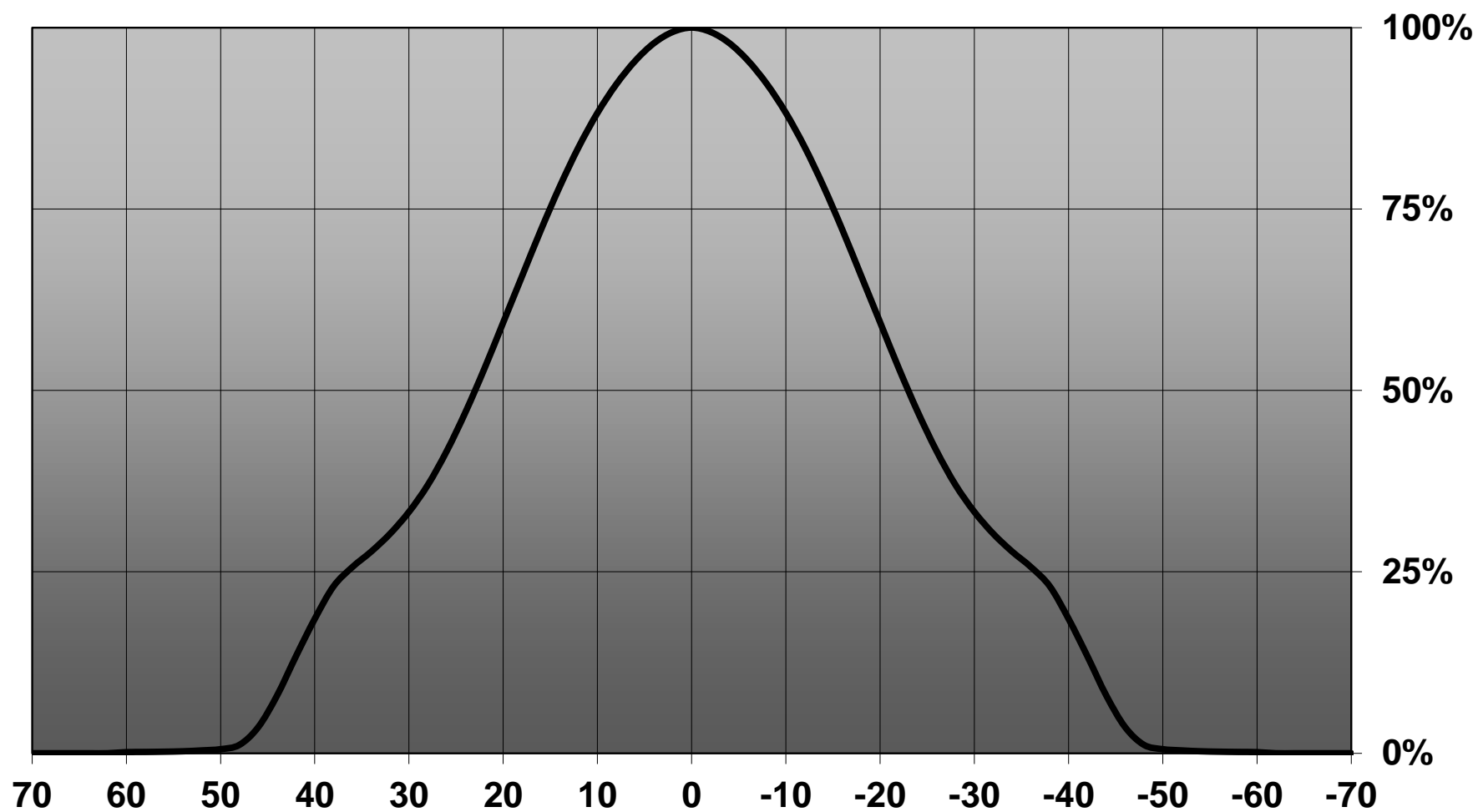
12	0.82115
14	0.764022
16	0.700122
18	0.634138
<b>20</b>	0.567286
22	0.503039
24	0.444174
26	0.39104
28	0.346848
<b>30</b>	0.311061
32	0.282896
34	0.259854
36	0.24025
38	0.215367
<b>40</b>	0.172756
42	0.114013
44	0.056638
46	0.020116
48	0.00605
<b>50</b>	0.004341
52	0
54	0
56	0
58	0
<b>60</b>	0
62	0
64	0
66	0
68	0
<b>70</b>	0
72	0
74	0
76	0
78	0
<b>80</b>	0
82	0
84	0
86	0
88	0
<b>90</b>	0

0	0.44	0.41	28.78	3012.00
1	0.44	0.41	28.54	3011.00
2	0.44	0.41	27.94	3008.00
3	0.44	0.41	27.12	3008.00
4	0.44	0.41	26.14	3006.00
5	0.44	0.41	25.03	3003.00
6	0.44	0.41	23.78	3002.00
7	0.44	0.41	22.39	2998.00
8	0.44	0.41	20.81	2996.00
9	0.44	0.41	19.13	2995.00
10	0.44	0.41	17.38	2993.00
11	0.44	0.41	15.63	2991.00
12	0.44	0.41	13.90	2990.00
13	0.44	0.41	12.26	2991.00
14	0.44	0.41	10.82	2994.00
15	0.44	0.41	9.62	2996.00
16	0.44	0.41	8.70	2997.00
17	0.44	0.41	7.96	2998.00
18	0.44	0.41	7.32	2996.00
19	0.44	0.41	6.80	2987.00
20	0.44	0.41	6.04	3004.00
21	0.44	0.42	4.40	2975.00
22	0.45	0.42	2.64	2973.00
23	0.46	0.44	1.01	2886.00
24	0.46	0.46	0.24	3018.00
25	0.47	0.47	0.17	3051.00
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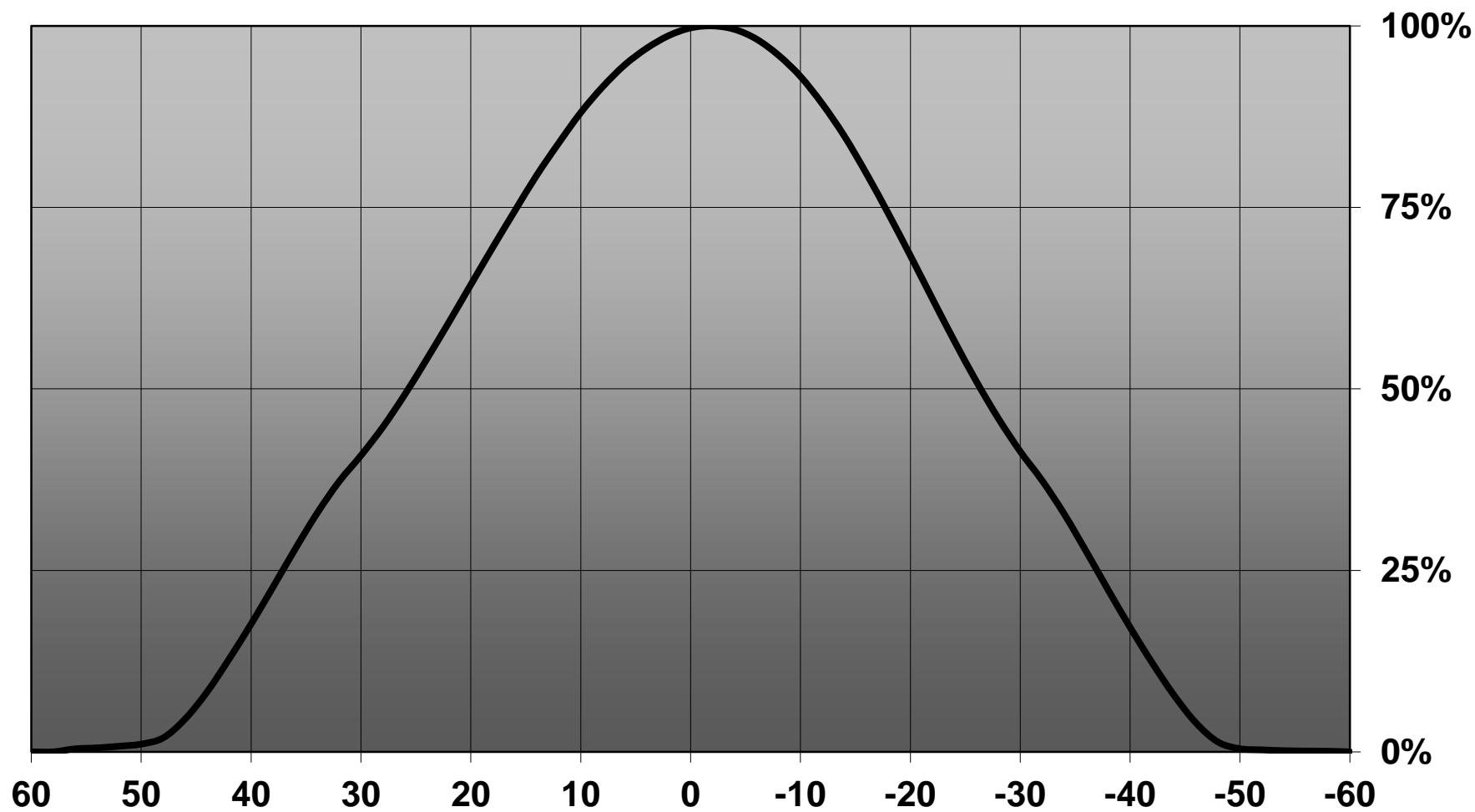


0	0.44	0.41	28.81	3011.00
1	0.44	0.41	28.70	3011.00
2	0.44	0.41	28.29	3008.00
3	0.44	0.41	27.57	3005.00
4	0.44	0.41	26.52	3001.00
5	0.44	0.41	25.12	2997.00
6	0.44	0.41	23.51	2995.00
7	0.44	0.41	21.61	2990.00
8	0.44	0.41	19.51	2988.00
9	0.44	0.41	17.39	2986.00
10	0.44	0.41	15.29	2983.00
11	0.44	0.41	13.34	2985.00
12	0.44	0.41	11.68	2986.00
13	0.44	0.41	10.26	2988.00
14	0.44	0.41	9.16	2991.00
15	0.44	0.41	8.29	2992.00
16	0.44	0.41	7.59	2995.00
17	0.44	0.41	7.01	2985.00
18	0.44	0.41	6.51	2983.00
19	0.44	0.41	5.60	2987.00
20	0.45	0.42	3.91	2951.00
21	0.45	0.42	2.17	2938.00
22	0.48	0.45	0.62	2710.00
23	0.48	0.49	0.15	3039.00
24	0.49	0.52	0.10	3067.00
25	0.50	0.57	0.08	3152.00
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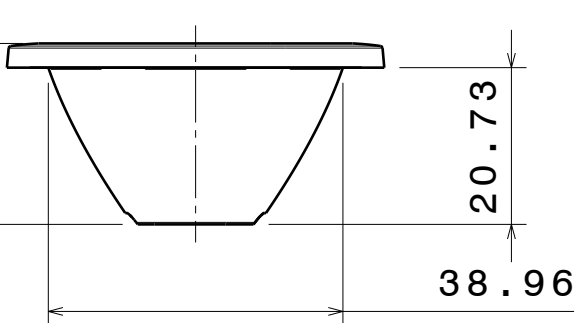
Relative intensity of C12478\_Mirella\_50-W\_(MTG\_Gen\_II)



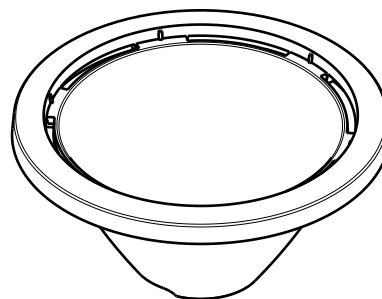
Relative intensity of C12478\_MIRELLA-50-W\_(CXA1816)



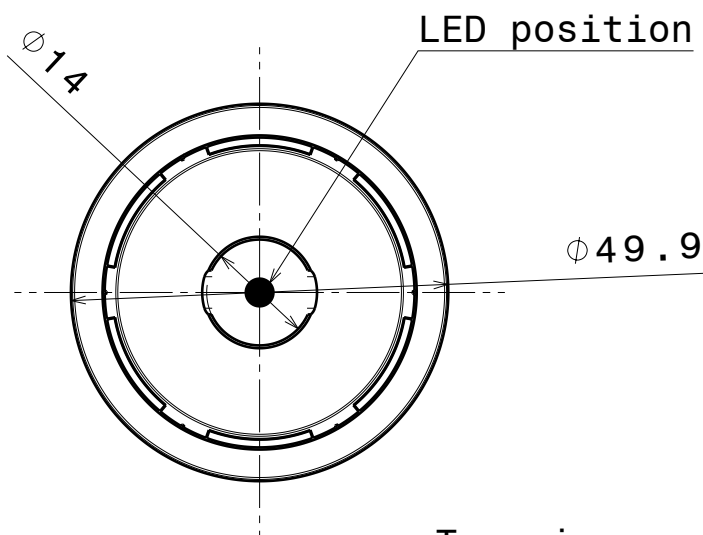
23.93



Front view



Isometric view



Top view

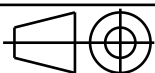
INDEX	PART NO	DESCRIPTION	MATERIAL	COLOUR
1	C12478	MIRELLA-50-W	PC	metal

Tolerances if not otherwise shown  
According to DIN ISO 2768-1  
Linear measures: 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

C12478\_MIRELLA-50-W

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communicated without a written  
agreement with LEDiL Oy.

SIZE

A4

PART NUMBER

C12478

SCALE

1:1

WEIGHT

3,93 g

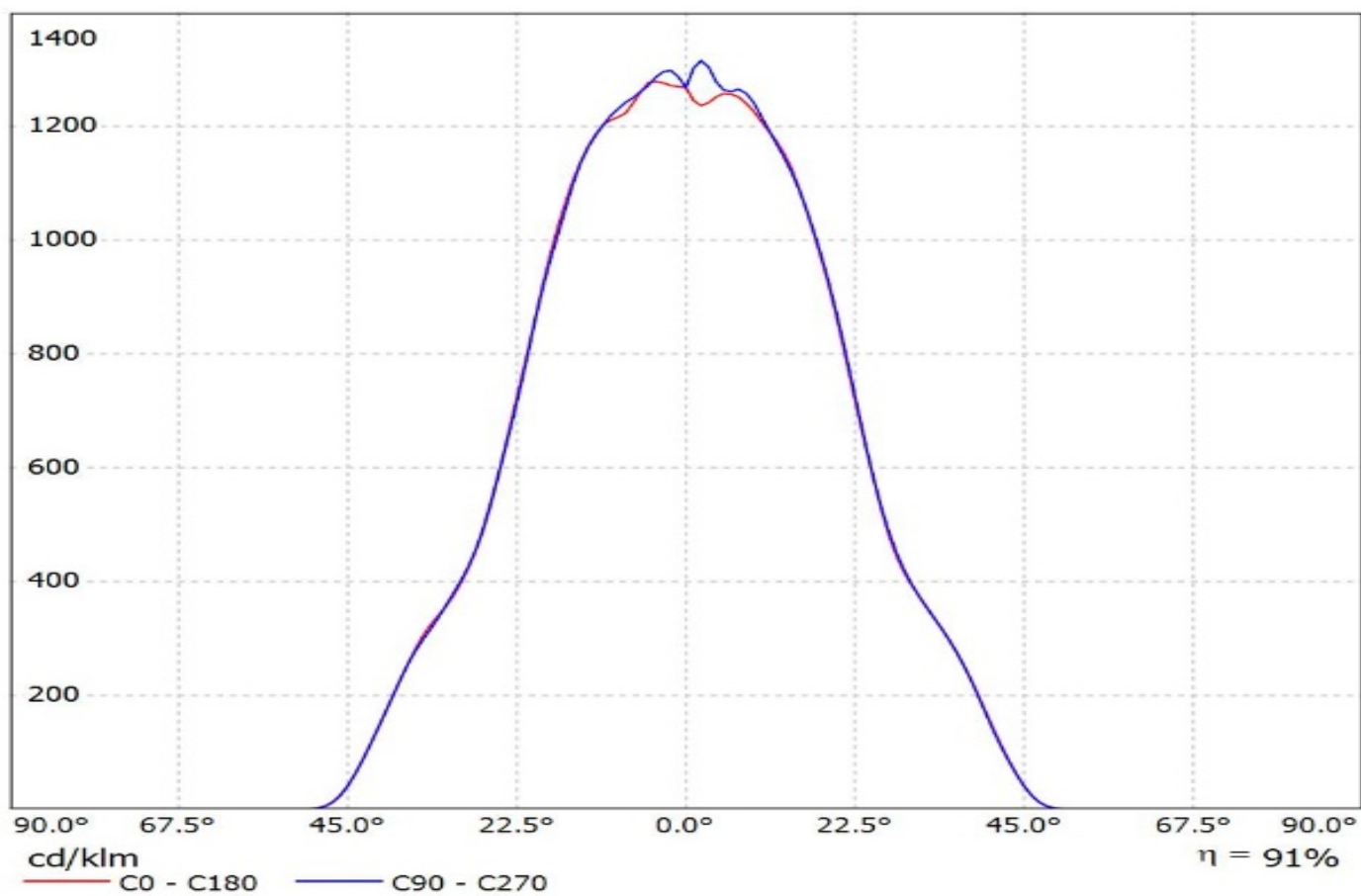
SHEET

1 / 1

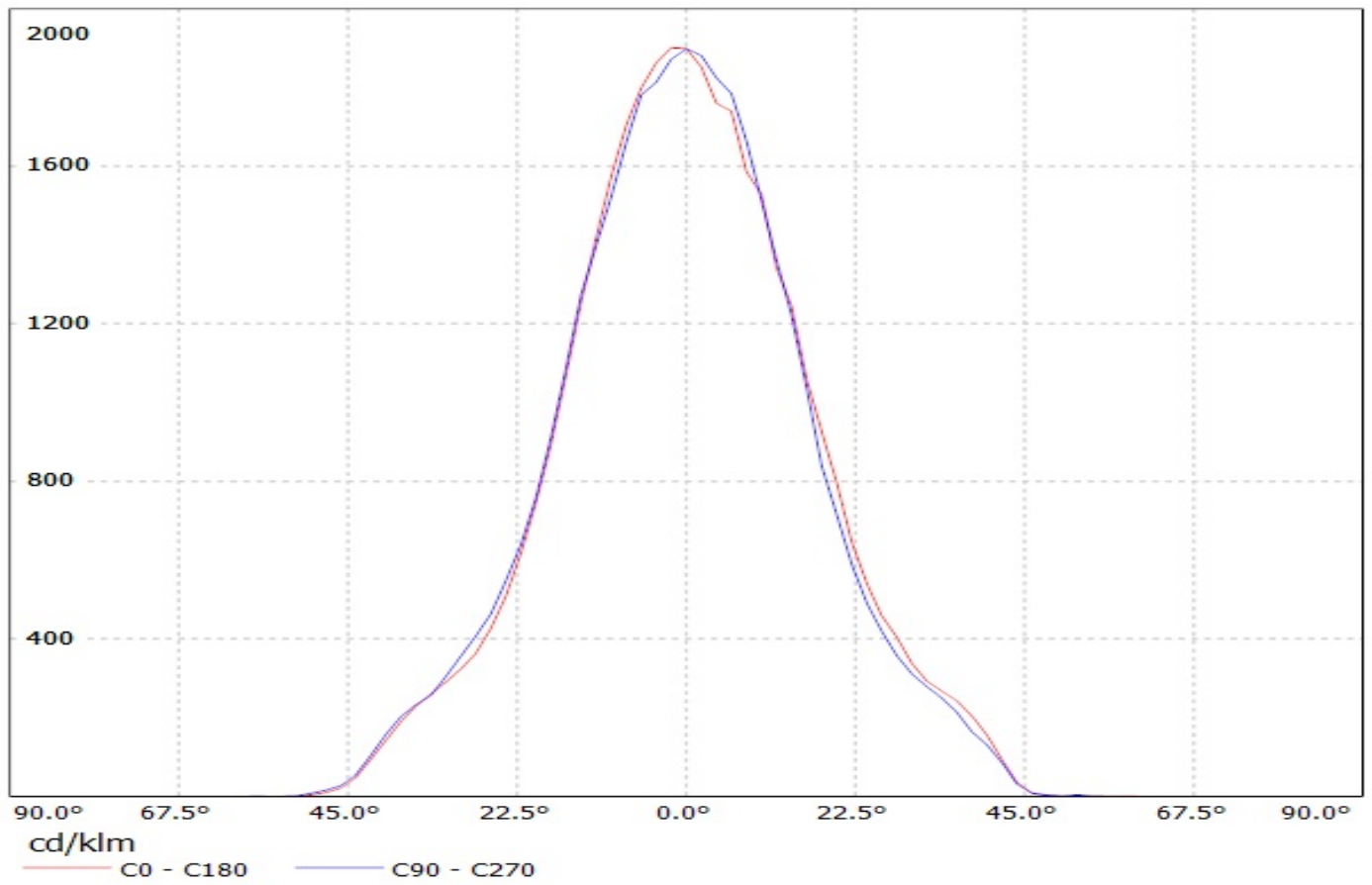
D

A

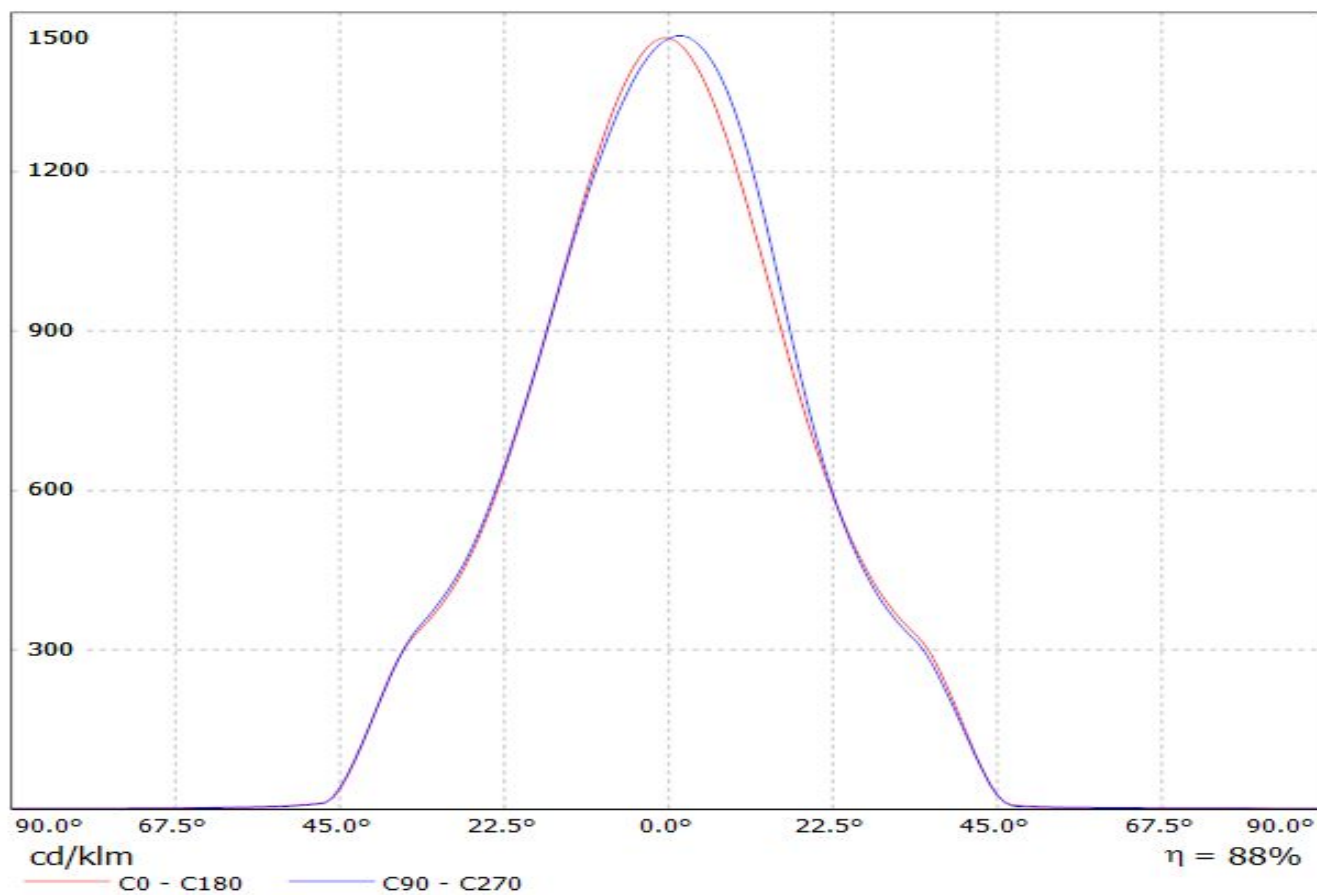
Luminaire: Ledil Oy C12478\_MIRELLA-50-W\_(Soleriq\_S9)\_SIMULATED  
Lamps: 1 x Osram Soleriq S9 (GW KAJFB3.EM)



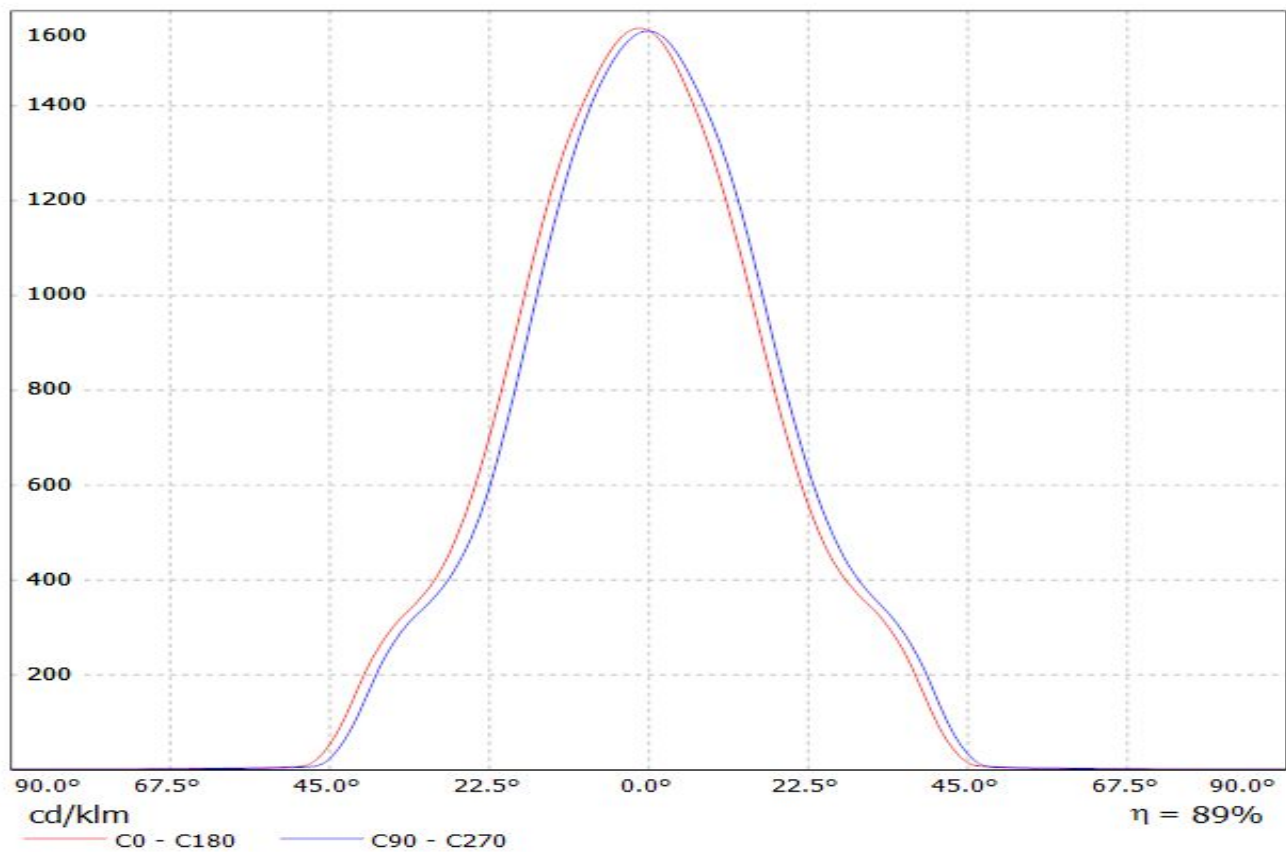
Luminaire: Ledil Oy C12478\_MIRELLA-50-W (Bridgelux LS 170lm @ 250mA) Efficiency=88%  
Lamps: 1 x Bridgelux LS 170lm @ 250mA



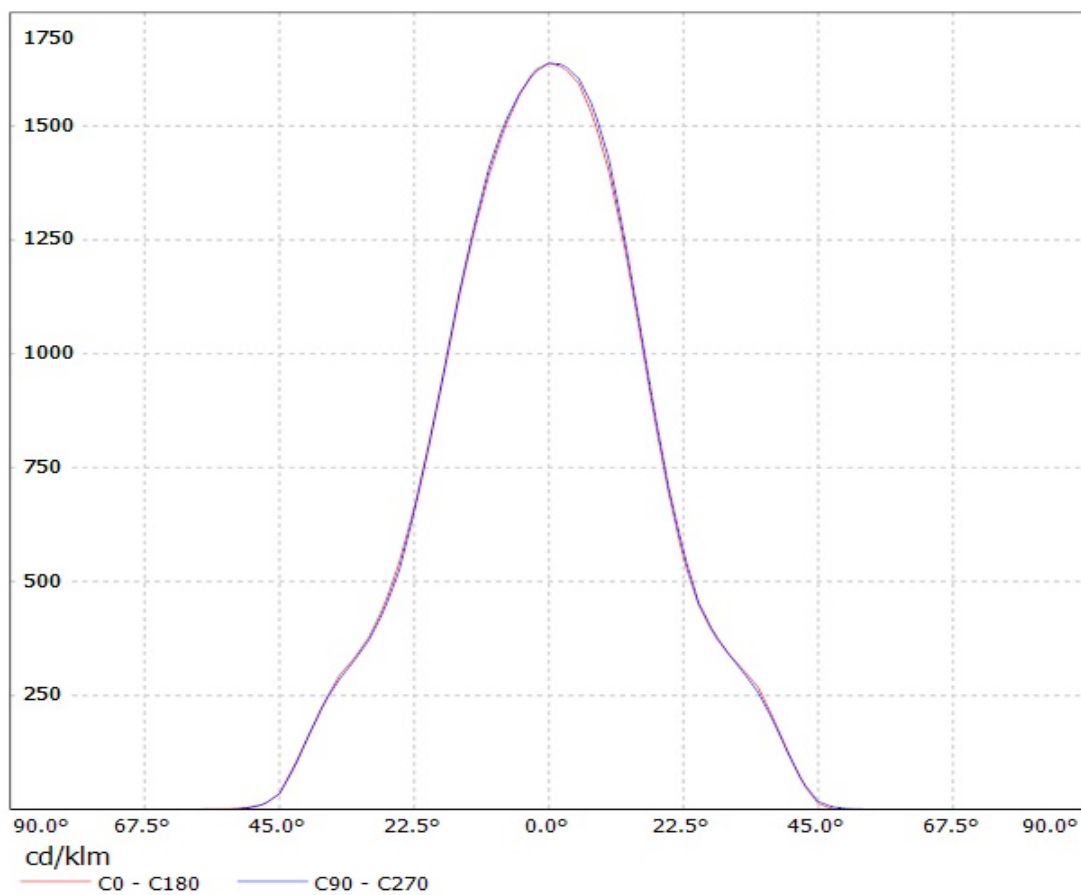
Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(Mini\_Zenigata) Eff.87.7%  
Lamps: 1 x Mini\_Zenigata GW6BM (803.772lm@250mA)



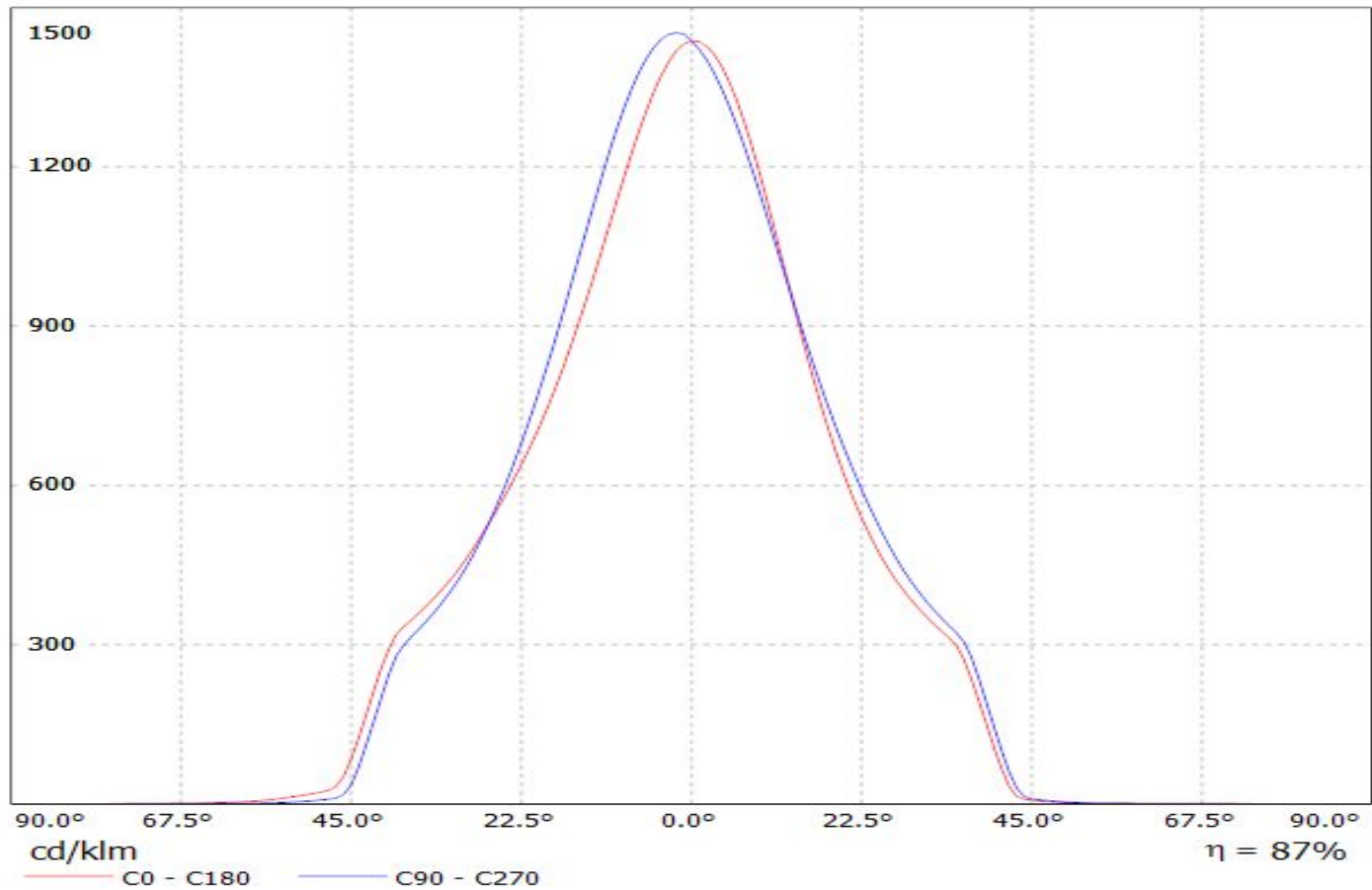
Luminaire: LEDIL OY C12478\_MIRELLA-50-W\_(MiniZenigata) Eff.88.9%  
Lamps: 1 x Mini Zenigata (387.5lm@250mA)



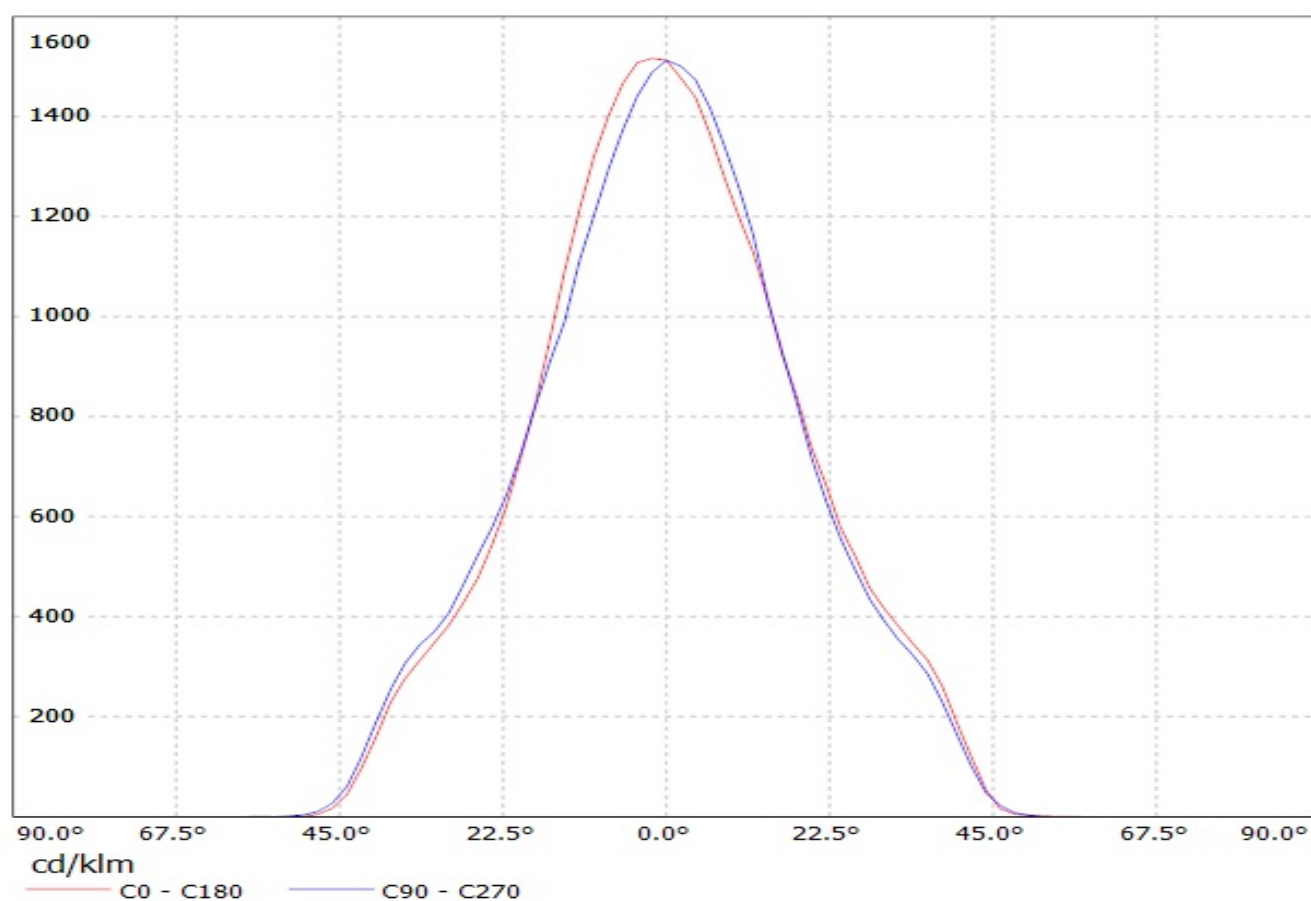
Luminaire: LEDil Oy C12478\_MIRELLA-50-W\_(Stark\_SLE\_G3\_LES10) Efficiency=86%  
Lamps: 1 x Tridonic Stark SLE G3 LES10 (STARK-SLE-PURE-G3-10-1000-830-CLA) 453lm @ 250mA CCT=3000K P=4.3W I=250mA



Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(SLE-G5\_LES-6)  
Lamps: 1 x Tridonic\_SLE-G5\_LES-6\_470.59lm@100mA\_P=3.3748W\_I=0.100A

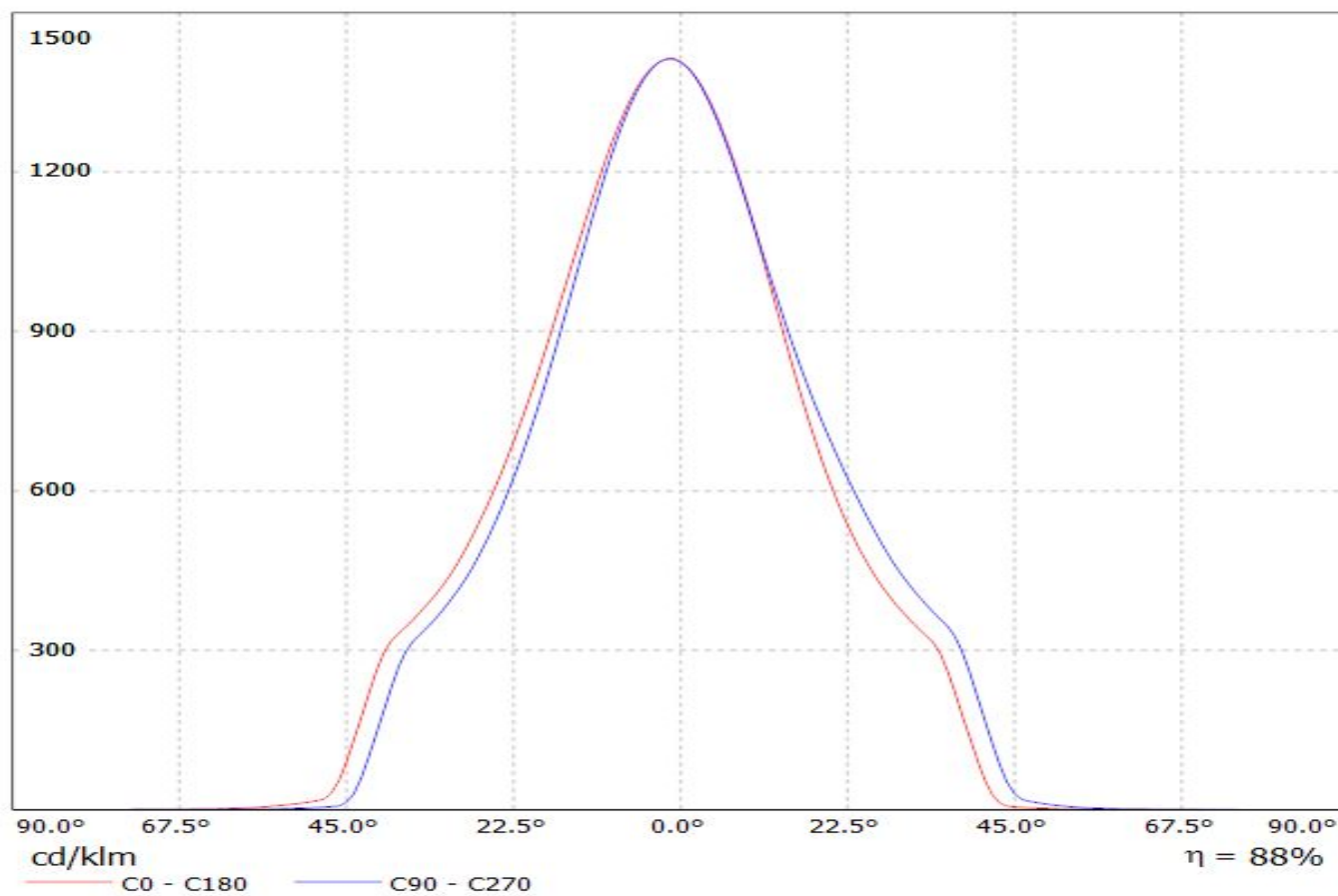


Luminaire: Ledil Oy C12478\_MIRELLA-50-W (Nichia NSCXL036A 434lm @ 100mA) Efficiency=87%  
Lamps: 1 x Nichia NSCXL036A 434lm @ 100mA (NSCLL036A) CCT=3000K P=3,4W I=100mA



Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(CLU700)

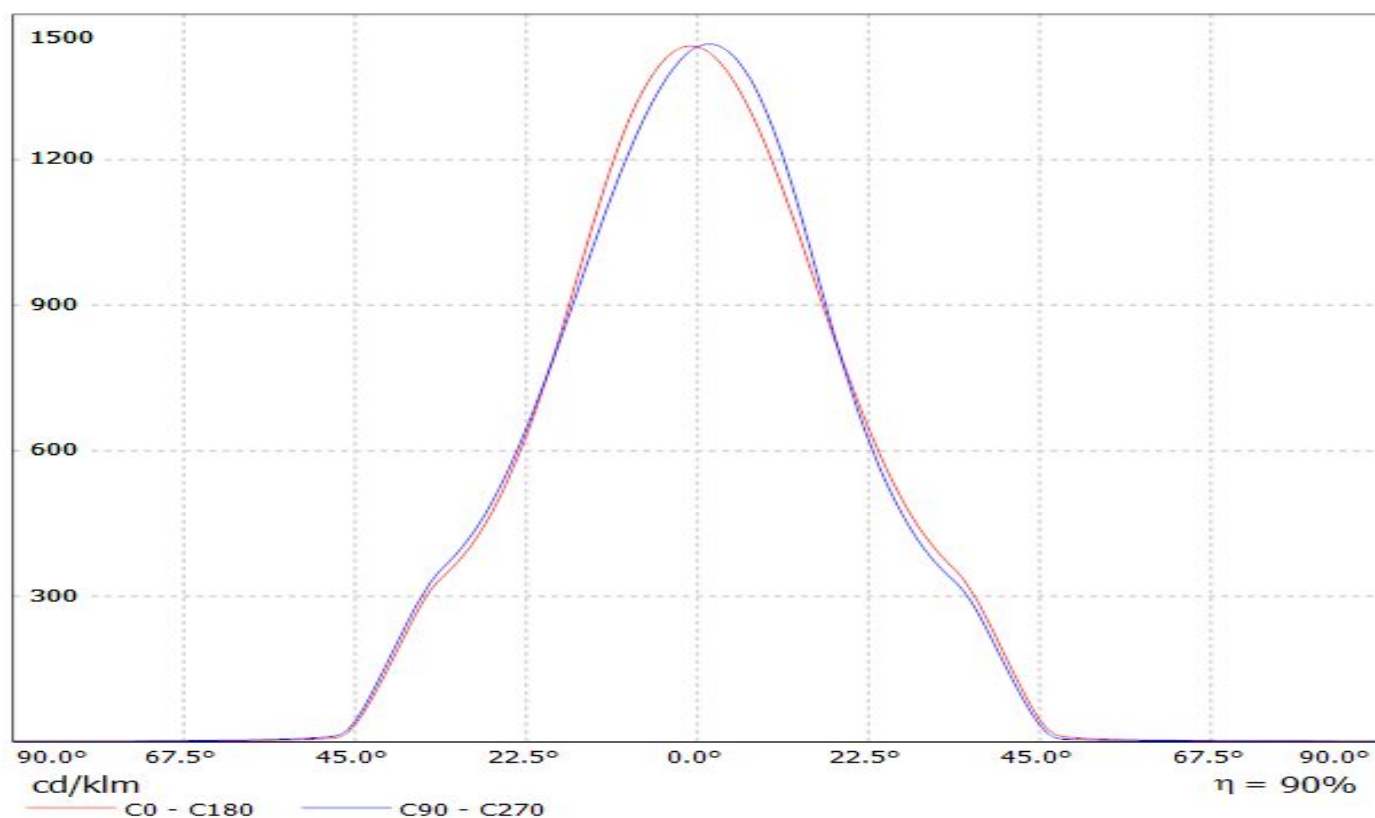
Lamps: 1 x CITIZEN\_CLU700\_(CLU700-100-2B8-273M2G1)\_380.605lm@250mA\_P=2.8002W\_l=0.1001A



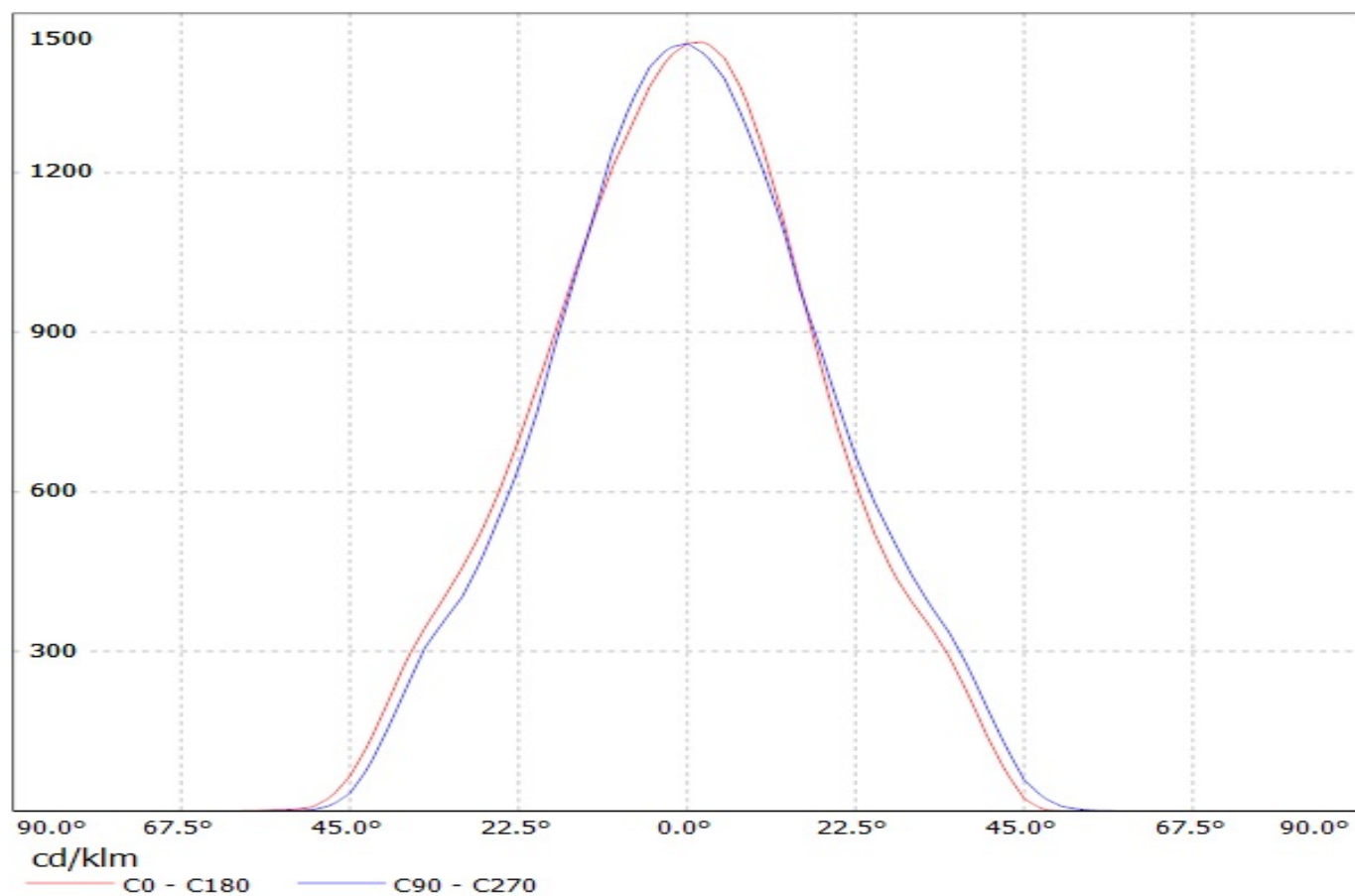
## LEDiL Oy C12478\_MIRELLA-50-W\_(CXA1507) Eff.89.6% / LDC (Linear)

Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(CXA1507) Eff.89.6%

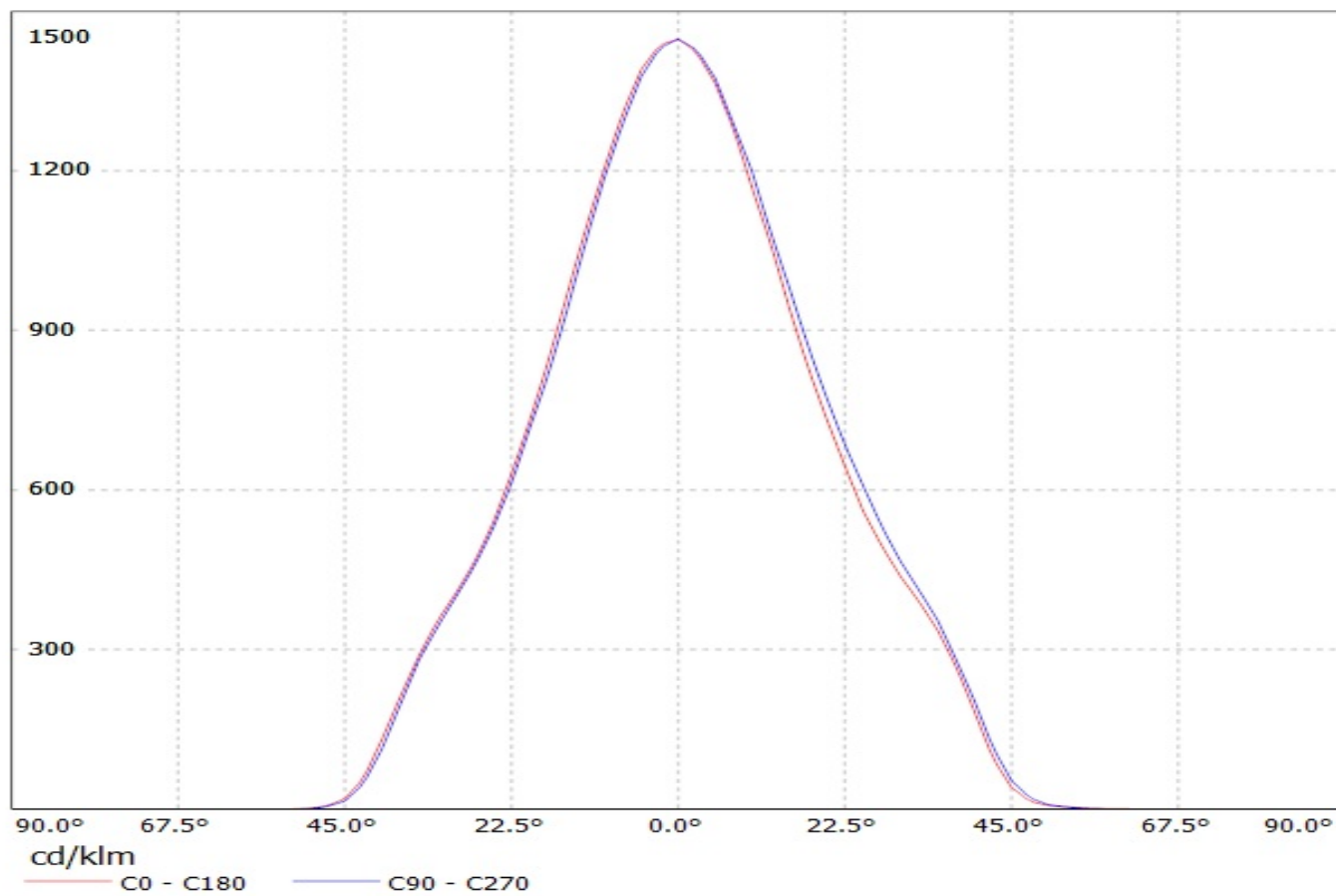
Lamps: 1 x CREE\_CXA1507 (CXA1507-30F-F2-N0A-00000) 238.378lm@50mA CCT=3000K P=1.8506W  
I=54.5mA



Luminaire: Ledil Oy C12478\_MIRELLA-50-W (NSBxL066A 930lm @ 250mA) Efficiency=89%  
Lamps: 1 x NSBxL066A 930lm @ 250mA (NSBLL066AE) CCT=3536K P=7,75W I=250mA

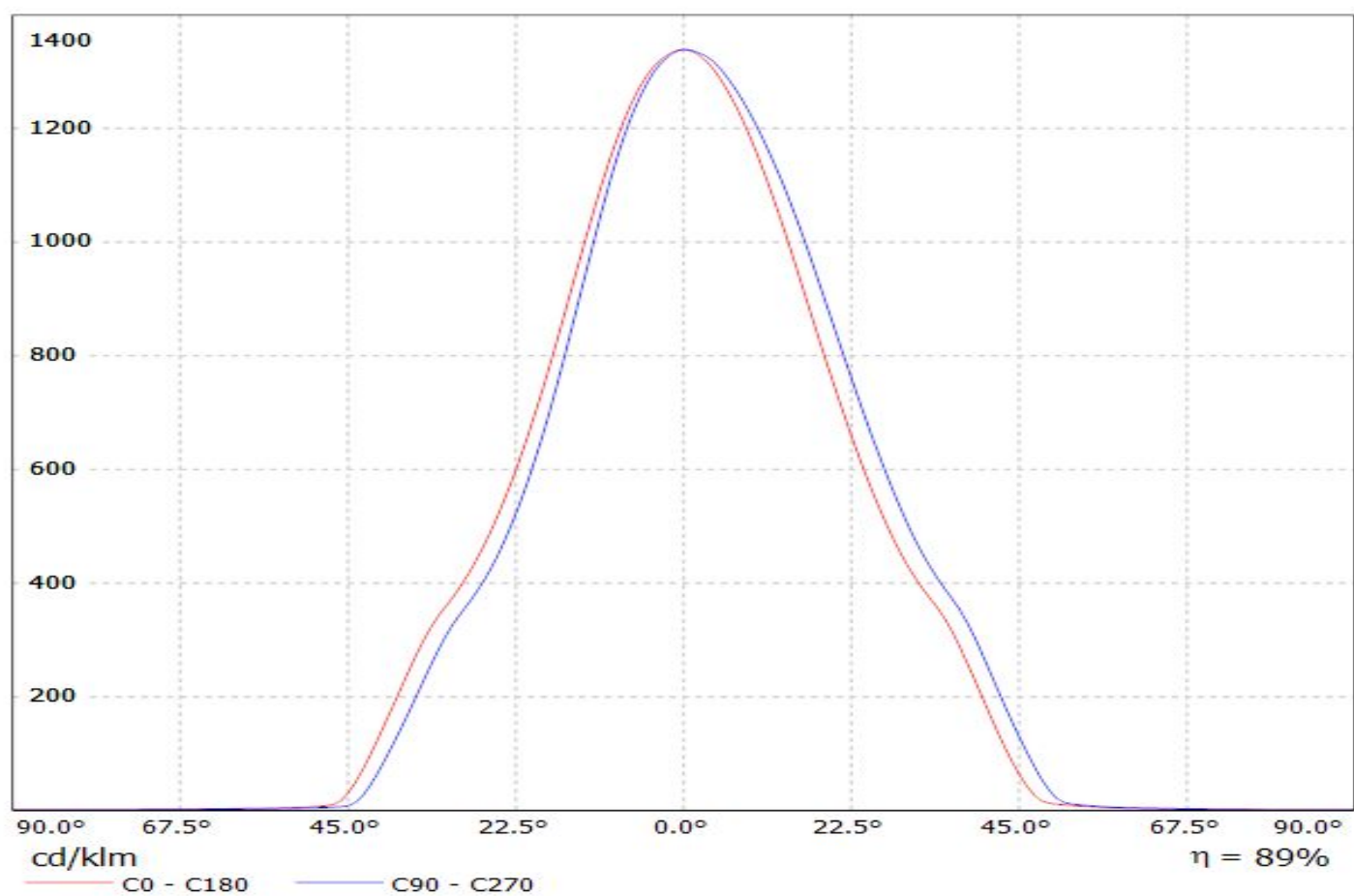


Luminaire: LEDil Oy C12478\_MIRELLA-50-W\_(ZC6) Efficiency=86%  
Lamps: 1 x Seoul ZC6 (SDW81F1C) 422lm @ 100mA CCT=3100K P=3.4W I=100mA

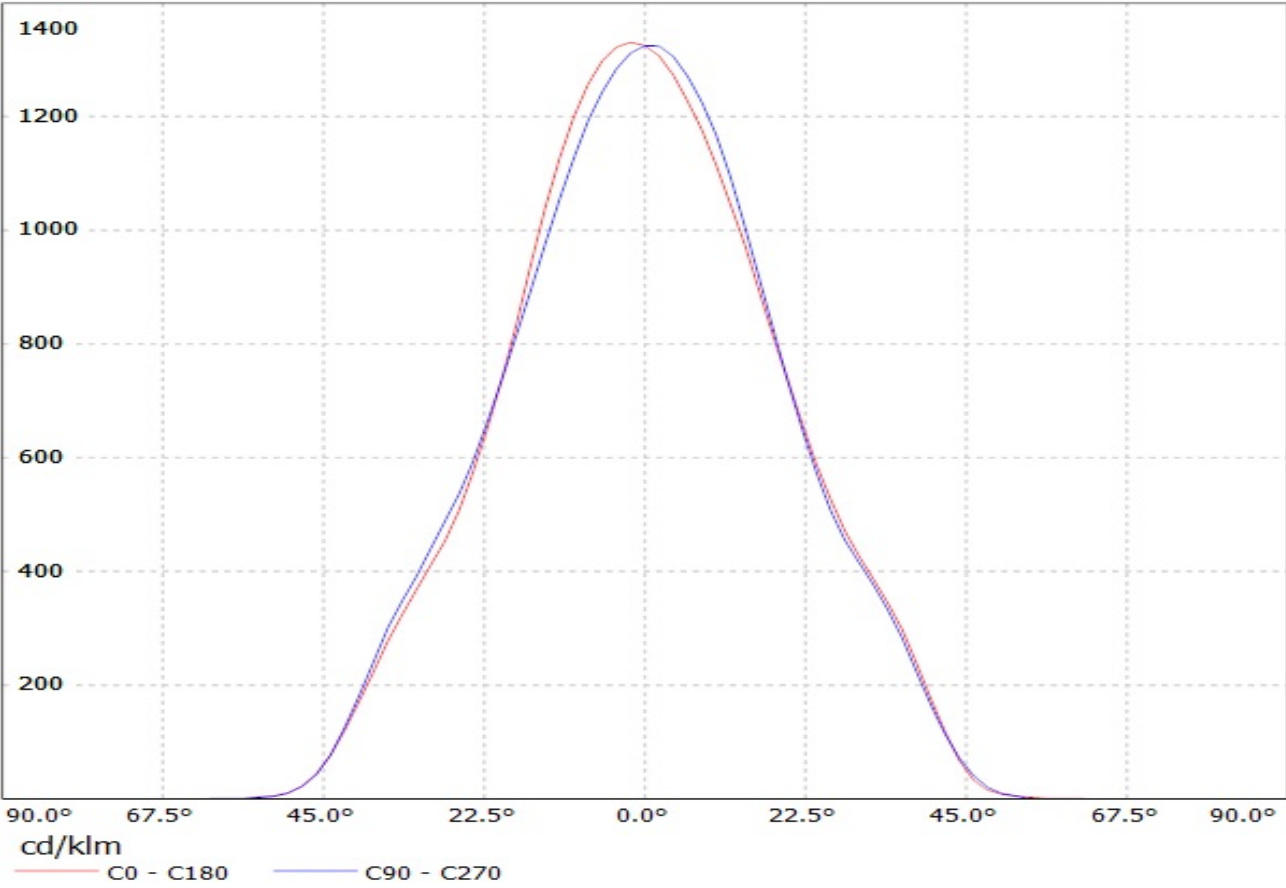


Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(CXM-9)

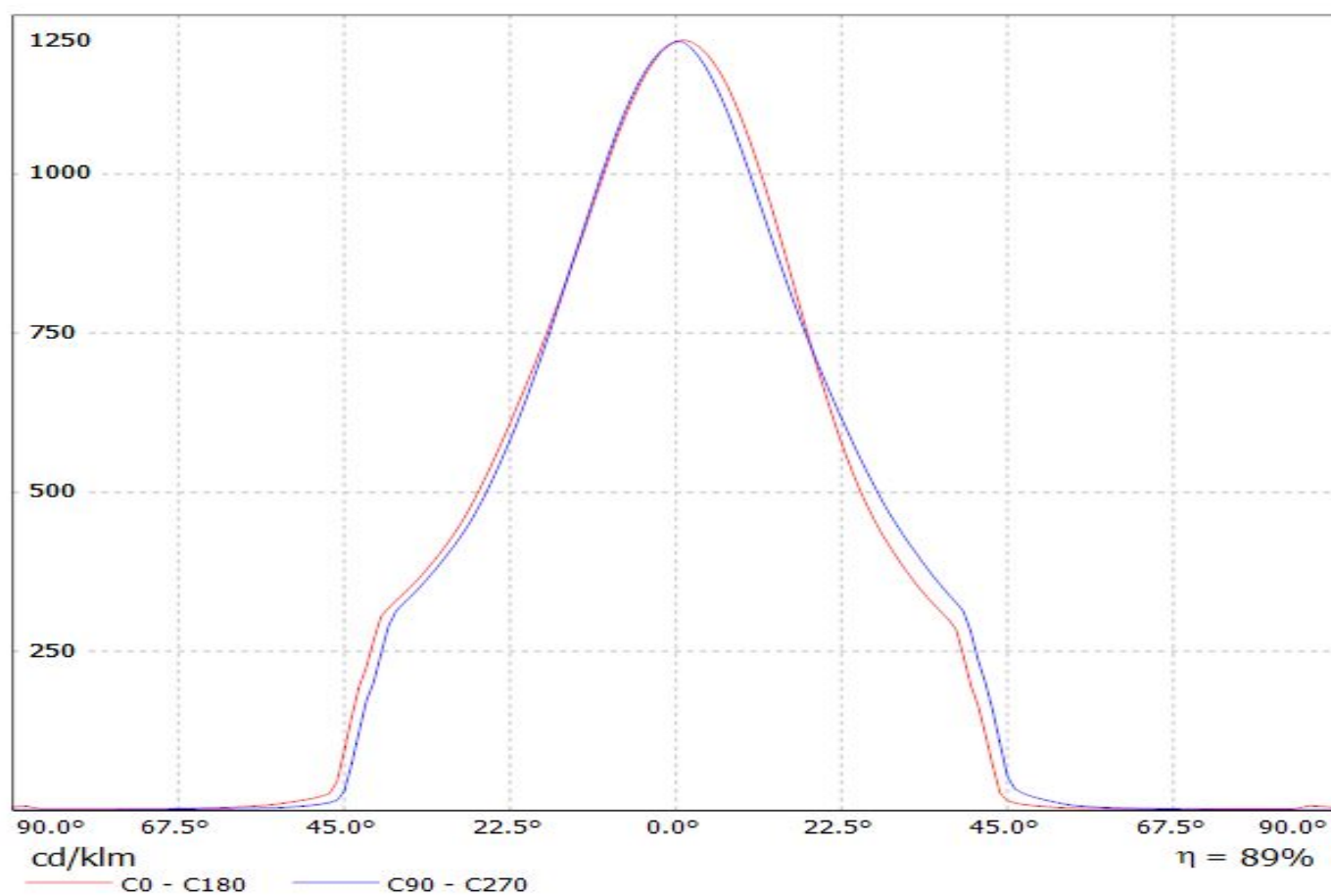
Lamps: 1 x Luminus\_XNOVA\_CXM-9\_(AA00)\_977.302lm@240mA\_P=8.28264W\_I=240mA



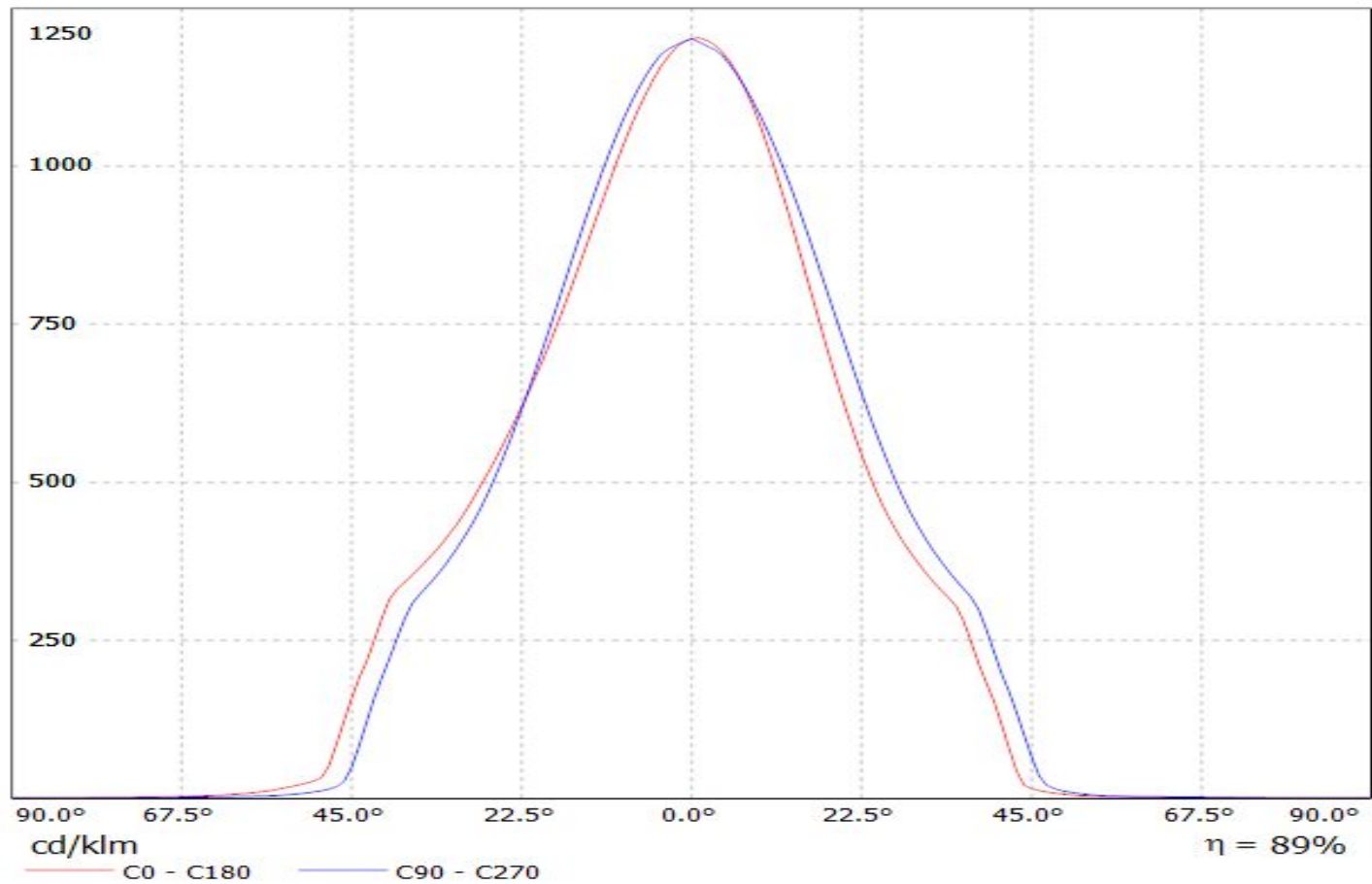
Luminaire: Ledil Oy C12478\_MIRELLA-50-W\_(Luxeon Cob 1203) Efficiency=87%  
Lamps: 1 x Luxeon Cob 1203 (LHC1-3080-1203) 824lm @ 250mA CCT=3000K P=8.7W I=250mA



Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(Cree\_XHP50\_WW)  
Lamps: 1 x Cree\_XHP50\_WW\_196.271lm@250mA\_P=1.39897W\_I=0.2499A



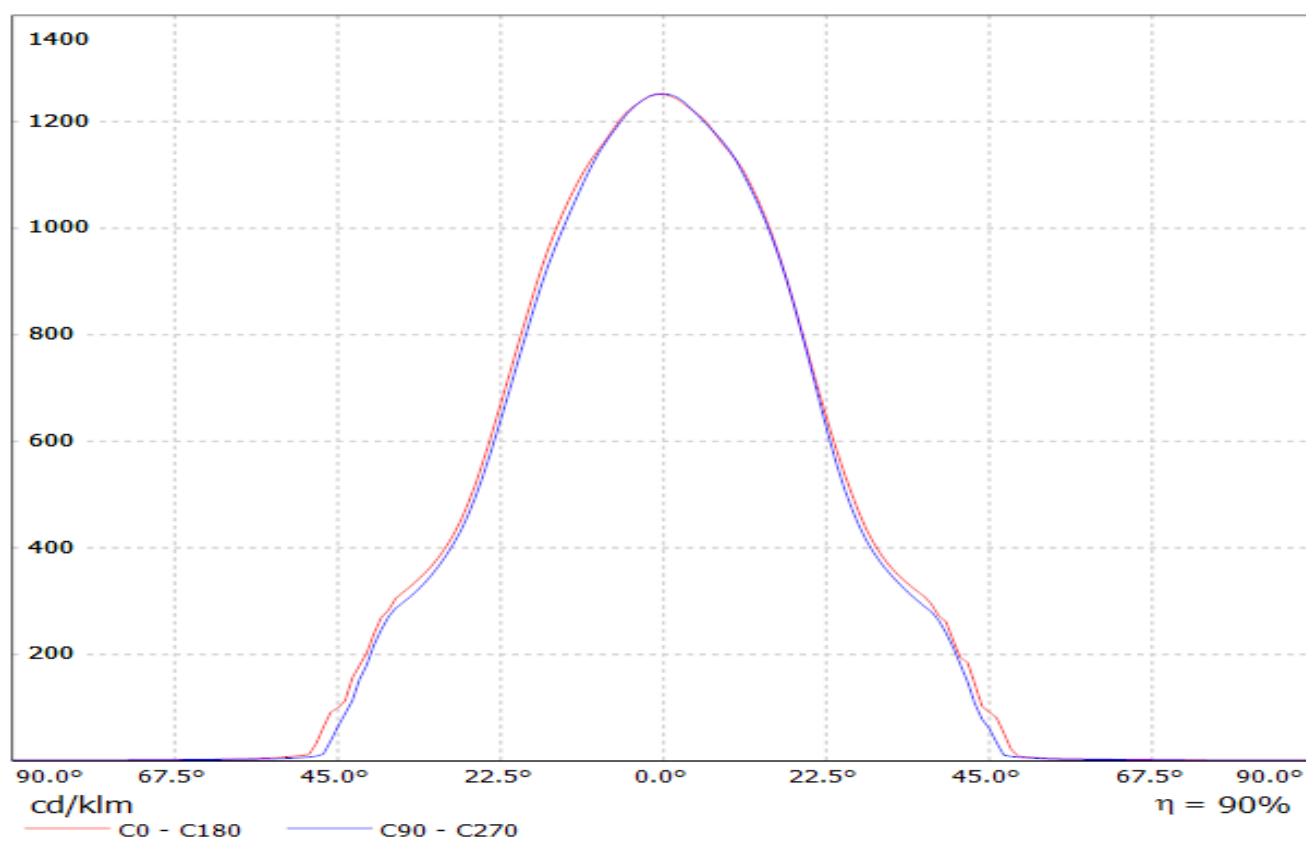
Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(Cree\_XHP70)  
Lamps: 1 x Cree\_XHP70\_258.083lm@250mA\_P=1.38117W\_I=0.2499A



## LEDIL OY C12478\_MIRELLA-50-W\_(MT-G) / LDC (Linear)

Luminaire: LEDIL OY C12478\_MIRELLA-50-W\_(MT-G)

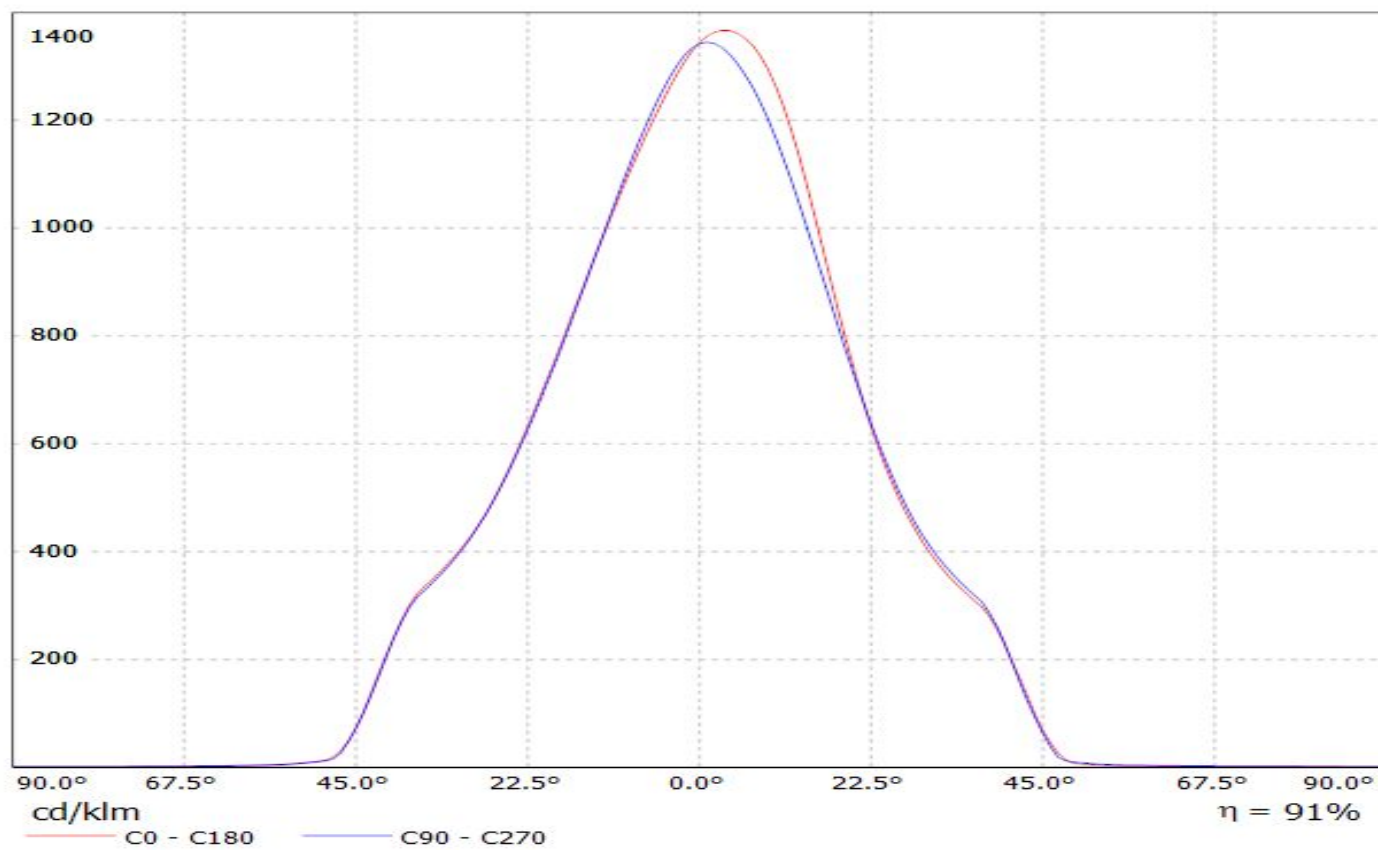
Lamps: 1 x MT-G (777.7lm)



## LEDiL Oy C12478\_MIRELLA-50-W\_(MT-G2) Eff.91.3% / LDC (Linear)

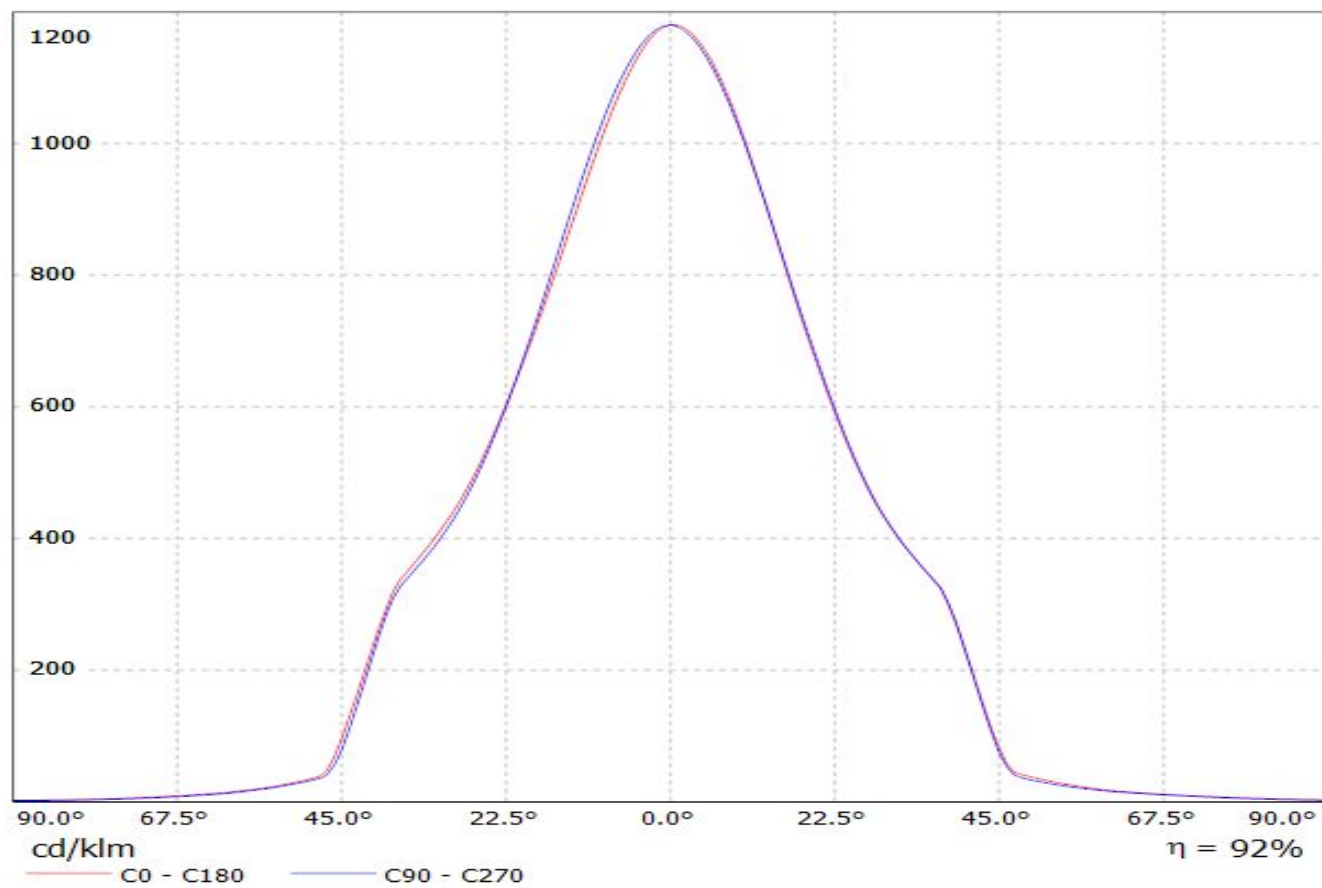
Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(MT-G2) Eff.91.3%

Lamps: 1 x MT-G2 (165.38lm@250mA)



Luminaire: Ledil C12478\_MIRELLA-50-W\_(MHD-G)

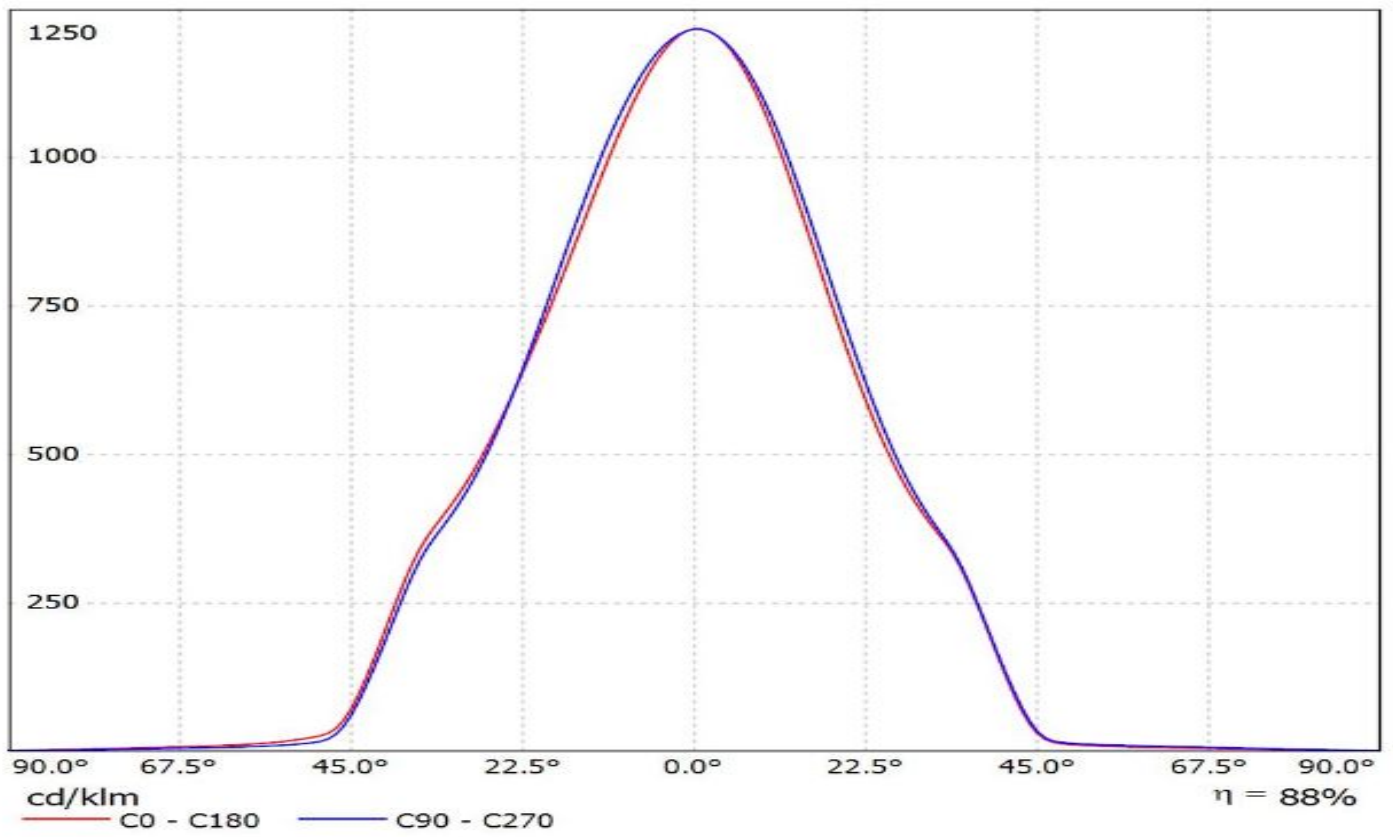
Lamps: 1 x Cree MHD-G\_528.649lm@100mA\_P=3.0W\_I=0.100A



## Ledil C12478\_MIRELLA-50-W\_(CLU710) / LDC (Linear)

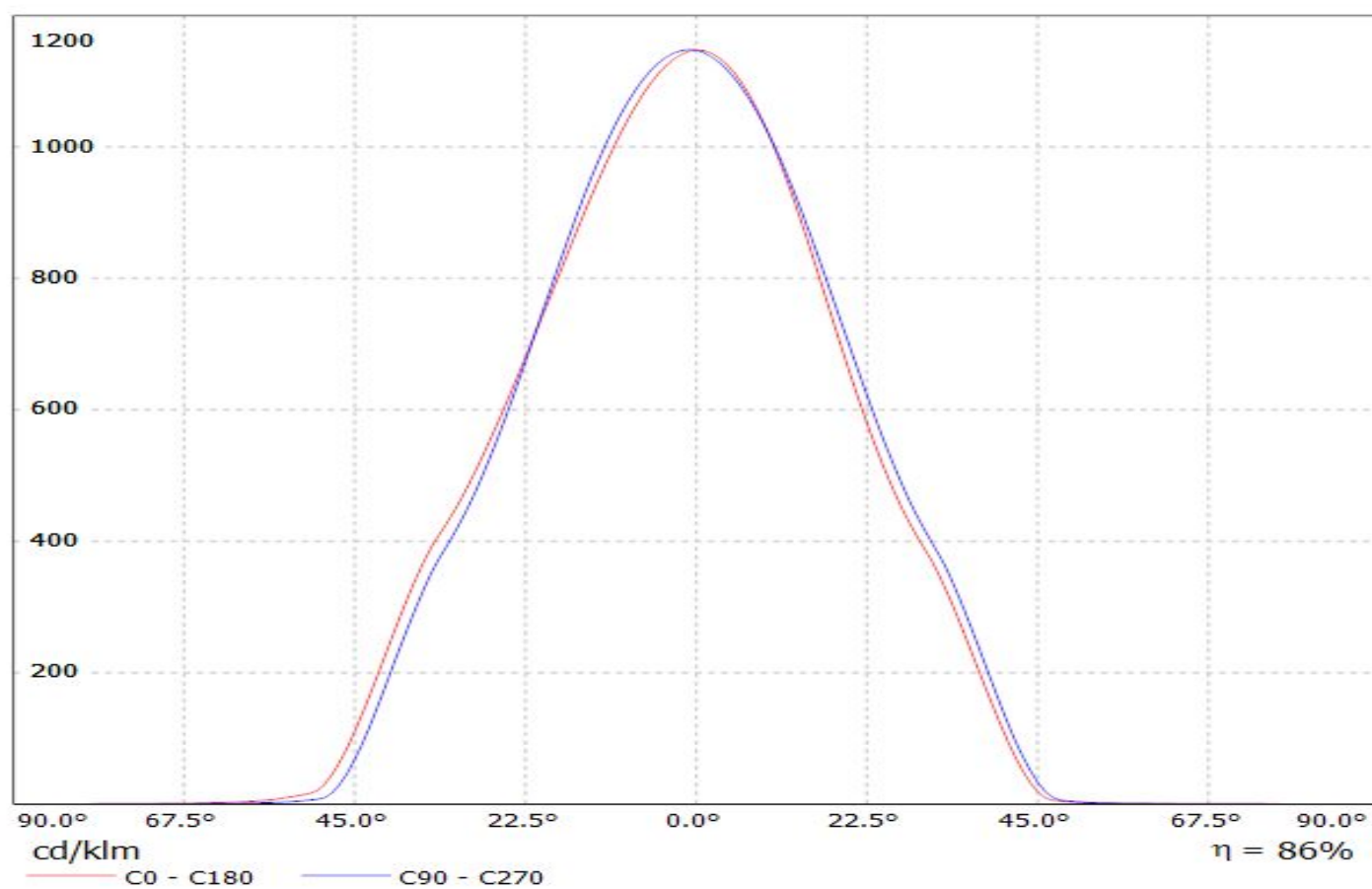
Luminaire: Ledil C12478\_MIRELLA-50-W\_(CLU710)

Lamps: 1 x CITIZEN\_CLU710\_(CLU710-1204B8-273M2G1)\_1212.66lm@250mA\_P=8.5W\_I=0.25A

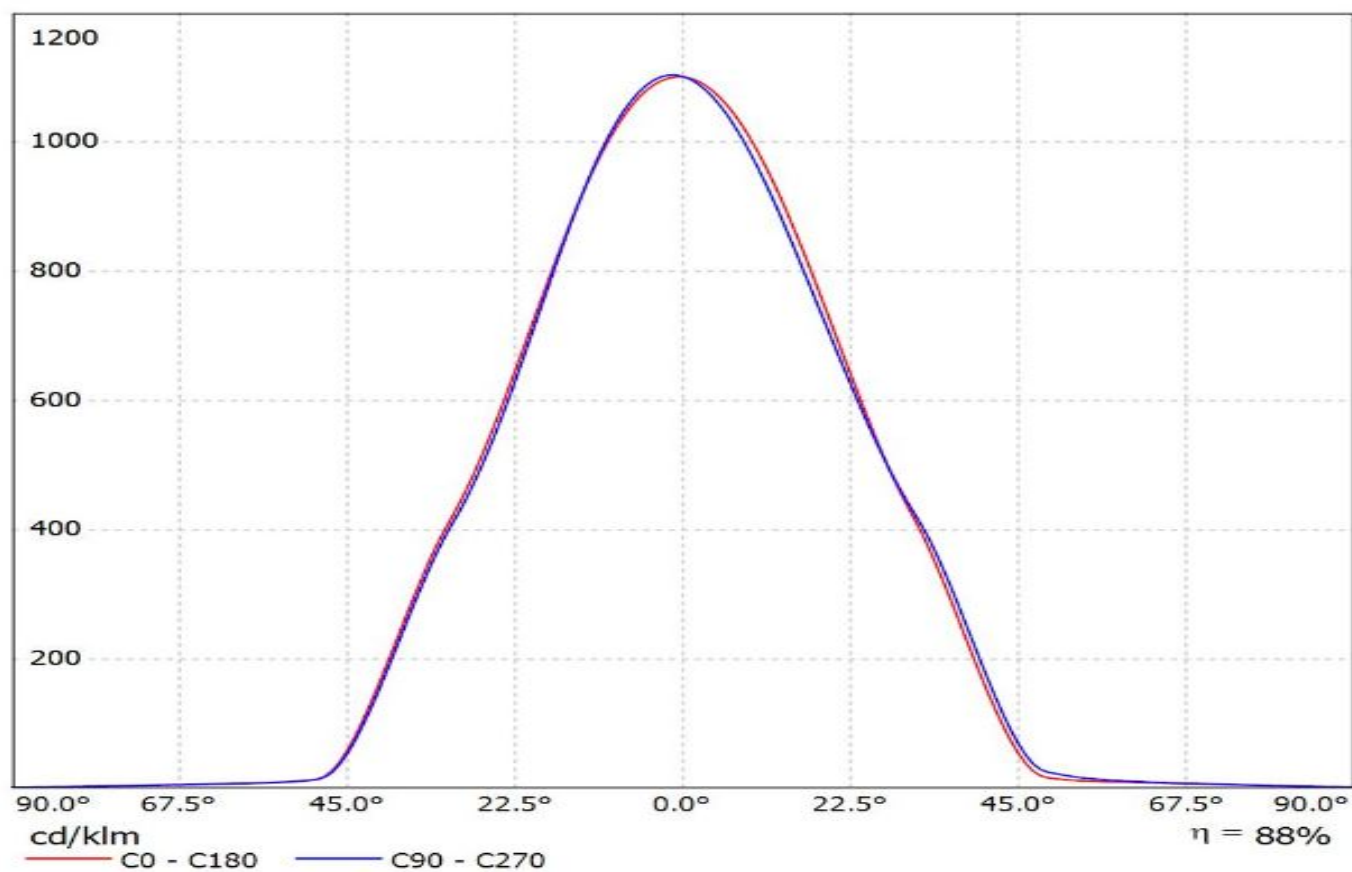


Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(SLE-G5\_LES-11)

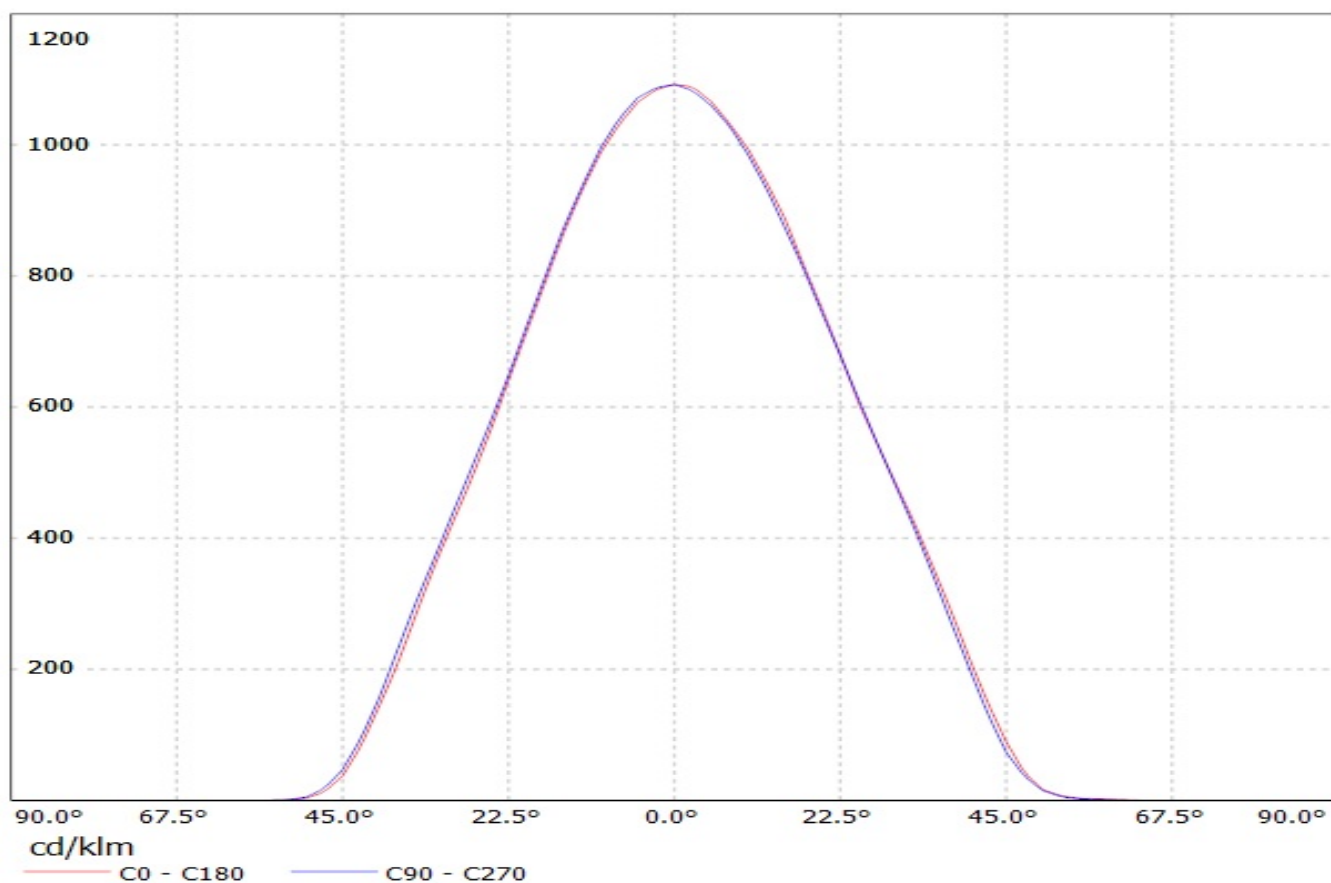
Lamps: 1 x Tridonic\_SLE-G5\_LES-11\_1168.86lm@250mA\_P=8.3243W\_I=0.250A



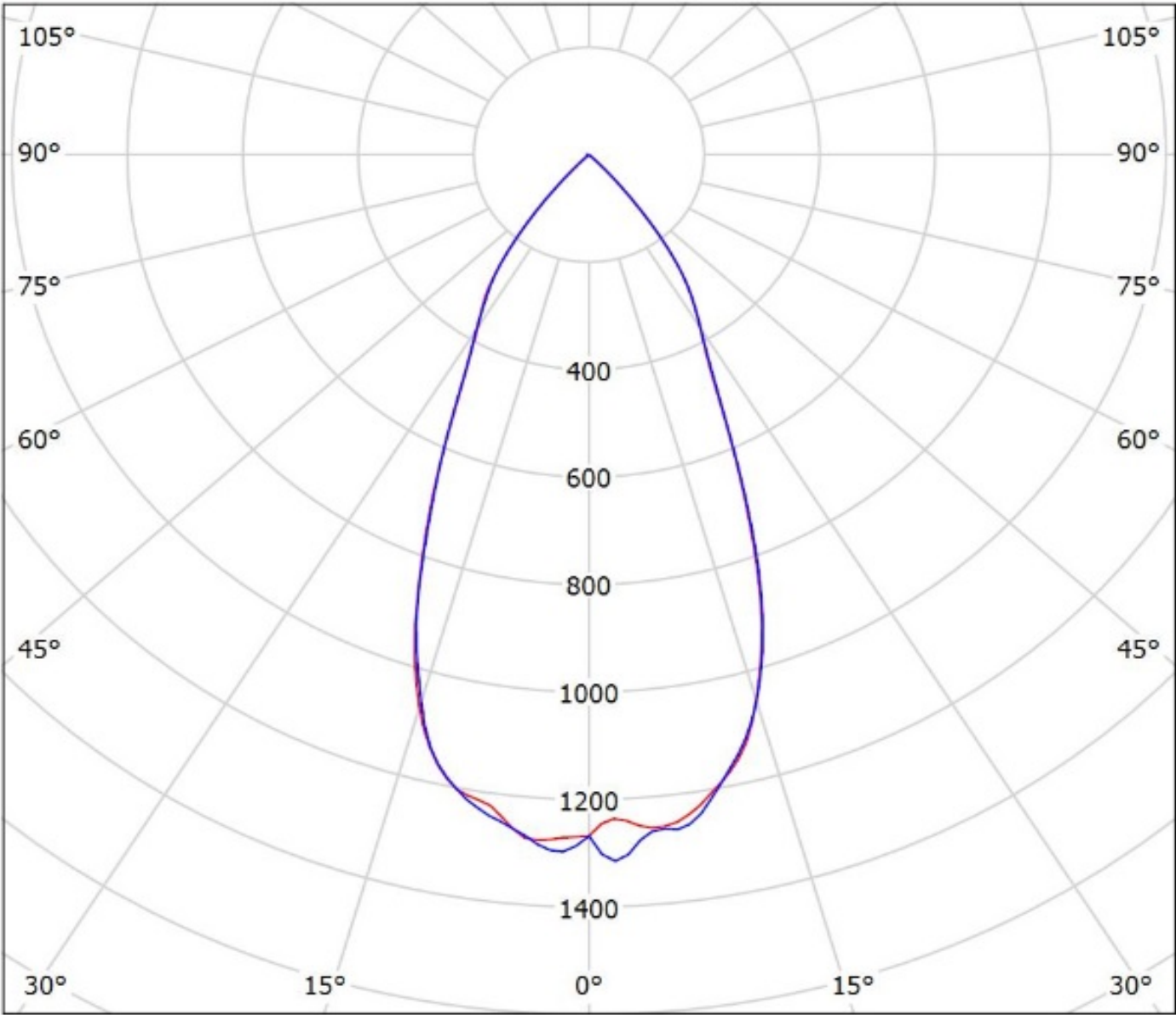
Luminaire: Ledil C12478\_MIRELLA-50-W\_(CLU720)  
Lamps: 1 x CITIZEN\_CLU720\_(CLU720-1206B8-273M2)  
\_1298.17lm@250mA\_CCT=2700K\_P=8.3W\_I=0.25A



Luminaire: LEDil Oy C12478\_MIRELLA-50-W\_(Soleriq\_S13) Efficiency=85%  
Lamps: 1 x Osram Soleriq S13 (GW KAGHB1.EM) 832lm @ 250mA CCT=3100K P=7.4W I=250mA



Luminaire: Ledil Oy C12478\_MIRELLA-50-W\_(Soleriq\_S9)\_SIMULATED  
Lamps: 1 x Osram Soleriq S9 (GW KAJFB3.EM)

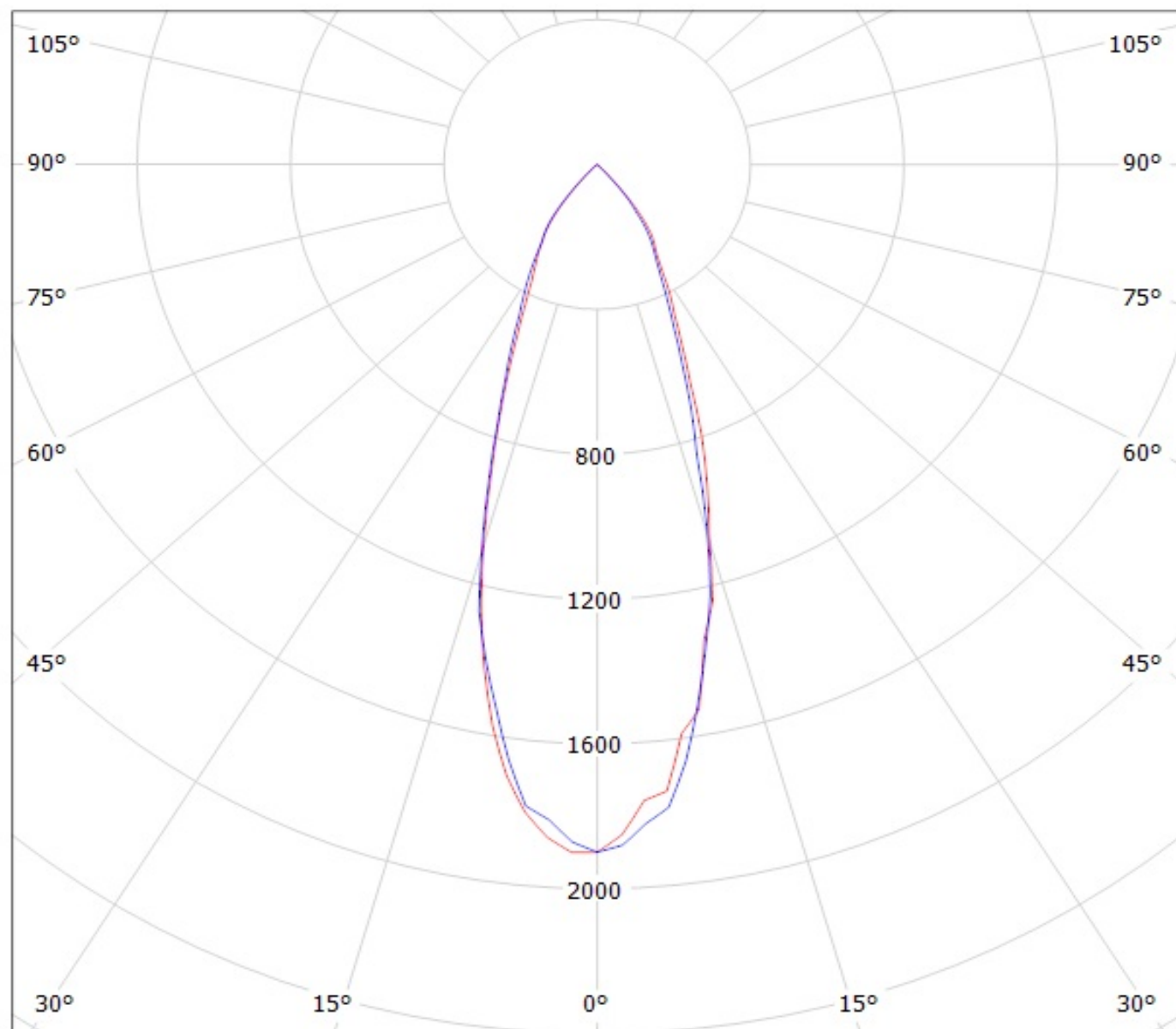


cd/klm

C0 - C180 C90 - C270

$\eta = 91\%$

Luminaire: Ledil Oy C12478\_MIRELLA-50-W (Bridgelux LS 170lm @ 250mA) Efficiency=88%  
Lamps: 1 x Bridgelux LS 170lm @ 250mA

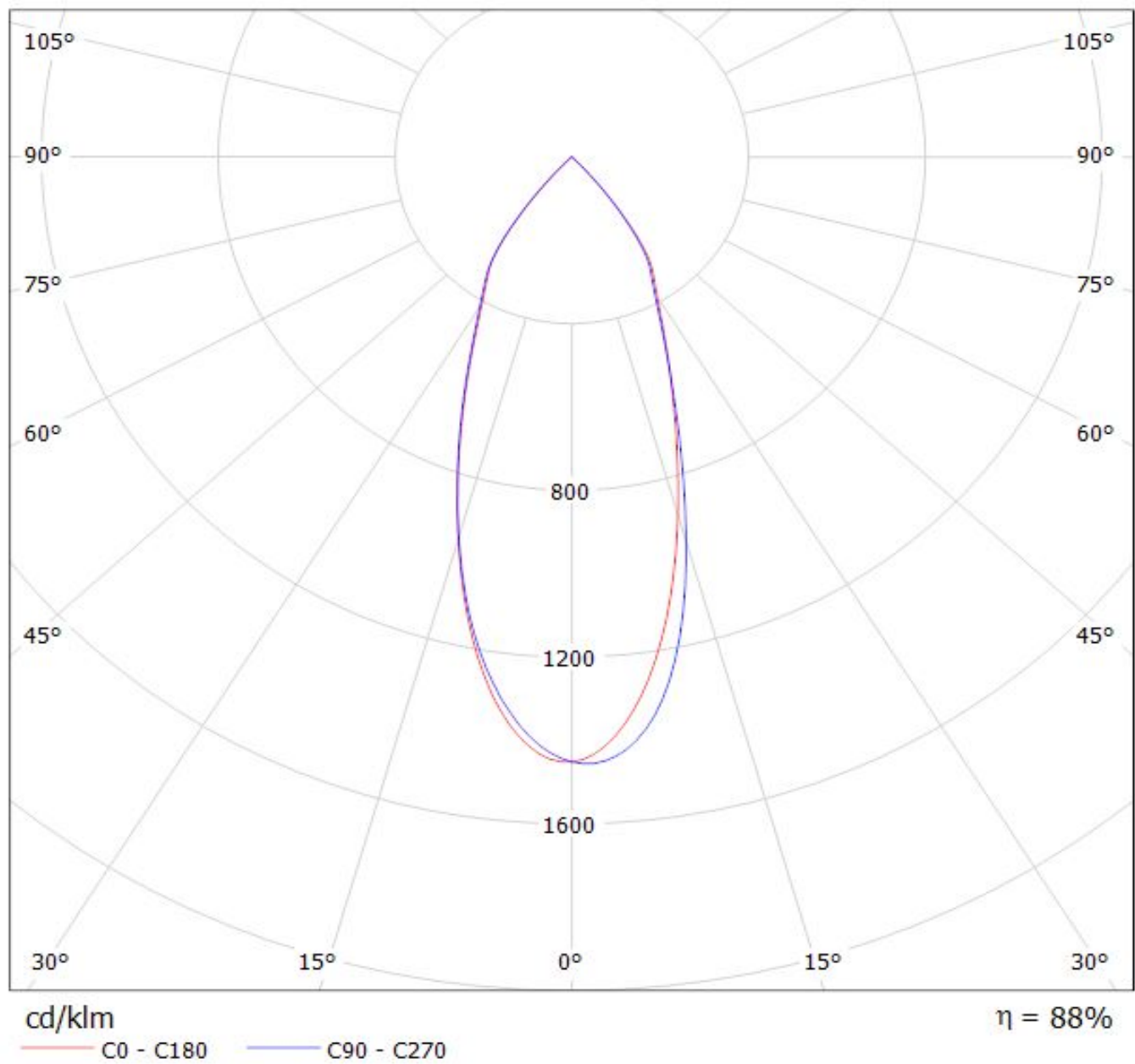


cd/klm

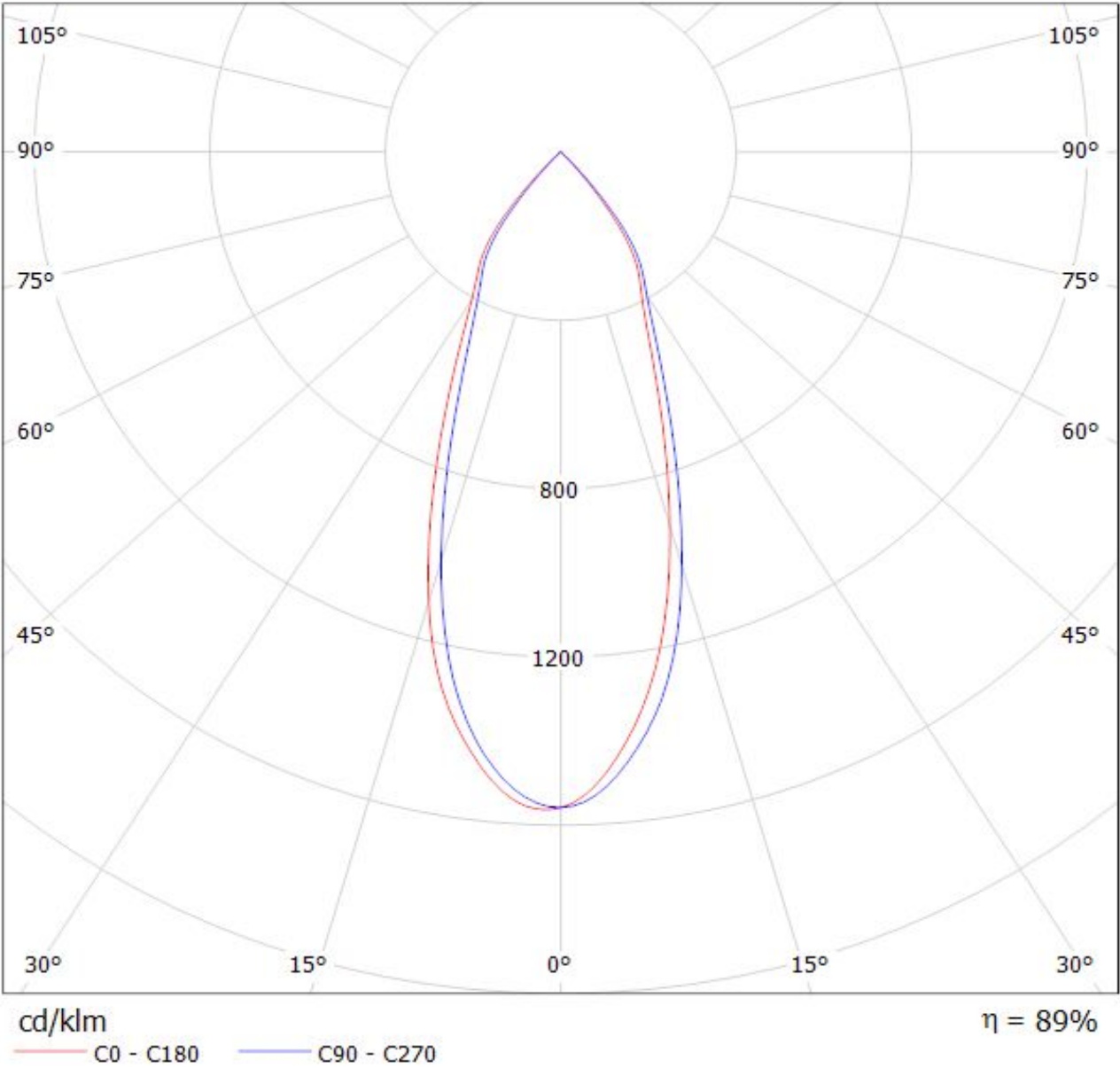
— C0 - C180

— C90 - C270

Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(Mini\_Zenigata) Eff.87.7%  
Lamps: 1 x Mini\_Zenigata GW6BM (803.772lm@250mA)

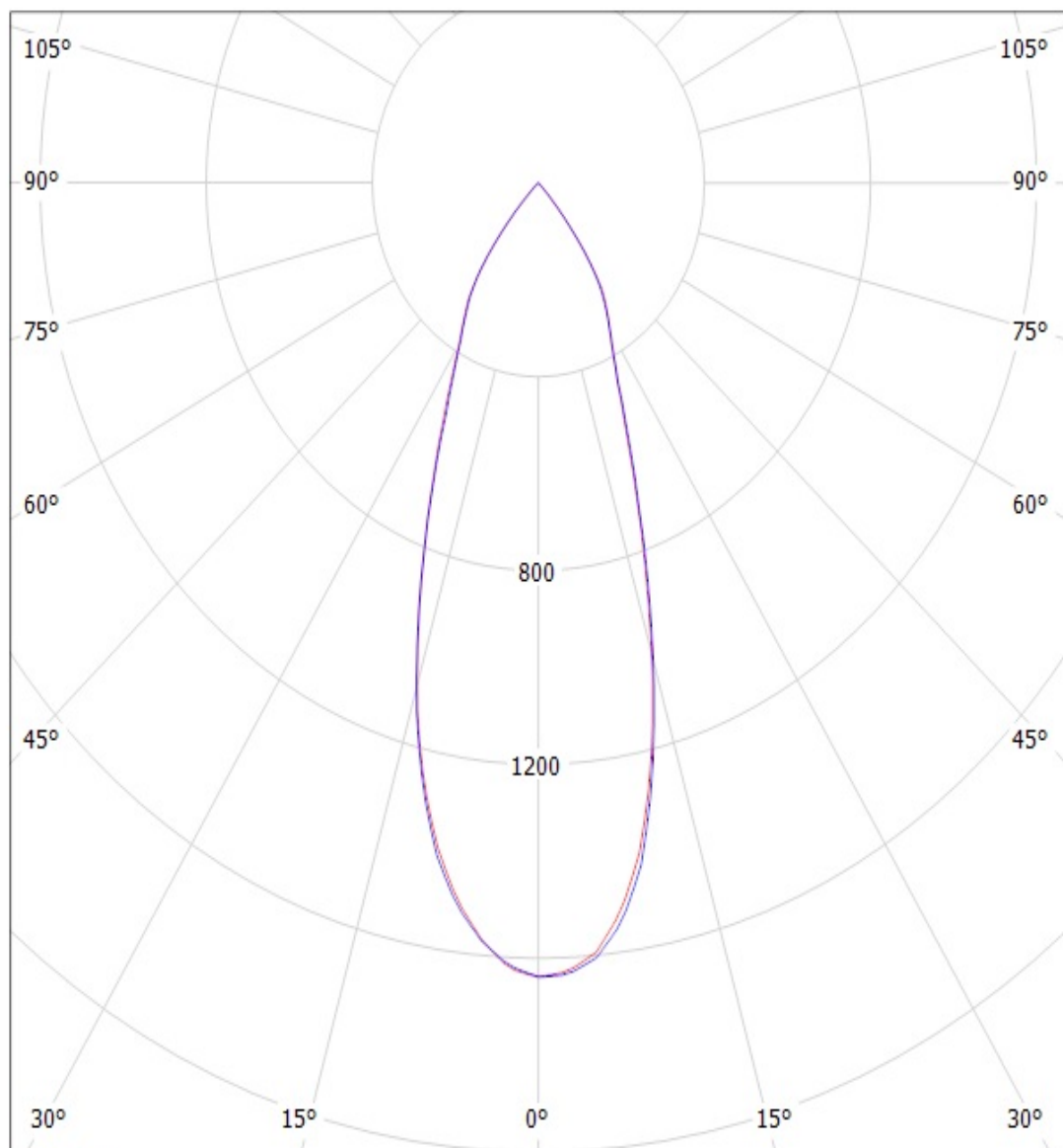


Luminaire: LEDIL OY C12478\_MIRELLA-50-W\_(MiniZenigata) Eff.88.9%  
Lamps: 1 x Mini Zenigata (387.5lm@250mA)



Luminaire: LEDil Oy C12478\_MIRELLA-50-W\_(Stark\_SLE\_G3\_LES10) Efficiency=86%

Lamps: 1 x Tridonic Stark SLE G3 LES10 (STARK-SLE-PURE-G3-10-1000-830-CLA) 453lm @ 250mA CCT=3000K P=4.3W I=250mA



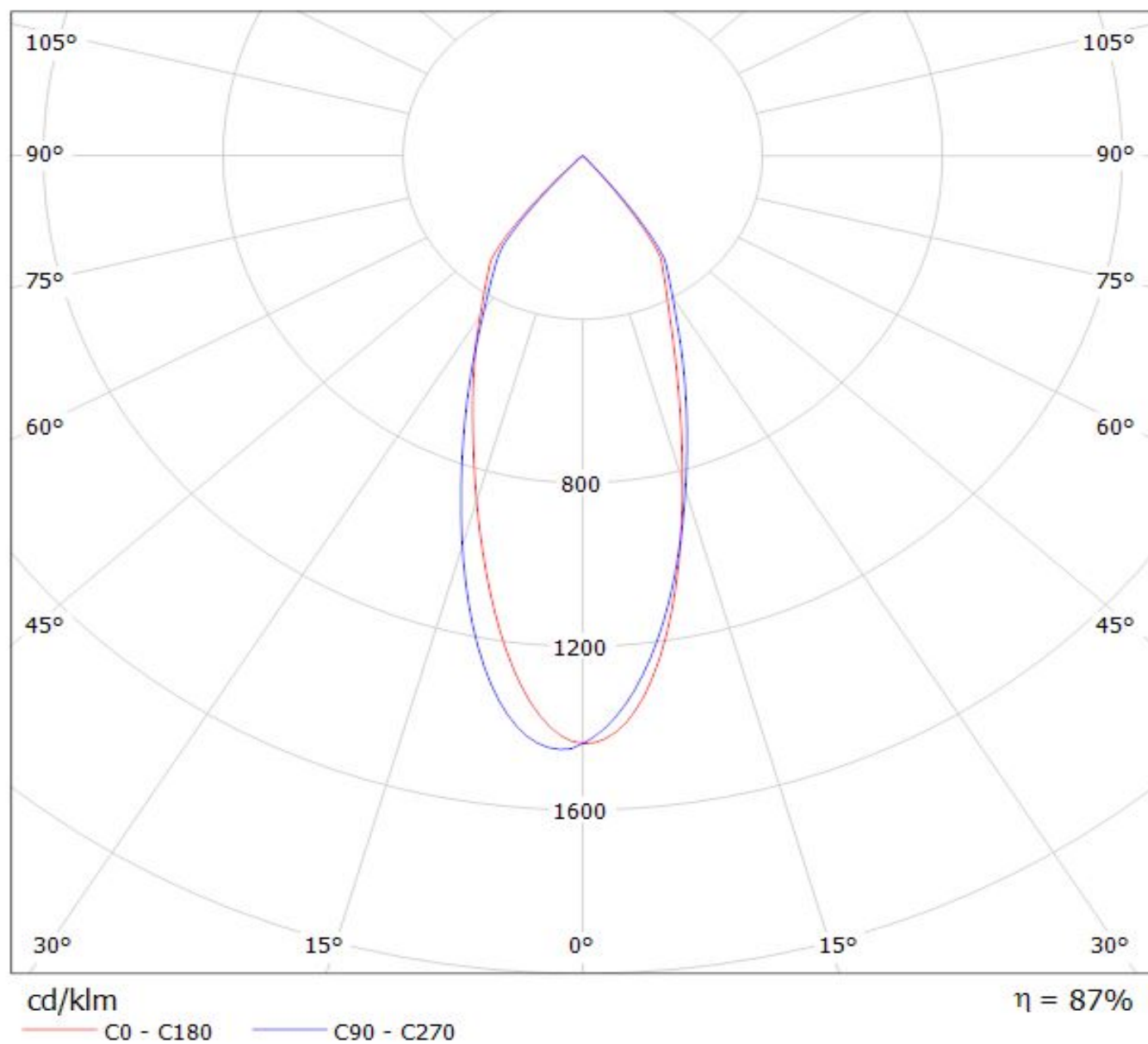
cd/klm

C0 - C180

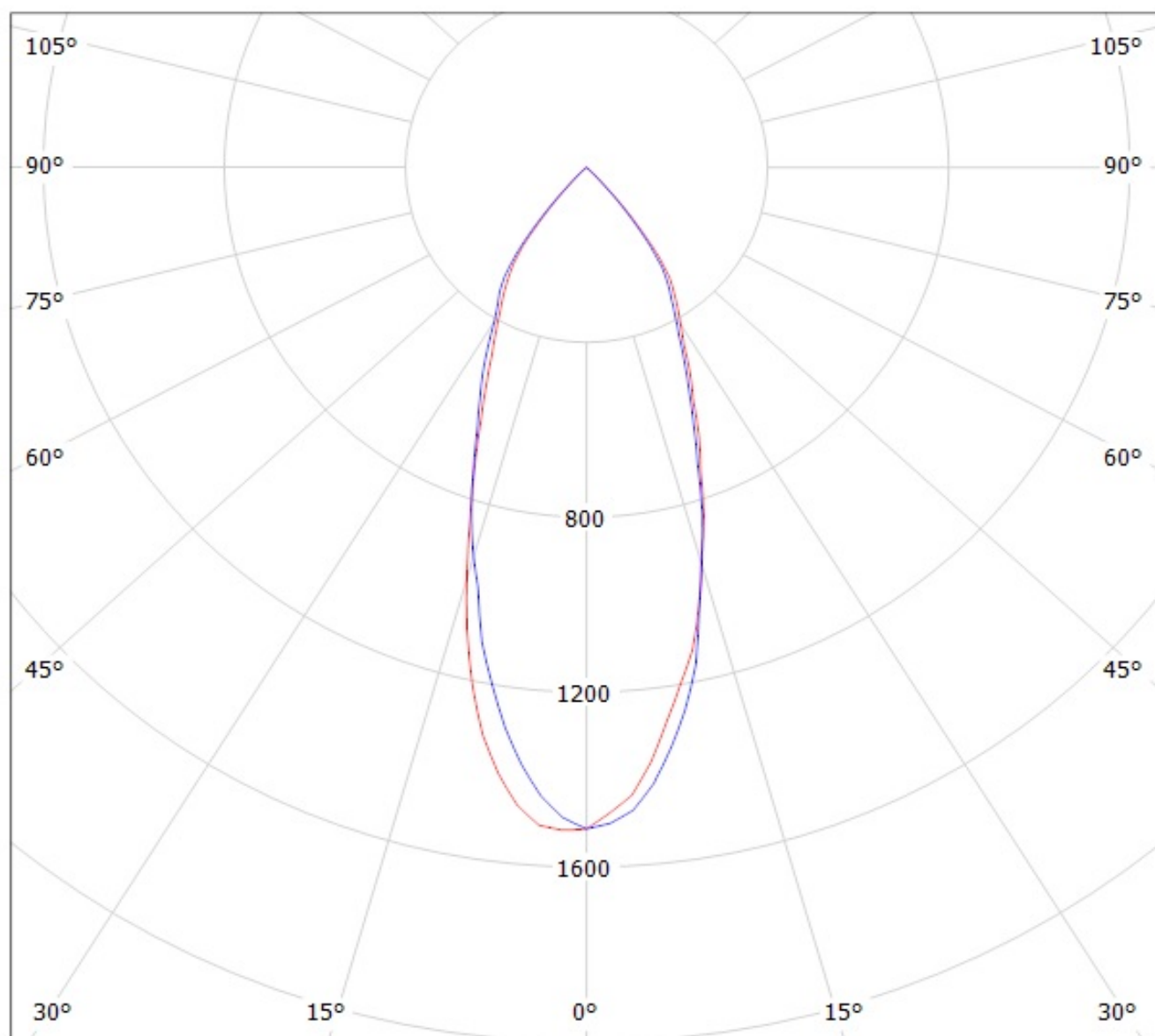
C90 - C270

Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(SLE-G5\_LES-6)

Lamps: 1 x Tridonic\_SLE-G5\_LES-6\_470.59lm@100mA\_P=3.3748W\_I=0.100A



Luminaire: Ledil Oy C12478\_MIRELLA-50-W (Nichia NSCxL036A 434lm @ 100mA) Efficiency=87%  
Lamps: 1 x Nichia NSCxL036A 434lm @ 100mA (NSCLL036A) CCT=3000K P=3,4W I=100mA



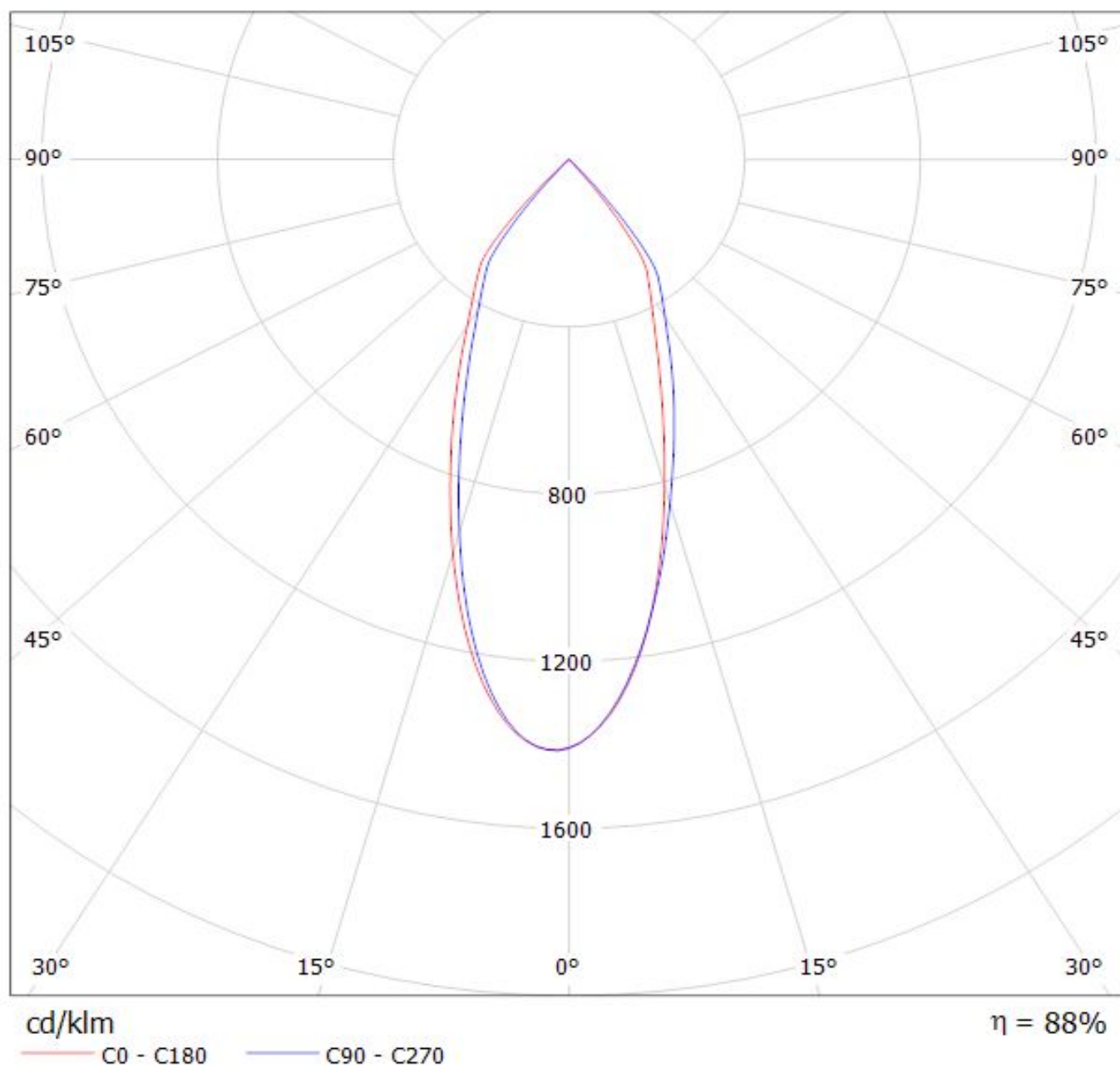
cd/klm

— C0 - C180

— C90 - C270

Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(CLU700)

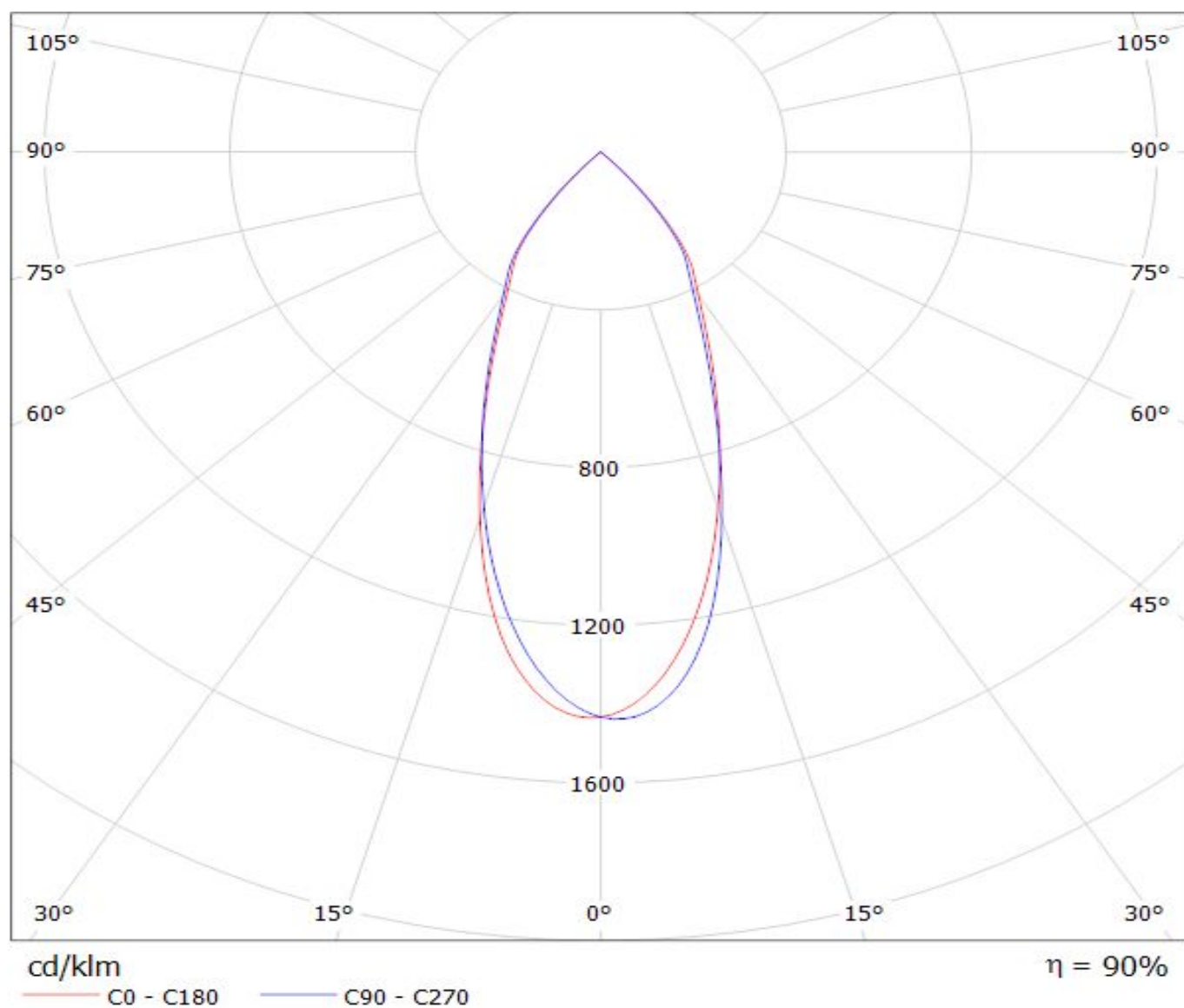
Lamps: 1 x CITIZEN\_CLU700\_(CLU700-100-2B8-273M2G1)\_380.605lm@250mA\_P=2.8002W\_I=0.1001A



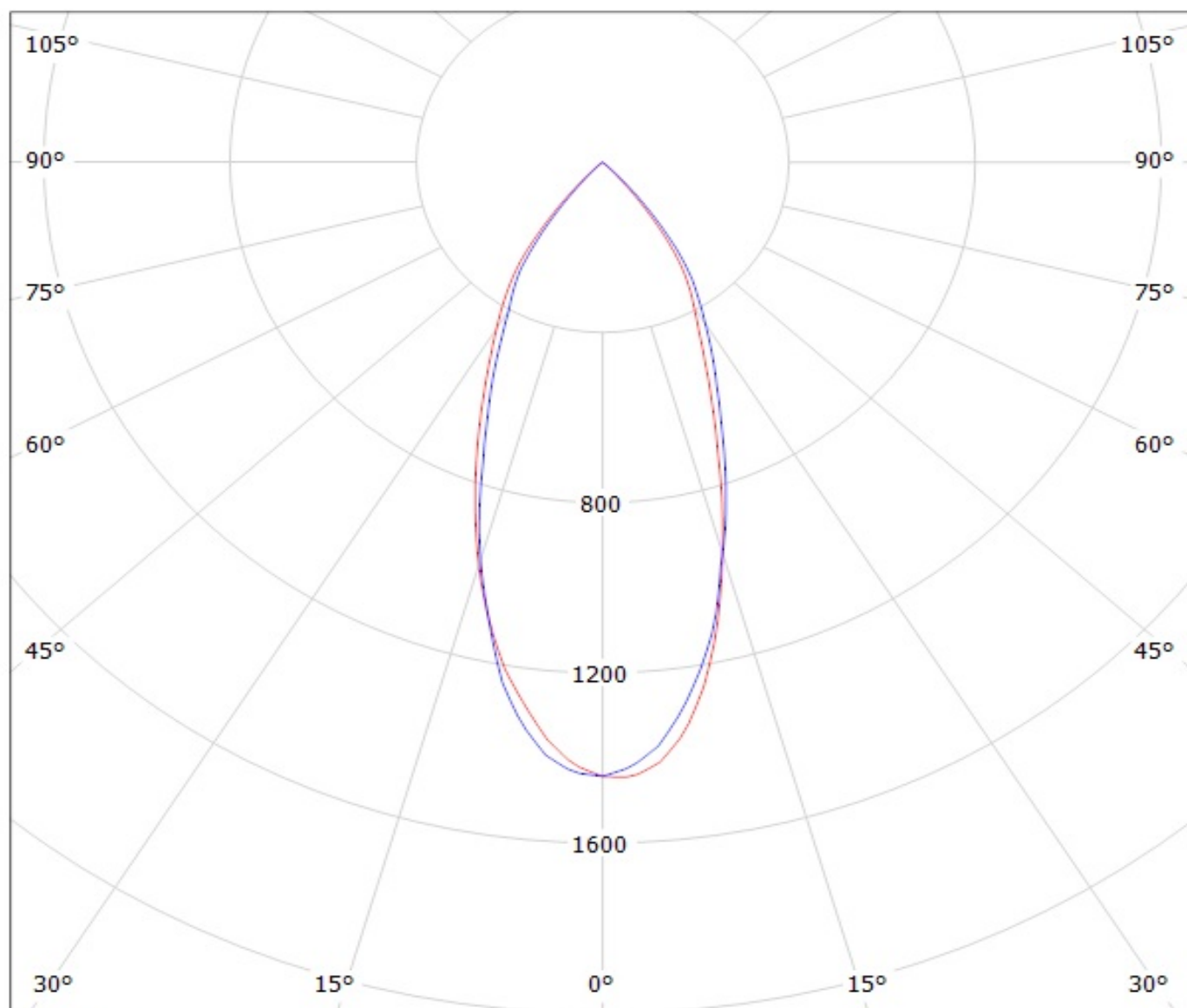
## LEDiL Oy C12478\_MIRELLA-50-W\_(CXA1507) Eff.89.6% / LDC (Polar)

Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(CXA1507) Eff.89.6%

Lamps: 1 x CREE\_CXA1507 (CXA1507-30F-F2-N0A-00000) 238.378lm@50mA CCT=3000K P=1.8506W  
I=54.5mA



Luminaire: Ledil Oy C12478\_MIRELLA-50-W (NSBxL066A 930lm @ 250mA) Efficiency=89%  
Lamps: 1 x NSBxL066A 930lm @ 250mA (NSBLL066AE) CCT=3536K P=7,75W I=250mA

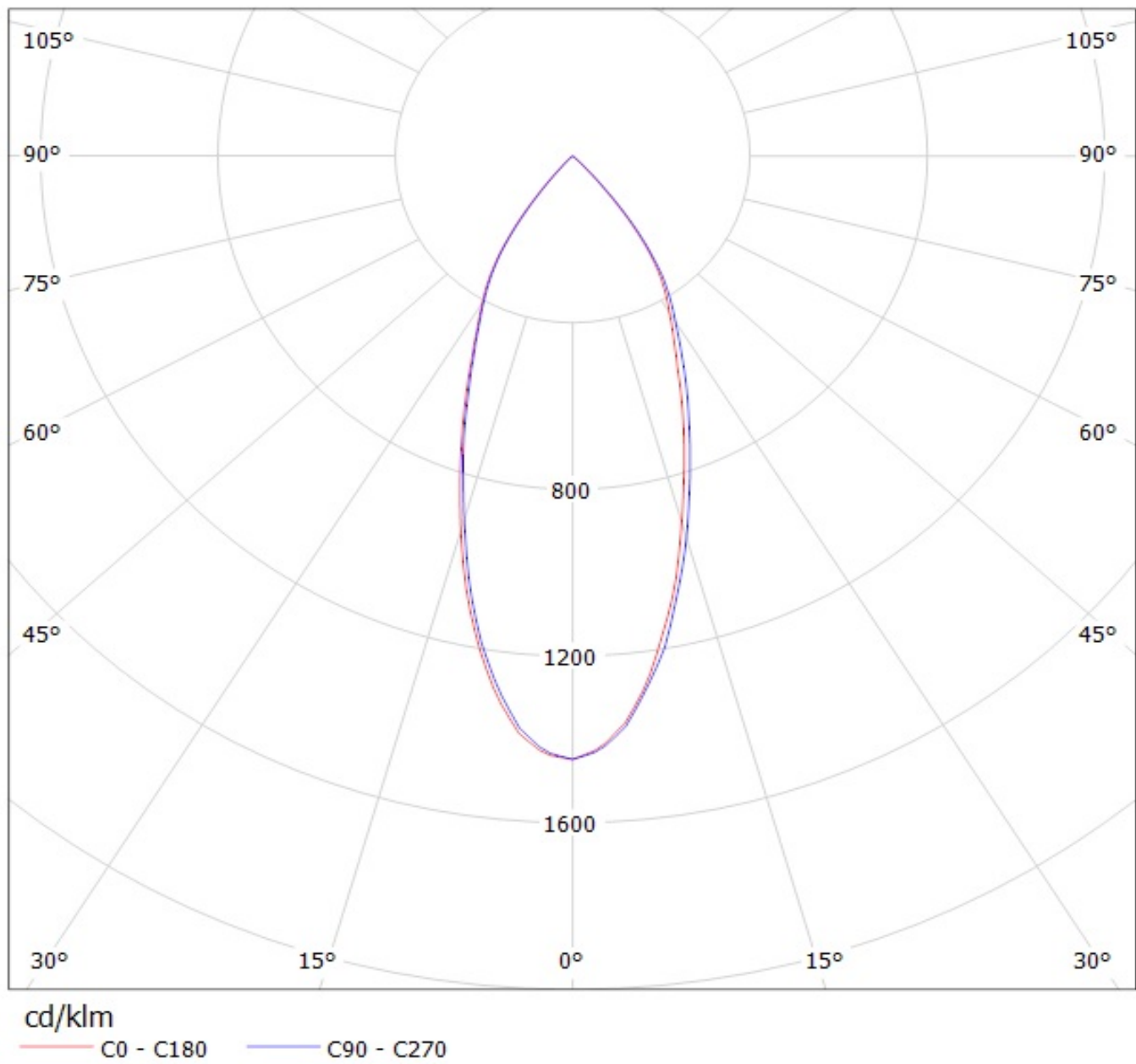


cd/klm

— C0 - C180

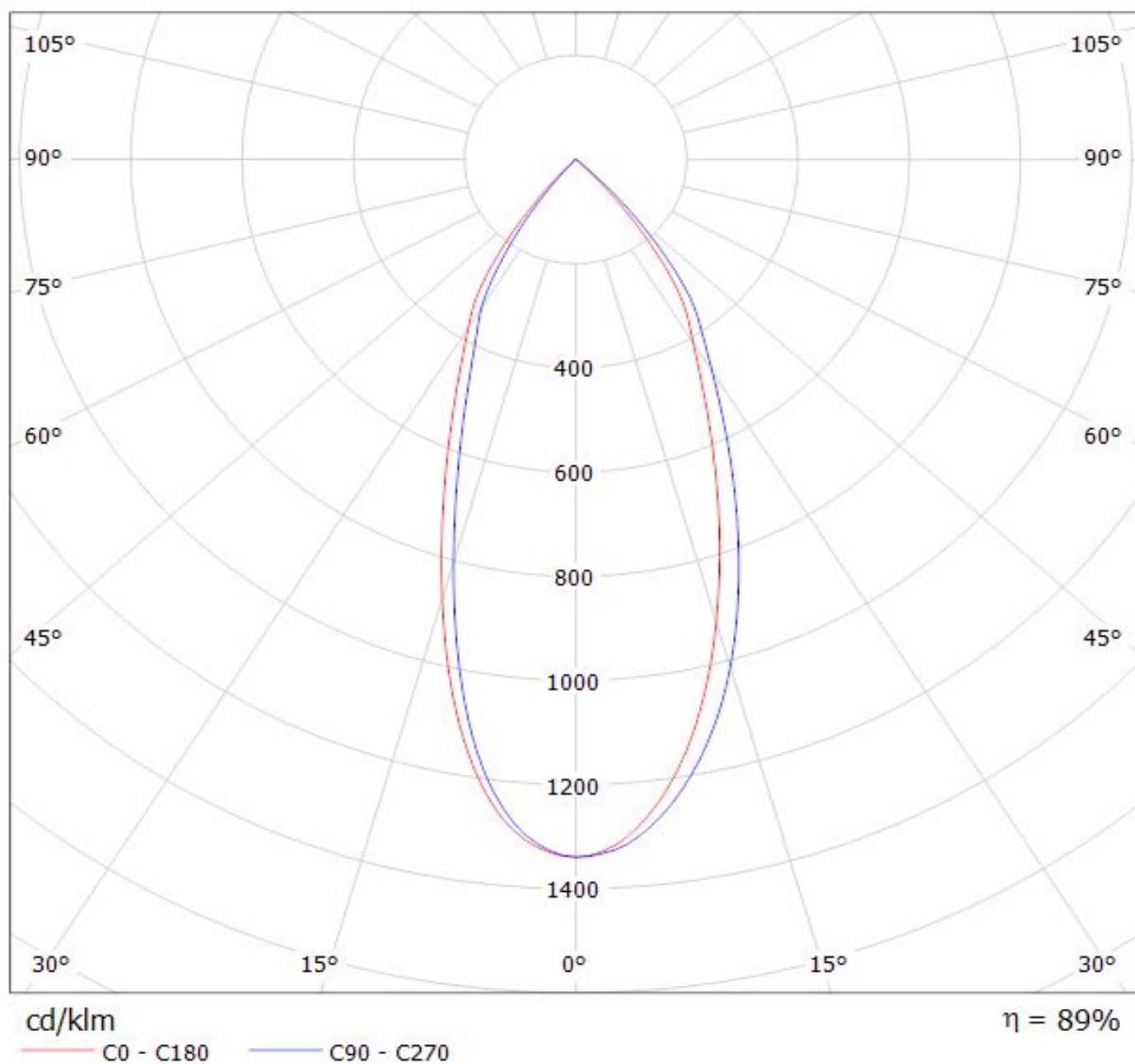
— C90 - C270

Luminaire: LEDil Oy C12478\_MIRELLA-50-W\_(ZC6) Efficiency=86%  
Lamps: 1 x Seoul ZC6 (SDW81F1C) 422lm @ 100mA CCT=3100K P=3.4W I=100mA

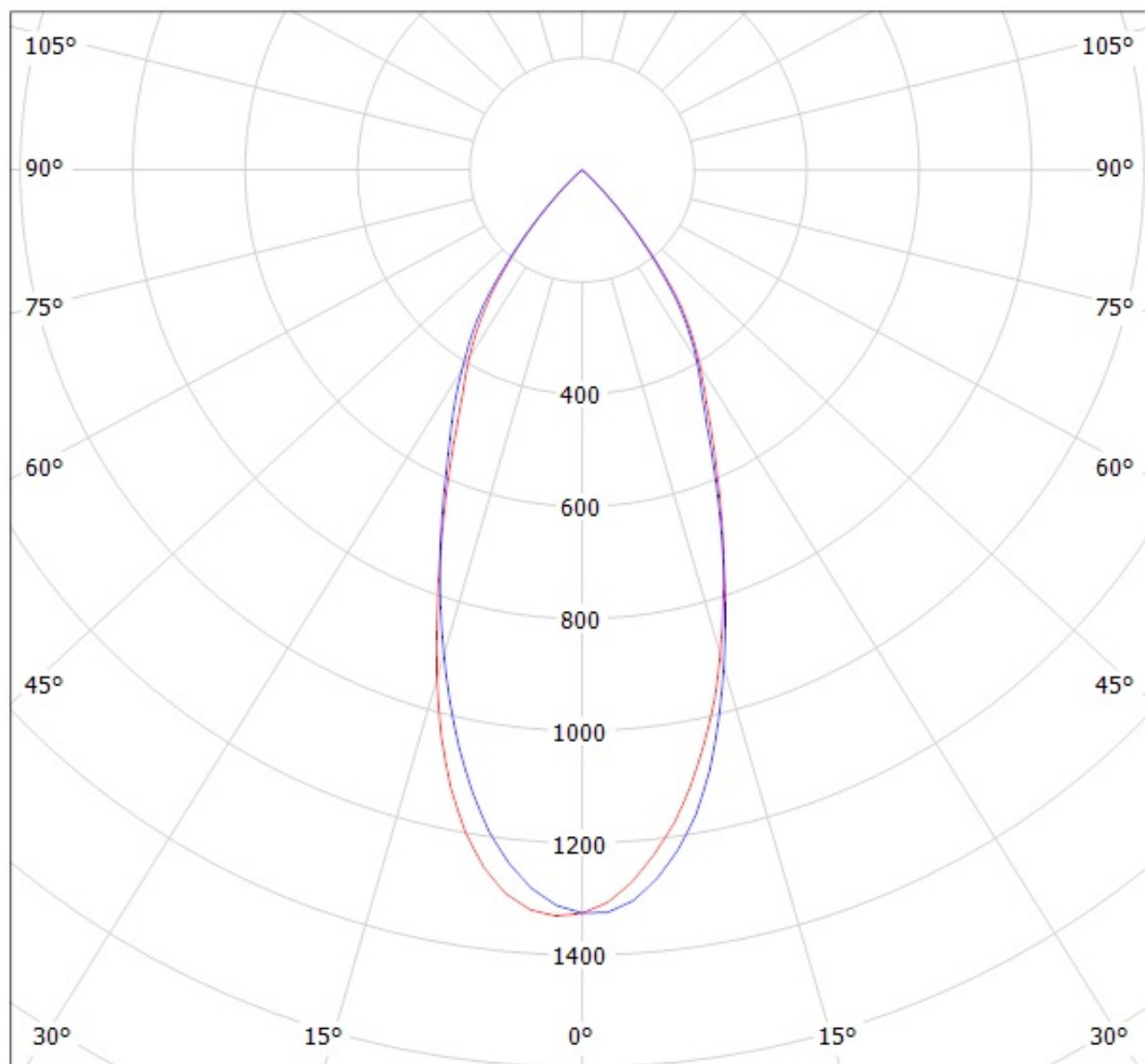


Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(CXM-9)

Lamps: 1 x Luminus\_XNOVA\_CXM-9\_(AA00)\_977.302lm@240mA\_P=8.28264W\_I=240mA



Luminaire: Ledil Oy C12478\_MIRELLA-50-W\_(Luxeon Cob 1203) Efficiency=87%  
Lamps: 1 x Luxeon Cob 1203 (LHC1-3080-1203) 824lm @ 250mA CCT=3000K P=8.7W I=250mA



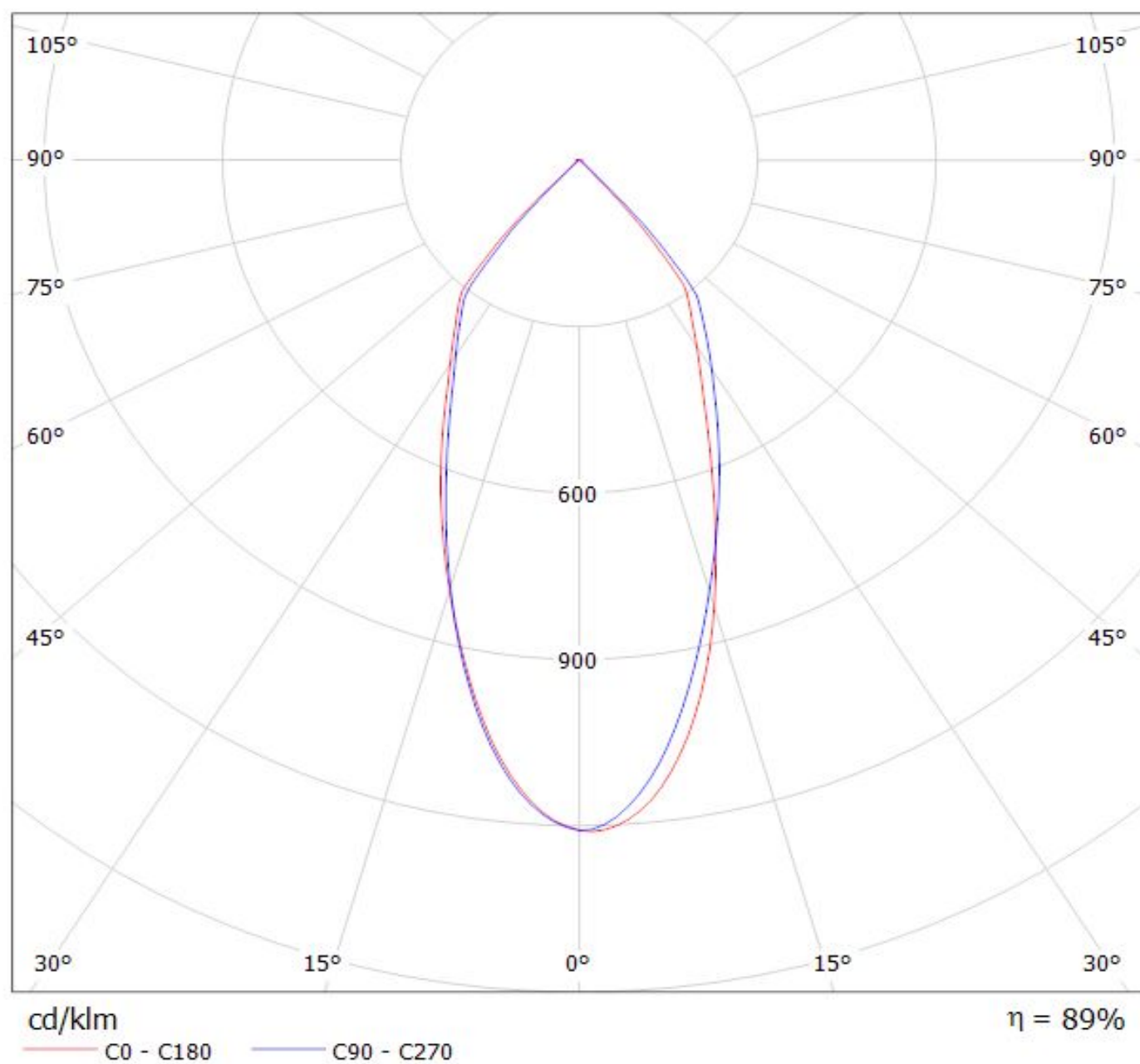
cd/klm

— C0 - C180

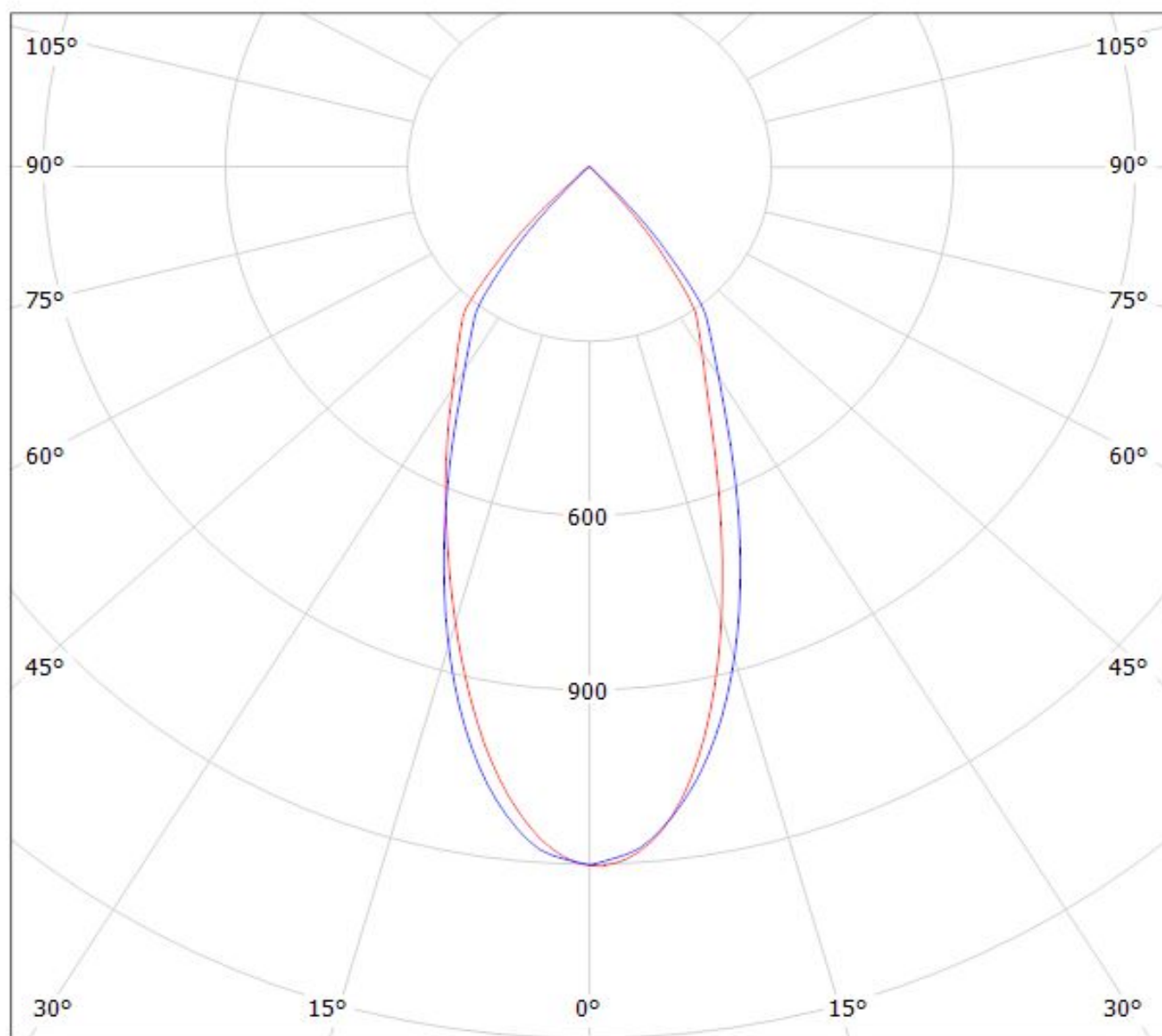
— C90 - C270

Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(Cree\_XHP50\_WW)

Lamps: 1 x Cree\_XHP50\_WW\_196.271lm@250mA\_P=1.39897W\_I=0.2499A



Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(Cree\_XHP70)  
Lamps: 1 x Cree\_XHP70\_258.083lm@250mA\_P=1.38117W\_I=0.2499A



cd/klm

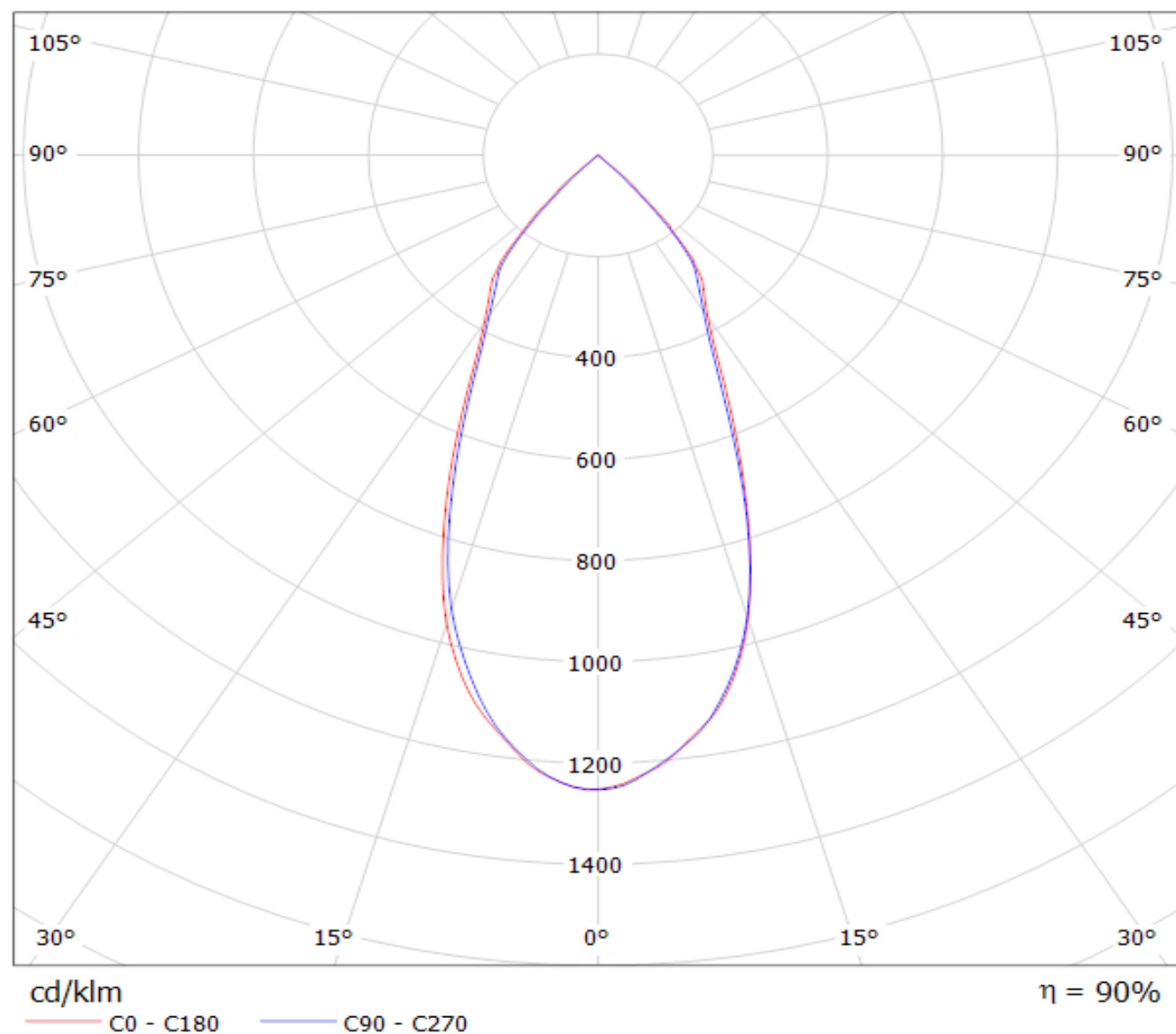
— C0 - C180 — C90 - C270

$\eta = 89\%$

## LEDIL OY C12478\_MIRELLA-50-W\_(MT-G) / LDC (Polar)

Luminaire: LEDIL OY C12478\_MIRELLA-50-W\_(MT-G)

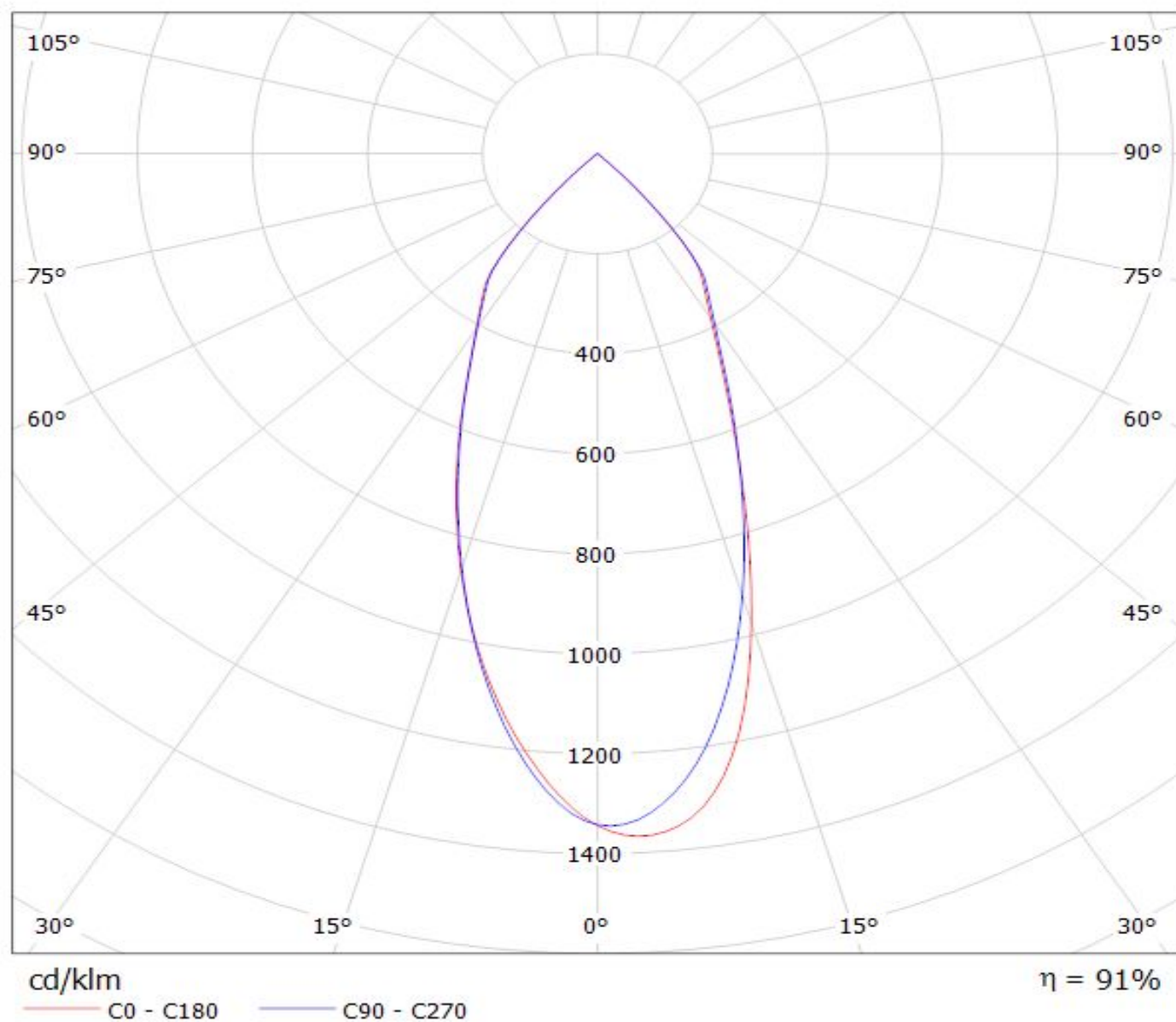
Lamps: 1 x MT-G (777.7lm)



## LEDiL Oy C12478\_MIRELLA-50-W\_(MT-G2) Eff.91.3% / LDC (Polar)

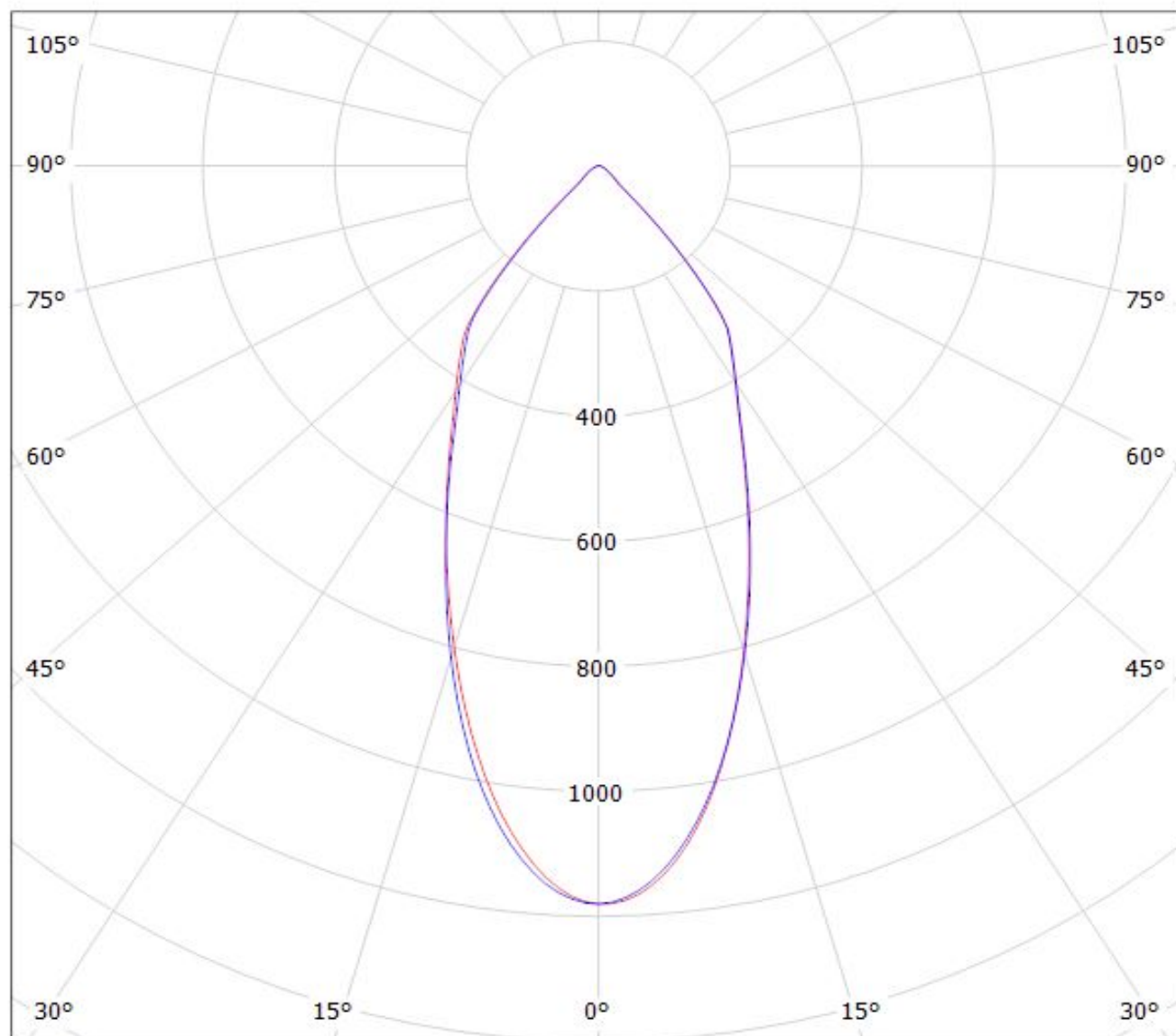
Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(MT-G2) Eff.91.3%

Lamps: 1 x MT-G2 (165.38lm@250mA)



Luminaire: Ledil C12478\_MIRELLA-50-W\_(MHD-G)

Lamps: 1 x Cree MHD-G\_528.649lm@100mA\_P=3.0W\_I=0.100A



cd/klm

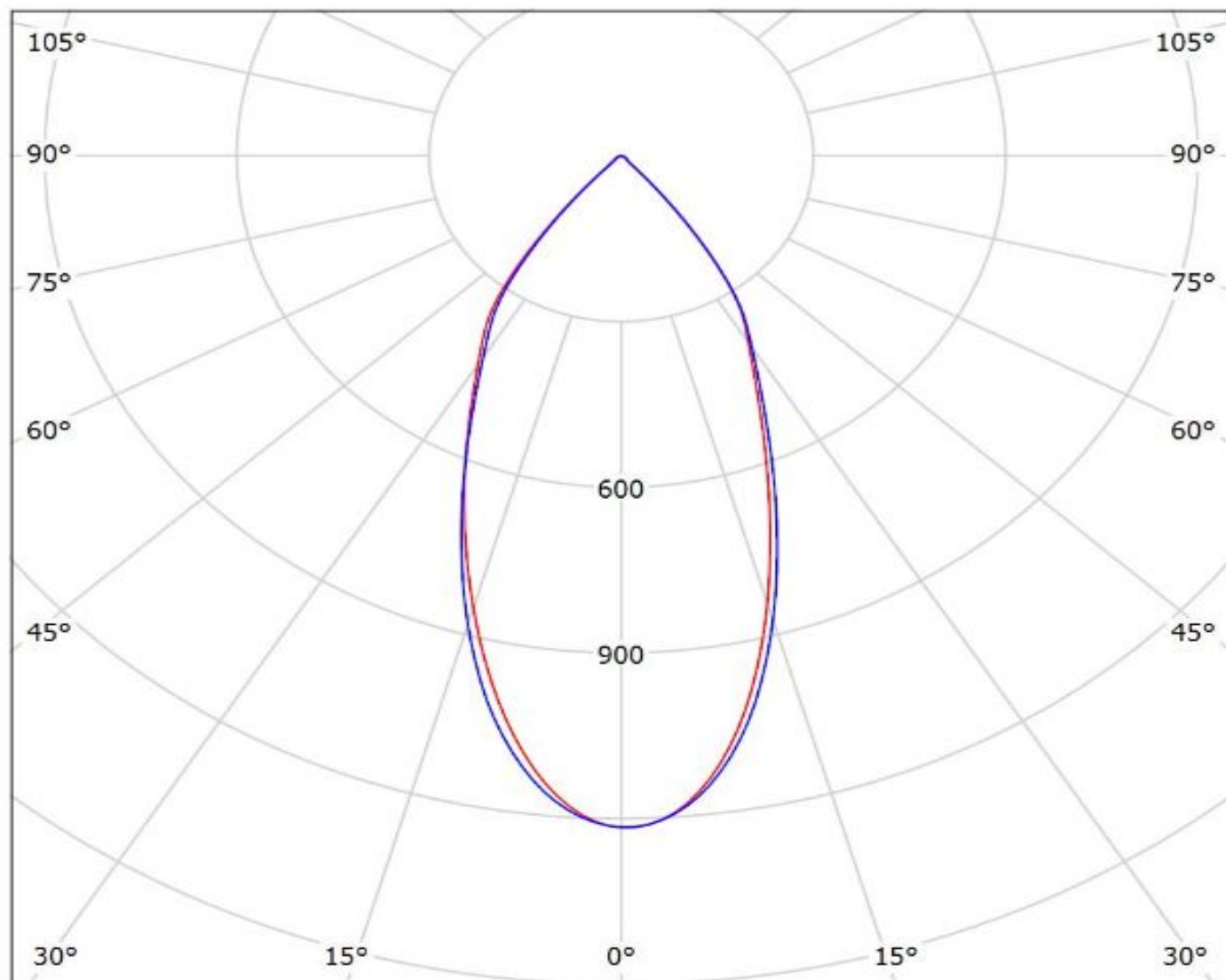
— C0 - C180

— C90 - C270

## Ledil C12478\_MIRELLA-50-W\_(CLU710) / LDC (Polar)

Luminaire: Ledil C12478\_MIRELLA-50-W\_(CLU710)

Lamps: 1 x CITIZEN\_CLU710\_(CLU710-1204B8-273M2G1)\_1212.66lm@250mA\_P=8.5W\_I=0.25A



cd/klm

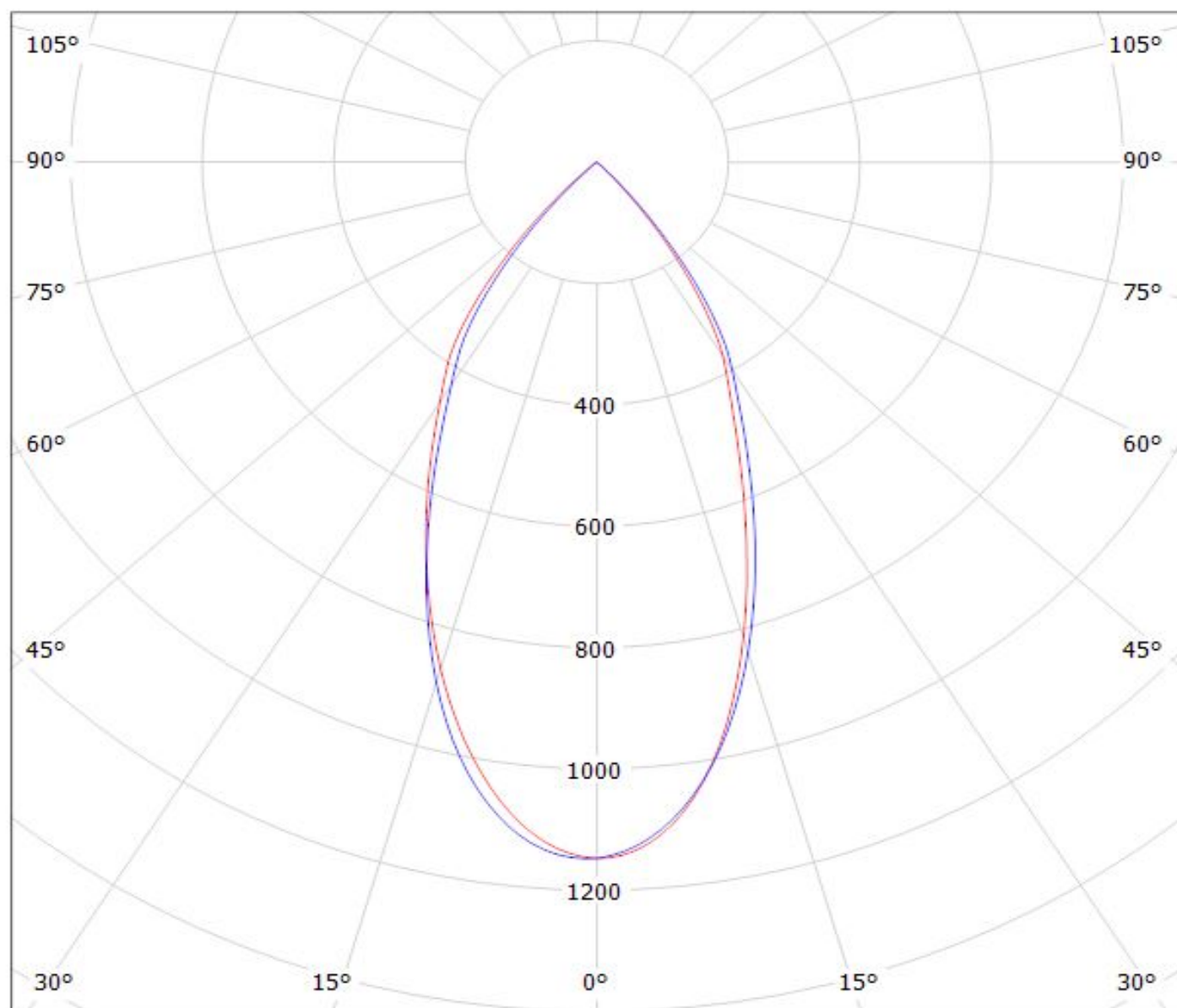
— C0 - C180

— C90 - C270

$\eta = 88\%$

Luminaire: LEDiL Oy C12478\_MIRELLA-50-W\_(SLE-G5\_LES-11)

Lamps: 1 x Tridonic\_SLE-G5\_LES-11\_1168.86lm@250mA\_P=8.3243W\_I=0.250A



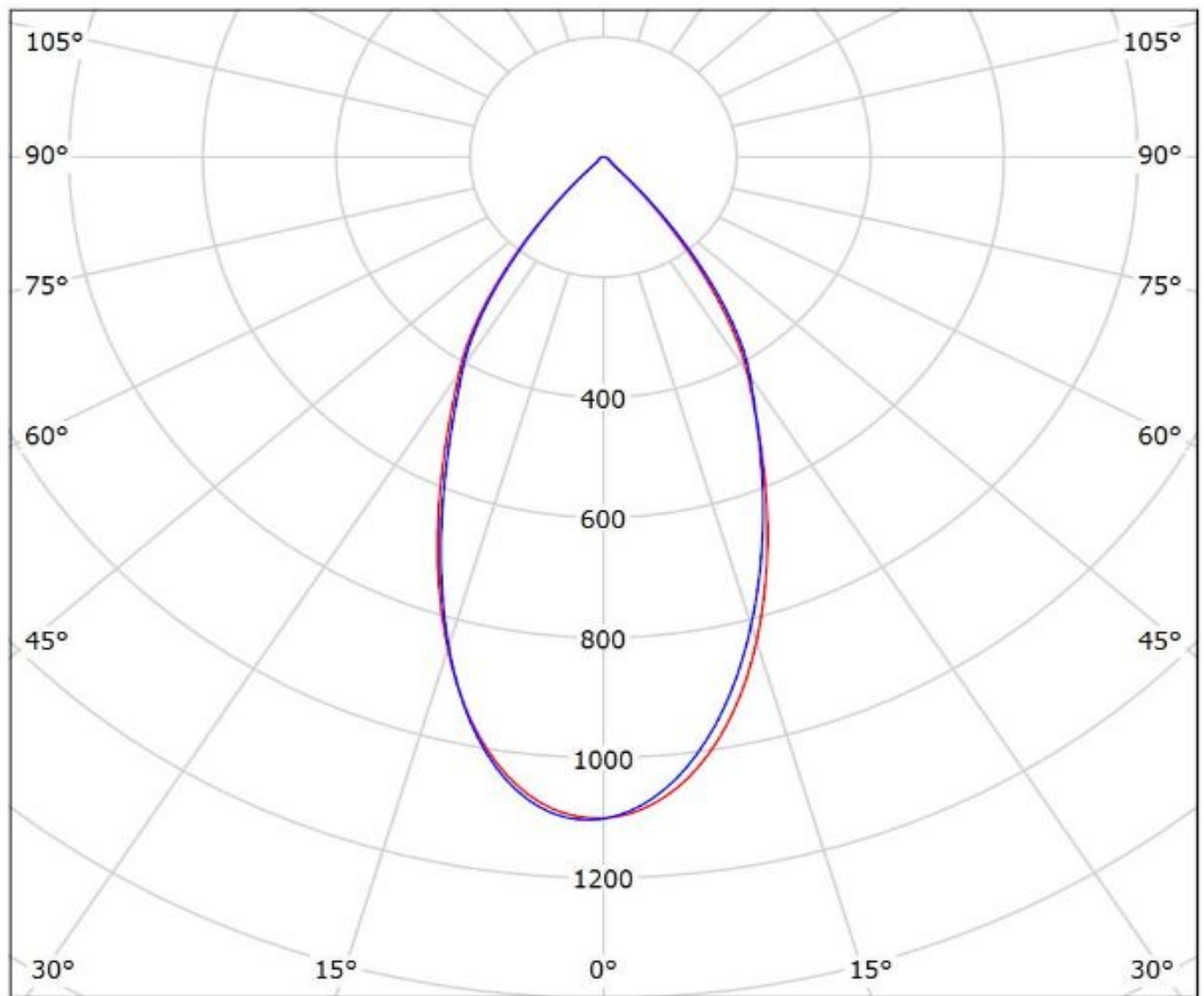
cd/klm

— C0 - C180

— C90 - C270

$\eta = 86\%$

Luminaire: Ledil C12478\_MIRELLA-50-W\_(CLU720)  
Lamps: 1 x CITIZEN\_CLU720\_(CLU720-1206B8-273M2)  
\_1298.17lm@250mA\_CCT=2700K\_P=8.3W\_I=0.25A



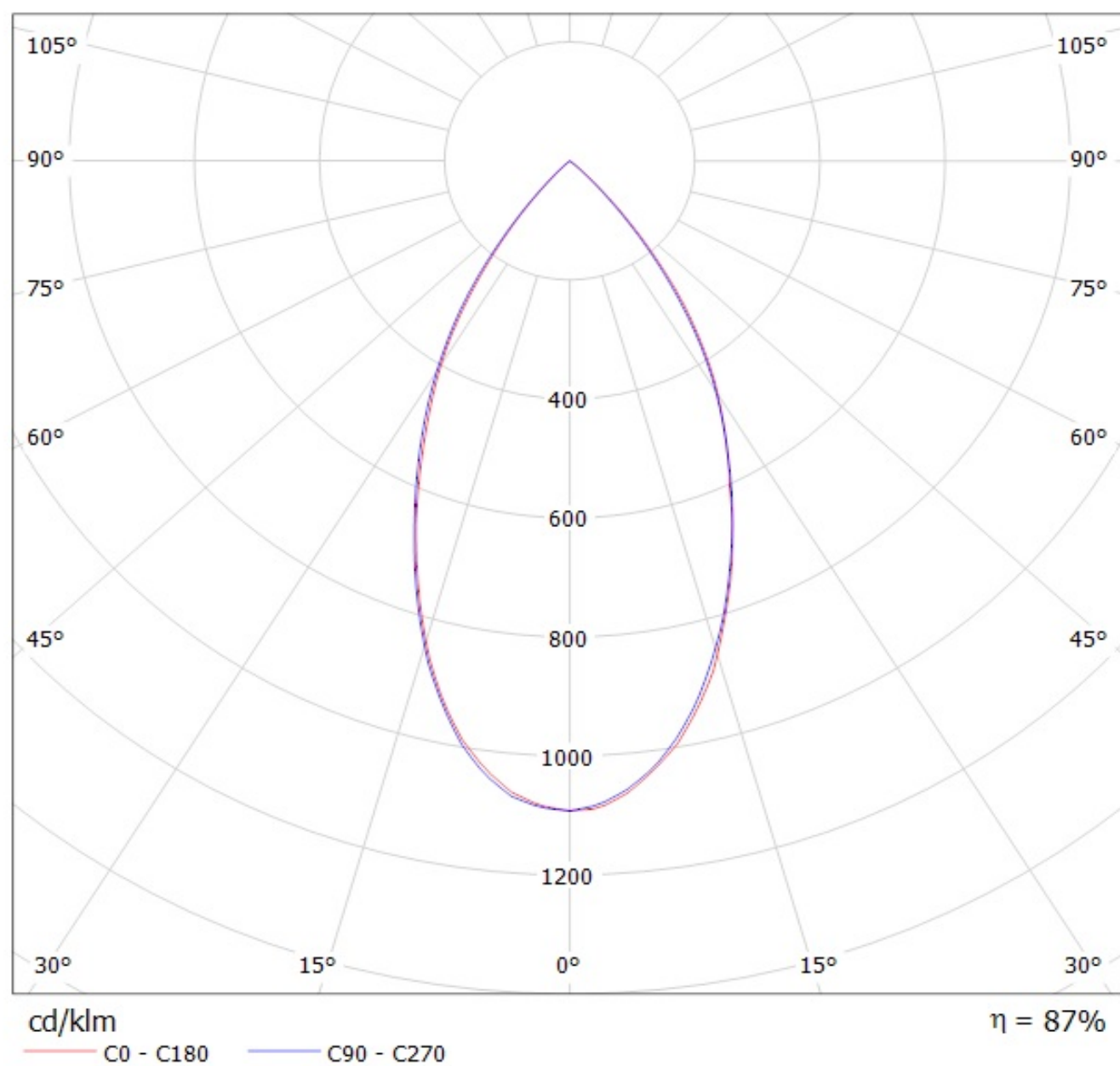
cd/klm

— C0 - C180 — C90 - C270

$\eta = 88\%$

Luminaire: LEDil Oy C12478\_MIRELLA-50-W\_(Soleriq\_S13) Efficiency=85%

Lamps: 1 x Osram Soleriq S13 (GW KAGHB1.EM) 832lm @ 250mA CCT=3100K P=7.4W I=250mA



**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.**

## **GENERAL INFORMATION**

- Product series especially designed & optimized for series of LEDs.
- Special care taken to make light distribution as uniform as possible.
- Fastening to PCB with appropriate adhesive. By clicking link below you can find Ledil recommended glue options.  
[http://www.ledil.com/datasheets/DataSheet\\_GLUES.pdf](http://www.ledil.com/datasheets/DataSheet_GLUES.pdf)

Note! Due to use of high power COB's with this product, special attention to proper thermal design is highly recommended. LEDiL has no liability for direct, indirect or consecutive damages arising from the LEDiL products being used outside of the recommended temperature range.

**NOTE 1: We advise customer to ensure the suitability and sufficiency of the bond in the end product. For example, mechanical stress, vibration and holes on the surface of the circuit board weaken the strength of the glue.**

**NOTE 2: All surfaces where glue is applied must be clean, dry and free from grease and dirt. If cleaning of PCB surfaces is needed, please follow strictly the cleaning instructions of your LED manufacturer -this is important as cleaning shall under no circumstances damage LEDs or other electronics components on the PCB.**

**Further note that optical components shall not be cleaned with any chemicals - only micro fiber cloth may be used to remove fingerprints or other traces from handling.**