

PHOTOMETRIC RESULTS

Name:	CTL-20-DI-1670-TFL 3000K		
Type:	LED DOWN LIGHT	Diameter:	55 mm
Luminaire:	AL.Die-casting, PC.MEDIUM LENS. (HERCULUX 45-36D)	Length:	0 mm
Test no.:	LT-2024-11-27-T02	Width	0 mm
Lamp type:	LED13W, 350mA, 3000K, CRI90	Height:	90 mm
No. of lamps:	1	Power:	13.36 W
Lamp flux:	1456.00 lm	Operator:	ASY
Date:	2024-11-27 AM 10:18:53	LOR:	90.0 %
Comment:	LVED PRO 20W/ 220-240/ 500CS, 25-42VDC, MAX21W, 350mA		

Intensity [cd/klm] CTL-20-DI-1670-TFL 3000K / C-Plane measurement

[illegible]

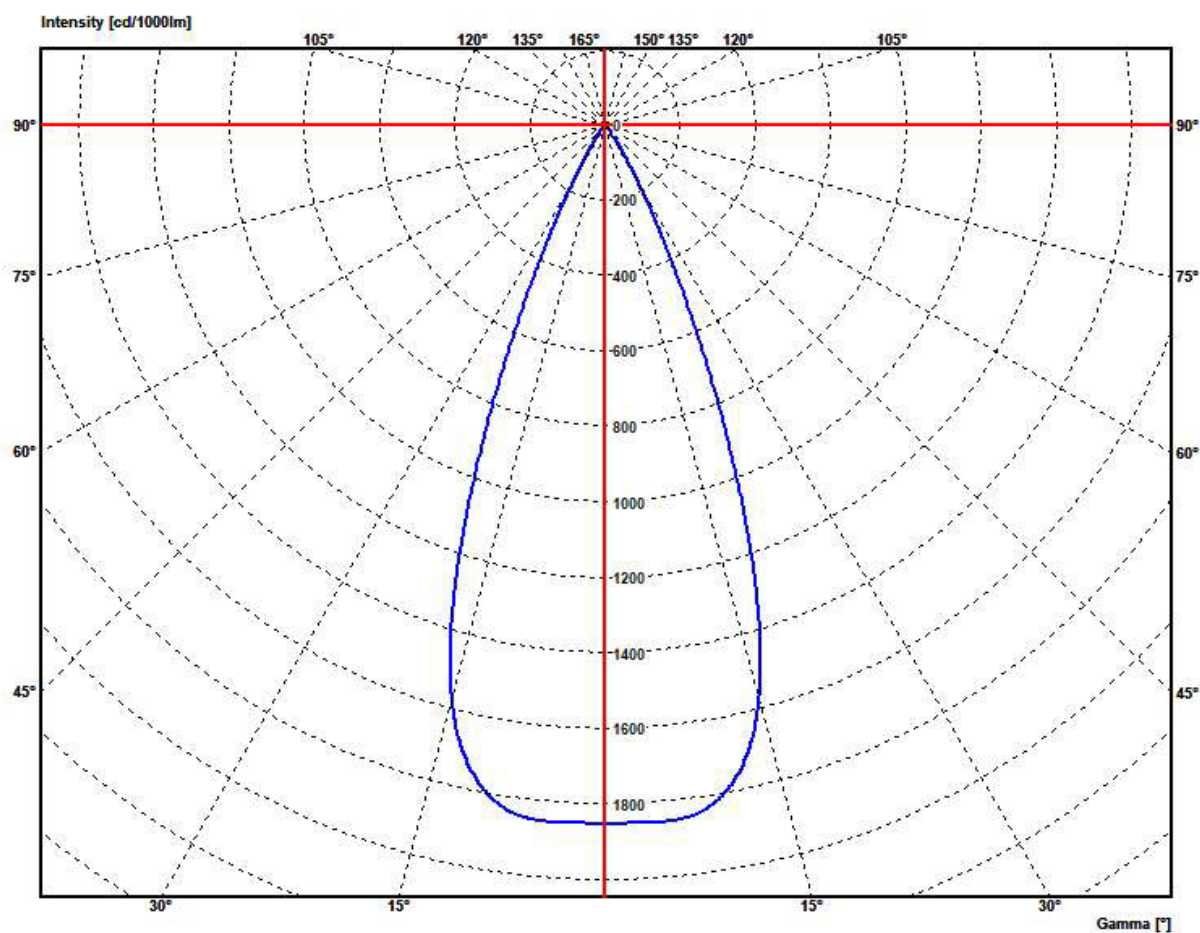
Intensity [cd/klm] CTL-20-DI-1670-TFL 3000K / C-Plane measurement

[illegible]

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Type:	LED DOWN LIGHT	Diameter:	55 mm
Luminaire:	AL.Die-casting, PC.MEDIUM LENS. (HERCULUX 45-36D)	Length:	0 mm
Test no.:	LT-2024-11-27-T02	Width:	0 mm
Lamp type:	LED13W, 350mA, 3000K, CRI90	Height:	90 mm
No. of lamps:	1	Power:	13.36 W
Lamp flux:	1456.00 lm	Operator:	ASY
Date:	2024-11-27 AM 10:18:53	LOR:	90.0 %
Comment:	LVED PRO 20W/ 220-240/ 500CS, 25-42VDC, MAX21W, 350mA		

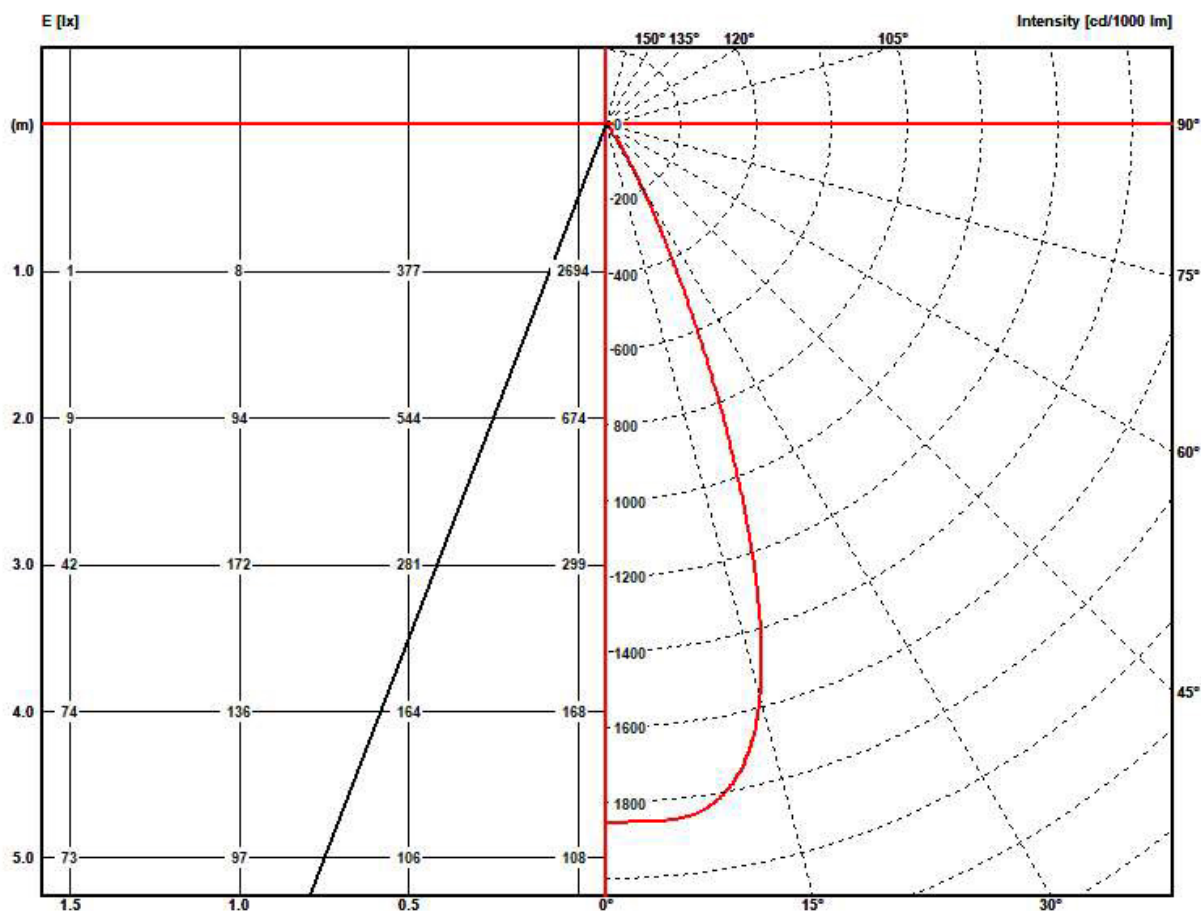
Polar diagram CTL-20-DI-1670-TFL 3000K / C-Plane measurement



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Luminaire:	AL.Die-casting, PC.MEDIUM LENS. (HERCULUX 45-36D)	Length:	0 mm
Test no.:	LT-2024-11-27-T02	Width:	0 mm
Lamp type:	LED13W, 350mA, 3000K, CRI90	Height:	90 mm
No. of lamps:	1	Power:	13.36 W
Lamp flux:	1456.00 lm	Operator:	ASY
Date:	2024-11-27 AM 10:18:53	LOR:	90.0 %
Comment:	LVED PRO 20W/ 220-240/ 500CS, 25-42VDC, MAX21W, 350mA		

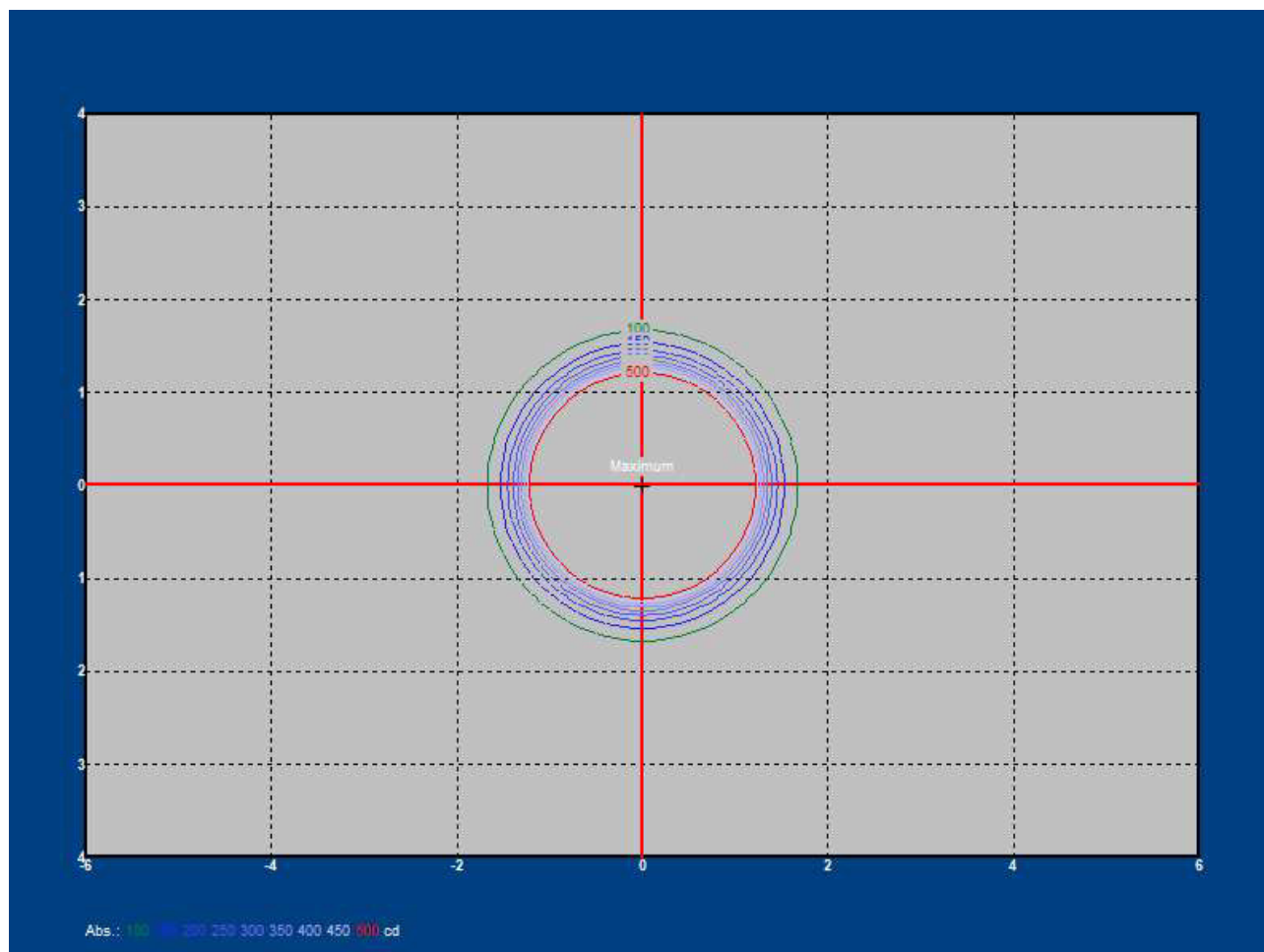
Illuminance and Intensity diagram CTL-20-DI-1670-TFL 3000K / C-Plane measurement



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Type:	LED DOWN LIGHT	Diameter:	55 mm
Luminaire:	AL.Die-casting, PC.MEDIUM LENS. (HERCULUX 45-36D)	Length:	0 mm
Test no.:	LT-2024-11-27-T02	Width:	0 mm
Lamp type:	LED13W, 350mA, 3000K, CRI90	Height:	90 mm
No. of lamps:	1	Power:	13.36 W
Lamp flux:	1456.00 lm	Operator:	ASY
Date:	2024-11-27 AM 10:18:53	LOR:	90.0 %
Comment:	LVED PRO 20W/ 220-240/ 500CS, 25-42VDC, MAX21W, 350mA		

Isoline diagram CTL-20-DI-1670-TFL 3000K / C-Plane measurement



Luminaire mounting height above ground: 2.4 m

Luminaire rotation angle: 0 °

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Luminaire:	AL.Die-casting, PC.MEDIUM LENS. (HERCULUX 45-36D)	Length:	0 mm
Test no.:	LT-2024-11-27-T02	Width	0 mm
Lamp type:	LED13W, 350mA, 3000K, CRI90	Height:	90 mm
No. of lamps:	1	Power:	13.36 W
Lamp flux:	1456.00 lm	Operator:	ASY
Date:	2024-11-27 AM 10:18:53	LOR:	90.0 %
Comment:	LVED PRO 20W/ 220-240/ 500CS, 25-42VDC, MAX21W, 350mA		

LiTG Utilization factors

Ceiling	70	80	80	50	50	80	80	80	50	50	30	0
Wall	50	50	30	50	30	80	50	30	50	30	30	0
Working plane	20	30	30	30	30	10	10	10	10	10	10	0
Roomindices	Utilization coefficients for ceiling mounted luminaires											
0.6	77	79	73	78	73	87	76	72	75	72	72	68
0.8	83	85	80	84	79	92	81	78	81	77	77	74
1	87	90	84	88	83	95	85	81	84	81	81	77
1.25	93	97	91	94	89	99	91	87	89	86	86	83
1.5	95	100	94	96	92	100	93	89	91	88	88	85
2	98	104	98	99	95	102	95	92	93	91	90	86
2.5	100	107	101	101	97	103	97	93	94	92	91	87
3	102	110	104	103	99	104	98	95	96	93	92	88
4	103	112	107	104	100	105	99	96	96	94	92	88
5	105	114	109	105	102	105	100	97	97	94	93	89

Ceiling	70	80	80	50	50	80	80	80	50	50	30	0
Wall	50	50	30	50	30	80	50	30	50	30	30	0
Working plane	20	30	30	30	30	10	10	10	10	10	10	0
Roomindices	Utilization coefficients for pendant mounted luminaires											
0.6	79	81	75	79	74	89	77	73	76	72	72	68
0.8	85	88	82	86	80	94	83	79	82	78	78	74
1	89	94	87	90	85	97	87	83	85	82	81	77
1.25	95	100	94	96	91	100	92	88	90	87	86	83
1.5	98	104	98	98	94	102	94	91	92	89	88	85
2	101	108	102	101	97	103	97	93	94	92	90	86
2.5	102	111	105	103	99	104	98	95	95	93	91	87
3	104	113	108	105	101	105	99	96	96	94	93	88
4	105	116	110	106	102	105	100	97	97	94	93	88
5	106	117	112	107	103	106	101	98	97	95	93	89

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Test no.:	LT-2024-11-27-T02	Width	0 mm
Lamp type:	LED13W, 350mA, 3000K, CRI90	Height:	90 mm
No. of lamps:	1	Power:	13.36 W
Lamp flux:	1456.00 lm	Operator:	ASY
Date:	2024-11-27 AM 10:18:53	LOR:	90.0 %
Comment:	LVED PRO 20W/ 220-240/ 500CS, 25-42VDC, MAX21W, 350mA		

UGR Unified Glare Ratios

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Floor cavity reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimension		Viewed crosswise					Viewed endwise				
2H	2H	8.1	8.8	8.5	9.1	9.5	8.1	8.8	8.5	9.1	9.5
2H	3H	8.0	8.6	8.4	9.0	9.3	8.0	8.6	8.4	9.0	9.3
2H	4H	7.9	8.5	8.3	8.9	9.2	7.9	8.5	8.3	8.9	9.2
2H	6H	7.8	8.4	8.3	8.8	9.2	7.8	8.4	8.3	8.8	9.2
2H	8H	7.8	8.3	8.2	8.7	9.1	7.8	8.3	8.2	8.7	9.1
2H	12H	7.7	8.2	8.1	8.6	9.0	7.7	8.2	8.1	8.6	9.0
4H	2H	7.8	8.4	8.2	8.8	9.1	7.8	8.4	8.2	8.8	9.1
4H	3H	7.7	8.2	8.1	8.6	9.0	7.7	8.2	8.1	8.6	9.0
4H	4H	7.7	8.1	8.1	8.5	9.0	7.7	8.1	8.1	8.5	9.0
4H	6H	7.6	7.9	8.0	8.4	8.9	7.6	7.9	8.0	8.4	8.9
4H	8H	7.5	7.9	8.0	8.3	8.8	7.5	7.9	8.0	8.3	8.8
4H	12H	7.5	7.8	8.0	8.3	8.8	7.5	7.8	8.0	8.3	8.8
8H	4H	7.4	7.8	7.9	8.3	8.7	7.4	7.8	7.9	8.3	8.7
8H	6H	7.3	7.6	7.8	8.1	8.6	7.3	7.6	7.8	8.1	8.6
8H	8H	7.3	7.6	7.9	8.1	8.6	7.3	7.6	7.9	8.1	8.6
8H	12H	7.3	7.5	7.9	8.0	8.6	7.3	7.5	7.9	8.0	8.6
12H	4H	7.4	7.7	7.9	8.2	8.7	7.4	7.7	7.9	8.2	8.7
12H	6H	7.3	7.6	7.9	8.1	8.6	7.3	7.6	7.9	8.1	8.6
12H	8H	7.3	7.5	7.8	8.0	8.5	7.3	7.5	7.8	8.0	8.5

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Luminaire:	AL.Die-casting, PC.MEDIUM LENS. (HERCULUX 45-36D)	Length:	0 mm
Test no.:	LT-2024-11-27-T02	Width	0 mm
Lamp type:	LED13W, 350mA, 3000K, CRI90	Height:	90 mm
No. of lamps:	1	Power:	13.36 W
Lamp flux:	1456.00 lm	Operator:	ASY
Date:	2024-11-27 AM 10:18:53	LOR:	90.0 %
Comment:	LVED PRO 20W/ 220-240/ 500CS, 25-42VDC, MAX21W, 350mA		

Zonal flux CTL-20-DI-1670-TFL 3000K / C-Plane measurement

Gamma [°]	Imin [cd/klm]	Imax [cd/klm]	Imean [cd/klm]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
0.0	1850.4	1850.4	1850.4	0.64	0.64	0.04	0.04
1.0	1849.6	1849.6	1849.6	5.15	5.80	0.35	0.40
2.0	1848.4	1848.4	1848.4	10.30	16.10	0.71	1.11
3.0	1849.3	1849.3	1849.3	15.45	31.55	1.06	2.17
4.0	1849.6	1849.6	1849.6	20.60	52.15	1.41	3.58
5.0	1850.1	1850.1	1850.1	25.75	77.90	1.77	5.35
6.0	1847.8	1847.8	1847.8	30.84	108.74	2.12	7.47
7.0	1843.5	1843.5	1843.5	35.87	144.61	2.46	9.93
8.0	1833.6	1833.6	1833.6	40.74	185.35	2.80	12.73
9.0	1818.7	1818.7	1818.7	45.43	230.78	3.12	15.85
10.0	1798.0	1798.0	1798.0	49.85	280.63	3.42	19.27
11.0	1770.7	1770.7	1770.7	53.95	334.57	3.71	22.98
12.0	1736.2	1736.2	1736.2	57.64	392.21	3.96	26.94
13.0	1693.2	1693.2	1693.2	60.81	453.03	4.18	31.11
14.0	1639.4	1639.4	1639.4	63.32	516.35	4.35	35.46
15.0	1571.7	1571.7	1571.7	64.95	581.30	4.46	39.92
16.0	1492.3	1492.3	1492.3	65.68	646.98	4.51	44.44
17.0	1400.0	1400.0	1400.0	65.36	712.33	4.49	48.92
18.0	1295.2	1295.2	1295.2	63.91	776.24	4.39	53.31
19.0	1178.9	1178.9	1178.9	61.28	837.52	4.21	57.52
20.0	1056.4	1056.4	1056.4	57.69	895.21	3.96	61.48
21.0	930.7	930.7	930.7	53.25	948.46	3.66	65.14
22.0	808.9	808.9	808.9	48.38	996.84	3.32	68.46
23.0	691.4	691.4	691.4	43.13	1039.97	2.96	71.43
24.0	585.5	585.5	585.5	38.02	1078.00	2.61	74.04
25.0	488.3	488.3	488.3	32.95	1110.95	2.26	76.30
26.0	404.2	404.2	404.2	28.29	1139.24	1.94	78.24
27.0	329.7	329.7	329.7	23.90	1163.14	1.64	79.89
28.0	266.4	266.4	266.4	19.97	1183.11	1.37	81.26
29.0	215.3	215.3	215.3	16.66	1199.77	1.14	82.40

Zonal flux CTL-20-DI-1670-TFL 3000K / C-Plane measurement

Gamma [°]	Imin [cd/klm]	Imax [cd/klm]	Imean [cd/klm]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
30.0	173.7	173.7	173.7	13.87	1213.64	0.95	83.35
31.0	139.5	139.5	139.5	11.47	1225.11	0.79	84.14
32.0	113.3	113.3	113.3	9.58	1234.69	0.66	84.80
33.0	93.6	93.6	93.6	8.14	1242.83	0.56	85.36
34.0	78.1	78.1	78.1	6.98	1249.80	0.48	85.84
35.0	66.0	66.0	66.0	6.04	1255.85	0.42	86.25
36.0	56.0	56.0	56.0	5.26	1261.11	0.36	86.61
37.0	47.8	47.8	47.8	4.59	1265.70	0.32	86.93
38.0	41.0	41.0	41.0	4.03	1269.73	0.28	87.21
39.0	35.2	35.2	35.2	3.54	1273.27	0.24	87.45
40.0	30.3	30.3	30.3	3.11	1276.38	0.21	87.66
41.0	26.5	26.5	26.5	2.77	1279.16	0.19	87.85
42.0	23.2	23.2	23.2	2.48	1281.63	0.17	88.02
43.0	20.3	20.3	20.3	2.21	1283.84	0.15	88.18
44.0	18.0	18.0	18.0	1.99	1285.83	0.14	88.31
45.0	16.1	16.1	16.1	1.81	1287.65	0.12	88.44
46.0	14.4	14.4	14.4	1.65	1289.30	0.11	88.55
47.0	13.0	13.0	13.0	1.52	1290.82	0.10	88.65
48.0	11.7	11.7	11.7	1.39	1292.20	0.10	88.75
49.0	10.6	10.6	10.6	1.28	1293.49	0.09	88.84
50.0	9.6	9.6	9.6	1.18	1294.66	0.08	88.92
51.0	8.7	8.7	8.7	1.07	1295.73	0.07	88.99
52.0	7.8	7.8	7.8	0.98	1296.72	0.07	89.06
53.0	7.0	7.0	7.0	0.89	1297.61	0.06	89.12
54.0	6.3	6.3	6.3	0.82	1298.43	0.06	89.18
55.0	5.6	5.6	5.6	0.74	1299.16	0.05	89.23
56.0	5.2	5.2	5.2	0.68	1299.85	0.05	89.28
57.0	4.9	4.9	4.9	0.66	1300.51	0.05	89.32
58.0	4.5	4.5	4.5	0.61	1301.12	0.04	89.36
59.0	4.4	4.4	4.4	0.60	1301.72	0.04	89.40
60.0	4.2	4.2	4.2	0.58	1302.30	0.04	89.44
61.0	4.0	4.0	4.0	0.55	1302.86	0.04	89.48
62.0	3.8	3.8	3.8	0.54	1303.40	0.04	89.52
63.0	3.8	3.8	3.8	0.54	1303.94	0.04	89.56
64.0	3.7	3.7	3.7	0.53	1304.47	0.04	89.59
65.0	3.4	3.4	3.4	0.50	1304.96	0.03	89.63
66.0	3.3	3.3	3.3	0.49	1305.45	0.03	89.66
67.0	3.1	3.1	3.1	0.45	1305.90	0.03	89.69
68.0	2.8	2.8	2.8	0.42	1306.32	0.03	89.72
69.0	2.6	2.6	2.6	0.39	1306.71	0.03	89.75
70.0	2.5	2.5	2.5	0.37	1307.08	0.03	89.77
71.0	2.2	2.2	2.2	0.33	1307.41	0.02	89.79
72.0	2.0	2.0	2.0	0.31	1307.72	0.02	89.82
73.0	2.0	2.0	2.0	0.30	1308.03	0.02	89.84

Zonal flux CTL-20-DI-1670-TFL 3000K / C-Plane measurement

Gamma [°]	Imin [cd/klm]	Imax [cd/klm]	Imean [cd/klm]	Zonal flux [lm]	Sum. zonal flux [lm]	Rel. zonal flux [%]	Sum. rel. zonal flux [%]
74.0	1.7	1.7	1.7	0.27	1308.29	0.02	89.86
75.0	1.5	1.5	1.5	0.24	1308.53	0.02	89.87
76.0	1.5	1.5	1.5	0.23	1308.76	0.02	89.89
77.0	1.5	1.5	1.5	0.23	1308.99	0.02	89.90
78.0	1.4	1.4	1.4	0.23	1309.21	0.02	89.92
79.0	1.3	1.3	1.3	0.20	1309.41	0.01	89.93
80.0	1.1	1.1	1.1	0.18	1309.59	0.01	89.94
81.0	1.1	1.1	1.1	0.17	1309.76	0.01	89.96
82.0	1.0	1.0	1.0	0.16	1309.92	0.01	89.97
83.0	0.9	0.9	0.9	0.14	1310.06	0.01	89.98
84.0	0.9	0.9	0.9	0.14	1310.20	0.01	89.99
85.0	0.9	0.9	0.9	0.14	1310.34	0.01	90.00
86.0	0.9	0.9	0.9	0.14	1310.48	0.01	90.01
87.0	0.7	0.7	0.7	0.12	1310.59	0.01	90.01
88.0	0.7	0.7	0.7	0.11	1310.71	0.01	90.02
89.0	0.6	0.6	0.6	0.10	1310.81	0.01	90.03
90.0	0.6	0.6	0.6	0.09	1310.90	0.01	90.03