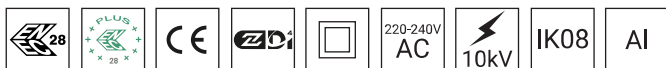




## TECHNICAL DATA

<b>Assembly</b>	on extension arms with $\varnothing$ 60 x 100 mm ending
<b>Application</b>	motorways and expressway, urban roads, residential roads (internal), pedestrians, parkings
<b>Ingress protection</b>	IP 66 for the optical part and the driver
<b>Optical system</b>	PMMA optics, interchangeable LED module, PC-UV diffuser
<b>Material</b>	anodised aluminium alloy
<b>Unit volume</b>	0,024 m <sup>3</sup> (48 W - 72 W) 0,033 m <sup>3</sup> (96 W - 192 W)
<b>Operating temperature range</b>	from -40°C to +40°C
<b>Expected useful lifetime</b>	L90B10 - 100 000 h
<b>CRI</b>	>70
<b>Inrush current</b>	49 A / 290 $\mu$ s (48 W - 72 W) 24 A / 60 $\mu$ s (96 W - 144 W) 24 A / 100 $\mu$ s (96 W) 85 A / 215 $\mu$ s (192 W)
<b>Input voltage frequency</b>	50/60Hz
<b>Power factor</b>	$\geq$ 0.95
<b>Number of LED</b>	24 (48 W, 60 W, 72 W), 64 (96 W, 120 W, 144 W, 192 W)
<b>Control system</b>	Luminaire can be connected to an external control system and / or sensors via socket compatible with Zhaga Book 18



## TABLE OF VARIANTS

Code	Symbol	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux <sup>1</sup>	Luminaire luminous flux <sup>1</sup>	Luminous efficacy <sup>1</sup>	D4i socket	Net weight
2225033/1/...	CUDDLE II LED D4i 48	48 W	55 W	700 mA	2700 K	8150 lm	6950 lm	126 lm/W	1 ↑	5.6 kg
2225033/3/...	CUDDLE II LED D4i 48	48 W	55 W	700 mA	3500 K	8650 lm	7350 lm	134 lm/W	1 ↑	5.6 kg
2225033/4/...	CUDDLE II LED D4i 48	48 W	55 W	700 mA	4000 K	9150 lm	7800 lm	142 lm/W	1 ↑	5.6 kg
2225033/6/...	CUDDLE II LED D4i 48	48 W	55 W	700 mA	5000 K	9150 lm	7800 lm	142 lm/W	1 ↑	5.6 kg
2225034/1/...	CUDDLE II LED D4i 60	60 W	67 W	830 mA	2700 K	9300 lm	7950 lm	119 lm/W	1 ↑	5.6 kg
2225034/3/...	CUDDLE II LED D4i 60	60 W	67 W	830 mA	3500 K	9850 lm	8400 lm	125 lm/W	1 ↑	5.6 kg
2225034/4/...	CUDDLE II LED D4i 60	60 W	67 W	830 mA	4000 K	10450 lm	8900 lm	133 lm/W	1 ↑	5.6 kg
2225034/6/...	CUDDLE II LED D4i 60	60 W	67 W	830 mA	5000 K	10450 lm	8900 lm	133 lm/W	1 ↑	5.6 kg
2225035/1/...	CUDDLE II LED D4i 72	72 W	79 W	1000 mA	2700 K	10700 lm	9100 lm	115 lm/W	1 ↑	5.6 kg
2225035/3/...	CUDDLE II LED D4i 72	72 W	79 W	1000 mA	3500 K	11350 lm	9700 lm	123 lm/W	1 ↑	5.6 kg
2225035/4/...	CUDDLE II LED D4i 72	72 W	79 W	1000 mA	4000 K	12100 lm	10300 lm	130 lm/W	1 ↑	5.6 kg
2225035/6/...	CUDDLE II LED D4i 72	72 W	79 W	1000 mA	5000 K	12100 lm	10300 lm	130 lm/W	1 ↑	5.6 kg
2225037/1/...	CUDDLE II LED D4i 96	96 W	105 W	500 mA	2700 K	16000 lm	13650 lm	130 lm/W	1 ↑	7.8 kg
2225037/3/...	CUDDLE II LED D4i 96	96 W	105 W	500 mA	3500 K	16950 lm	14450 lm	138 lm/W	1 ↑	7.8 kg
2225037/4/...	CUDDLE II LED D4i 96	96 W	105 W	500 mA	4000 K	18000 lm	15350 lm	146 lm/W	1 ↑	7.8 kg
2225037/6/...	CUDDLE II LED D4i 96	96 W	105 W	500 mA	5000 K	18000 lm	15350 lm	146 lm/W	1 ↑	7.8 kg
2225039/1/...	CUDDLE II LED D4i 120	120 W	129 W	625 mA	2700 K	19250 lm	16400 lm	127 lm/W	1 ↑	7.8 kg
2225039/3/...	CUDDLE II LED D4i 120	120 W	129 W	625 mA	3500 K	20500 lm	17450 lm	135 lm/W	1 ↑	7.8 kg
2225039/4/...	CUDDLE II LED D4i 120	120 W	129 W	625 mA	4000 K	21700 lm	18500 lm	143 lm/W	1 ↑	7.8 kg
2225039/6/...	CUDDLE II LED D4i 120	120 W	129 W	625 mA	5000 K	21700 lm	18500 lm	143 lm/W	1 ↑	7.8 kg
2225041/1/...	CUDDLE II LED D4i 144	144 W	154 W	750 mA	2700 K	22350 lm	19050 lm	124 lm/W	1 ↑	7.8 kg
2225041/3/...	CUDDLE II LED D4i 144	144 W	154 W	750 mA	3500 K	23750 lm	20250 lm	131 lm/W	1 ↑	7.8 kg
2225041/4/...	CUDDLE II LED D4i 144	144 W	154 W	750 mA	4000 K	25150 lm	21450 lm	139 lm/W	1 ↑	7.8 kg
2225041/6/...	CUDDLE II LED D4i 144	144 W	154 W	750 mA	5000 K	25150 lm	21450 lm	139 lm/W	1 ↑	7.8 kg
2225046/1/...	CUDDLE II LED D4i 192	192 W	205 W	1000 mA	2700 K	27850 lm	23750 lm	116 lm/W	1 ↑	7.8 kg
2225046/3/...	CUDDLE II LED D4i 192	192 W	205 W	1000 mA	3500 K	29600 lm	25250 lm	123 lm/W	1 ↑	7.8 kg
2225046/4/...	CUDDLE II LED D4i 192	192 W	205 W	1000 mA	4000 K	31350 lm	26700 lm	130 lm/W	1 ↑	7.8 kg
2225046/6/...	CUDDLE II LED D4i 192	192 W	205 W	1000 mA	5000 K	31350 lm	26700 lm	130 lm/W	1 ↑	7.8 kg

# CUDDLE II LED D4I



2225233/1/... <sup>2</sup>	CUDDLE II LED D4i D 48	48 W	55 W	700 mA	2700 K	8150 lm	6950 lm	126 lm/W	1 ↓	5.6 kg
2225233/3/... <sup>2</sup>	CUDDLE II LED D4i D 48	48 W	55 W	700 mA	3500 K	8650 lm	7350 lm	134 lm/W	1 ↓	5.6 kg
2225233/4/... <sup>2</sup>	CUDDLE II LED D4i D 48	48 W	55 W	700 mA	4000 K	9150 lm	7800 lm	142 lm/W	1 ↓	5.6 kg
2225233/6/... <sup>2</sup>	CUDDLE II LED D4i D 48	48 W	55 W	700 mA	5000 K	9150 lm	7800 lm	142 lm/W	1 ↓	5.6 kg
2225234/1/... <sup>2</sup>	CUDDLE II LED D4i D 60	60 W	67 W	830 mA	2700 K	9300 lm	7950 lm	119 lm/W	1 ↓	5.6 kg
2225234/3/... <sup>2</sup>	CUDDLE II LED D4i D 60	60 W	67 W	830 mA	3500 K	9850 lm	8400 lm	125 lm/W	1 ↓	5.6 kg
2225234/4/... <sup>2</sup>	CUDDLE II LED D4i D 60	60 W	67 W	830 mA	4000 K	10450 lm	8900 lm	133 lm/W	1 ↓	5.6 kg
2225234/6/... <sup>2</sup>	CUDDLE II LED D4i D 60	60 W	67 W	830 mA	5000 K	10450 lm	8900 lm	133 lm/W	1 ↓	5.6 kg
2225235/1/... <sup>2</sup>	CUDDLE II LED D4i D 72	72 W	79 W	1000 mA	2700 K	10700 lm	9100 lm	115 lm/W	1 ↓	5.6 kg
2225235/3/... <sup>2</sup>	CUDDLE II LED D4i D 72	72 W	79 W	1000 mA	3500 K	11350 lm	9700 lm	123 lm/W	1 ↓	5.6 kg
2225235/4/... <sup>2</sup>	CUDDLE II LED D4i D 72	72 W	79 W	1000 mA	4000 K	12100 lm	10300 lm	130 lm/W	1 ↓	5.6 kg
2225235/6/... <sup>2</sup>	CUDDLE II LED D4i D 72	72 W	79 W	1000 mA	5000 K	12100 lm	10300 lm	130 lm/W	1 ↓	5.6 kg
2225237/1/... <sup>2</sup>	CUDDLE II LED D4i D 96	96 W	105 W	500 mA	2700 K	16000 lm	13650 lm	130 lm/W	1 ↓	7.8 kg
2225237/3/... <sup>2</sup>	CUDDLE II LED D4i D 96	96 W	105 W	500 mA	3500 K	16950 lm	14450 lm	138 lm/W	1 ↓	7.8 kg
2225237/4/... <sup>2</sup>	CUDDLE II LED D4i D 96	96 W	105 W	500 mA	4000 K	18000 lm	15350 lm	146 lm/W	1 ↓	7.8 kg
2225237/6/... <sup>2</sup>	CUDDLE II LED D4i D 96	96 W	105 W	500 mA	5000 K	18000 lm	15350 lm	146 lm/W	1 ↓	7.8 kg
2225239/1/... <sup>2</sup>	CUDDLE II LED D4i D 120	120 W	129 W	625 mA	2700 K	19250 lm	16400 lm	127 lm/W	1 ↓	7.8 kg
2225239/3/... <sup>2</sup>	CUDDLE II LED D4i D 120	120 W	129 W	625 mA	3500 K	20500 lm	17450 lm	135 lm/W	1 ↓	7.8 kg
2225239/4/... <sup>2</sup>	CUDDLE II LED D4i D 120	120 W	129 W	625 mA	4000 K	21700 lm	18500 lm	143 lm/W	1 ↓	7.8 kg
2225239/6/... <sup>2</sup>	CUDDLE II LED D4i D 120	120 W	129 W	625 mA	5000 K	21700 lm	18500 lm	143 lm/W	1 ↓	7.8 kg
2225241/1/... <sup>2</sup>	CUDDLE II LED D4i D 144	144 W	154 W	750 mA	2700 K	22350 lm	19050 lm	124 lm/W	1 ↓	7.8 kg
2225241/3/... <sup>2</sup>	CUDDLE II LED D4i D 144	144 W	154 W	750 mA	3500 K	23750 lm	20250 lm	131 lm/W	1 ↓	7.8 kg
2225241/4/... <sup>2</sup>	CUDDLE II LED D4i D 144	144 W	154 W	750 mA	4000 K	25150 lm	21450 lm	139 lm/W	1 ↓	7.8 kg
2225241/6/... <sup>2</sup>	CUDDLE II LED D4i D 144	144 W	154 W	750 mA	5000 K	25150 lm	21450 lm	139 lm/W	1 ↓	7.8 kg
2225246/1/... <sup>2</sup>	CUDDLE II LED D4i D 192	192 W	205 W	1000 mA	2700 K	27850 lm	23750 lm	116 lm/W	1 ↓	7.8 kg
2225246/3/... <sup>2</sup>	CUDDLE II LED D4i D 192	192 W	205 W	1000 mA	3500 K	29600 lm	25250 lm	123 lm/W	1 ↓	7.8 kg
2225246/4/... <sup>2</sup>	CUDDLE II LED D4i D 192	192 W	205 W	1000 mA	4000 K	31350 lm	26700 lm	130 lm/W	1 ↓	7.8 kg
2225246/6/... <sup>2</sup>	CUDDLE II LED D4i D 192	192 W	205 W	1000 mA	5000 K	31350 lm	26700 lm	130 lm/W	1 ↓	7.8 kg
2225433/1/... <sup>2</sup>	CUDDLE II LED D4i x2 48	48 W	55 W	700 mA	2700 K	8150 lm	6950 lm	126 lm/W	1 ↑ / 1 ↓	5.6 kg
2225433/3/... <sup>2</sup>	CUDDLE II LED D4i x2 48	48 W	55 W	700 mA	3500 K	8650 lm	7350 lm	134 lm/W	1 ↑ / 1 ↓	5.6 kg
2225433/4/... <sup>2</sup>	CUDDLE II LED D4i x2 48	48 W	55 W	700 mA	4000 K	9150 lm	7800 lm	142 lm/W	1 ↑ / 1 ↓	5.6 kg
2225433/6/... <sup>2</sup>	CUDDLE II LED D4i x2 48	48 W	55 W	700 mA	5000 K	9150 lm	7800 lm	142 lm/W	1 ↑ / 1 ↓	5.6 kg
2225434/1/... <sup>2</sup>	CUDDLE II LED D4i x2 60	60 W	67 W	830 mA	2700 K	9300 lm	7950 lm	119 lm/W	1 ↑ / 1 ↓	5.6 kg
2225434/3/... <sup>2</sup>	CUDDLE II LED D4i x2 60	60 W	67 W	830 mA	3500 K	9850 lm	8400 lm	125 lm/W	1 ↑ / 1 ↓	5.6 kg
2225434/4/... <sup>2</sup>	CUDDLE II LED D4i x2 60	60 W	67 W	830 mA	4000 K	10450 lm	8900 lm	133 lm/W	1 ↑ / 1 ↓	5.6 kg
2225434/6/... <sup>2</sup>	CUDDLE II LED D4i x2 60	60 W	67 W	830 mA	5000 K	10450 lm	8900 lm	133 lm/W	1 ↑ / 1 ↓	5.6 kg
2225435/1/... <sup>2</sup>	CUDDLE II LED D4i x2 72	72 W	79 W	1000 mA	2700 K	10700 lm	9100 lm	115 lm/W	1 ↑ / 1 ↓	5.6 kg
2225435/3/... <sup>2</sup>	CUDDLE II LED D4i x2 72	72 W	79 W	1000 mA	3500 K	11350 lm	9700 lm	123 lm/W	1 ↑ / 1 ↓	5.6 kg
2225435/4/... <sup>2</sup>	CUDDLE II LED D4i x2 72	72 W	79 W	1000 mA	4000 K	12100 lm	10300 lm	130 lm/W	1 ↑ / 1 ↓	5.6 kg
2225435/6/... <sup>2</sup>	CUDDLE II LED D4i x2 72	72 W	79 W	1000 mA	5000 K	12100 lm	10300 lm	130 lm/W	1 ↑ / 1 ↓	5.6 kg
2225437/1/... <sup>2</sup>	CUDDLE II LED D4i x2 96	96 W	105 W	500 mA	2700 K	16000 lm	13650 lm	130 lm/W	1 ↑ / 1 ↓	7.8 kg
2225437/3/... <sup>2</sup>	CUDDLE II LED D4i x2 96	96 W	105 W	500 mA	3500 K	16950 lm	14450 lm	138 lm/W	1 ↑ / 1 ↓	7.8 kg
2225437/4/... <sup>2</sup>	CUDDLE II LED D4i x2 96	96 W	105 W	500 mA	4000 K	18000 lm	15350 lm	146 lm/W	1 ↑ / 1 ↓	7.8 kg
2225437/6/... <sup>2</sup>	CUDDLE II LED D4i x2 96	96 W	105 W	500 mA	5000 K	18000 lm	15350 lm	146 lm/W	1 ↑ / 1 ↓	7.8 kg
2225439/1/... <sup>2</sup>	CUDDLE II LED D4i x2 120	120 W	129 W	625 mA	2700 K	19250 lm	16400 lm	127 lm/W	1 ↑ / 1 ↓	7.8 kg
2225439/3/... <sup>2</sup>	CUDDLE II LED D4i x2 120	120 W	129 W	625 mA	3500 K	20500 lm	17450 lm	135 lm/W	1 ↑ / 1 ↓	7.8 kg
2225439/4/... <sup>2</sup>	CUDDLE II LED D4i x2 120	120 W	129 W	625 mA	4000 K	21700 lm	18500 lm	143 lm/W	1 ↑ / 1 ↓	7.8 kg
2225439/6/... <sup>2</sup>	CUDDLE II LED D4i x2 120	120 W	129 W	625 mA	5000 K	21700 lm	18500 lm	143 lm/W	1 ↑ / 1 ↓	7.8 kg
2225441/1/... <sup>2</sup>	CUDDLE II LED D4i x2 144	144 W	154 W	750 mA	2700 K	22350 lm	19050 lm	124 lm/W	1 ↑ / 1 ↓	7.8 kg
2225441/3/... <sup>2</sup>	CUDDLE II LED D4i x2 144	144 W	154 W	750 mA	3500 K	23750 lm	20250 lm	131 lm/W	1 ↑ / 1 ↓	7.8 kg
2225441/4/... <sup>2</sup>	CUDDLE II LED D4i x2 144	144 W	154 W	750 mA	4000 K	25150 lm	21450 lm	139 lm/W	1 ↑ / 1 ↓	7.8 kg
2225441/6/... <sup>2</sup>	CUDDLE II LED D4i x2 144	144 W	154 W	750 mA	5000 K	25150 lm	21450 lm	139 lm/W	1 ↑ / 1 ↓	7.8 kg
2225446/1/... <sup>2</sup>	CUDDLE II LED D4i x2 192	192 W	205 W	1000 mA	2700 K	27850 lm	23750 lm	116 lm/W	1 ↑ / 1 ↓	7.8 kg
2225446/3/... <sup>2</sup>	CUDDLE II LED D4i x2 192	192 W	205 W	1000 mA	3500 K	29600 lm	25250 lm	123 lm/W	1 ↑ / 1 ↓	7.8 kg
2225446/4/... <sup>2</sup>	CUDDLE II LED D4i x2 192	192 W	205 W	1000 mA	4000 K	31350 lm	26700 lm	130 lm/W	1 ↑ / 1 ↓	7.8 kg
2225446/6/... <sup>2</sup>	CUDDLE II LED D4i x2 192	192 W	205 W	1000 mA	5000 K	31350 lm	26700 lm	130 lm/W	1 ↑ / 1 ↓	7.8 kg

1) tolerance +/- 5% due to LEDs accuracy

2) symbol of chosen optical system eg. 2225033/6/T2 is CUDDLE II LED D4i 48 5000 K with T2 optical system

↑ - D4i socket from top, ↓ - D4i socket from bottom, ↓ ↑ - D4i socket from top and bottom

\*For the CUDDLE II LED D4i luminaire with P2 and PL optics it is possible to choose an additional light colour temperature: 5700 K. The product code is then supplemented with the designation '/7'. Example: 2225033/7/P2 -CUDDLE II LED D4i 48 W 5700 K luminaire with P2 optics

## DIRECTIVES AND STANDARDS

**DIRECTIVES:** 2014/35/UE (Official Journal of the UE L 96/357 29.03.2014), 2014/30/UE (Official Journal of the UE L 96/79 29.03.2014), 2011/65/UE RoHS (Official Journal of the UE L 174/88 01.07.2011), 2009/125/EC(Official Journal of the UE L 285/10 31.10.2009)

**STANDARDS:** PN-EN IEC 60598-1: 2021-7, PN-EN 60598-2-3: 2006, PN-EN 60529: 2003, PN-EN 62262: 2003, PN-EN 62471:2010, PN-EN 55015: 2019, PN-EN 61547: 2009, PN-EN 61000-3-2: 2019 , PN-EN 61000-3-3: 2014, PN-EN 62722-2-1 (tq=40°C)

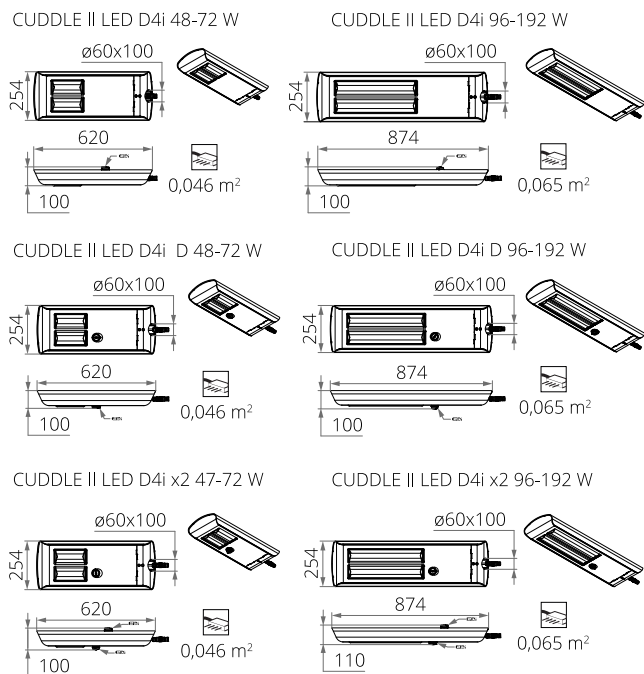
Lighting parameters presented based on laboratory tests according to IESNA LM-79-19

## REMOVING ELECTROSTATIC CHARGE FROM LED LUMINAIRE BODY

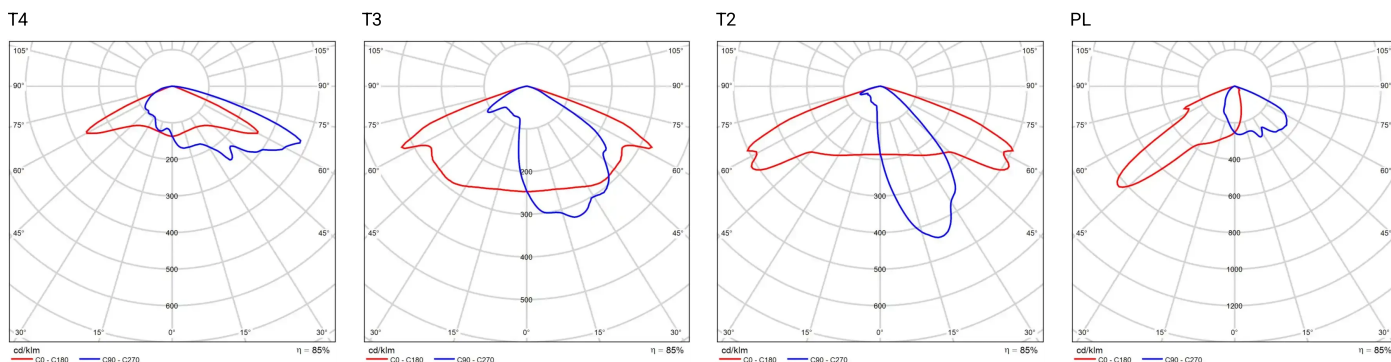
In order to efficient discharge the electrostatic charge from the housing of LED fitting installed on the pole from dielectric material (non-conductive) one of the following solutions is required:

- functional grounding
- LED luminaire with an additional protection device

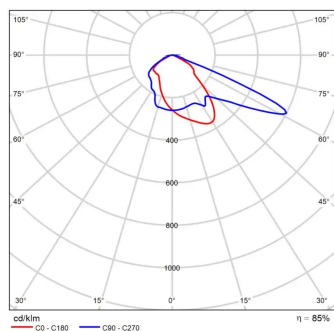
## TECHNICAL DRAWING



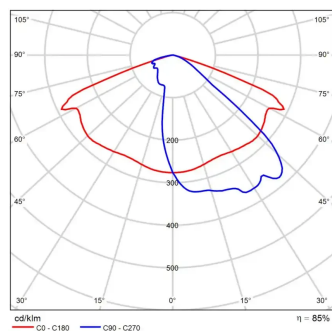
## PHOTOMETRIC CURVES



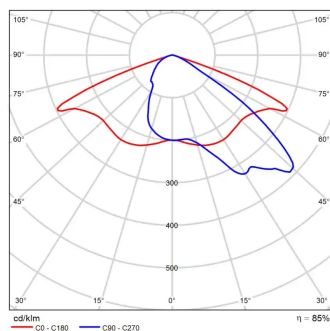
P2



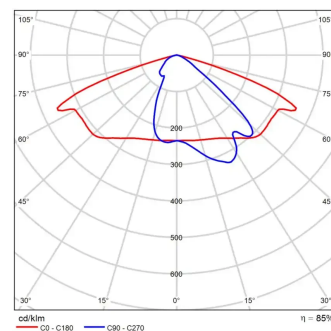
ME



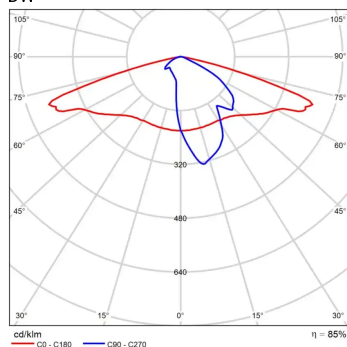
LW



LM



DW



## POWER SYSTEM FUNCTIONS

**Luminaire in standard has following functions of intelligent power supply:**

- Possibility of programming multistage dimming of luminaire, up to 5 intervals in the range of from 10 to 100% of nominal power,
- LED module equipped with thermal protection implemented via an NTC thermistor,
- Regulation of power / luminous flux – the option of setting another value than the catalogue in the range of 30-100% of nominal one,

# CUDDLE II LED D4I



## ACCEPTABLE QUANTITY OF LUMINAIRES ON ONE CIRCUIT

Overcurrent switches MCB type B or C

Luminaire	Typ	2 A	4 A	6 A	10 A	16 A	20 A	25 A
CUDDLE II LED D4i 48 W, 60 W, 72 W	B	4	9	13	23	37	46	58
	C	4	9	13	23	37	46	58
CUDDLE II LED D4i 96 W, 120 W, 144 W	B	1	3	5	8	14	17	21
	C	1	4	7	11	19	23	29
CUDDLE II LED D4i 192 W	B	0	1	2	3	5	6	7
	C	0	2	3	5	8	10	13

Fuse – type gG and GL

Luminaire	2 A	4 A	6 A	10 A	16 A	20 A	25 A
CUDDLE II LED D4i 48 W	4	9	13	23	37	46	58
CUDDLE II LED D4i 60 W	4	9	13	23	37	46	58
CUDDLE II LED D4i 72 W	4	9	13	23	37	46	58
CUDDLE II LED D4i 96 W	2	4	7	11	19	23	29
CUDDLE II LED D4i 120 W	2	4	7	11	19	23	29
CUDDLE II LED D4i 144 W	2	4	7	11	19	23	29
CUDDLE II LED D4i 192 W	0	2	4	6	12	17	22

## CHROMATICITY

Chromaticity	x	y
2700 K	0,4582	0,4099
3500 K	0,4080	0,3916
4000 K	0,3825	0,3798
5000 K	0,3451	0,3554

## PHOTOMETRIC CODE

2700 K	727/559
3500 K	735/559
4000 K	740/559
5000 K	750/559