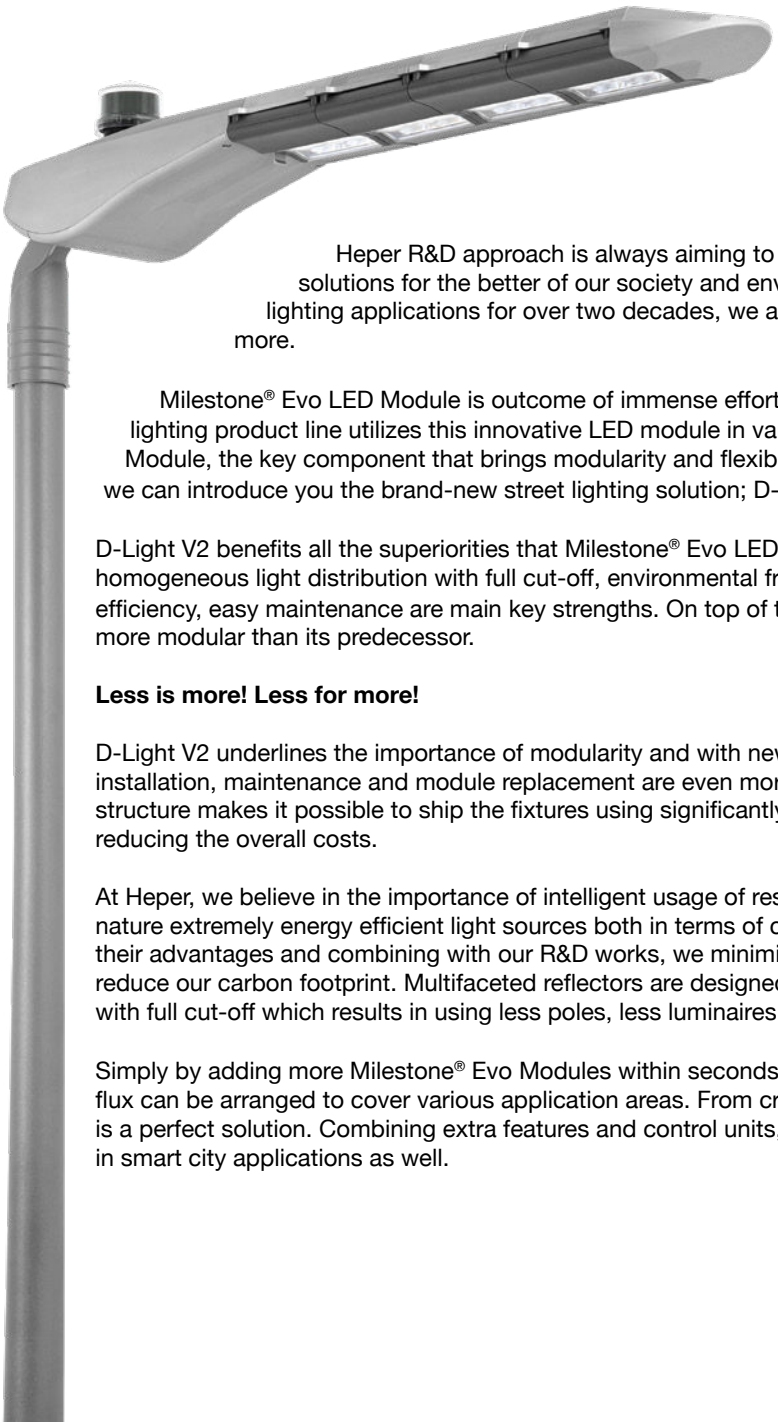
D-LIGHT V2

heper

EXCELLENT LIGHT DISTRIBUTION IS EVEN *MORE MODULAR* NOW!



Heper R&D approach is always aiming to put out the most innovative lighting solutions for the better of our society and environment. Being an expert in street lighting applications for over two decades, we always challenge ourselves to do more.

Milestone® Evo LED Module is outcome of immense efforts we put forward. Heper street lighting product line utilizes this innovative LED module in various products. Milestone® Evo LED Module, the key component that brings modularity and flexibility has been re-engineered. Thus, we can introduce you the brand-new street lighting solution; D-Light V2.

D-Light V2 benefits all the superiorities that Milestone® Evo LED Module brings. A beautiful homogeneous light distribution with full cut-off, environmental friendly sustainable materials, energy efficiency, easy maintenance are main key strengths. On top of that, Milestone® Evo module is even more modular than its predecessor.

Less is more! Less for more!

D-Light V2 underlines the importance of modularity and with new **no-cabling socket** design; installation, maintenance and module replacement are even more user-friendly. On-site assembly structure makes it possible to ship the fixtures using significantly smaller packages. Thus, greatly reducing the overall costs.

At Heper, we believe in the importance of intelligent usage of resources. LED luminaires are by nature extremely energy efficient light sources both in terms of consumption and lifespan. Redefining their advantages and combining with our R&D works, we minimize the waste we produce and reduce our carbon footprint. Multifaceted reflectors are designed to create a wider light distribution with full cut-off which results in using less poles, less luminaires and less energy.

Simply by adding more Milestone® Evo Modules within seconds, the light distribution and luminous flux can be arranged to cover various application areas. From crosswalks to motorways, D-Light V2 is a perfect solution. Combining extra features and control units, D-Light V2 becomes an integral unit in smart city applications as well.

01

MILESTONE® EVO LED MODULE
OPTICAL TECHNOLOGY

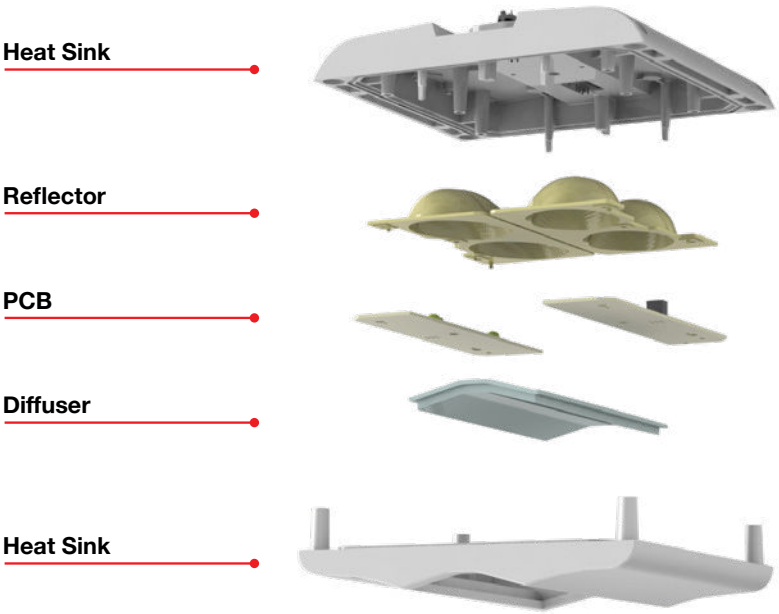
Heper's Milestone® Evo optical module is optimized solely for road lighting. Unlike standard approach, LED chips are aligned upwards and through extremely efficient reflectors, light is indirectly sent out of the luminaire. The outcome is quite exquisite; beautifully illuminated car-lanes, bike paths, pedestrian crosses etc. Due to multifaceted reflector surface, light beams reaching illumination zone are in multiple directions leading to a more homogenous lighting distribution. Moreover, since there is no direct eye contact with the light source upwards aligned LEDs, glare is no longer a big problem.

The light distribution of Milestone® Evo LED module is asymmetrical with full cut-off. Meaning that, the light can reach wider spaces with significant uniformity. This leads to the ability to use less luminaires and less poles for a project while still maintaining the required lux levels.

Milestone® Evo LED module is an IP66 graded module itself. Hence the fixture is only the housing for the light source. Using different number of modules in a fixture, it becomes possible to meet different road lighting classifications such as S6 and M1. This modularity along with its optical excellence, Milestone® Evo LED module is a state of the art light source.

02

MILESTONE® EVO LED MODULE
STRUCTURE & TECHNICAL SPECIFICATIONS



MECHANICAL PROPERTIES

- Corrosion resistant die-cast aluminium housing
- Easy installation, easier maintenance
- Optimized thermal management system
- Ingress protection: IP66, IK08
- Electrical Insulation: Class I-II
- The system complies with European standards EN60598.
- Corrosion resistant and superior quality finishes for all weather conditions.

ELECTRICAL PROPERTIES

- LED Quantity: 4 High Power multi chips.
- Power Consumption: 35W @700mA.
- PCB: Optimized PCB design with touchdown technology
- Various control options.
- Input Voltage: 220-240V / 120-277V

OPTICAL PROPERTIES

- Different number of module combinations for various lighting requirements.
- Color Temperature Range: 2700K-6500K
- Total Luminous Flux: 4000lm for 4000K @700mA
  Lifetime: L90> 118.000 h
- Minimized Glare
- Multi-faceted reflector surface with efficiency >90 %
- Smooth and full cut-off light distribution.

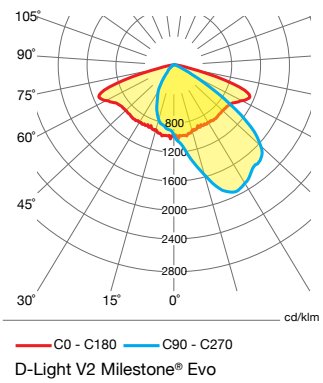
03

MILESTONE® EVO LED MODULE
COMPLEX SURFACE REFLECTOR TECHNOLOGY

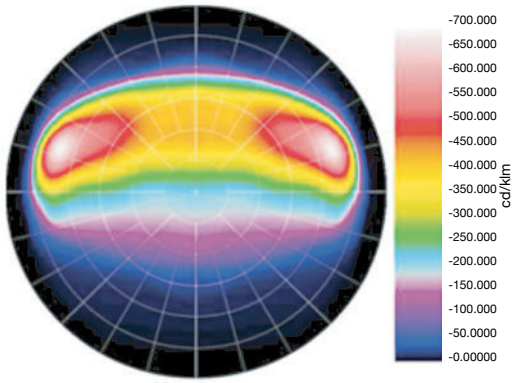
Milestone® Evo LED module introduces the indirect lighting concept through its multifaceted reflectors. Light beams coming out of the upward aligned LED chips are reflected in a way that almost sending them horizontally with no uplight. Light can reach spaces that standard lenses can fail to send.

Using multifaceted reflector technology brings out other advantages as well. Such as more homogenous distribution and better glare management. Specially designed microfacets break the light in multiple directions resulting in a homogenously illuminated zone and since there is no direct eye contact with the light source, glare is majorly reduced.

Reflectors used in Milestone® Evo LED module is coated with high tech materials including silver and gold coating options for higher reflectivity levels and better efficiency.



D-Light V2 Milestone® Evo



05

D-LIGHT V2 **TECHNICAL SPECIFICATIONS**

1/2/3/4 MILESTONE® EVO LED MODULES, FOR OUTDOOR APPLICATIONS

APPLICATION AREAS

- Roads
- Streets
- Motorways
- Bridges
- Parking lots
- Pedestrian crosses
- Urban areas

GENERAL HIGHLIGHTS

- Equipped with Heper's Milestone® Evo LED module
- Optimized road lighting distribution to meet various road classes
- Operating temperature: -40°C / +55°C
- Better thermal management with upward aligned LED chips
- Easy installation and maintenance with modular structure
- In compliance with EN 60598
- Tilt angle: +15 / -15
- Auto on-off switch for maintenance

ELECTRICAL PROPERTIES

- Drive current: 350 mA, 525mA, 700mA
- Optimized PCB-Design; aluminum PCB or FR-4 PCB with touchdown technology
- Insulation class: CLASS I, CLASS II
- Energy class: A+
- Power factor: > 0.95
- Input Voltage: 220V-240V / 120V-277V at 50Hz / 60Hz
- Control type: On/Off, 1-10V, DALI, DynaDIM, AstroDIM
- Surge Protection: 10kV (optional)

OPTICAL PROPERTIES

- Equipped with Heper's patented Milestone® Evo LED module
- Indirect lighting with reflector technology
- Homogenous lighting distribution through multifaceded reflectors
- Full cut-off with wide light distribution with no up light
- Better glare management with no direct eye contact with light source
- Extreme high power multi LED chips
- MacAdam Ellipse 3
- Lumen Output: 3500 lm – 16000 lm
- Color Temperature: 3000K, 4000K
- CRI > 70(4000K) , CRI > 80(3000K)
- Lumen depreciation: L90B50 > 118000 h
- Photobiological safety: Risk Group 0
- BUG Rating: B2 – U0 – G1
- Efficacy: 114 lm/W
- ULOR: 0%

BODY HOUSING & FINISH

- Corrosion resistant aluminum housing
- Electrostatic powder coating
- HM1 to HM5 standard colors with optional RAL codes
- Ingress Protection: IP66
- Impact Protection: IK08

EXTRAS

- Nema Socket for smart city applications
- Higher CRI LED chips
- Constant Light Output
- Programmable driver for different scenerios
- Different drive currents
- Marine grade coating
- Halogen free cabling

CE EN60598, IP66, IK08

06
D-LIGHT V2 PRODUCT FAMILY
TECHNICAL SPECIFICATIONS

LUMINAIRE				
CODE	**DESCRIPTION**	**POWER (700 mA)**	**LUMEN**	**COLOR TEMPERATURE**
LL2034.681	D-Light V2 1 Milestone® Evo	35W	3500lm - 4000lm	3000K / 4000K
LL2034.682	D-Light V2 2 Milestone® Evo	70W	7000lm - 8000lm	3000K / 4000K
LL2034.683	D-Light V2 3 Milestone® Evo	105W	10500lm - 12000lm	3000K / 4000K
LL2034.684	D-Light V2 4 Milestone® Evo	140W	14000lm - 16000lm	3000K / 4000K

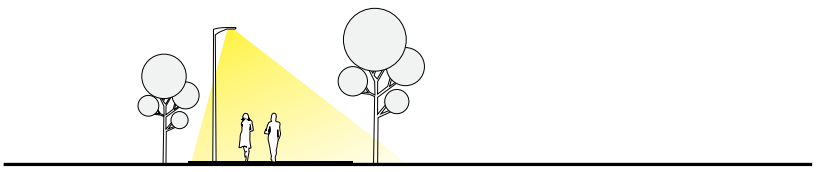
POLES								
CODE	**DESCRIPTION**	**H1**	**H2**	**D1**	**D2**	**ANCHORAGE**	**FLANGE COVER**	**CUT-OUT**
PAFK.055.050	Aluminum Conical Pole Flanged	5000	-	Ø60	Ø122	90BJ004	C1D2B	51
PABK.055.050	Aluminum Conical Pole Buried	5000	800	Ø60	Ø122	-	-	51
PAFK.013.060	Aluminum Conical Pole Flanged	6000	-	Ø60	Ø122	90BJ004	C1D2B	51
PABK.013.060	Aluminum Conical Pole Buried	6000	1000	Ø60	Ø122	-	-	51
PAFK.050.060	Aluminum Conical Pole Flanged	6000	-	Ø60	Ø148	90CJ005	C1F2C	51
PABK.050.060	Aluminum Conical Pole Buried	6000	1000	Ø60	Ø148	-	-	51
PAFK.096.080	Aluminum Conical Pole Flanged	8000	-	Ø60	Ø165	90CJ006	C1G2C	51
PABK.096.080	Aluminum Conical Pole Buried	8000	1200	Ø60	Ø165	-	-	51

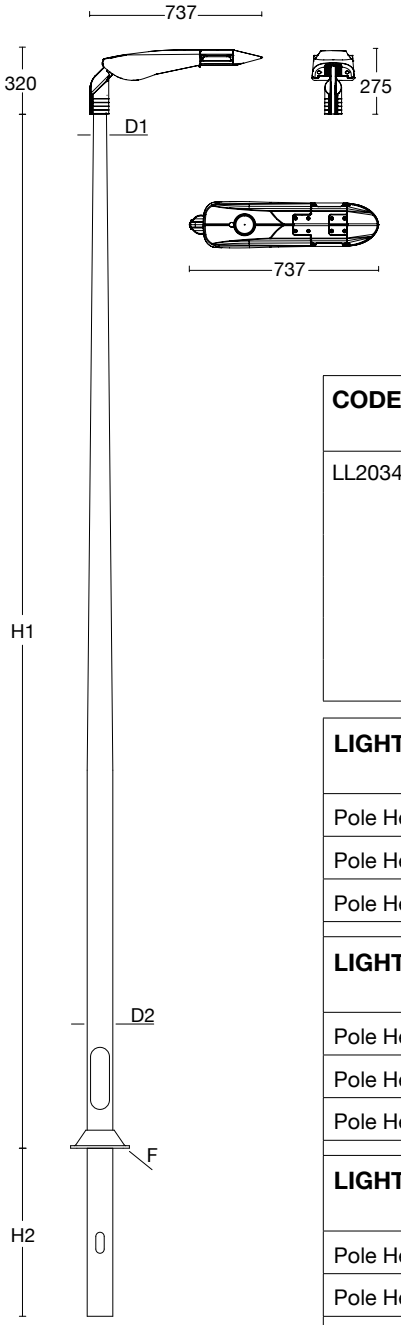
ILLUMINATING YOUR LIFE!

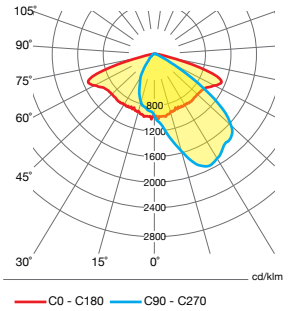
D-LIGHT V2

Luminous flux: from 3500lm up to 16000lm with 1, 2, 3 & 4 Milestone® Evo LED modules

D-LIGHT V2
1* MILESTONE® EVO







CODE	DESCRIPTION	CCT	DRIVE CURRENT	LUMEN OUTPUT	POWER
LL2034.681	D-Light V2 1 Milestone® Evo	3000K	350mA	1870 lm	20W
		3000K	525mA	2700 lm	28W
		3000K	700mA	3500 lm	35W
		4000K	350mA	2150 lm	20W
		4000K	525mA	3100 lm	28W
		4000K	700mA	4000 lm	35W

LIGHTING CLASS (EN13201:2016)	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Pole Height = 4m, max pole distance:	**25m**	**25m***	**25m***	**25m***	**25m***	**25m***
Pole Height = 6m, max pole distance:	**20m**	**31m**	**35m**	**36m***	**36m***	**36m***
Pole Height = 8m, max pole distance:		**25m**	**33m**	**45m**	**48m***	**48m***

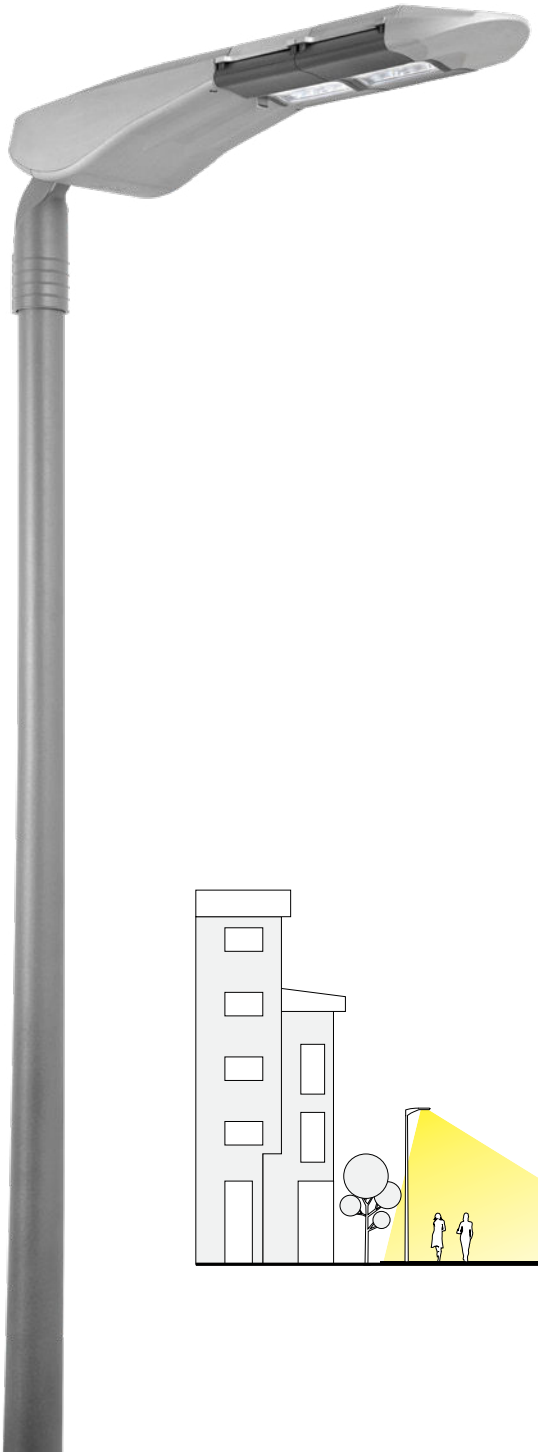
LIGHTING CLASS (EN13201:2016)	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**
Pole Height = 4m, max pole distance:						**21m***
Pole Height = 6m, max pole distance:			**18m**	**25m**	**32m**	**32m***
Pole Height = 8m, max pole distance:				**20m**	**31m**	**42m**

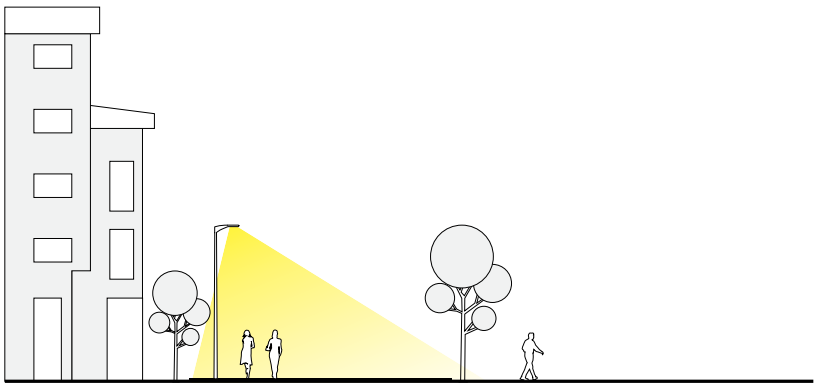
LIGHTING CLASS (EN13201:2016)	**C0**	**C1**	**C2**	**C3**	**C4**	**C5**
Pole Height = 4m, max pole distance:		**16m**	**17m**	**17m***	**17m***	**17m***
Pole Height = 6m, max pole distance:			**15m**	**18m**	**18m***	**18m***
Pole Height = 8m, max pole distance:					**25m**	**25m***

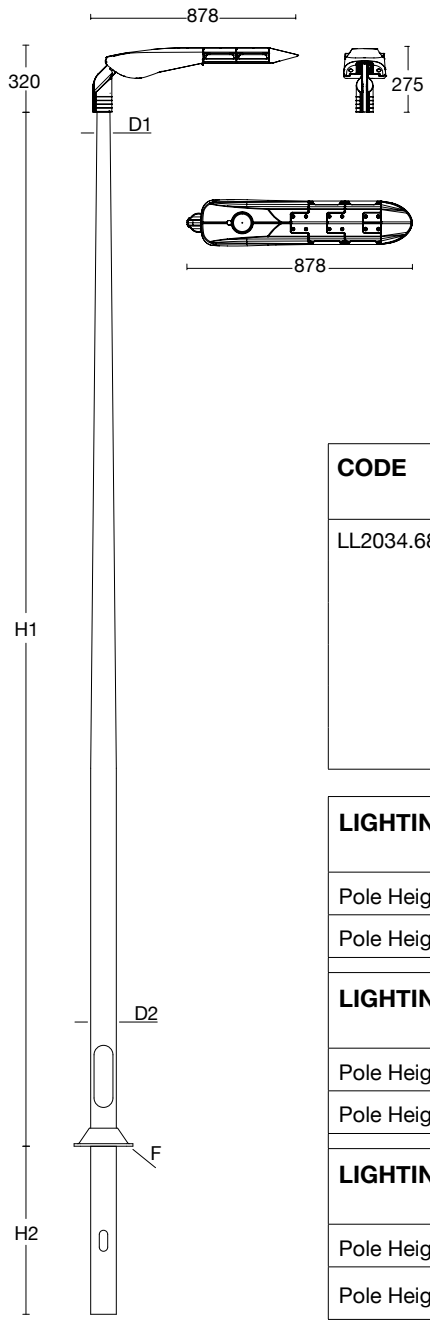
D-Light V2 1 Milestone® Evo
Weight: 10 Kg
Wind surface area: 0,05 m²

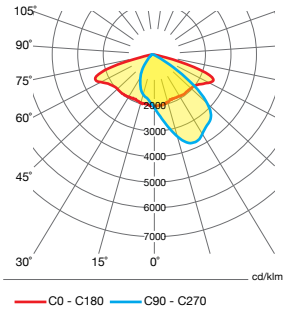
* Luminaire has to be dimmed
Note: These values are based on calculations and for recommendation purpose only.
Typical applications: residential streets, bicycle roads and walkways; low pole heights.

D-LIGHT V2
2* MILESTONE® EVO









CODE	DESCRIPTION	CCT	DRIVE CURRENT	LUMEN OUTPUT	POWER
LL2034.682	D-Light V2 2 Milestone® Evo	3000K	350mA	3750 lm	39W
		3000K	525mA	5400 lm	53W
		3000K	700mA	7000 lm	70W
		4000K	350mA	4300 lm	39W
		4000K	525mA	6200 lm	53W
		4000K	700mA	8000 lm	70W

LIGHTING CLASS (EN13201:2016)	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Pole Height = 6m, max pole distance:	**35m**					
Pole Height = 8m, max pole distance:	**33m**	**45m**	**48m**			

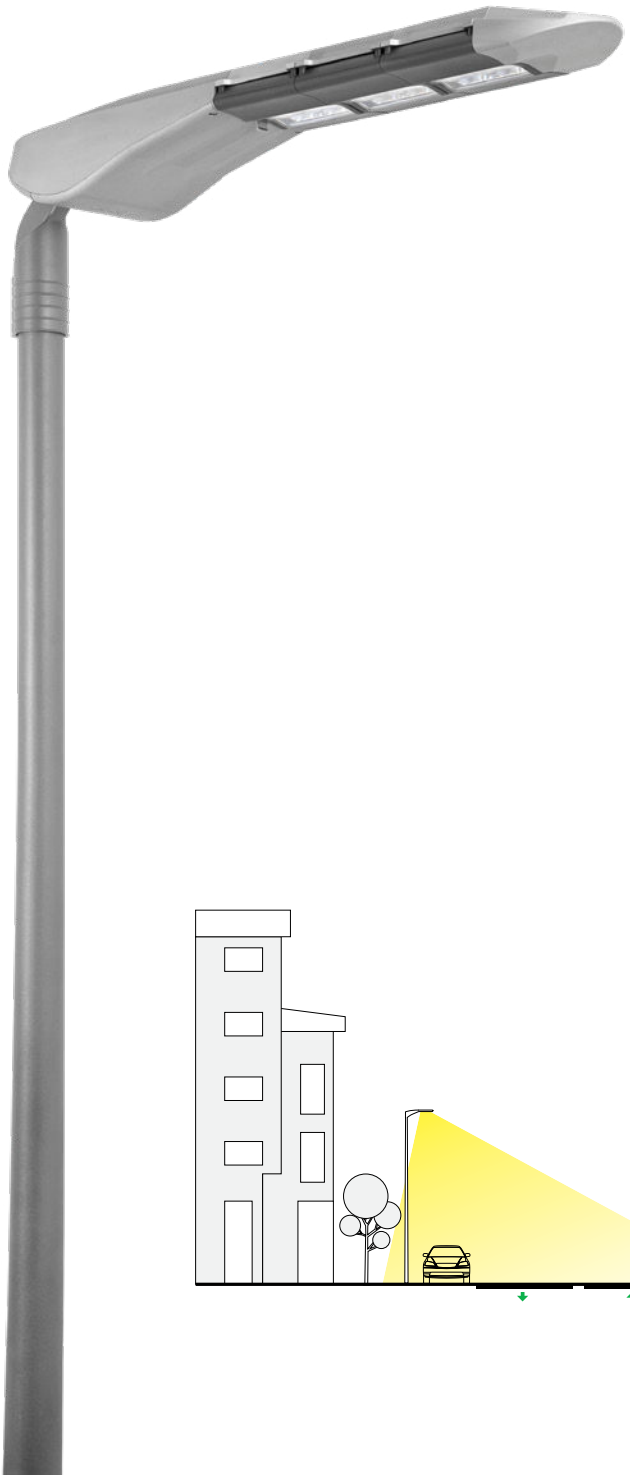
LIGHTING CLASS (EN13201:2016)	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**
Pole Height = 6m, max pole distance:						
Pole Height = 8m, max pole distance:		**20m**	**31m**	**35m**		

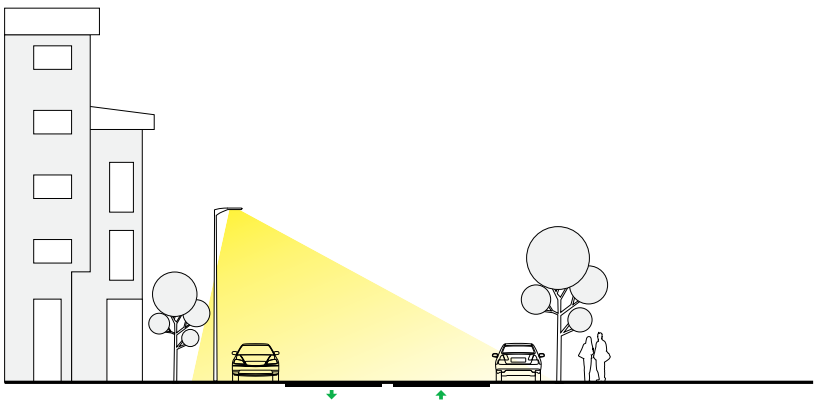
LIGHTING CLASS (EN13201:2016)	**C0**	**C1**	**C2**	**C3**	**C4**	**C5**
Pole Height = 6m, max pole distance:		**18m**				
Pole Height = 8m, max pole distance:			**25m**			

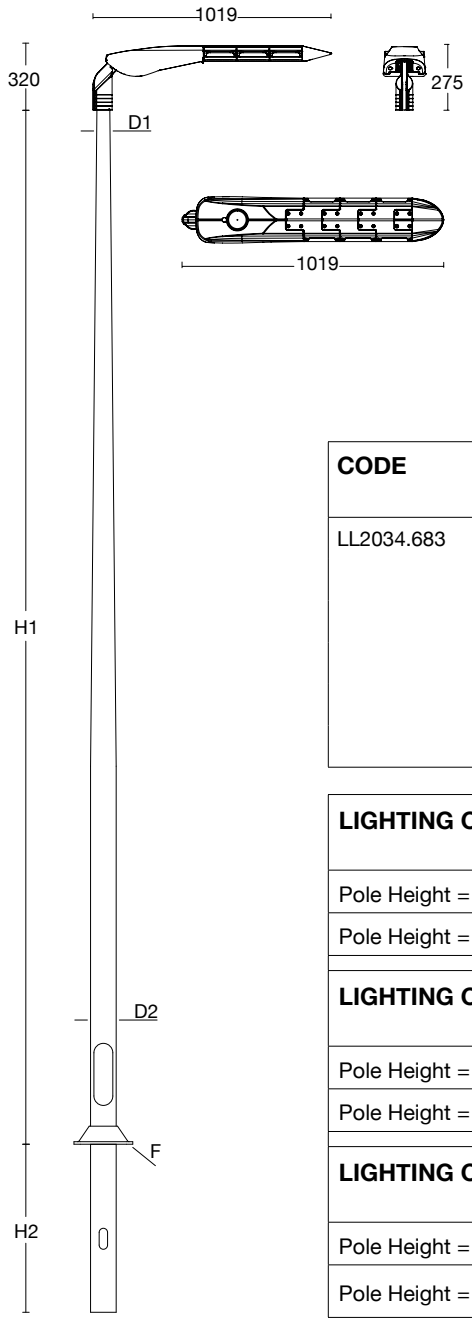
D-Light V2 2 Milestone® Evo
Weight: 11 Kg
Wind surface area: 0,06 m^2

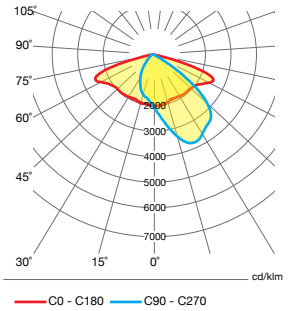
Note: These values are based on calculations and for recommendation purpose only.
Typical applications: residential streets, bicycle roads, walkways, pedestrian areas; low pole heights.

D-LIGHT V2
3* MILESTONE® EVO









CODE	DESCRIPTION	CCT	DRIVE CURRENT	LUMEN OUTPUT	POWER
LL2034.683	D-Light V2 3 Milestone® Evo	3000K	350mA	5650 lm	60W
		3000K	525mA	8100 lm	85W
		3000K	700mA	10500 lm	105W
		4000K	350mA	6400 lm	60W
		4000K	525mA	9250 lm	85W
		4000K	700mA	12000 lm	105W

LIGHTING CLASS (EN13201:2016)	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Pole Height = 6m, max pole distance:	**45m**					
Pole Height = 8m, max pole distance:	**32m**	**50m**	**66m**			

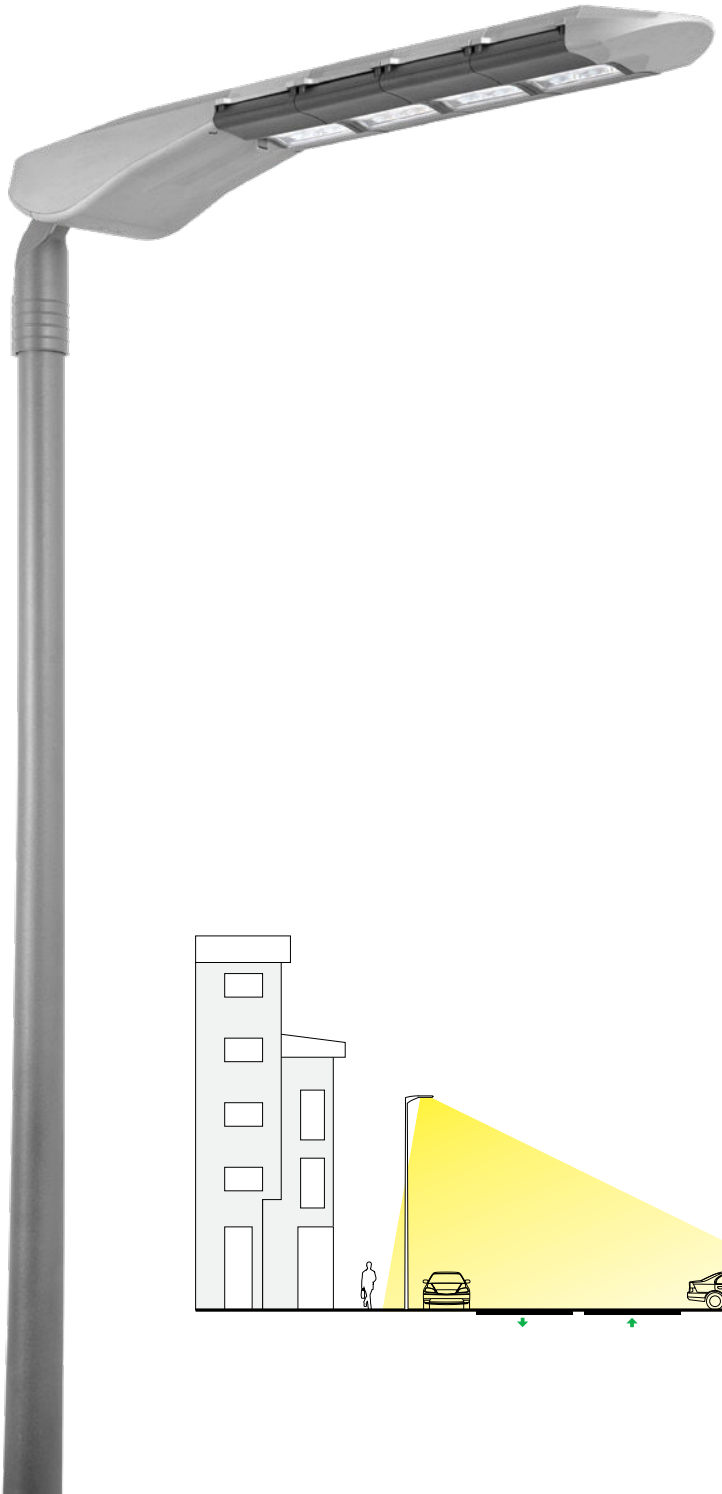
LIGHTING CLASS (EN13201:2016)	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**
Pole Height = 6m, max pole distance:	**23m**	**31m**	**35m**			
Pole Height = 8m, max pole distance:			**30m**	**40m**	**60m**	**64m**

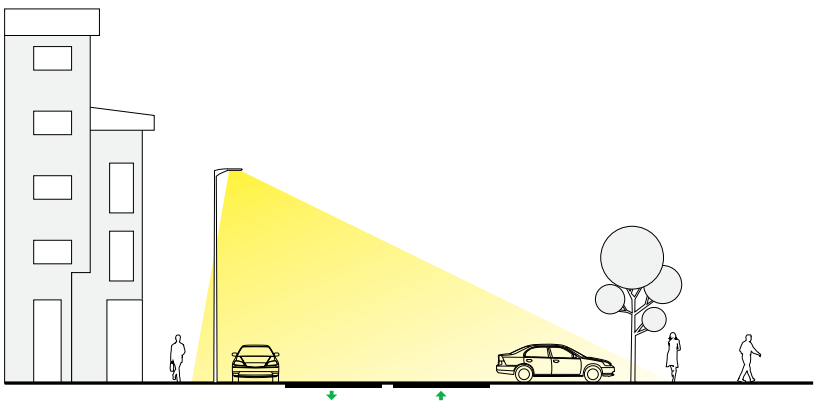
LIGHTING CLASS (EN13201:2016)	**C0**	**C1**	**C2**	**C3**	**C4**	**C5**
Pole Height = 6m, max pole distance:		**25m**				
Pole Height = 8m, max pole distance:			**24m**	**32m**	**40m**	

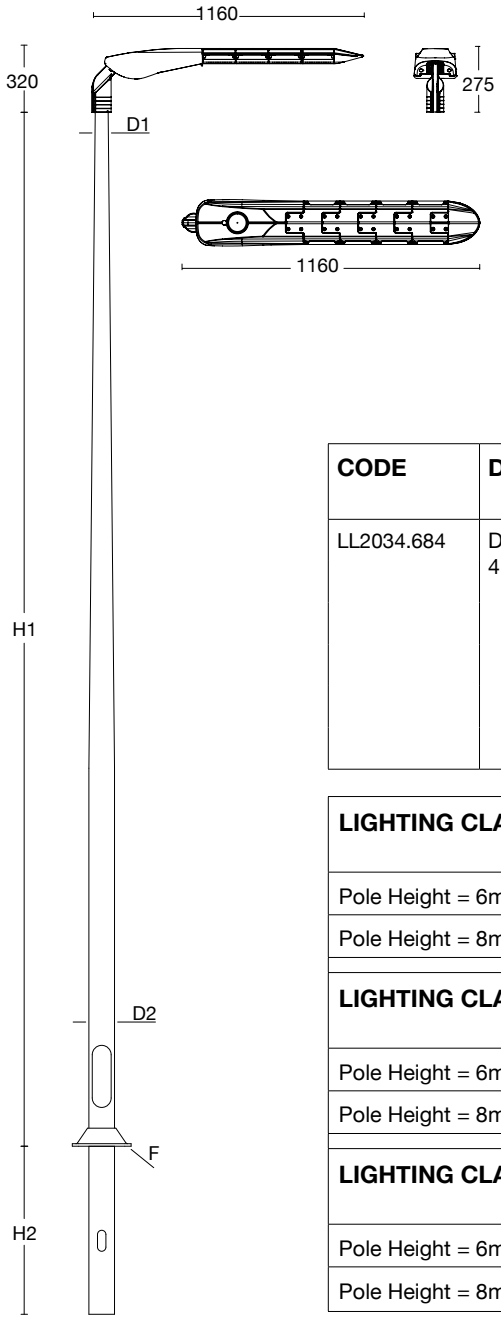
D-Light V2 3 Milestone® Evo
Weight: 12 Kg
Wind surface area: 0,07 m^2

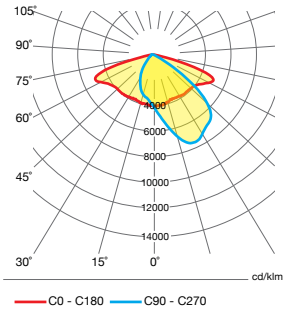
Note: These values are based on calculations and for recommendation purpose only
Typical applications: pedestrian areas, roads with two or three lanes; medium pole heights

D-LIGHT V2
4* MILESTONE® EVO









CODE	DESCRIPTION	CCT	DRIVE CURRENT	LUMEN OUTPUT	POWER
LL2034.684	D-Light V2 4 Milestone® Evo	3000K	350mA	7500 lm	80W
		3000K	525mA	10800 lm	112W
		3000K	700mA	14000 lm	140W
		4000K	350mA	8600 lm	80W
		4000K	525mA	12400 lm	112W
		4000K	700mA	16000 lm	140W

LIGHTING CLASS (EN13201:2016)	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Pole Height = 6m, max pole distance:	**48m**					
Pole Height = 8m, max pole distance:	**44m**	**66m**				
LIGHTING CLASS (EN13201:2016)	**M1**	**M2**	**M3**	**M4**	**M5**	**M6**
Pole Height = 6m, max pole distance:	**29m**					
Pole Height = 8m, max pole distance:		**26m**	**40m**	**52m**	**64m**	
LIGHTING CLASS (EN13201:2016)	**C0**	**C1**	**C2**	**C3**	**C4**	**C5**
Pole Height = 6m, max pole distance:	**20m**	**25m**				
Pole Height = 8m, max pole distance:		**22m**	**32m**	**40m**		

D-Light V2 4 Milestone® Evo
Weight: 13 Kg
Wind surface area: 0,08 m^2

Note: These values are based on calculations and for recommendation purpose only
Typical applications: roads with two or three lanes, additional parking - and cycle - lanes; medium pole heights

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*Heper withholds the right to make modifications on
declared information without prior notice.

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