Teceo

Design : Michel Tortel

owlet® **LENSO FLEX® 2** **LENSO FLEX® 3**

Lighting in an efficient and sustainable manner

Teceo is a market benchmark recognised by independant bodies. This very successful luminaire already enables thousands of towns and cities to improve lighting levels, generate energy savings and reduce their ecological footprint. With the new S version particularly suited for low-height applications, the Teceo range offers more than ever optimised photometrical performance with a minimum total cost of ownership.

Thanks to its broad range of lumen packages, its impressive scope of light distributions and its various control options, Teceo provides a tailor-made solution for numerous applications: from bike paths, squares and car parks to residential streets, urban roads, large avenues and motorways.

Designed for a versatile mounting with the same universal piece allowing both side-entry and post-top fixation on a spigot, Teceo is easy to combine with standard poles, refined brackets or wall brackets.
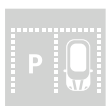
IP 66	IK 09	IK 08

10kV

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RoHS
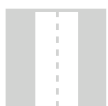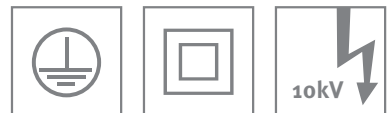
ROADS & MOTORWAYS	URBAN & RESIDENTIAL STREETS	BIKE & PEDESTRIAN PATHS	SQUARES & PEDESTRIAN AREAS	CAR PARKS	BRIDGES	LARGE AREAS	RAILWAY STATIONS & METROS

Concept

The Teceo is composed of three different parts in high-pressure die-cast aluminium, with a top opening. The hinges of the top cover open 120° to provide access to the gear compartment.

The Teceo can be fitted with LensoFlex®2 and LensoFlex®3 photometric engines, protected by a tempered glass.

The Teceo range offers optimised photometrical performance with a minimum total cost of ownership. This highly efficient luminaires is available in three sizes to offer towns and cities the ideal tool to improve lighting levels, generate energy savings and reduce their ecological footprint.

The Teceo S, for up to 24 LEDs, has been designed for low-height applications such as residential streets, car parks and bike paths. The Teceo 1 for up to 48 LEDs is ideally suited to lighting urban roads and squares while the Teceo 2 for up to 144 LEDs is perfect for large roads, avenues and motorways.

The complete range is available with three different universal fixation parts adapted for post-top and side-entry mounting on various spigots (Ø32mm with adaptator, Ø42-48mm, Ø60mm and Ø76mm). The inclination angle can be adjusted on-site for both post-top (10°) and side-entry (15°) configurations.

The top hood provides access to the gear compartment for cabling and maintenance.

Teceo is available with a wide range of LensoFlex®2 and LensoFlex®3 photometries.

Types of application

- Roads and motorways
- Urban and residential streets
- Bike and pedestrian paths
- Squares and pedestrian areas
- Car parks
- Bridges
- Large areas
- Railway stations and metros

Key advantages

- A market benchmark recognised by independant bodies
- Maximised savings in energy and maintenance costs
- LensoFlex®2 and LensoFlex®3 technologies offering high performance photometry, comfort and safety
- 3 sizes to provide the most accurate solutions for numerous road and urban applications
- Universal fixation adapted for side-entry and post-top mounting
- IoT ready: optional 7-pin NEMA socket

As an option, Teceo can be equipped with a PIR sensor for light-on-demand scenarios.

The Teceo range offers universal fixations for spigots ranging from Ø32 to Ø76mm.

LensoFlex®2

LensoFlex®2 is based upon the addition principle of photometric distribution. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LEDs in combination with the driving current determines the intensity level of the light distribution.

The proven LensoFlex®2 concept includes a glass protector to seal the LEDs and lenses into the luminaire body.

LensoFlex®3

LensoFlex®3 uses lenses made of mouldable and optical-grade silicon offering superior transparency and excellent photothermal stability. This withstands high driving currents and delivers maximised lumen output over time.

As silicon offers a higher thermal resistance compared to PMMA, temperature is not as critical for LensoFlex®3 engines. This offers two distinct advantages; LensoFlex®3 ensures enhanced performance in warm climates and enables a high driving current to be used to increase the lumen output and a higher lm/kg ratio. It also does not suffer from yellowing over time.

Back Light control

As an option, the LensoFlex®2 modules can be equipped with a Back Light control system.

This additional feature minimises light spill from the back of the luminaire to avoid intrusive light towards buildings.
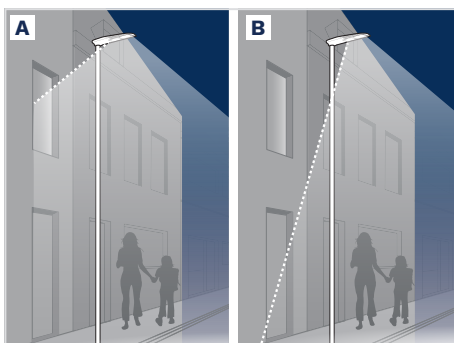
A. Without Back Light control | B. With Back Light control

Constant Light Output (CLO)

This system compensates for the depreciation of luminous flux to avoid excess lighting at the beginning of the installation's service life. Luminous depreciation over time must be taken into account to ensure a predefined lighting level during the luminaire's useful life. Without a CLO feature, this simply means increasing the initial power upon installation in order to make up for luminous depreciation. By precisely controlling the luminous flux, the energy needed to reach the required level can be maintained throughout the luminaire's life.

KWH

100,000 h
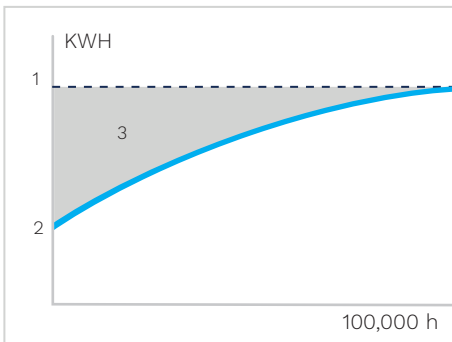
1. Standard lighting level
2. LED lighting consumption with CLO
3. Energy savings

Custom dimming profile

Intelligent luminaire drivers can be programmed with complex dimming profiles. Up to five combinations of time intervals and light levels are possible. This feature does not require any extra wiring. The period between switching on and switching off is used to activate the preset dimming profile. The customised dimming system generates maximum energy savings while respecting the required lighting levels and uniformity throughout the night.
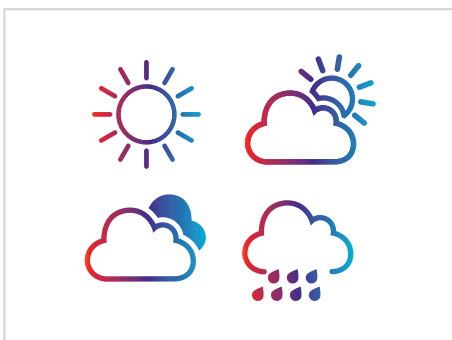
LIGHT OUTPUT
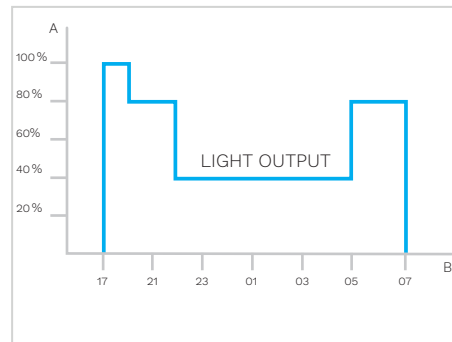
A. Performance
B. Time

Daylight sensor / photocell

Photocell or daylight sensors switch the luminaire on as soon natural light falls to a certain level. It can be programmed to switch on during a storm, on a cloudy day (in critical areas) or only at night fall so as to provide safety and comfort in public spaces.

PIR sensor: motion detection

In places with little nocturnal activity, lighting can be dimmed to a minimum most of the time. By using passive infrared (PIR) sensors, the level of light can be raised as soon as a pedestrian or a slow vehicle is detected in the area. Each luminaire level can be configured individually with several parametres such as minimum and maximum light output, delay period and ON/OFF duration time. PIR sensors can be used in an autonomous or interoperable network.

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owlet IoT

Owlet IoT remotely controls luminaires in a lighting network, creating opportunities for improved efficiency, accurate real-time data and energy savings of up to 85%.
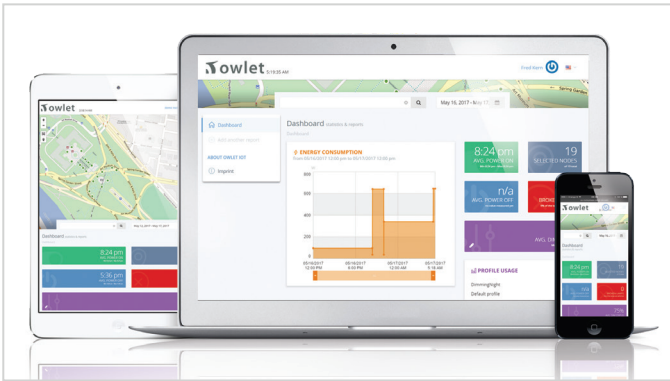
Plugging the LUCO P7 CM controller onto the 7-pin NEMA socket

All-in-one

The LUCO P7 CM controller includes the most advanced features for optimised asset management. It also provides an integrated photocell and operates with an astronomical clock for seasonal dimming profile adaptations.

Easy to deploy

Thanks to wireless communication, no cabling is needed. The network is not subject to physical constraints or limitations.
From a single control unit to an unlimited network, you can expand your lighting scheme at any time. With real-time geolocation and automatic detection of luminaire features, commissioning is quick and easy.

User-friendly

Once a controller is installed on a luminaire, the luminaire automatically appears with its GPS coordinates on a web-based map. An easy-to-use dashboard enables each user to organise and customise screens, statistics and reports. Users can gain relevant, real-time insights.
The Owlet IoT web application can be accessed at all times from anywhere in the world with a device connected to the Internet. The application adapts to the device to offer an intuitive and user-friendly experience.
Real-time notifications can be pre-programmed to monitor the most important elements of the lighting scheme.

Secure

The Owlet IoT system uses a local wireless mesh communication networks to control the on-site luminaires combined with a remote control system utilising the cloud to ensure smooth data transfers to and from the central management system.

The system uses encrypted IP V6 communication to protect data transmission in both directions. Using a secure APN, Owlet IoT ensures a high level of protection.
In the exceptional case of a communication failure, the built-in astronomical clock and photocell will take over to switch the luminaires on and off, thus avoiding a complete blackout at night.

Efficient

Thanks to sensors and/or pre-programmed settings, lighting scenarios can be easily adapted to cope with live events, providing the right lighting levels at the right time and in the right place.
The integrated utility grade meter offers the highest accuracy available on the market today, enabling decisions based on real figures.
Accurate real-time feedback and clear reporting ensures that the network operates efficiently and maintenance is optimised.
When LED luminaires are switched on, the inrush current can create problems for the electricity grid. Owlet IoT incorporates an algorithm to preserve the grid at all times.

Open

The LUCO P7 CM controller can be plugged onto the standard 7 pin NEMA socket and operates through either a DALI or 1-10V interface to control the luminaire.
Owlet IoT is based on the IPv6 protocol. This method for addressing devices can generate an almost unlimited number of unique combinations to connect non-traditional components to the Internet or computer network.
Through open APIs, Owlet IoT can be integrated into existing or future global management systems.

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GENERAL INFORMATION

Recommended installation height	4m to 12m | 13' to 40'
FutureProof	Easy replacement of the photometric engine and electronic assembly on-site
Driver included	Yes
CE mark	Yes
ENEC Plus certified	Yes
ETL listed	Yes (except Teceo S)
ROHS compliant	Yes
Testing standard	LM 79-80 (all measurements in ISO17025 accredited laboratory)

HOUSING AND FINISH

Housing	High-pressure die-cast aluminium
Optic	PMMA (LensoFlex®2) Silicon (LensoFlex®3)
Protector	Tempered glass
Housing finish	Polyester powder coating
Colour	AKZO 150 light grey sanded
	Any other RAL or AKZO colour upon request
Tightness level	IP 66
Impact resistance	IK 09 (Teceo S) - IK 08 (Teceo 1 & 2)
Vibration standard	Compliant with ANSI 1.5G and 3G and modified IEC 68-2-6 (0.5G)
Access for maintenance	Direct access to the gear compartment by unscrewing 2 screws (1 screw for Teceo S)

DIMENSIONS AND MOUNTING

AxBxC (mm | inch)	Teceo S – 450x99x252 | 17.7x3.9x9.9
	Teceo 1 – 607x113x318 | 23.9x4.4x12.5
	Teceo 2 – 788x119x439 | 31x4.7x17.2
Weight (kg | lbs)	Teceo S – 5.1 | 11.2
	Teceo 1 – 9.6 | 21.2
	Teceo 2 – 17.5 | 38.6
Aerodynamic resistance (CxS)	Teceo S – 0.170
	Teceo 1 – 0.135
	Teceo 2 – 0.199
Standard mounting	Universal fixations: Ø32mm (1.25") with accessory, Ø42-48mm (1.6"-1.8"), Ø60mm (2") and Ø76mm (3")
Optional mounting	Penetrating fixation with Ø60mm (2") tube
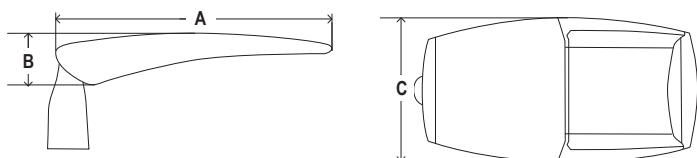
ELECTRICAL INFORMATION

Electrical class	EU class I or II - US class 1
Nominal voltage	220-240V – 50-60Hz
	120-277V – 50-60Hz
Power factor	> 90% at full load
Surge protection	10kV
Electromagnetic compatibility (EMC)	EN 55015 / EN 61000-3-2 / EN 61000-3-3 / EN 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-11 / EN 61547
Control options	No dimming, custom dimming, CLO, DALI or 0-10V
NEMA socket	7-pin (optional)
Sensor	PIR (optional, not available on Teceo S)

OPTICAL INFORMATION

LED colour temperature	3000K (Warm white)
	4000K (Neutral white)
Colour rendering index (CRI)	> 80 (Warm white)
	> 70 (Neutral white)
Upward Light Output Ratio (ULOR)	0%

OPERATING CONDITIONS

Operating temperature range (Ta)	-40 °C up to +45 °C [*] -40 ° F up to 113 °F [*]

[*] Depending on the luminaire configuration. For more details, please contact us.

LIFETIME OF THE LEDS @ TQ 25°C

Teceo S	100,000h – L95B10
Teceo 1	100,000h – L90B10
Teceo 2	100,000h – L90B10

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Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White (3000K) - CRI 80		Luminaire output flux (lm) Neutral White (4000K) - CRI 70		Power consumption (W)		Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Up to	
Teceo S	8	350	800	1000	1000	1200	9.7	9.7	126	LENSO FLEX® 2
	8	700	1500	1800	1800	2200	19.1	19.1	117	LENSO FLEX® 2
	8	950	1900	2400	2300	2800	27.8	27.8	102	LENSO FLEX® 2
	16	200	1000	1200	1200	1400	11	11	134	LENSO FLEX® 2
	16	350	1600	2000	1900	2400	18.2	18.2	134	LENSO FLEX® 2
	16	600	2700	3300	3100	3800	30.8	30.8	127	LENSO FLEX® 2
	16	700	3000	3700	3600	4400	36.2	36.2	122	LENSO FLEX® 2
	16	860	3600	4400	4200	5200	45	45	116	LENSO FLEX® 2
	24	200	1500	1800	1800	2200	15.4	15.4	144	LENSO FLEX® 2
	24	350	2500	3100	2900	3600	26.8	26.8	137	LENSO FLEX® 2
	24	600	4000	4900	4700	5800	45.5	45.5	128	LENSO FLEX® 2
	24	700	4500	5600	5400	6600	53.5	53.5	124	LENSO FLEX® 2
	24	1000	6000	7300	7000	8600	78	78	111	LENSO FLEX® 2

Tolerance on LED flux is ± 7% and on total luminaire power ± 5 %

Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White (3000K) - CRI 80		Luminaire output flux (lm) Neutral White (4000K) - CRI 70		Power consumption (W)		Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Up to	
Teceo 1	8	350	800	1000	1000	1200	9.7	9.7	125	LENSO FLEX® 2
	8	500	1100	1400	1400	1700	13.6	13.6	125	LENSO FLEX® 2
	8	700	1500	1900	1800	2200	19.1	19.1	118	LENSO FLEX® 2
	16	350	1600	2000	1900	2400	18.2	18.2	134	LENSO FLEX® 2
	16	500	2300	2800	2700	3300	25.7	25.7	129	LENSO FLEX® 2
	16	700	3000	3700	3600	4400	36.2	36.2	122	LENSO FLEX® 2
	24	350	2500	3000	2900	3600	26.8	26.8	136	LENSO FLEX® 2
	24	500	3400	4200	4100	4900	38.1	38.1	131	LENSO FLEX® 2
	24	700	4500	5500	5400	6500	53.5	53.5	123	LENSO FLEX® 2
	32	350	3300	4100	3900	4800	34.8	34.8	140	LENSO FLEX® 2
	32	500	4600	5600	5400	6600	49.5	49.5	135	LENSO FLEX® 2
	32	700	6100	7400	7200	8700	70	70	126	LENSO FLEX® 2
	40	350	4200	5100	4900	6000	43	43	141	LENSO FLEX® 2
	40	500	5700	7000	6800	8200	61.5	61.5	135	LENSO FLEX® 2
	40	700	7600	9300	9000	10900	87	87	126	LENSO FLEX® 2
	48	350	5000	6100	5900	7200	51.5	51.5	142	LENSO FLEX® 2
	48	500	6900	8300	8100	9900	73	73	136	LENSO FLEX® 2
	48	700	9000	11000	10600	13000	104	104	125	LENSO FLEX® 2
	48	700	10300	11100	12000	12900	105	105	124	LENSO FLEX® 3
	48	1000	13700	14700	16000	17100	151	151	114	LENSO FLEX® 3

Tolerance on LED flux is ± 7% and on total luminaire power ± 5 %

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Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White (3000K) - CRI 80		Luminaire output flux (lm) Neutral White (4000K) - CRI 70		Power consumption (W)		Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Up to	
Teceo 2	56	350	5900	7000	7000	8300	59.5	59.5	141	LENSO FLEX® 2
	56	500	8000	9600	9500	11400	86	86	133	LENSO FLEX® 2
	56	700	10700	12800	12600	15100	121	121	125	LENSO FLEX® 2
	64	350	6700	8000	8000	9500	67.5	67.5	142	LENSO FLEX® 2
	64	500	9200	11000	10900	13000	97	97	134	LENSO FLEX® 2
	64	700	12100	14500	14300	17100	138	138	124	LENSO FLEX® 2
	72	350	7600	9100	9000	10700	76	76	141	LENSO FLEX® 2
	72	500	10300	12400	12200	14600	109	109	134	LENSO FLEX® 2
	72	700	13700	16300	16100	19300	154	154	125	LENSO FLEX® 2
	80	350	8400	10100	10000	11900	84	84	142	LENSO FLEX® 2
	80	500	11500	13700	13600	16200	121	121	134	LENSO FLEX® 2
	80	700	14900	17900	17600	21100	175	175	121	LENSO FLEX® 2
	88	350	9300	11100	11000	13100	93	93	141	LENSO FLEX® 2
	88	500	12600	15100	14900	17800	133	133	134	LENSO FLEX® 2
	88	700	16600	19800	19500	23300	192	192	122	LENSO FLEX® 2
	96	350	10100	12100	12000	14300	103	103	139	LENSO FLEX® 2
	96	500	13800	16500	16300	19500	148	148	132	LENSO FLEX® 2
	96	700	18000	21500	21300	25400	208	208	122	LENSO FLEX® 2

Tolerance on LED flux is ± 7% and on total luminaire power ± 5 %

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Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White (3000K) - CRI 80		Luminaire output flux (lm) Neutral White (4000K) - CRI 70		Power consumption (W)		Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Up to	
Teceo 2	104	350	11000	13100	13000	15500	111	111	140	LENSO FLEX® 2
	104	500	14900	17800	17600	21100	160	160	132	LENSO FLEX® 2
	104	700	19500	23300	23000	27500	225	225	122	LENSO FLEX® 2
	112	350	11800	14100	14000	16700	119	119	141	LENSO FLEX® 2
	112	500	16100	19200	19000	22700	171	171	133	LENSO FLEX® 2
	112	700	21000	25100	24800	29600	241	241	123	LENSO FLEX® 2
	120	350	12700	15100	15000	17900	127	127	141	LENSO FLEX® 2
	120	500	17200	20600	20300	24300	183	183	133	LENSO FLEX® 2
	120	700	22400	26800	26500	31600	258	258	123	LENSO FLEX® 2
	128	350	13500	16100	16000	19100	135	135	142	LENSO FLEX® 2
	128	500	18400	22000	21700	25900	195	195	133	LENSO FLEX® 2
	128	700	23900	28600	28300	33800	275	275	123	LENSO FLEX® 2
	136	350	14400	17200	17000	20300	143	143	142	LENSO FLEX® 2
	136	500	19500	23300	23100	27500	207	207	133	LENSO FLEX® 2
	136	500	22900	23800	26700	27700	207	207	134	LENSO FLEX® 3
	144	350	15200	18200	18000	21500	152	152	141	LENSO FLEX® 2
	144	500	20700	24700	24400	29200	219	219	133	LENSO FLEX® 2
	144	500	24300	25200	28300	29400	219	219	134	LENSO FLEX® 3

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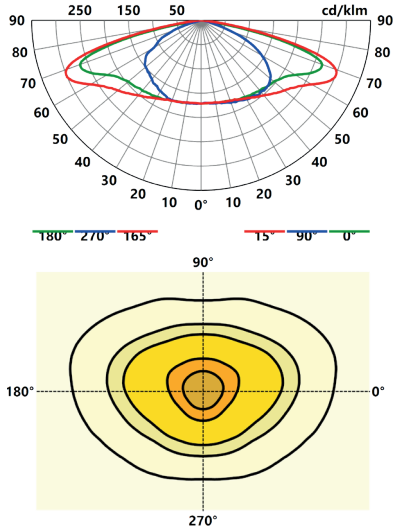
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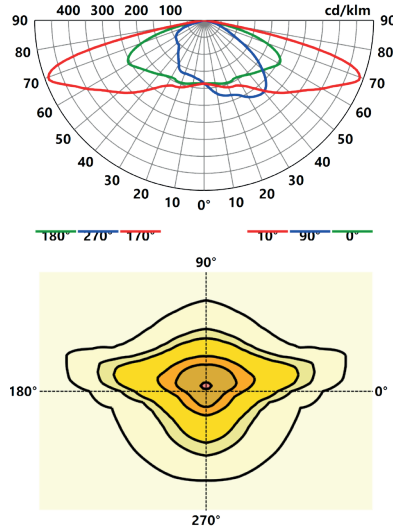
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LENSO FLEX® 2
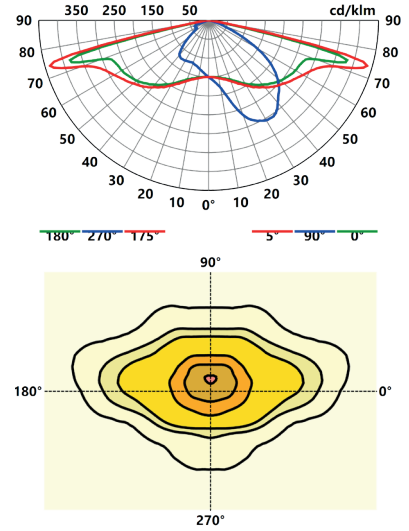
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LENSO FLEX® 2
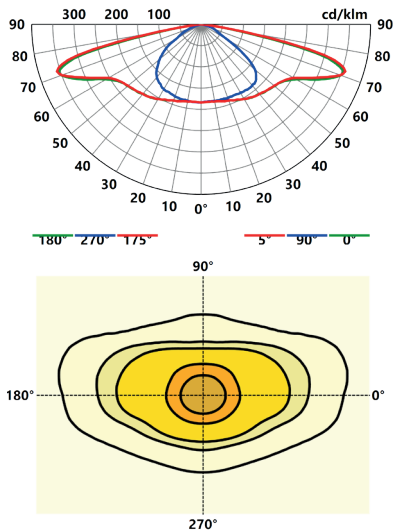
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LENSO FLEX® 2
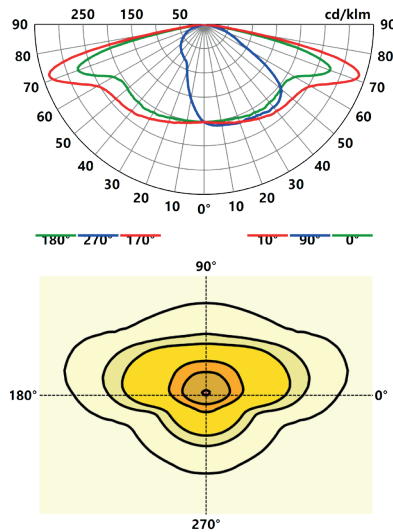
5112 ASY | BACKLIGHT
LENSO FLEX® 2
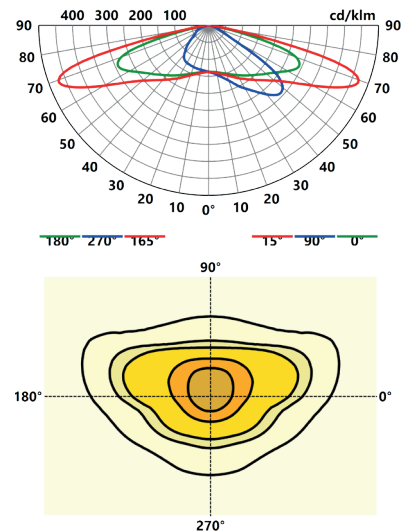
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LENSO FLEX® 2
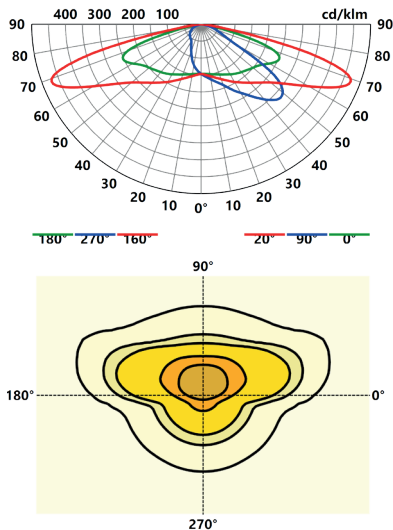
5117 ASY | BACKLIGHT
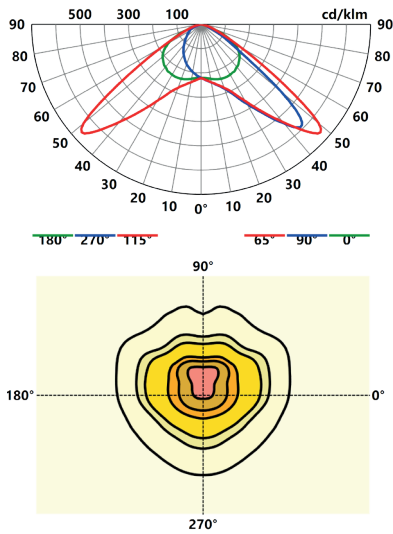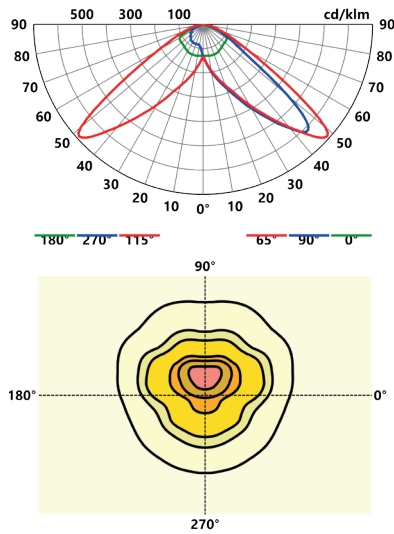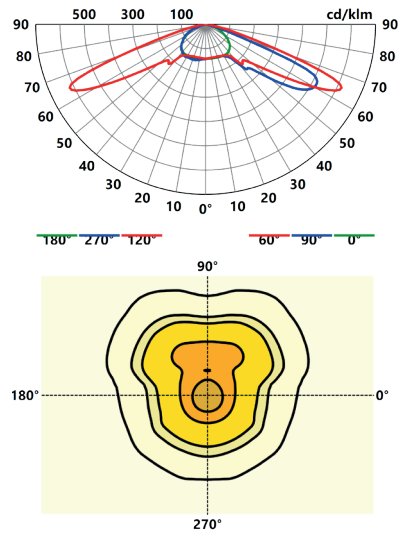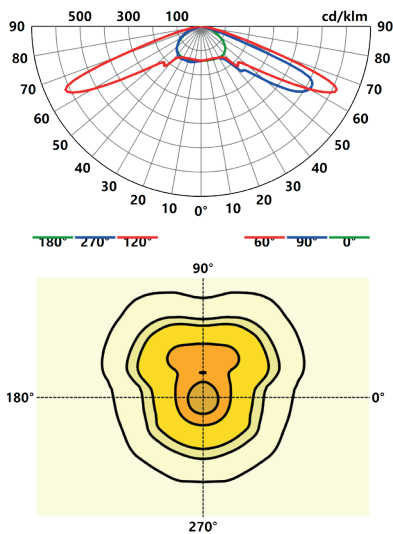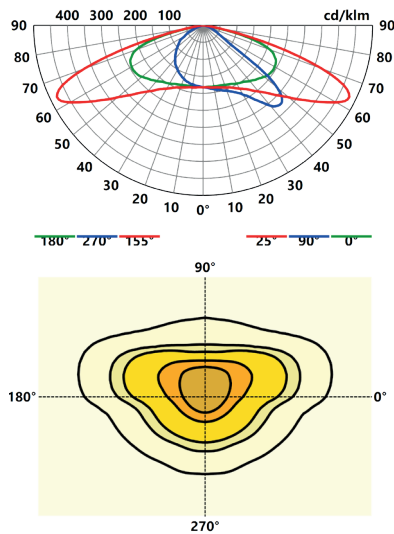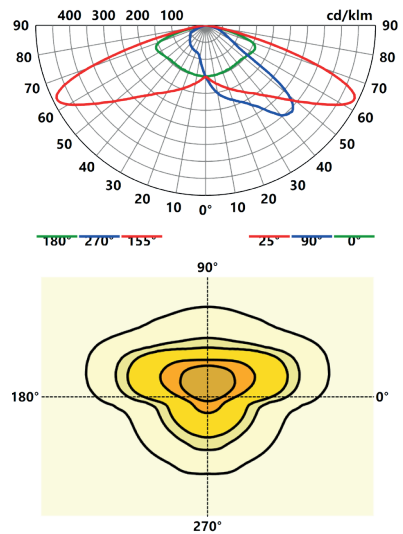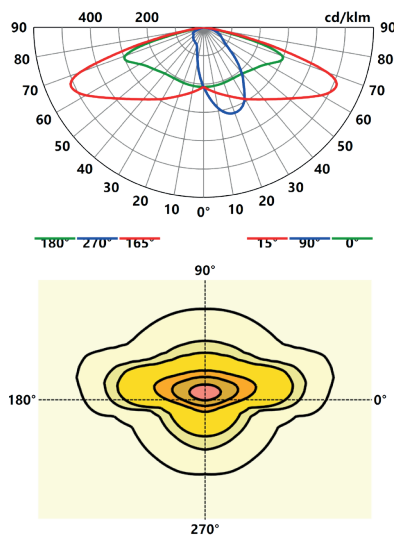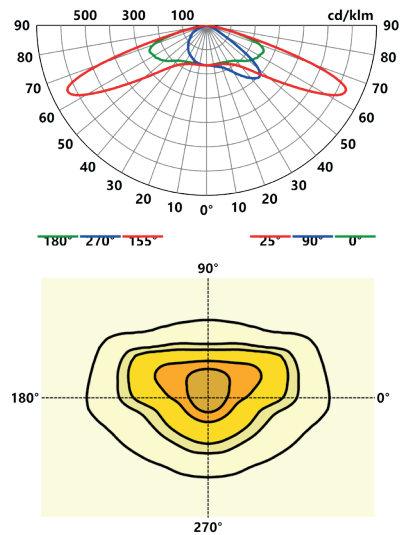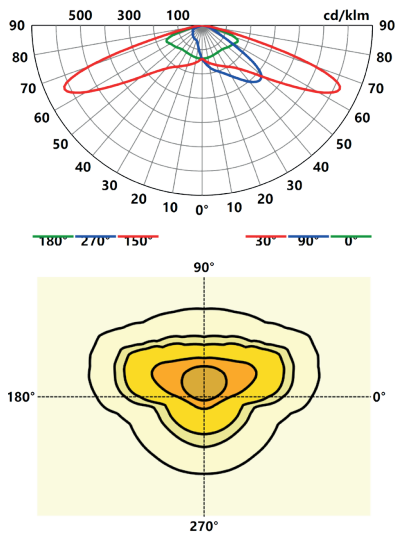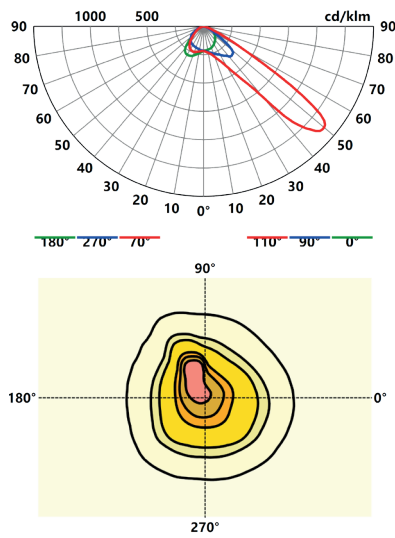LENSO FLEX® 2
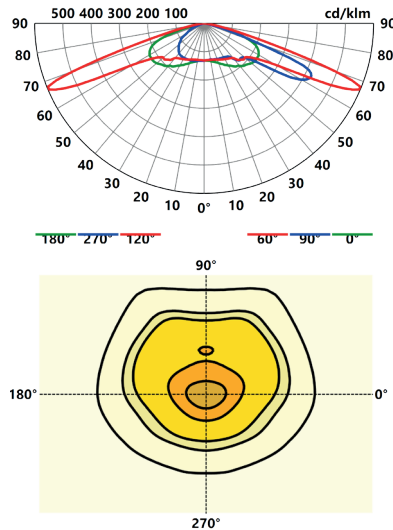
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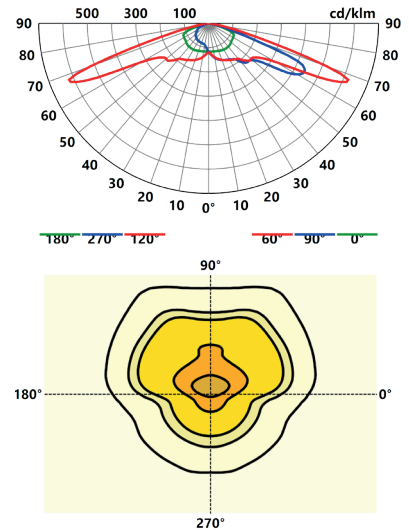
5119 ASY | BACKLIGHT
LENSO FLEX® 2
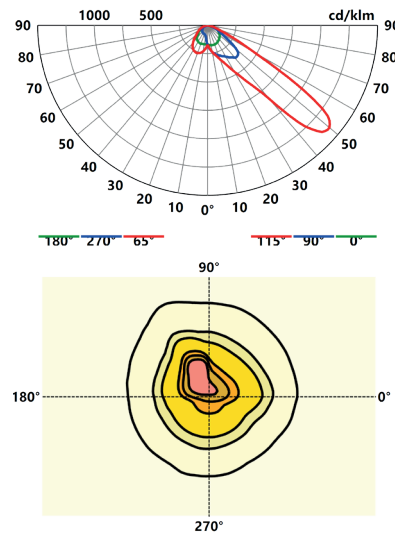
5120 ASY

LENSO FLEX® 2

5120 ASY | BACKLIGHT

LENSO FLEX® 2

5121 ASY

LENSO FLEX® 2

5121 ASY | BACKLIGHT

LENSO FLEX® 2

5139 ASY

LENSO FLEX® 2
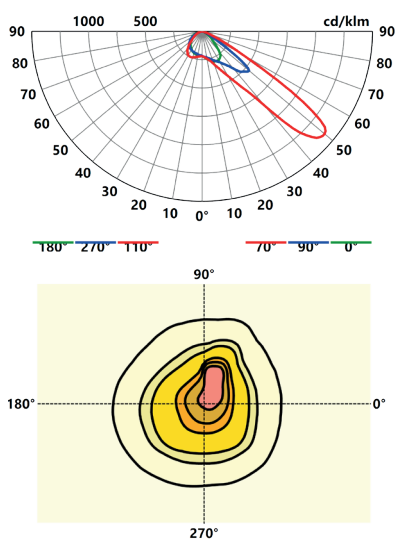

5139 ASY | BACKLIGHT

LENSO FLEX® 2

5140 ASY
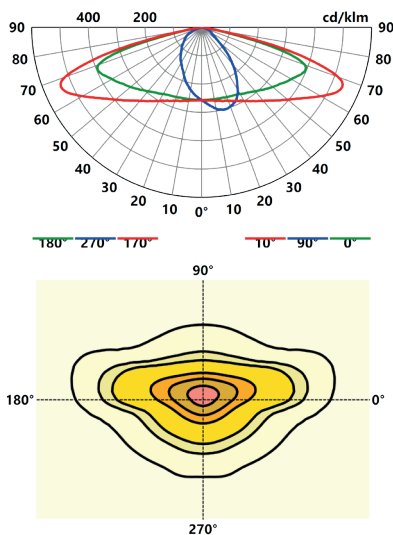
LENSO FLEX® 2

5140 ASY | BACKLIGHT

LENSO FLEX® 2

5141 ASY

LENSO FLEX® 2

LENSO FLEX® 2 — 5141 ASY | BACKLIGHT

180° 270° 150°   30° 90° 0°

LENSO FLEX® 2 — 5144 ASY

180° 270° 70°   110° 90° 0°

LENSO FLEX® 2 — 5144 ASY | BACKLIGHT

180° 270° 65°   115° 90° 0°

LENSO FLEX® 2 — 5145 ASY

180° 270° 110°   70° 90° 0°

LENSO FLEX® 2 — 5145 ASY | BACKLIGHT

180° 270° 110°   70° 90° 0°

LENSO FLEX® 3 — 5147 ASY

180° 270° 165°   15° 90° 0°

LENSO FLEX® 3 — 5162 ASY

180° 270° 170°   10° 90° 0°

LENSO FLEX® 3 — 5163 ASY

180° 270° 170°   10° 90° 0°

LENSO FLEX® 3 — 5164 ASY

180° 270° 160°   20° 90° 0°

5244 ASY

LENSO FLEX® 2

5245 ASY

LENSO FLEX® 2

5246 ASY

LENSO FLEX® 2

5247 ASY

LENSO FLEX® 2

5248 ASY

LENSO FLEX® 2

5249 ASY

LENSO FLEX® 2

5250 ASY

LENSO FLEX® 2