

Lumidrives Lenses

Dialight's standard lenses and lens kits, drivers, and light engines allow designers to develop real-world, solid-state lighting solutions with minimal design effort. Lens styles with multiple radiation patterns accommodate all leading manufacturers of LEDs and are complemented by intelligent constant-current drivers, as well as light engines in circular or linear styles.

Dialight

Features ▶

- Designed for HB-LEDs from all leading manufacturers
- Multiple radiation patterns—narrow, medium, wide spot, and oval distribution
- Available in kit or individual form

Benefits ▶

- Precise location over LED for maximum light transmission
- Easy-to-apply self-adhesive lens
- Snap-on secondary lenses provide medium, wide, and oval beam distribution

Applications ▶

- Machine and task lighting
- Architectural and theme lighting
- Portable lighting
- Equipment illumination



Product Specifications ▶

Part Number	Type	LED Type	Distribution Type	Material Type	Distribution Angle (θ)	Attachment Method	Optical Holder (V/N)	Max. Operating Temp. (°C)	Markets
OPTX-1-006	Secondary	CreeXLamp	Spot	PMMA acrylic	12	Self-adhesive	N	105	CL FL TR SI
OPGD-1-002		OSRAM Golden DRAGON	Spot	PMMA acrylic	4	Self-adhesive	N	105	CL FL TR SI
OPK2-1-003		Luxeon 1W, 3W, 5W/K2	Spot	PMMA acrylic	6	Self-adhesive	N	105	CL FL TR SI
OPC1-1-SPOT		Luxeon Rebel*	Spot	PMMA acrylic	5	Self-adhesive	N	120	CL FL TR SI
OPC1-1-MED		Luxeon Rebel	Medium	PMMA acrylic	8	Self-adhesive	N	120	CL FL TR SI
OPC1-1-WIDE		Luxeon Rebel	Wide	PMMA acrylic	20	Self-adhesive	N	120	CL FL TR SI
OPC1-1-OVAL		Luxeon Rebel	Oval	PMMA acrylic	8 x 25	Self-adhesive	N	120	CL FL TR SI
OPC1-1-SDIF		Luxeon Rebel	Frosted spot	PMMA acrylic	7	Self-adhesive	N	120	CL FL TR SI
OPC1-1-COL-SP		Luxeon Rebel	Spot	PMMA acrylic/metallized	7	Self-adhesive	N	120	CL FL TR SI
OPC1-1-COL-WD		Luxeon Rebel	Wide	PMMA acrylic/metallized	13	Self-adhesive	N	120	CL FL TR SI
OPXP-1-SPOT		Cree XP	Spot	PMMA acrylic	5	Self-adhesive	N	120	CL FL TR SI
OPXP-1-MED		Cree XP	Medium	PMMA acrylic	8	Self-adhesive	N	120	CL FL TR SI
OPXP-1-WIDE		Cree XP	Wide	PMMA acrylic	20	Self-adhesive	N	120	CL FL TR SI
OPXP-1-OVAL		Cree XP	Oval	PMMA acrylic	8 x 25	Self-adhesive	N	120	CL FL TR SI
OPXP-1-SDIF		Cree XP	Frosted spot	PMMA acrylic	7	Self-adhesive	N	120	CL FL TR SI
OPAA-1-DF		Tertiary	CreeXLamp	Medium	PMMA acrylic	16	Clip onto self-adhesive	N	105
OPAA-1-WSL	CreeXLamp		Wide	PMMA acrylic	32	Clip onto self-adhesive	N	105	CL FL TR SI
OPAA-1-OSL	CreeXLamp		Oval	Polycarbonate	16 x 50	Clip onto self-adhesive	N	105	CL FL TR SI
OPAA-1-DF	OSRAM Golden DRAGON		Medium	Polycarbonate	10	Clip onto self-adhesive	N	105	CL FL TR SI
OPAA-1-WSL	OSRAM Golden DRAGON		Wide	Polycarbonate	30	Clip onto self-adhesive	N	105	CL FL TR SI
OPAA-1-OSL	OSRAM Golden DRAGON		Oval	PMMA acrylic	8 x 54	Clip onto self-adhesive	N	105	CL FL TR SI
OPAA-1-DF	Luxeon 1W, 3W, 5W/K2, Seoul Semiconductor		Medium	PMMA acrylic	12	Clip onto self-adhesive	N	105	CL FL TR SI
OPAA-1-WSL	Luxeon 1W, 3W, 5W/K2, Seoul Semiconductor		Wide	PMMA acrylic	24	Clip onto self-adhesive	N	105	CL FL TR SI
OPAA-1-OSL	Luxeon 1W, 3W, 5W/K2, Seoul Semiconductor		Oval	PMMA acrylic	8 x 54	Clip onto self-adhesive	N	105	CL FL TR SI

MARKETS LEGEND
CL COMMERCIAL LIGHTING **FL** FLASHLIGHTS **TR** TRANSPORTATION **BL** BACKLIGHTING **SI** SIGNAGE


CREE XP optic — adhesive backed system



Innovative Optical Solutions for Maximizing Light

Fraen Corporation's Optical Manufacturing Group (Fraen OMG) develops, designs, and manufactures optical solutions for high-powered LEDs. Fraen is a leading provider of both standard off-the-shelf optical solutions as well as complex, custom-developed systems for our customers.



Features ▶

- High-efficiency TIR and reflector solutions
- Wide variety of optic types, beam patterns, and sizes for the leading high-powered LEDs
- Illumination data available for luminaire development
- Range of optic mounting features available
- Design methodology allows for customization

Benefits ▶

- Specialization in custom solutions for complex lighting requirements
- Global manufacturing and sales support
- Refined design and development process
- Prototyping and pre-production capabilities

Applications ▶

- Architectural lighting
- Street lights
- Portable lighting
- Emergency lighting
- General illumination (MR11, MR16, and downlights)

Product Specifications ▶

Part Number	Type	LED Type	Distribution Type	Material Type	Distribution Angle (°)	Attachment Method	Optical Holder (V/N)	Max. Operating Temp. (°C)	Markets
FC-N2-XR79-ZZ	Secondary	Cree XR-E 7090 LED	Narrow beam	Optical grade PMMA	8	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FC-M2-XR79-ZZ		Cree XR-E 7090 LED	Medium beam	Optical grade PMMA	21	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FC-W2-XR79-ZZ		Cree XR-E 7090 LED	Wide beam	Optical grade PMMA	29	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FC-E2-XR79-ZZ		Cree XR-E 7090 LED	Elliptical beam	Optical grade PMMA	8 x 44	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FCP-N1-XPE1-ZZ		Cree XP-E LED	Narrow beam	Optical grade PMMA	10	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FCP-M1-XPE1-ZZ		Cree XP-E LED	Medium beam	Optical grade PMMA	21	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FCP-W1-XPE1-ZZ		Cree XP-E LED	Wide beam	Optical grade PMMA	27	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FCP-E1-XPE1-ZZ		Cree XP-E LED	Elliptical beam	Optical grade PMMA	10 x 50	Holder can be glued to PCB	zz=OR or HRF	80	CL FL TR BL SI
FCT3-N2-XR79-ZZZZ		Cree XR-E 7090 LED	Narrow beam	Optical grade PMMA	8	Holder can be glued to PCB	ZZZZ=HRLC or HRCN	80	CL FL TR BL SI
FCT3-M2-XR79-ZZZZ		Cree XR-E 7090 LED	Medium beam	Optical grade PMMA	21	Holder can be glued to PCB	ZZZZ=HRLC or HRCN	80	CL FL TR BL SI
FCT3-W2-XR79-ZZZZ		Cree XR-E 7090 LED	Wide beam	Optical grade PMMA	29	Holder can be glued to PCB	ZZZZ=HRLC or HRCN	80	CL FL TR BL SI
FCG-N1-XR79-ZZ		Cree XR-E 7090 LED	Narrow beam	Optical grade PMMA	6	Holder can be heat staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FCG-M1-XR79-ZZ		Cree XR-E 7090 LED	Medium beam	Optical grade PMMA	28	Holder can be heat staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FCG-W1-XR79-ZZ		Cree XR-E 7090 LED	Wide beam	Optical grade PMMA	50	Holder can be heat staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FCG-E1-XR79-ZZ		Cree XR-E 7090 LED	Elliptical beam	Optical grade PMMA	7 x 45	Holder can be heat staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FC3-N1-XR79-H		Cree XR-E 7090 LED	Narrow beam	Optical grade PMMA	6	Holder can be heat staked to PCB	N	80	CL FL TR BL SI
FC3-M1-XR79-H		Cree XR-E 7090 LED	Medium beam	Optical grade PMMA	28	Holder can be heat staked to PCB	N	80	CL FL TR BL SI
FC3-W1-XR79-H		Cree XR-E 7090 LED	Wide beam	Optical grade PMMA	50	Holder can be heat staked to PCB	N	80	CL FL TR BL SI
FNP-N1-N083-ZZ		Nichia 083 Rigel LED	Narrow beam	Optical grade PMMA	10	Holder can be glued to PCB	zz=OR or HR	80	CL FL TR BL SI
FNP-M1-N083-ZZ		Nichia 083 Rigel LED	Medium beam	Optical grade PMMA	27	Holder can be glued to PCB	zz=OR or HR	80	CL FL TR BL SI
FNP-W1-N083-ZZ	Nichia 083 Rigel LED	Wide beam	Optical grade PMMA	40	Holder can be glued to PCB	zz=OR or HR	80	CL FL TR BL SI	
FNP-E1-N083-ZZ	Nichia 083 Rigel LED	Elliptical beam	Optical grade PMMA	13 x 42	Holder can be glued to PCB	zz=OR or HR	80	CL FL TR BL SI	
FRC-N1-0E2B-0	Reflector	Cree XR 7090 LED	Narrow beam	Ultem	11	Holder can be glued to PCB	N	150	CL FL TR BL SI
FRC-N1-XR79-OR		Cree XR 7090 LED	Narrow beam	PC	7	Holder can be glued to PCB	N	120	CL FL TR BL SI
FRC-N1-MCE-OR		Cree MC-E LED	Narrow beam	PC	13.5	Holder can be glued to PCB	N	120	CL FL TR BL SI
FRC-M1-MCE-OR		Cree MC-E LED	Medium beam	PC	32	Holder can be glued to PCB	N	120	CL FL TR BL SI
FRC-W1-MCE-OR		Cree MC-E LED	Wide beam	PC	45+	Holder can be glued to PCB	N	120	CL FL TR BL SI
FXGR-N1-XR79-OR		Cree XR-E 7090 LED	Narrow beam** Focusing component A	PC	6	See datasheet for mechanical instructions	N	120	CL FL TR BL SI
FXGR-W1-XR79-OR		Cree XR-E 7090 LED	Wide beam** Focusing component B	PC	60	See datasheet for mechanical instructions	N	120	CL FL TR BL SI
FXGL-VN-XR79-OR		Lens	Cree XR-E 7090 LED	Focusing lens	Optical grade PMMA	8-12 degrees	Application specific	N	80

MARKETS LEGEND

CL COMMERCIAL LIGHTING FL FLASHLIGHTS TR TRANSPORTATION BL BACKLIGHTING SI SIGNAGE

*Distribution angle changes with LED color (see product datasheets); FWHM=full beamwidth measured at one-half of peak intensity; some lenses can be ordered either alone, or with a spacer ring, or assembled with a holder; spacers must be ordered separately (when required); OS: lens only; OR: lens only; HS: square flange with holder; HR: round flange with holder; HST: square flange with transparent holder; HRF: round holder with flat bottom; If using FDG lens without holder, a spacer ring (p/n FDS-0S) is required and must be ordered separately. See Fraen datasheet for more details. **Parts must be used with one another in order to obtain the focusing results stated on the datasheet. †Beam angle is estimated from computer simulation

Innovative Optical Solutions for Maximizing Light

As one of the premier optic providers for high-powered LEDs, Fraen continues to develop leading-edge custom and standard optical components. Fraen has recently developed numerous patent-pending solutions, including optics for architectural lighting, color mixing, entertainment lighting, focusable lighting, and streetlight applications.



Features ▶

- High-efficiency TIR and reflector solutions
- Wide variety of optic types, beam patterns, and sizes for the leading high-powered LEDs
- Illumination data available for luminaire development
- Range of optic mounting features available
- Design methodology allows for customization

Benefits ▶

- Specialization in custom solutions for complex lighting requirements
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Applications ▶

- Architectural lighting
- Street lights
- Portable lighting
- Emergency lighting
- General illumination (MR11, MR16, and downlights)



Product Specifications ▶

Part Number	Type	LED Type	Distribution Type	Material Type	Distribution Angle (°)	Attachment Method	Optical Holder (Y/N)	Max. Operating Temp. (°C)	Markets
FDP-N1-D01-ZZ	Secondary	OSRAM Golden DRAGON	Narrow beam	Optical grade PMMA	13	Holder can be heat-staked to PCB	zz=OS, HS, or HSA	80	CL FL TR BL SI
FDP-M1-D01-ZZ		OSRAM Golden/Platinum DRAGON	Medium beam	Optical grade PMMA	18	Holder can be heat-staked to PCB	zz=OS, HS, or HSA	80	CL FL TR BL SI
FDG-N1-D01-ZZ		OSRAM Golden/Platinum/Diamond DRAGON	Narrow beam	Optical grade PMMA	6.5	Holder can be heat-staked to PCB	zz=OS, HS	80	CL FL TR BL SI
FDG-M1-D01-ZZ		OSRAM Golden/Platinum/Diamond DRAGON	Medium beam	Optical grade PMMA	20.5	Holder can be heat-staked to PCB	zz=OS, HS	80	CL FL TR BL SI
FDG-W1-D01-ZZ		OSRAM Golden/Platinum/Diamond DRAGON	Wide beam	Optical grade PMMA	33.5	Holder can be heat-staked to PCB	zz=OS, HS	80	CL FL TR BL SI
FDG-E1-D01-ZZ		OSRAM Golden/Platinum/Diamond DRAGON	Elliptical beam	Optical grade PMMA	10 x 20	Holder can be heat-staked to PCB	zz=OS, HS	80	CL FL TR BL SI
FD3-N1-D01-H		OSRAM Golden/Platinum DRAGON	Narrow beam	Optical grade PMMA	10	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FD3-M1-D01-H		OSRAM Golden/Platinum DRAGON	Medium beam	Optical grade PMMA	13	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FD4-M1-D01-0		OSRAM Golden/Platinum DRAGON	Medium beam	Optical grade PMMA	21.5	Custom MR 16	N	80	CL FL TR BL SI
FSP-N1-SSP4-ZZ		Seoul Semiconductor z-power P4	Narrow beam	Optical grade PMMA	10	Holder can be heat-staked to PCB	zz=OR or HRF	80	CL FL TR BL SI
FSP-M1-SSP4-ZZ		Seoul Semiconductor z-power P4	Medium beam	Optical grade PMMA	24	Holder can be heat-staked to PCB	zz=OR or HRF	80	CL FL TR BL SI
FSP-W1-SSP4-ZZ		Seoul Semiconductor z-power P4	Wide beam	Optical grade PMMA	38	Holder can be heat-staked to PCB	zz=OR or HRF	80	CL FL TR BL SI
FSP-E1-SSP4-ZZ		Seoul Semiconductor z-power P4	Elliptical beam	Optical grade PMMA	10 x 50	Holder can be heat-staked to PCB	zz=OR or HRF	80	CL FL TR BL SI
FP3-N1-SSP4-H		Seoul Semiconductor z-power P4	Narrow beam	Optical grade PMMA	10	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FP3-M1-SSP4-H		Seoul Semiconductor z-power P4	Medium beam	Optical grade PMMA	24	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FP3-W1-SSP4-H		Seoul Semiconductor z-power P4	Wide beam	Optical grade PMMA	38	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FSG-N1-SSP4-ZZ		Seoul Semiconductor z-power P4	Narrow beam	Optical grade PMMA	6	Holder can be heat-staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FSG-M1-SSP4-ZZ		Seoul Semiconductor z-power P4	Medium beam	Optical grade PMMA	24	Holder can be heat-staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FSG-W1-SSP4-ZZ		Seoul Semiconductor z-power P4	Wide beam	Optical grade PMMA	37	Holder can be heat-staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FSG-E1-SSP4-ZZ		Seoul Semiconductor z-power P4	Elliptical beam	Optical grade PMMA	14 x 32	Holder can be heat-staked to PCB	zz=OR or HR	80	CL FL TR BL SI
FS3-N1-SSP4-H		Seoul Semiconductor z-power P4	Narrow beam	Optical grade PMMA	6	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FS3-M1-SSP4-H		Seoul Semiconductor z-power P4	Medium beam	Optical grade PMMA	24	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FS3-W1-SSP4-H		Seoul Semiconductor z-power P4	Wide beam	Optical grade PMMA	37	Holder can be heat-staked to PCB	N	80	CL FL TR BL SI
FCM-N1-SSP5-Z		Seoul Semiconductor z-power P5	Narrow beam	Optical grade PMMA	17	Holder can be heat-staked to PCB	z=O or H	80	CL FL TR BL SI
FCM-M1-SSP5-Z		Seoul Semiconductor z-power P5	Medium beam	Optical grade PMMA	32	Holder can be heat-staked to PCB	z=O or H	80	CL FL TR BL SI
FCM-W1-SSP5-Z		Seoul Semiconductor z-power P5	Wide beam	Optical grade PMMA	42	Holder can be heat-staked to PCB	z=O or H	80	CL FL TR BL SI
FCM-E1-SSP5-Z	Seoul Semiconductor z-power P5	Elliptical beam	Optical grade PMMA	17 x 40*	Holder can be heat-staked to PCB	z=O or H	80	CL FL TR BL SI	
FRC-M1-OE2B-0	Reflector	OSRAM 4-chip Ostar LED	Medium beam	Ultem	25	Holder can be glued to PCB	N	150	CL FL TR BL SI
FRC-N1-A3P7-OR		Seoul Semiconductor P7 LED	Narrow beam	PC	15	Holder can be glued to PCB	N	120	CL FL TR BL SI
FRC-M1-A3P7-OR		Seoul Semiconductor P7 LED	Medium beam	PC	29	Holder can be glued to PCB	N	120	CL FL TR BL SI
FRC-W1-A3P7-OR		Seoul Semiconductor P7 LED	Wide beam	PC	45*	Holder can be glued to PCB	N	120	CL FL TR BL SI

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*Distribution angle changes with LED color (see product datasheets); FWHM=full beamwidth measured at one-half of peak intensity; some lenses can be ordered either alone, or with a spacer ring, or assembled with a holder; spacers must be ordered separately (when required); OS: lens only; OR: lens only; HS: square flange with holder; HR: round flange with holder; HST: square flange with transparent holder; HRF: round holder with flat bottom; If using FDG lens without holder, a spacer ring (p/n FDS-OS) is required and must be ordered separately. See Fraen datasheet for more details. **Parts must be used with one another in order to obtain the focusing results stated on the datasheet. †Beam angle is estimated from computer simulation

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