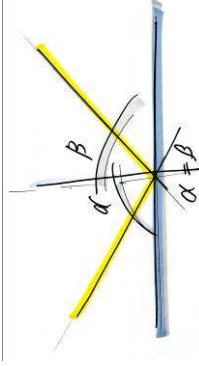


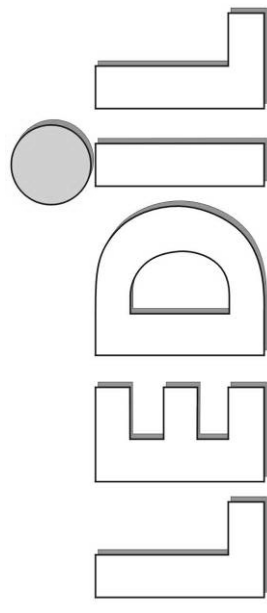
LEDIL Standard Optics for CREE LEDs

Ledil Oy, Tehdaskatu 13, 24100 SALO, Finland
www.ledil.com



Lenses for XR-E and XR-C

CRS



CRS-RS

CRS-SS

CRS-D



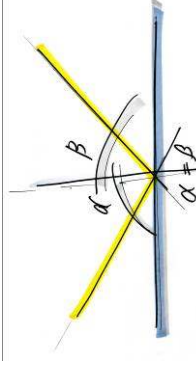
CRS-M

CRS-W

CRS-O

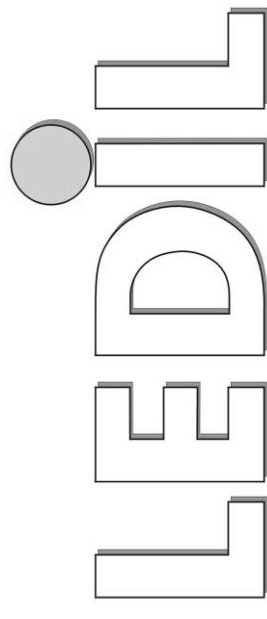
- Specially designed for Cree XR-E and XR-C
- Lens material optical grade PC with high UV and temperature resistance (130° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Integrated holder. Fastening to heat sink with a PU foam adhesive tape of automotive grade
- Compact dimensions 21.6 x 21.6 mm.

LENS TYPE	ORDERING CODE	FWHM
CRS real spot	CRS-RS, FA10303	±6°
CRS smooth spot	CRS-SS, FA10328	±7°
CRS diffuser	CRS-D, FA10304	±7°
CRS medium	CRS-M, FA10305	±14°
CRS wide	CRS-W, FA10343	±30°
CRS oval	CRS-O, FA10306	±6° x ±24°



Lenses for XR-E and XR-C

LC1



LC1-RS



LC1-D



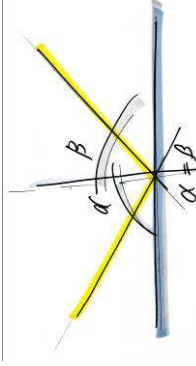
LC1-M



LC1-REC

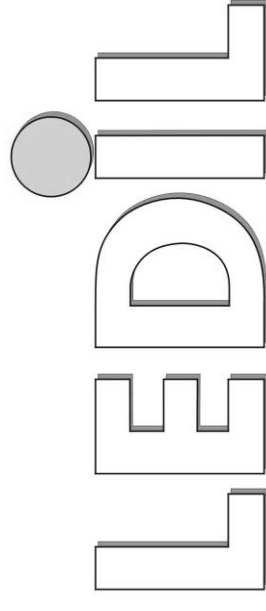
- Specially designed for Cree XR-E and XR-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Holder to be glued to PCB first, then assemble lens. Parts delivered separately
- Compact dimensions D=21.6 mm.

LENS TYPE	ORDERING CODE	FWHM
LC1 real spot	LC1-RS FA10454	±3°
LC1 diffuser	LC1-D F 10627	±5°
LC1 medium	LC1-M FA10452	±14°
LC1 Rectangular	LC1-REC FA10511	±11° x ±21°



Lenses for XR-E and XR-C

LC1-TAPE



LC1-TAPE-RS



LC1-TAPE-D



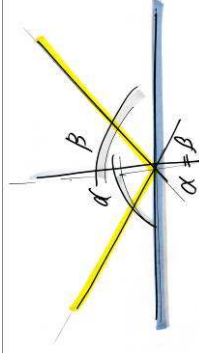
LC1-TAPE-M



LC1-TAPE-REC

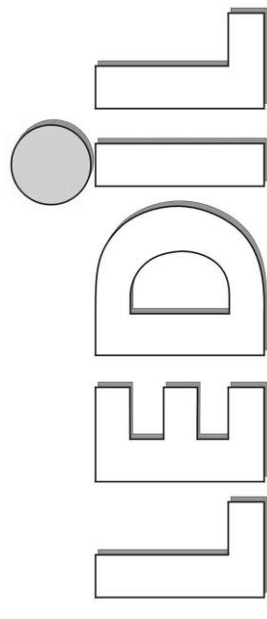
- Specially designed for Cree XR-E and XR-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Integrated holder WITH TAPE, parts assembled together
- Compact dimensions D=21.6 mm.

LENS TYPE	ORDERING CODE	FWHM
LC1 real spot	LC1-TAPE-RS FA10653	±3°
LC1 diffuser	LC1-TAPE-D FA 10655	±5°
LC1 medium	LC1-TAPE-M FA10652	±14°
LC1 Rectangular	LC1-TAPE-REC FA10654	±11° x ±21°



Lenses for XR-E and XR-C

ROCKET



ROCKET-SS



ROCKET-M



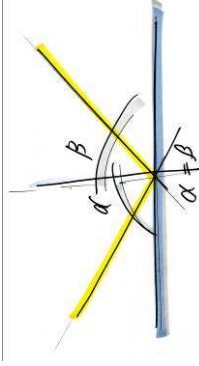
ROCKET-O



ROCKET-W

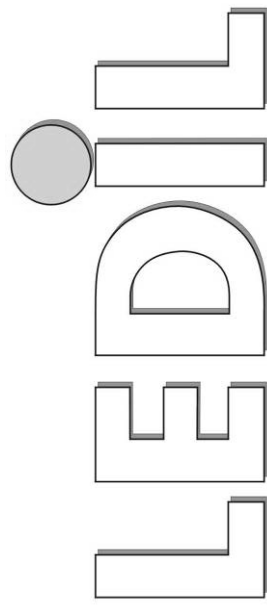
- Designed for Cree XR-E and XR-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220 ° F)
- No lens holder. Fastening to PCB with a PU foam tape of automotive grade
- Diameter 26 mm (approximately 1")

LENS	ORDERING CODE	FWHM
ROCKET smooth spot	ROCKET-SS, C10324	±4°
ROCKET medium	ROCKET-M, C10250	±13°
ROCKET wide	ROCKET-W, C10406	±19°
ROCKET oval	ROCKET-O, C10325	±3° x 20°

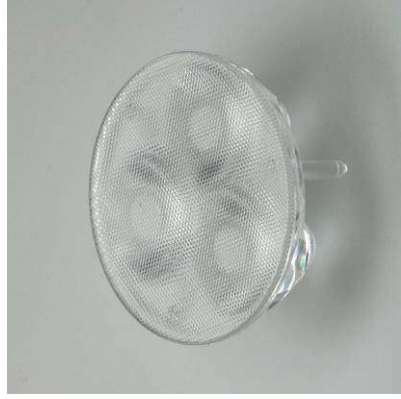


Lenses for XR-E and XR-C LEDs

ROCKET-3



ROCKET-3-SS



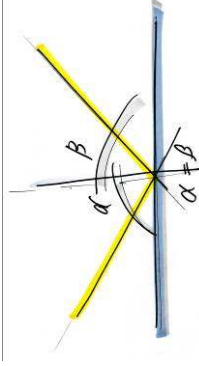
ROCKET-3-M



ROCKET-3-W

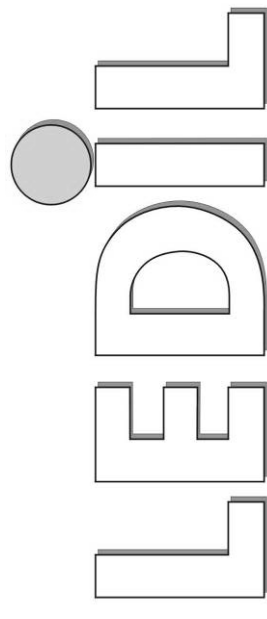
- Specially designed for Cree XR-E and XR-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Very even color distribution over the whole beam angle
- Compact dimensions of a MR16 fixture, D = 50 mm
- NO sub lenses used; every lens is one molding only

LENS	ORDERING CODE	FWHM
ROCKET-3 smooth spot	ROCKET-3-SS, C10366	±5°
ROCKET-3 medium	ROCKET-3-M, C10367	±10°
ROCKET-3 wide	ROCKET-3-W, C10365	±25°



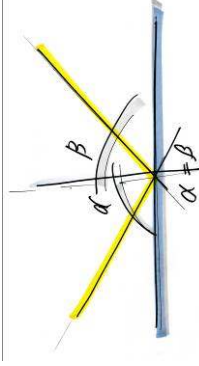
Lenses for XR-E and XR-C

CUTE-3



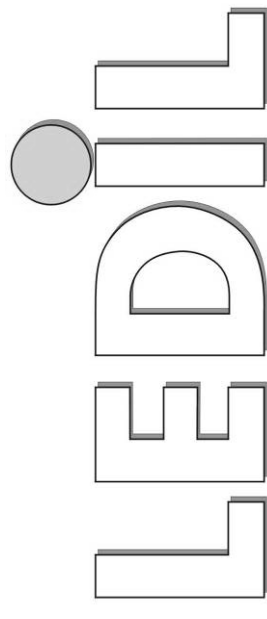
- Specially designed for Cree XR-E and XR-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Very even color distribution over the whole beam angle
- Compact dimensions of a MR11 fixture, D = 35 mm
- NO sub lenses used; every lens is one molding only

LENS	ORDERING CODE	FWHM
CUTE-3 smooth spot	CUTE-3-SS, C10428	±6°
CUTE-3 medium	CUTE-3-M, C10427	±10°



Lenses for XR-E and XR-C

CUTE-4



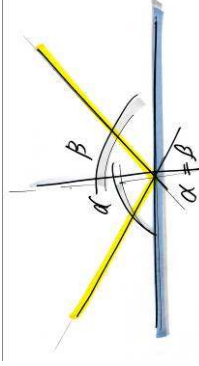
CUTE-4-SS



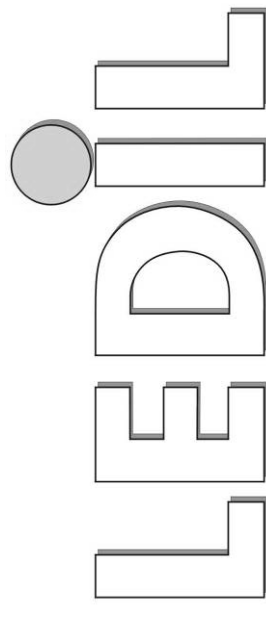
CUTE-4-M

- Specially designed for Cree XR-E and XR-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Very even color distribution over the whole beam angle
- Compact dimensions of a MR11 fixture, D = 35 mm
- NO sub lenses used; every lens is one molding only

LENS	ORDERING CODE	FWHM
CUTE-4 smooth spot	CUTE-4-SS, C10446	±6°
CUTE-4 medium	CUTE-4-M, C10447	±9°

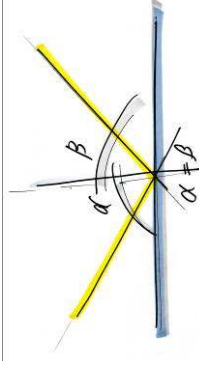


Lenses for Dragon FLARE-C series

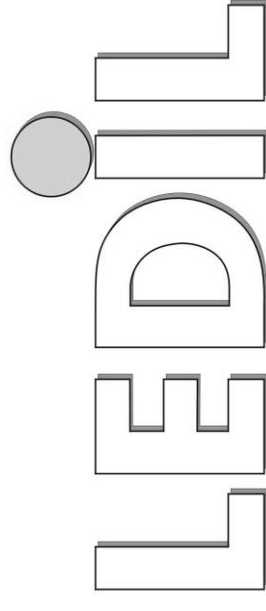


- Lens designed for Cree Xlamp XR, XR-C and XR-E
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Allows use of high current and temperature conditions
- Best available optical efficiency
- Fastening to PCB & heat sink with 2 screws (and TAPE, in that version)
- LED can be assembled parallel or perpendicular to the x,y axis (to turn the light distribution by 90°)
- Compact dimensions 23 x 25 mm. Square form enables easy build of a line without any gaps between lenses
- Especially suitable for Beacon and other 360° solutions and in linear solutions with high evenness requirements

LENS TYPE	ORDERING CODE	FWHM
FLARE-C	FLARE-C, C10402	$\pm 4^\circ \times \pm 45^\circ$
FLARE-C with TAPE	FLARE-C-TAPE, C10563	$\pm 4^\circ \times \pm 45^\circ$
FLARE-C Diffused	FLARE-C-DIFF, C10527	$\pm 6^\circ \times \pm 42^\circ$

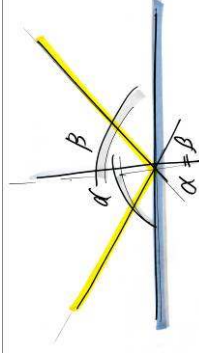


Lenses for XP-E and XP-C LXP (TAPE)



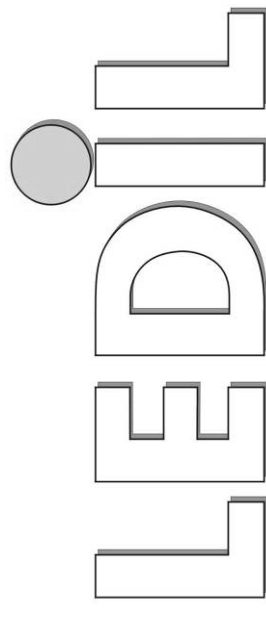
- Specially designed for Cree XP-E and XP-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Integrated holder WITH TAPE, parts assembled together
- Compact dimensions D=21.6 mm.

LENS TYPE	ORDERING CODE	FWHM
LXP real spot	LXP-RS FA10661	±3°
LXP diffuser	LXP-D FA 10663	±5°
LXP medium	LXP-M FA10660	±13°
LXP rectangular	LXP-REC FA10662	±11° x ±21°



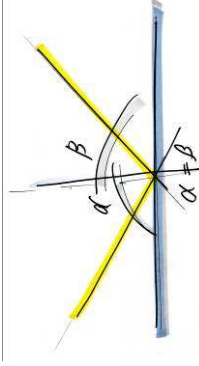
Lenses for XR-E and XR-C

CXP



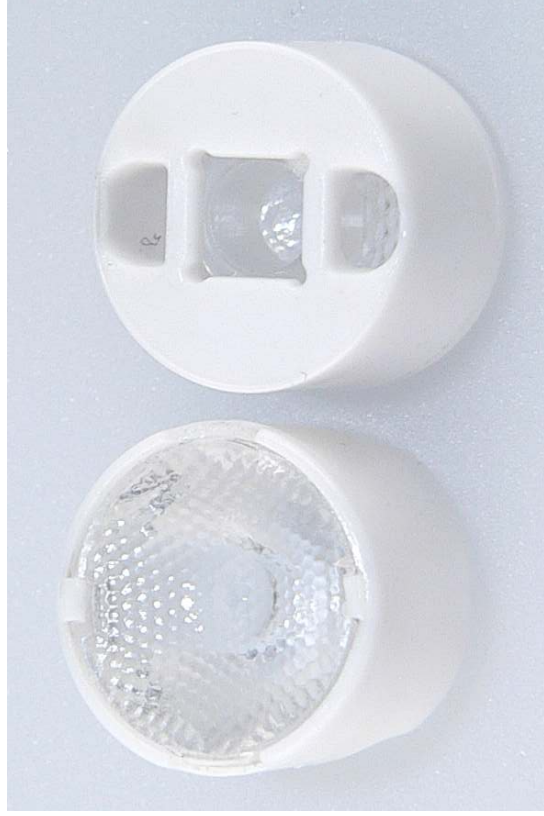
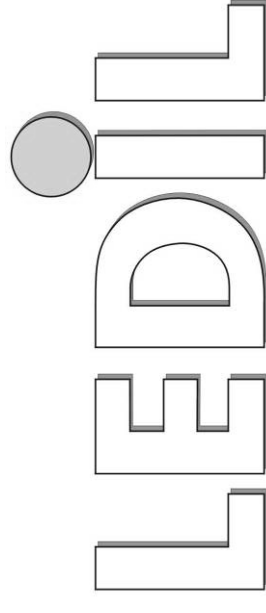
- Specially designed for Cree XP-E and XP-C
- Lens material optical grade PC with high UV and temperature resistance (130° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Integrated holder. Fastening to heat sink with a PU foam adhesive tape of automotive grade
- Compact dimensions 21.6 x 21.6 mm.

LENS TYPE	ORDERING CODE	FWHM
CXP real spot	CXP-RS, FA10668	±3°
CXP smooth spot	CXP-SS, FA10667	±5°
CXP diffuser	CXP-D, FA10666	±9°
CXP medium	CXP-M, FA10665	±15°
CXP wide	CXP-W, FA10708	±30°
CXP oval	CXP-O, FA10669	±6° x ±22°



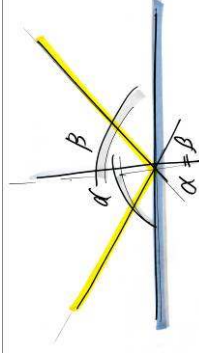
Lenses for XP-E and XP-C

LISA-XP



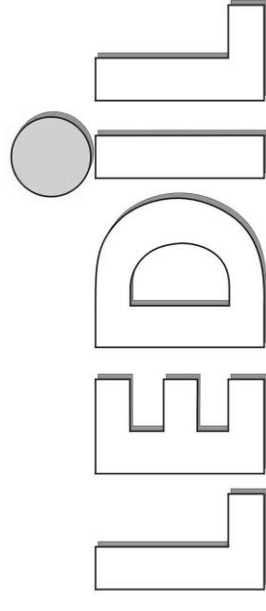
- Specially designed for XP-E and XP-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Integrated holder. Fastening to PCB using appropriate glue
- Compact dimensions D=10.8 mm.

LENS TYPE	ORDERING CODE	FWHM
LISA-XP1 smooth spot	LISA-XP1-SS, CA10641	±9°



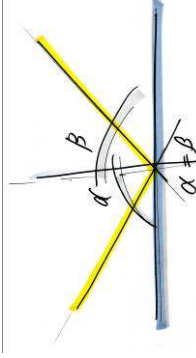
Lenses for XP-E and XP-C

TINA-XP



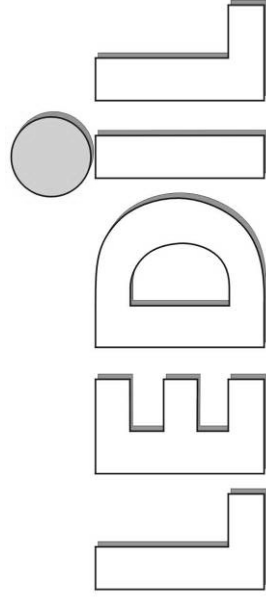
- Specially designed for Cree XP-E and XP-C
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Fastening to PCB by adhesive tape
- Compact dimensions D=16 mm, h=10.5 mm (max)

LENS TYPE	ORDERING CODE	FWHM
TINA XP diffuser	TINA-XP-D, FA10580	Ca. $\pm 7^\circ$
TINA XP medium	TINA-XP-M, FA10581	Ca. $\pm 15^\circ$



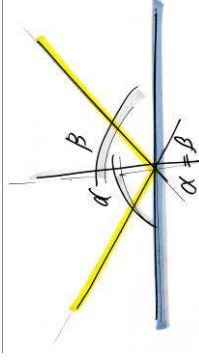
Lenses for XR-E and XR-C

TWIDDLE



- **REVOLUTIONARY ADJUSTABLE LENS free tilting by $\pm 15^\circ$**
 - Specially designed for XR-E and XR-C
 - Very even color distribution over the whole beam angle
 - Double lens system with holder and tape
 - Compact dimensions D=22 mm, h=15 mm (max)

LENS TYPE	ORDERING CODE	FWHM
TWIDDLE XR spot	TWIDDLE-XR-S, FA10740	Ca. $\pm 7^\circ$
TWIDDLEXR medium	TWIDDLE-XR-M, FA10741	Ca. $\pm 15^\circ$
TWIDDLE XR wide	TWIDDLE-XR-W, FA10742	$\pm 30^\circ$



Lenses for MC-E LM1



LM1-D



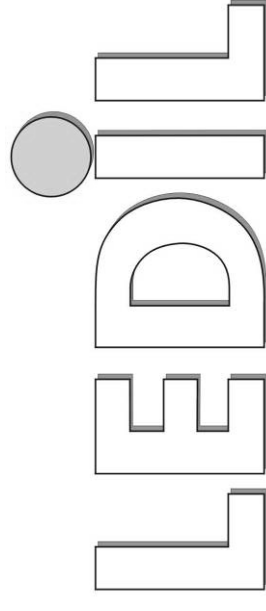
LM1-M



LM1-REC

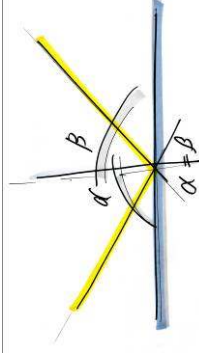
October 2008

© Ledil Oy

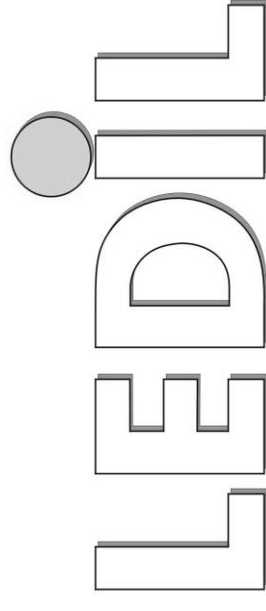


- Specially designed for Cree MC-E LEDs
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Holder to be glued to PCB first, then assemble lens. Parts delivered separately
- Compact dimensions D=21.6 mm.

LENS TYPE	ORDERING CODE	FWHM
LM1 diffuser	LM1-D F10630	±10°
LM1 medium	LM1-M FA10614	±13°
LM1 Rectangular	LM1-REC FA10615	±19 x ±12°

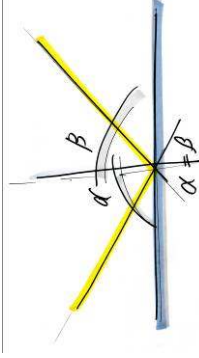


Lenses for MC-E RGBx

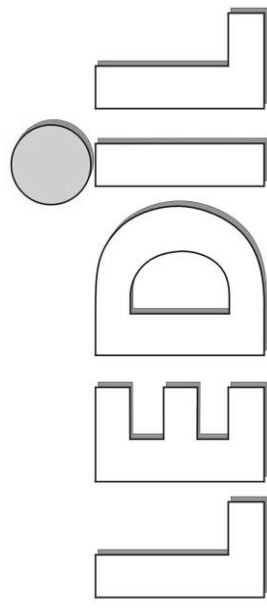


- Specially designed for Cree MC-E LEDs
- Lens material optical grade PMMA with high UV and temperature resistance (130° C/280° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Integrated holder.
- Dimensions D=27.96 mm, h=25.09 mm.

LENS TYPE	ORDERING CODE	FWHM
RGBX	RGBX, C10548	N/A

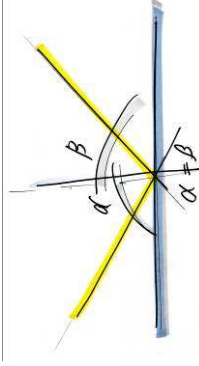


Lenses for MC-E CMC

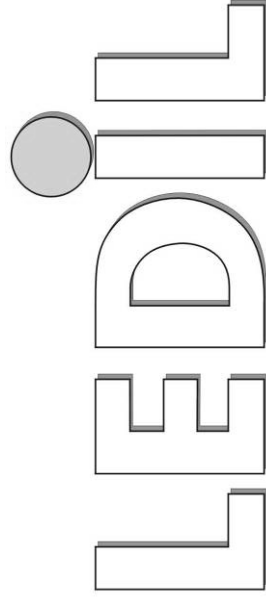


- Specially designed for MC-E LEDs
- Lens material optical grade PC with high UV and temperature resistance (130° C/220° F). Allows use of high current and temperature conditions
- Very even color distribution over the whole beam angle
- Integrated holder. Fastening to heat sink with a PU foam adhesive tape of automotive grade
- Compact dimensions 21.6 x 21.6 mm.

LENS TYPE	ORDERING CODE	FWHM
CMC real spot	CMC-RS, FA10674	N/A
CMC smooth spot	CMC-SS, FA10672	N/A
CMC medium	CMC-M, FA10671	N/A
CMC diffuser	CMC-D, FA10672	N/A
CMC oval	CMC-O, FA10675	N/A
CMC wide	CMC-W, FA10714	N/A

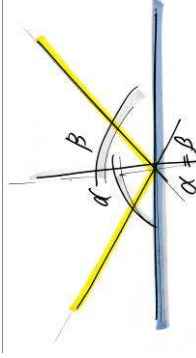


Lenses for MC-E LEDs ROCKET-3-MC

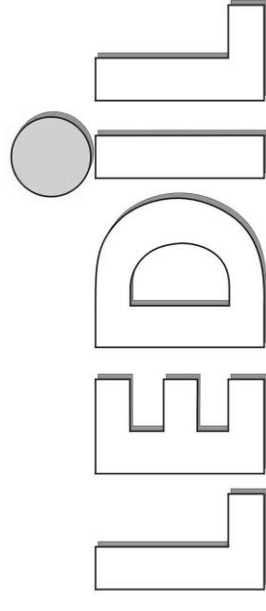


- Specially designed for MC-E LEDs
- Lens material optical grade PMMA with high UV and temperature resistance (105° C/220° F). Very even color distribution over the whole beam angle
- Compact dimensions of a MR16 fixture, D = 50 mm
- NO sub lenses used; every lens is one molding only

LENS	ORDERING CODE	FWHM
ROCKET-3 smooth spot	ROCKET-3-MC-SS, C10681	N/A
ROCKET-3 medium	ROCKET-3-MC-M, C10681	N/A
ROCKET-3 wide	ROCKET-3-MC-W, C10683	N/A

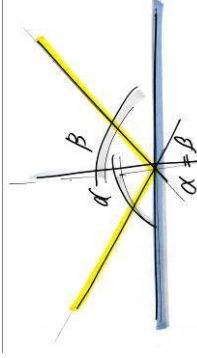


Reflectors for MC-E BOOM

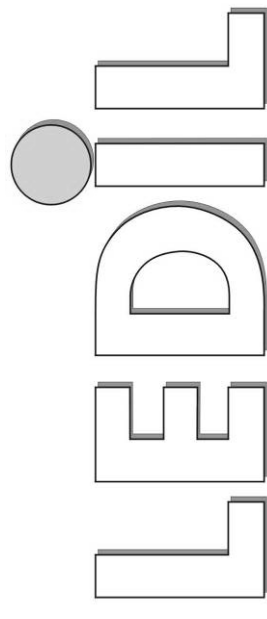


- Specially designed for MC-E LEDs
- Material optical ABS, vacuum coated with aluminum and protected with lacquer
- Very even color distribution over the whole beam angle
- Dimensions D=22.22 mm, height 13.54 mm.

LENS TYPE	ORDERING CODE	FWHM
BOOM-MC Spot	BOOM-MC-SS, C10569	$\pm 10^\circ$
BOOM-MC Medium	BOOM-MC-M, C10570	$\pm 19^\circ$
BOOM-MC Wide	BOOM-MC-W, C10571	$\pm 24^\circ$

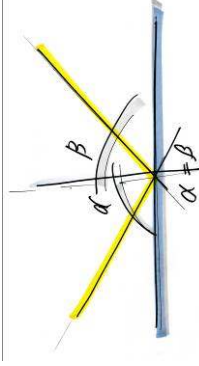


Lenses for MC-E EVA



- Specially designed for MC-E LEDs
- Standard MR11 size for replacing halogen lamps
- Material optical grade PMMA, with high UV and temperature resistance (130° C/280° F). Allows use of high current and temperature conditions
- Special care taken to make a uniform white or warm white illumination. Lenses work
- well with other colors, too. Dimensions D=35 mm, height 16.4 mm.

LENS TYPE	ORDERING CODE	FWHM
EVA-SS Smooth Spot	EVA-SS, C10684	N/A
EVA-M Medium	EVA-M, C10685	N/A
EVA-W Wide	EVA-W, C10686	N/A

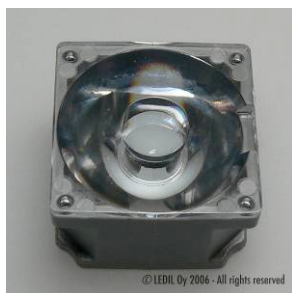




LEDIL Standard Optics Osram LEDs

Ledil Oy, Tehdaskatu 13, 24100 SALO,
www.ledil.com

Lenses for Dragon/Dragon+ OSS



OSS-RS



OSS-SS



OSS-D



OSS-M



OSS-W



OSS-O

- Specially designed for Osram D
- Lens material optical grade PC resistance (130°C/220°F). Allows conditions
- Very even color distribution over
- Integrated holder. Fastening to tape of automotive grade
- Compact dimensions 21.6 x 21.

LENS TYPE	ORDERING
OSS real spot	OSS-RS, F
OSS smooth spot	OSS-SS, F
OSS diffuser	OSS-D, F
OSS medium	OSS-M, F
OSS wide	OSS-W, F
OSS oval	OSS-O, F

Lenses for Dragon/Dragon+ LO2



- Specially designed for Dragon+ Dragon
- Lens material optical grade and temperature resistant for use of high current and high power
- Very even color distribution over the viewing angle
- Integrated holder WITH thermal pad
- Compact dimensions

LENS TYPE	ORDERING CODE
LO2 real spot	LO2-RS FA10751
LO2 diffuser	LO2-D FA10753
LO2 medium	LO2-M FA10750
LO2 Rectangular	LO2-REC FA10752

Lenses for Dragon/Dragon+ TITANUM



TITANUM-SS



TITANUM-M



TITANUM-O



TITANUM-W

- Designed for Osram LED
- Lens material optical grade, high UV and temperature resistant (105°C/220 °F)
- No lens holder. Fastened with foam tape of automotive grade
- Diameter 26 mm (approx.)

LENS	ORDER NUMBER
TITANUM smooth spot	TITANUM-SS
TITANUM medium	TITANUM-M
TITANUM wide	TITANUM-W
TITANUM oval	TITANUM-O

Lenses for Dragon/Dragon+ TITANUM-3



TITANUM-3-S



TITANUM-3-M

- Specially designed for Osram D
- Lens material optical grade PM
- resistance (105°C/220°F). Very e
- beam angle
- Compact dimensions of a MR1
- Sub lens used to create a soft b

LENS	ORDERING
TITANUM-3 spot	TITANUM-3-
TITANUM-3 medium	TITANUM-3-

Lenses for Dragon/Dragon+

PLATINUM-3



PLATINUM-3-SS



PLATINUM-3-M



PLATINUM-3-W

- Specially designed for Osram D
- Lens material optical grade PM resistance (105°C/220°F). Very e beam angle
- Compact dimensions of a MR1
- NO sub lenses used; every lens

LENS	ORDERING
PLATINUM-3 smooth spot	PLATINUM
PLATINUM-3 medium	PLATINUM
PLATINUM-3 wide	PLATINUM

Lenses for Dragon+ PLATINUM-4



- Specially designed for
- Lens material optical g
and temperature resis
even color distribution
angle
- Compact dimensions
mm
- NO sub lenses used; ev
only

LENS	ORDERING
PLATINUM-4 smooth spot	PLATINUM
PLATINUM-4 medium	PLATINUM
PLATINUM-4 wide	PLATINUM

Lenses for Dragon+

CUTE-3-O+



- Specially designed for
- Lens material optical g
and temperature resis
even color distribution
angle
- Compact dimensions
mm
- NO sub lenses used; ev
only

LENS	ORD
CUTE-3-O+ smooth spot	CUTE
CUTE-3-O+ medium	CUTE
CUTE-3-O+ wide	CUTE

Lenses for Dragon OSR-5-M



- Specially designed for Osram P
- Lens material optical grade PM resistance (105°C/220°F). Allow conditions
- Very even color distribution over
- Compact dimensions MR11, D=

LENS TYPE	ORDERING
OSR-5 medium	OSR-5-M

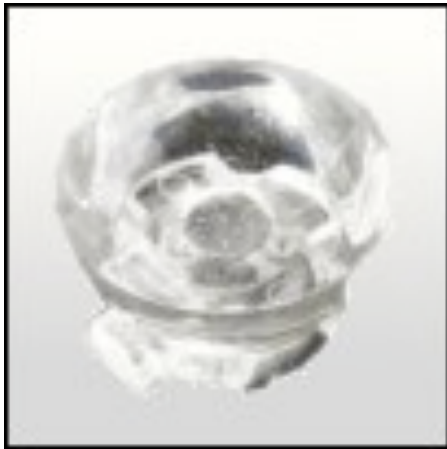
Lenses for Dragon LISA-O



- Specially designed for
- Lens material optical g
and temperature resis
use of high current and
- Very even color distrib
angle
- Integrated holder. Fast
snap hooks, no glue ne
- Compact dimensions

LENS TYPE	ORDERING CODE
LISA O1 medium	LISA-O1-SS, CA10444

Lenses for Dragon/Dragon+ TINA



- Specially designed for Osram
- Lens material optical grade, high temperature resistance (150°C), high current and temperature stability
- Very even color distribution
- W-version: integrated holding mechanism, snap hooks, no glue needed, no solder and tape
- Compact dimensions D=10mm



LENS TYPE	ORDERING CODE
TINA O+ smooth spot	TINA-O+SS, FA10
TINA O+ medium	TINA-O+M, FA10
TINA O+ wide	TINA-O+W, C104

Lenses for Dragon/Dragon+ TWIDDLE



- **REVOLUTIONARY**
free tilting by ± 1
- Specially designed for
- Very even color distribution
angle
- Double lens system with
- Compact dimensions

LENS TYPE	ORDERING CODE
TWIDDLE O+ spot	TWIDDLE-O+S, FA1074
TWIDDLE O+ medium	TWIDDLE-O+M, FA1075
TWIDDLE O+ wide	TWIDDLE-O+W, FA1076

Lenses for Ostar

LEDILSTAR



- Specially designed for
- Lens material optical g
temperature resistance
of high current and ten
- Very even color distrib
angle
- Integrated holder. Fast
- Dimensions D=35 mm,

LENS TYPE	ORDERING CODE
LEDILSTAR Lighting Spot	LEDILSTAR-L-S, C102
LEDILSTAR Lighting Wide	LEDILSTAR-L-W, C102
LEDILSTAR Projection Spot	LEDILSTAR-P-S, C102
LEDILSTAR Projection Sub lens	LEDILSTAR-P-SUB, CA
LEDILSTAR Projection Wide	LEDILSTAR-P-W, C102

Lenses for Ostar SMT

RGBx



- Specially designed for
- Lens material optical g
and temperature resis
use of high current and
- Very even color distrib
angle
- Integrated holder.
- Dimensions D=29 mm,

LENS TYPE	ORDERING CODE
RGBX Smooth Spot	RGBX-OSMT-SS, C10542
RGBX Medium	RGBX-OSMT-M, CA 10766
RGBX Oval	RGBX-OSMT-O, CA 10767

Lenses for Ostar CAT



- Specially designed for
- Lens material optical g
and temperature resist
use of high current and
- Very even color distrib
angle
- Integrated holder. Fast
screws
- Dimensions 31 X 27 X 2

LENS TYPE	ORDERING CO
CAT	CAT, C10410

Lenses for Ostar NATALIE



- Specially designed for
- Lens material optical g
and temperature resis
use of high current and
- Very even color distrib
angle
- Dimensions D=35 mm,

LENS TYPE	ORDERING CODE
NATALIE	NATALIE, C10267

Reflectors for Ostar BOOMERANG



- Specially designed for
- Material optical ABS, v
aluminum and protec
- Very even color distrib
angle
- Dimensions D=20 mm,

LENS TYPE	ORDERING CODE
BOOMERANG	BOOMERANG, C10437