



STANDARD RANGE

LLC25

January, 2021

GAGGIONE is launching a new 32 mm color mixing collimators.

In order to improve the mechanical integration of this range, we developed a **new version without sprue**, except for the **LLC25E which has a Poka Yoke system**.

LLC25: presentation

7 references



LLC25N

Narrow version



LLC25C

Color version



LLC25G

Wall grazing version



LLC25M

Medium version



LLC25W

Wide version



LLC25V

Very large version



LLC25E

Elliptical version

Visit our [website](#)

This range is in PMMA. PC versions are also available, feel free to contact [our sales team](#) for more information.

LLC25: LED specifications

LES size: HP: 4x4mm max - COB: Ø 6mm max

Type of LED: High Power, Mid Power, Chip Scale Package, COB, CSP Cluster and High Power Cluster

Type of Led	LLC25N	LLC25C	LLC25G	LLC25M	LLC25W	LLC25V	LLC25E
RGBW	✓	✓	✓	✓	✓	✓	✓
Tunable White	✓	✓	✓	✓	✓	✓	✓
Single chip	✓	✓	✓	✓	✓	✓	✓
Multi chip	✓	✓	✓	✓	✓	✓	✓
COB	✓	✓	✓	✓	✓	✓	✓

LLC25: applications

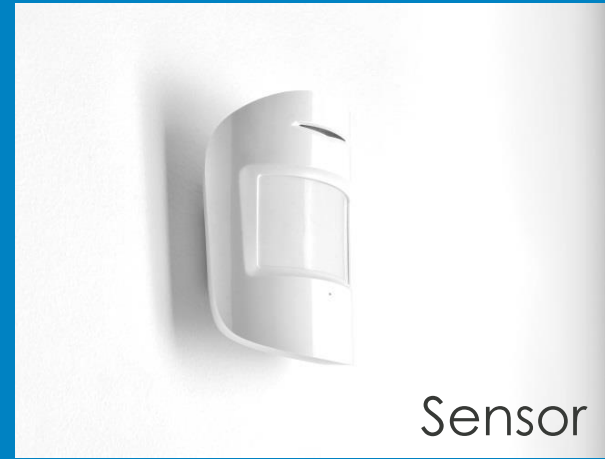
Architectural



Indoor



Sensor



Medical



Safety

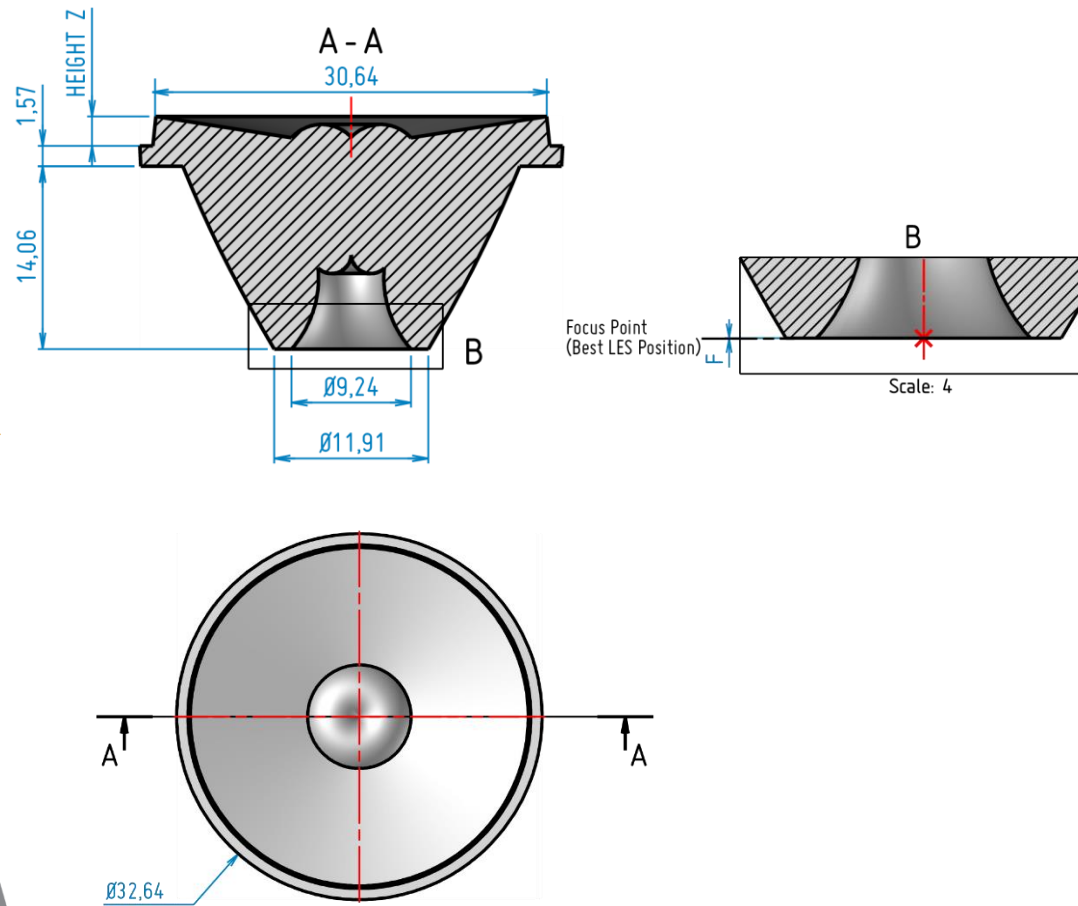


Entertainment

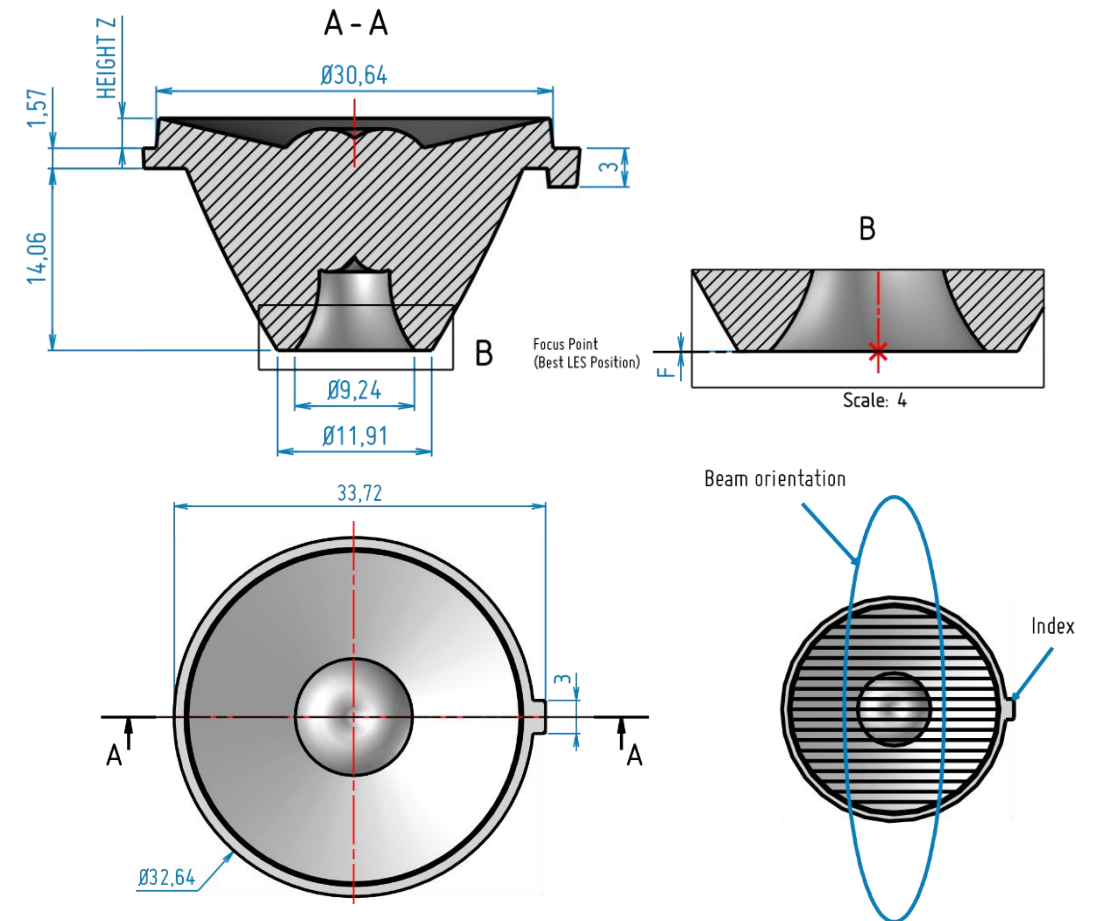


LLC25: 2D drawing

LLC25x



LLC25E



Without holder, all dimensions are in millimeters.

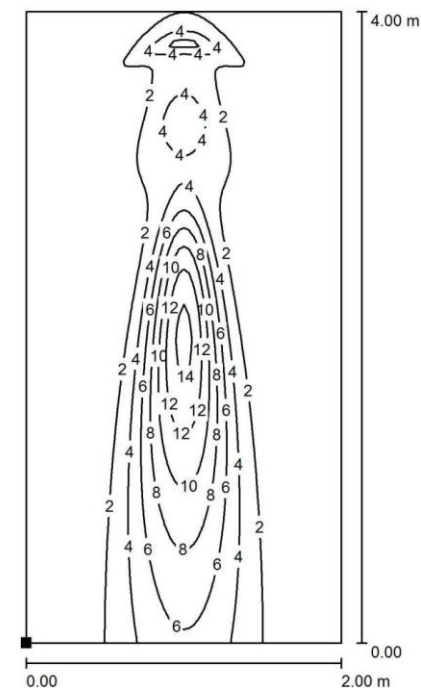
General tolerance ± 0.1 mm (standard NF T 58-000 cat. 4, reduced class).

LLC25N: Narrow beam



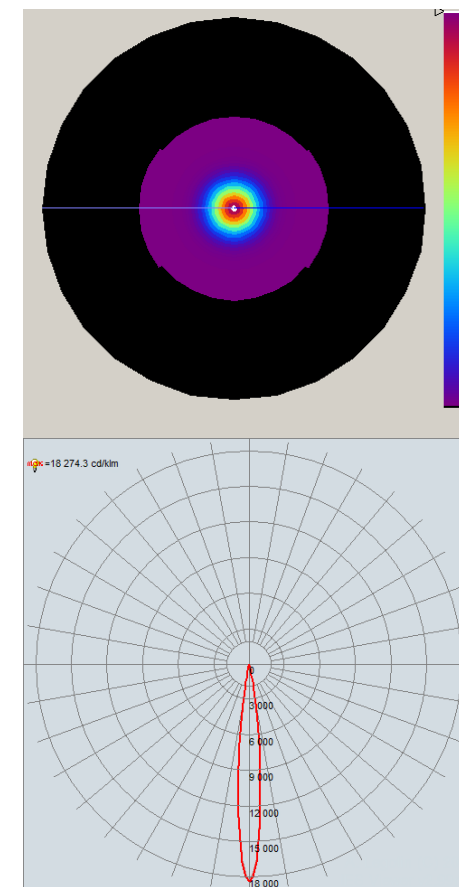
Compatibility matrix

LLC25N	OSRAM	LUMILEDS	NICHIA	CREE
	Ostar Stage RGBW	Luxeon Z RGBW	NCSWE17AT	XHP35.2 HI
FWHM (°)	11,5	12,9	7,9	11,3
FWTM (°)	20,8	22,7	15,9	22,3
Efficacy (cd/lm)	18,3	15,5	33,6	16,5
CCI*	6,0	16,5	-	-
	CITIZEN	LUMINUS	BRIDGELUX	
	CLU7B2	CXM_4	VESTA 6 TW	
FWHM (°)	12,3	14,5	17,8	
FWTM (°)	24,7	29,0	37,0	
Efficacy (cd/lm)	13,8	9,6	5,7	



Dialux simulation

Values in lux, scale 1 : 32
Distance from wall: 0,3 m



Intensity pattern

LED: OSTAR_STAGE_LE_RTDUW_S2WN

Visit the [product page](#) on our website

*CCI: Color Consistency Index, [more information](#)

LLC25C: Color beam

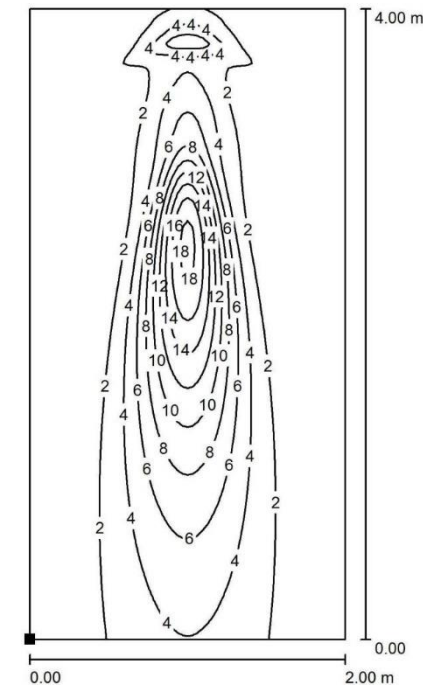


Compatibility matrix

LLC25C	OSRAM	LUMILEDS	NICHIA	CREE
	Ostar Stage RGBW	Luxeon Z RGBW	NCSWE17AT	XHP35.2 HI
FWHM (°)	14,9	16,8	11,3	14,5
FWTM (°)	27,9	31,4	23,1	28,3
Efficacy (cd/lm)	10,6	8,1	16,6	10,3
CCI*	4,0	10,7	-	-
	CITIZEN	LUMINUS	BRIDGELUX	
	CLU7B2	CXM_4	VESTA 6 TW	
FWHM (°)	15,7	17,5	20,7	
FWTM (°)	30,8	34,4	41,4	
Efficacy (cd/lm)	8,7	6,8	4,8	

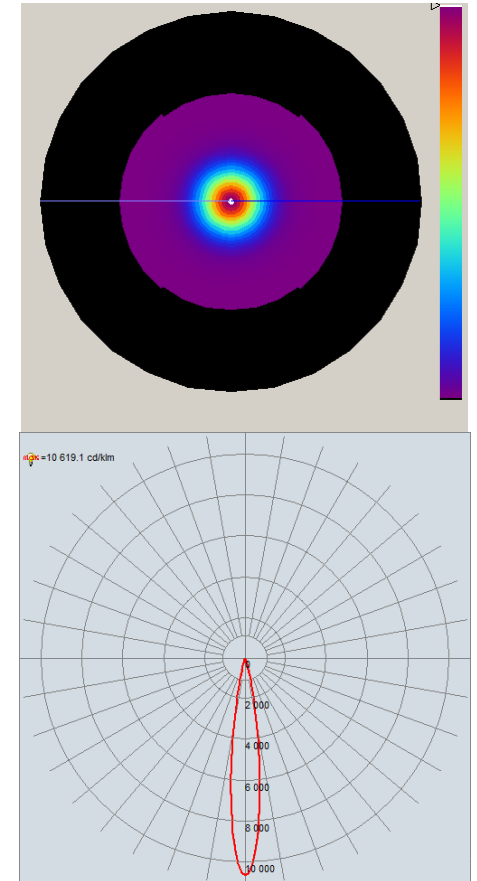
Visit the [product page](#) on our website

*CCI: Color Consistency Index, [more information](#)



Dialux simulation

Values in lux, scale 1 : 32
Distance from wall: 0,3 m



Intensity pattern

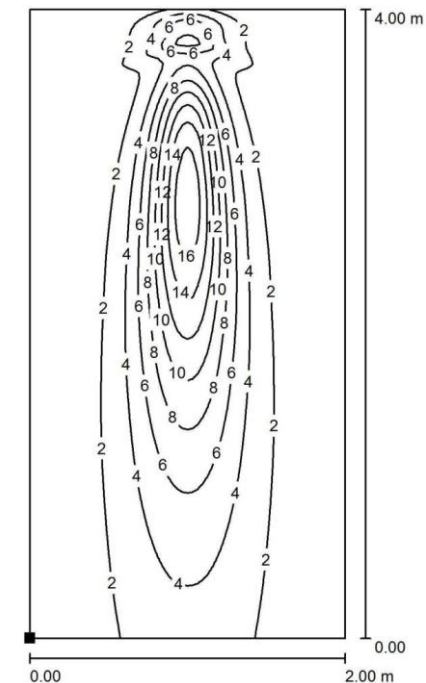
LED: OSTAR_STAGE_LE_RTDUW_S2WN

LLC25G: Wall grazing beam



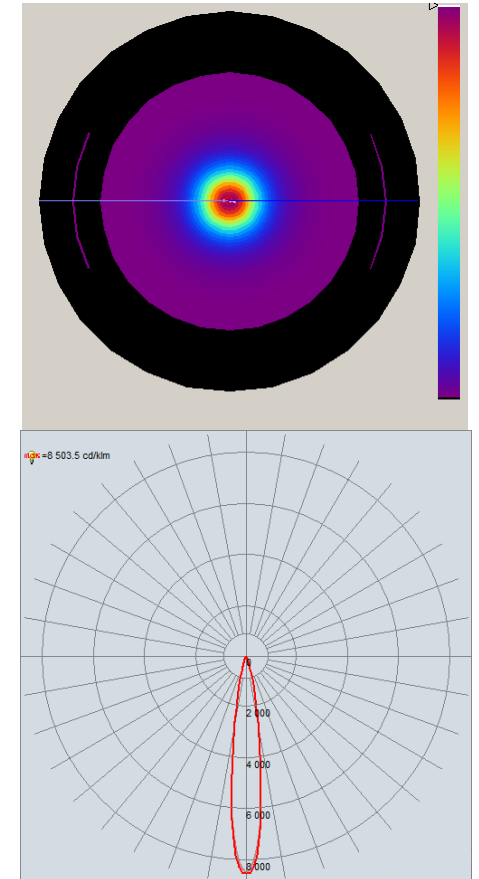
Compatibility matrix

	OSRAM	LUMILEDS	NICHIA	CREE
LLC25G	Ostar Stage RGBW	Luxeon Z RGBW	NCSWE17AT	XHP35.2 HI
FWHM (°)	15,0	16,3	12,4	15,6
FWTM (°)	30,6	32,7	28,4	32,9
Efficacy (cd/lm)	8,5	7,1	10,4	7,3
CCI*	3,4	3,9	-	-
	CITIZEN	LUMINUS	BRIDGELUX	
	CLU7B2	CXM_4	VESTA 6 TW	
FWHM (°)	16,7	18,8	23,6	
FWTM (°)	34,4	37,7	45,9	
Efficacy (cd/lm)	6,7	5,4	3,7	



Dialux simulation

Values in lux, scale 1 : 32
Distance from wall: 0,3 m



Intensity pattern

LED: OSTAR_STAGE_LE_RTDUW_S2WN

Visit the [product page](#) on our website

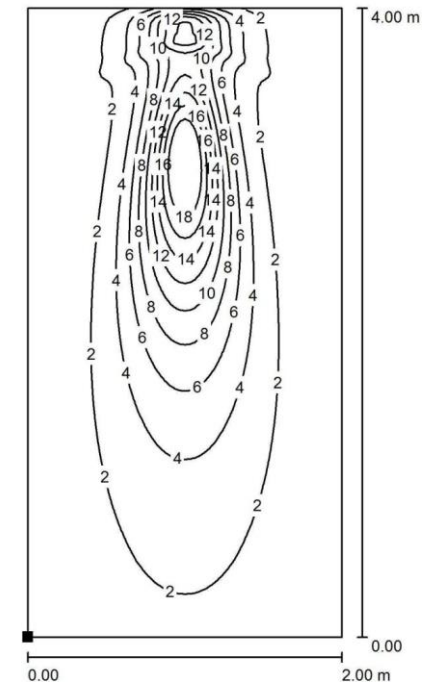
*CCI: Color Consistency Index, [more information](#)

LLC25M: Medium beam



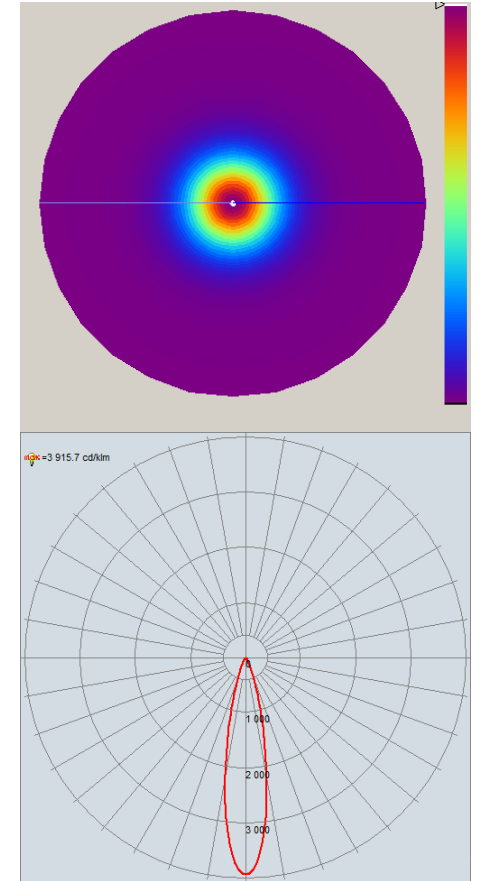
Compatibility matrix

LLC25M	OSRAM	LUMILEDS	NICHIA	CREE
	Ostar Stage RGBW	Luxeon Z RGBW	NCSWE17AT	XHP35.2 HI
FWHM (°)	21,5	20,8	19,7	21,2
FWTM (°)	42,1	41,6	38,5	42,2
Efficacy (cd/lm)	3,9	4,0	4,8	4,0
CCI*	2,9	6,3	-	-
	CITIZEN	LUMINUS	BRIDGELUX	
	CLU7B2	CXM_4	VESTA 6 TW	
FWHM (°)	21,0	22,2	25,9	
FWTM (°)	42,2	44,4	52,5	
Efficacy (cd/lm)	3,9	3,4	2,6	



Dialux simulation

Values in lux, scale 1 : 32
Distance from wall: 0,3 m



Intensity pattern

LED: OSTAR_STAGE_LE_RTDUW_S2WN

Visit the [product page](#) on our website

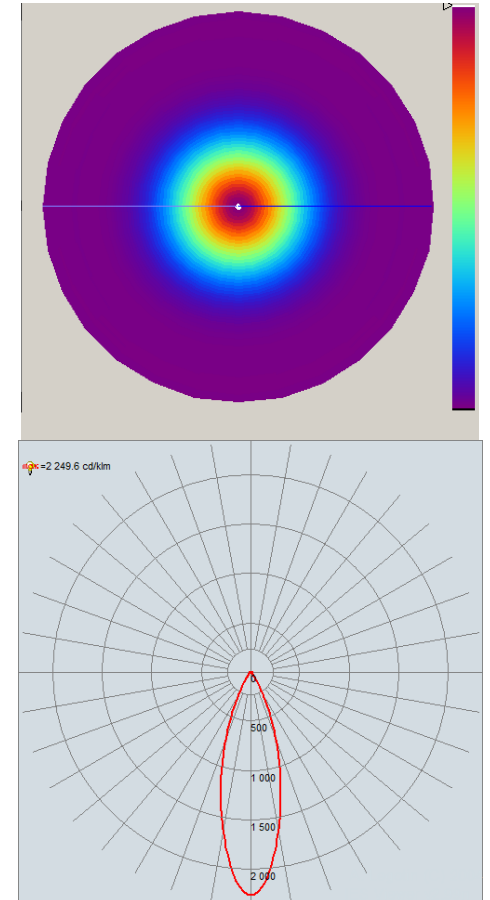
*CCI: Color Consistency Index, [more information](#)

LLC25W: Wide beam



Compatibility matrix

LLC25W	OSRAM	LUMILEDS	NICHIA	CREE
	Ostar Stage RGBW	Luxeon Z RGBW	NCSWE17AT	XHP35.2 HI
FWHM (°)	30,7	32,3	31,5	31,6
FWTM (°)	58,5	60,3	57,9	60,0
Efficacy (cd/lm)	2,2	1,8	2,3	2,1
CCI*	3,2	6,3	-	-
	CITIZEN	LUMINUS	BRIDGELUX	
	CLU7B2	CXM_4	VESTA 6 TW	
FWHM (°)		33,6	32,2	33,4
FWTM (°)		62,1	61,1	67,5
Efficacy (cd/lm)		1,9	1,9	1,7



Intensity pattern

LED: OSTAR_STAGE_LE_RTDUW_S2WN

Visit the [product page](#) on our website

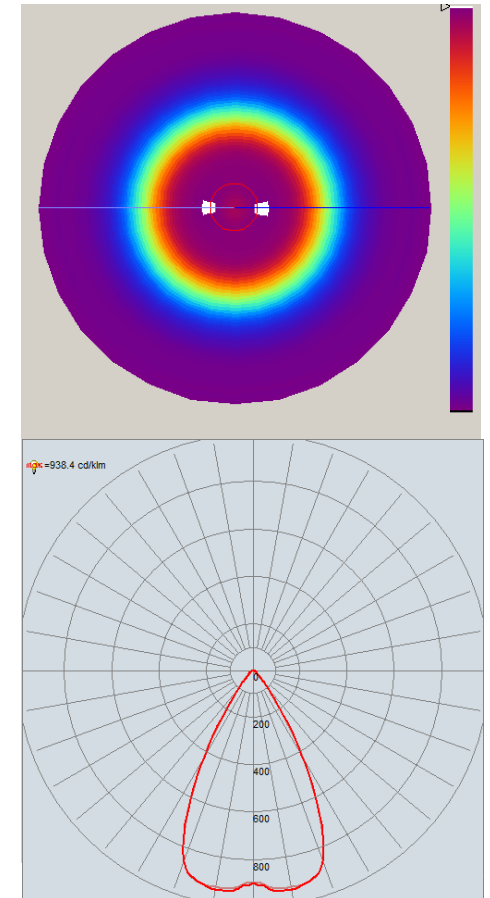
*CCI: Color Consistency Index, [more information](#)

LLC25V: Very large beam



Compatibility matrix

LLC25V	OSRAM	LUMILEDS	NICHIA	CREE
	Ostar Stage RGBW	Luxeon Z RGBW	NCSWE17AT	XHP35.2 HI
FWHM (°)	57,5	55,0	55,2	56,9
FWTM (°)	79,6	78,0	78,0	81,7
Efficacy (cd/lm)	0,9	1,0	1,0	1,0
CCI*	6,8	7,0	-	-
		CITIZEN	LUMINUS	BRIDGELUX
		CLU7B2	CXM_4	VESTA 6 TW
	FWHM (°)	52,8	52,5	53,3
	FWTM (°)	76,2	76,8	82,3
	Efficacy (cd/lm)	1,1	1,0	1,0



Intensity pattern

LED: OSTAR_STAGE_LE_RTDUW_S2WN

Visit the [product page](#) on our website

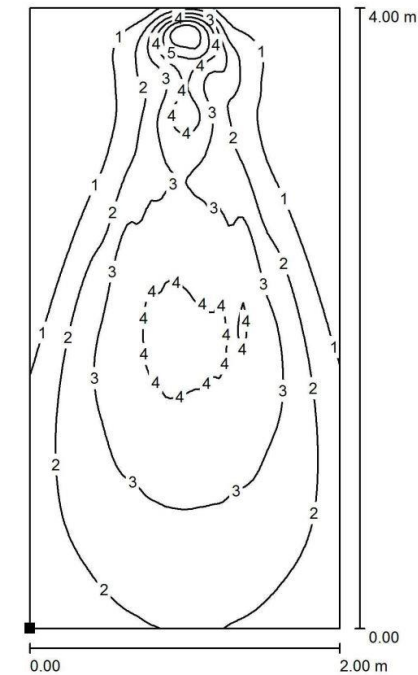
*CCI: Color Consistency Index, [more information](#)

LLC25E: Elliptical beam



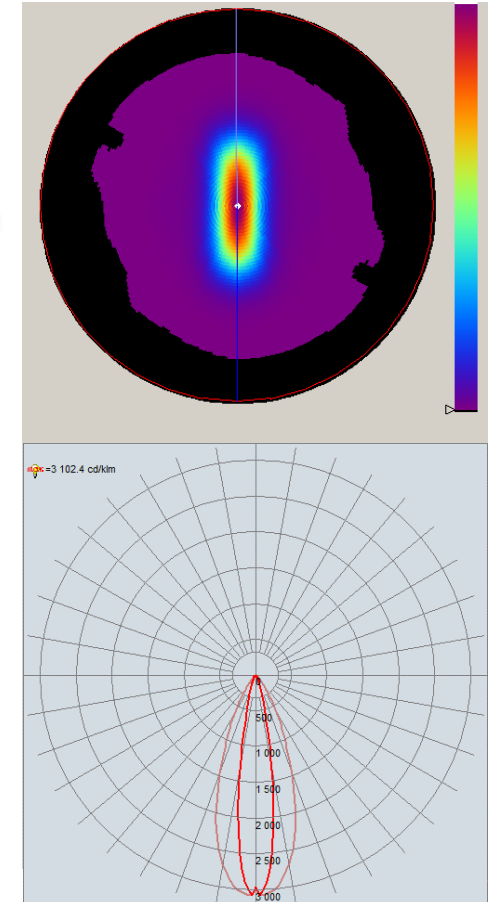
Compatibility matrix

LLC25E	OSRAM	LUMILEDS	NICHIA	CREE
	Ostar Stage RGBW	Luxeon Z RGBW	NCSWE17AT	XHP35.2 HI
FWHM (°)	11,1 – 33,9	12,9 – 33,2	8,5 - 34,4	12,8 – 33,9
FWTM (°)	20,0 – 51,2	22,5 – 53,2	15,9 - 48,4	23,5 – 52,8
Efficacy (cd/lm)	6,6	5,5	8,4	5,6
CCI*	4,4	9,3	-	-
	CITIZEN	LUMINUS	BRIDGELUX	
	CLU7B2	CXM_4	VESTA 6 TW	
FWHM (°)	12,5 – 33,9	15,3 – 32,0	17,9 – 32,1	
FWTM (°)	23,9 – 54	29,6 – 54,5	38,4 – 57,9	
Efficacy (cd/lm)	5,4	4,4	3,4	



Dialux simulation

Values in lux, scale 1 : 32
Distance from wall: 0,3 m



Intensity pattern

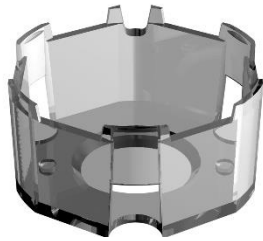
LED: OSTAR_STAGE_LE_RTDUW_S2WN

Visit the [product page](#) on our website

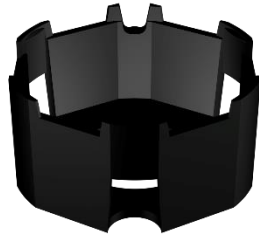
*CCI: Color Consistency Index, [more information](#)

LLC25: compatible holders

LLH02XAL0*



Clear holder



Black holder

Without adhesive: LLH02XAL00

LLH02XAL02

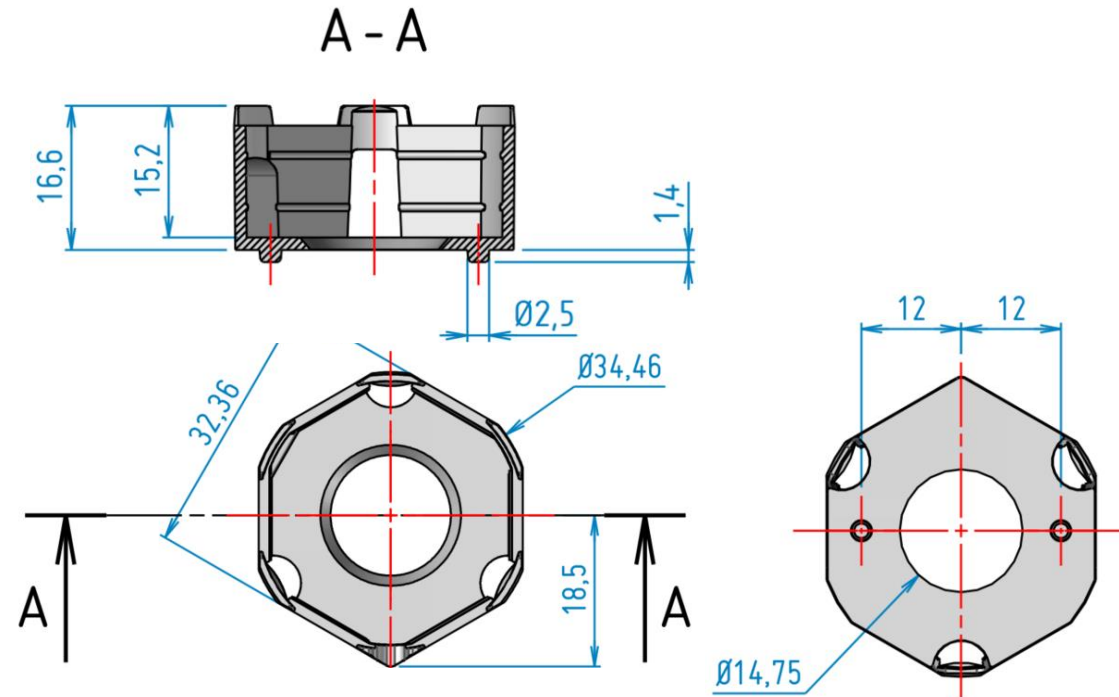
With adhesive: LLH02XAL001

LLH02XAL021

Reference	Diameter (mm)	Nominal distance from PCB (mm)	Note
LLH02XAL0*	32	0.25	With pins

* : colors 0 (clear), 2 (black)

If you need another color of holder, please [contact us](#)



All dimensions are in millimeters.

General tolerance ± 0.1 mm (standard NF T 58-000 cat. 4, reduced class).



Positioning holes need to be created into the PCB.

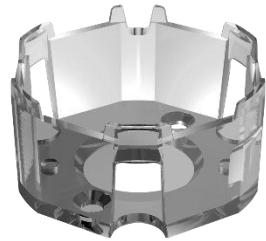
LLH02XAL0* + LLC25x

LLC25: Assembled set

Holder	Color	Adhesive	Narrow LLC25N	Color LLC25C	Wall grazing LLC25G	Medium LLC25M	Wide LLC25W	Very large LLC25V	Elliptical LLC25E
LLH02XAL00	Clear	✗	LLS25N02XAL00	LLS25C02XAL00	LLS25G02XAL00	LLS25M02XAL00	LLS25W02XAL00	LLS25V02XAL00	LLS25E02XAL00
LLH02XAL001		✓	LLS25N02XAL001	LLS25C02XAL001	LLS25G02XAL001	LLS25M02XAL001	LLS25W02XAL001	LLS25V02XAL001	LLS25E02XAL001
LLH02XAL02	Black	✗	LLS25N02XAL02	LLS25C02XAL02	LLS25G02XAL02	LLS25M02XAL02	LLS25W02XAL02	LLS25V02XAL02	LLS25E02XAL02
LLH02XAL021		✓	LLS25N02XAL021	LLS25C02XAL021	LLS25G02XAL021	LLS25M02XAL021	LLS25W02XAL021	LLS25V02XAL021	LLS25E02XAL021

LLC25: compatible holders

LLH02HELO*



Clear holder



Black holder

Without adhesive: LLH02HEL00

LLH02HEL02

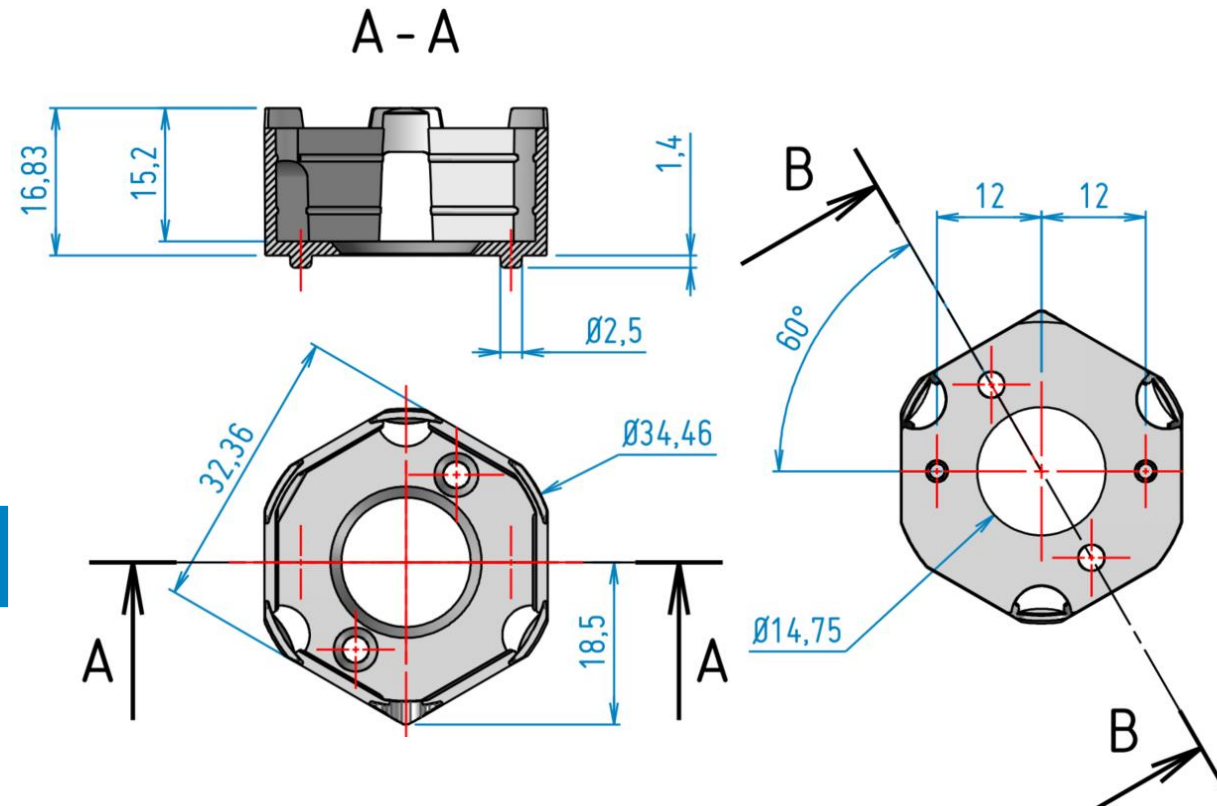
With adhesive: LLH02HEL001

LLH02HEL021

Reference	Diameter (mm)	Nominal distance from PCB (mm)	Note
LLH02HELO*	32	0.5	With pins, screws inside

* : colors 0 (clear), 2 (black)

If you need another color of holder, please [contact us](#)



All dimensions are in millimeters.

General tolerance +/- 0.1mm (standard NF T 58-000 cat. 4, reduced class).



Positioning holes need to be created into the PCB.

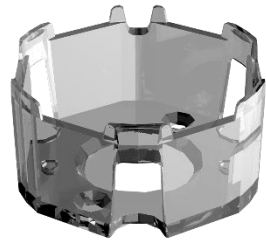
LLH02HELO* + LLC25x

LLC25: Assembled set

Holder	Color	Adhesive	Narrow LLC25N	Color LLC25C	Wall grazing LLC25G	Medium LLC25M	Wide LLC25W	Very large LLC25V	Elliptical LLC25E
LLH02HELO0	Clear	✗	LLS25N02HELO0	LLS25C02HELO0	LLS25G02HELO0	LLS25M02HELO0	LLS25W02HELO0	LLS25V02HELO0	LLS25E02HELO0
LLH02HELO01		✓	LLS25N02HELO01	LLS25C02HELO01	LLS25G02HELO01	LLS25M02HELO01	LLS25W02HELO01	LLS25V02HELO01	LLS25E02HELO01
LLH02HELO2	Black	✗	LLS25N02HELO2	LLS25C02HELO2	LLS25G02HELO2	LLS25M02HELO2	LLS25W02HELO2	LLS25V02HELO2	LLS25E02HELO2
LLH02HELO21		✓	LLS25N02HELO21	LLS25C02HELO21	LLS25G02HELO21	LLS25M02HELO21	LLS25W02HELO21	LLS25V02HELO21	LLS25E02HELO21

LLC25: compatible holders

LLH02RD10*



Clear holder



Black holder

Without adhesive: LLH02RD100

LLH02RD102

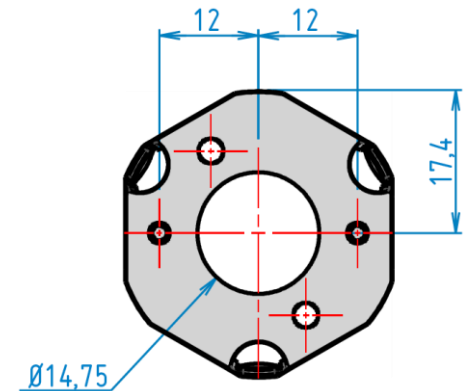
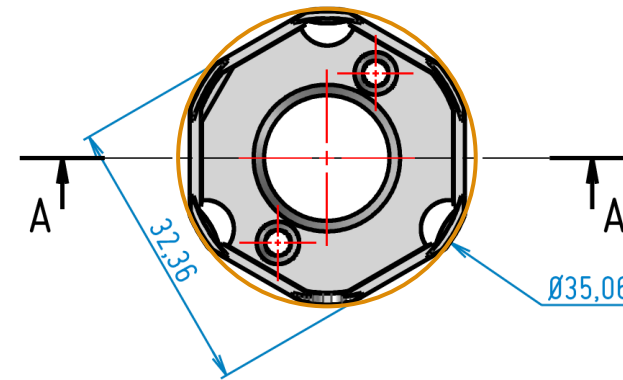
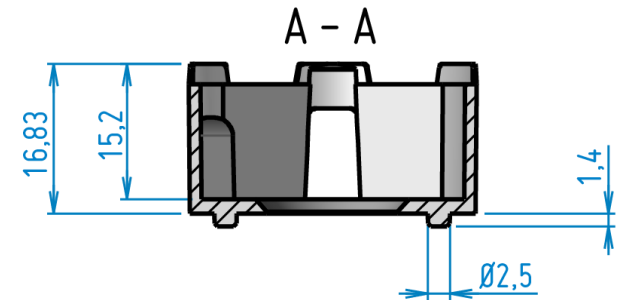
With adhesive: LLH02RD1001

LLH02RD1021

Reference	Diameter (mm)	Nominal distance from PCB (mm)	Note
LLH02RD10*	32	0.5	With pins, screws inside, rounded

* : colors 0 (clear), 2 (black)

If you need another color of holder, please [contact us](#)



All dimensions are in millimeters.

General tolerance +/- 0.1mm (standard NF T 58-000 cat. 4, reduced class).



Positioning holes need to be created into the PCB.

LLH02RD10* + LLC25x

LLC25: Assembled set

Holder	Color	Adhesive	Narrow LLC25N	Color LLC25C	Wall grazing LLC25G	Medium LLC25M	Wide LLC25W	Very large LLC25V	Elliptical LLC25E
LLH02RD100	Clear	✗	LLS25N02RD100	LLS25C02RD100	LLS25G02RD100	LLS25M02RD100	LLS25W02RD100	LLS25V02RD100	LLS25E02RD100
LLH02RD1001		✓	LLS25N02RD1001	LLS25C02RD1001	LLS25G02RD1001	LLS25M02RD1001	LLS25W02RD1001	LLS25V02RD1001	LLS25E02RD1001
LLH02RD102	Black	✗	LLS25N02RD102	LLS25C02RD102	LLS25G02RD102	LLS25M02RD102	LLS25W02RD102	LLS25V02RD102	LLS25E02RD102
LLH02RD1021		✓	LLS25N02RD1021	LLS25C02RD1021	LLS25G02RD1021	LLS25M02RD1021	LLS25W02RD1021	LLS25V02RD1021	LLS25E02RD1021

LLC25: compatible holders

LLH02MTB0*



Clear holder



Black holder

Without adhesive: LLH02MTB00

LLH02MTB02

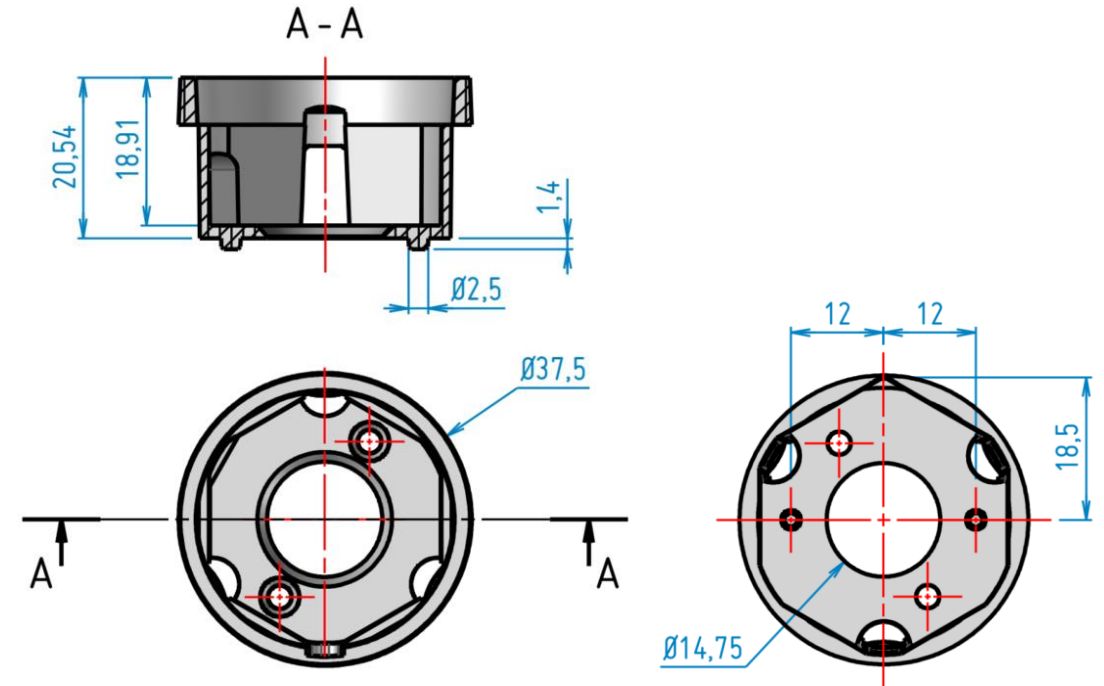
With adhesive: LLH02MTB001

LLH02MTB021

Reference	Diameter (mm)	Nominal distance from PCB (mm)	Note
LLH02MTB0*	32	0.5	With pins, screws inside, rounded snoot

* : colors 0 (clear), 2 (black)

If you need another color of holder, please [contact us](#)



All dimensions are in millimeters.

General tolerance +/- 0.1mm (standard NF T 58-000 cat. 4, reduced class).



Positioning holes need to be created into the PCB.

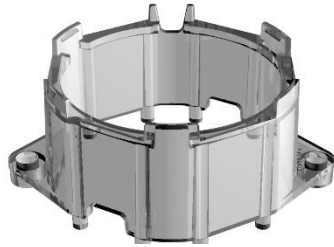
LLH02MTB0* + LLC25x

LLC25: Assembled set

Holder	Color	Adhesive	Narrow LLC25N	Color LLC25C	Wall grazing LLC25G	Medium LLC25M	Wide LLC25W	Very large LLC25V	Elliptical LLC25E
LLH02MTB00	Clear	✗	LLS25N02MTB00	LLS25C02MTB00	LLS25G02MTB00	LLS25M02MTB00	LLS25W02MTB00	LLS25V02MTB00	LLS25E02MTB00
LLH02MTB001		✓	LLS25N02MTB001	LLS25C02MTB001	LLS25G02MTB001	LLS25M02MTB001	LLS25W02MTB001	LLS25V02MTB001	LLS25E02MTB001
LLH02MTB02	Black	✗	LLS25N02MTB02	LLS25C02MTB02	LLS25G02MTB02	LLS25M02MTB02	LLS25W02MTB02	LLS25V02MTB02	LLS25E02MTB02
LLH02MTB021		✓	LLS25N02MTB021	LLS25C02MTB021	LLS25G02MTB021	LLS25M02MTB021	LLS25W02MTB021	LLS25V02MTB021	LLS25E02MTB021

LLC25: compatible holders

LLH02AAC0*



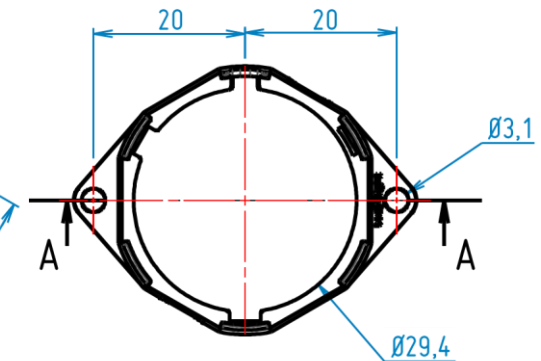
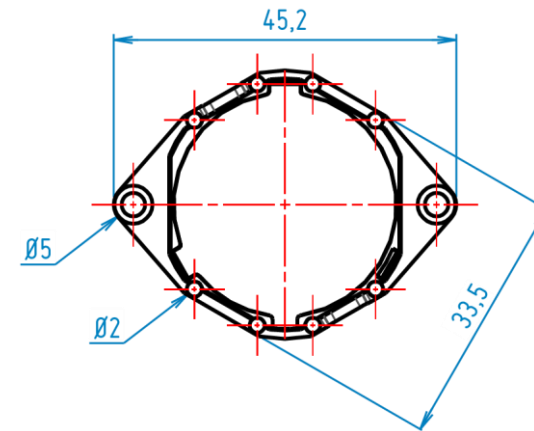
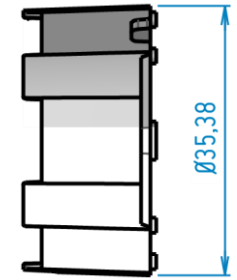
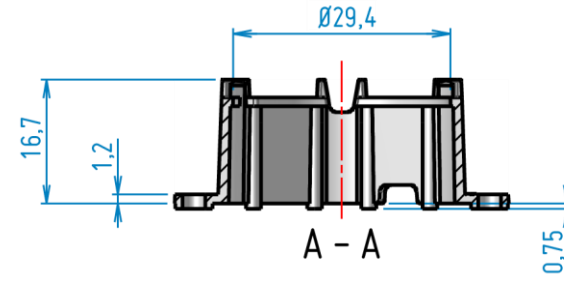
Clear holder

Without adhesive: LLH02AAC00

Reference	Diameter (mm)	Nominal distance from PCB (mm)	Note
LLH02AAC0*	32	0.99	Without pins, screws outside

* : colors 0 (clear), 2 (black)

If you need another color of holder, please [contact us](#)



All dimensions are in millimeters.

General tolerance +/- 0.1mm (standard NF T 58-000 cat. 4, reduced class).



Positioning holes need to be created into the PCB.

LLC25: Assembled set

LLH02AAC0* + LLC25x

Holder	Color	Adhesive	Narrow LLC25N	Color LLC25C	Wall grazing LLC25G	Medium LLC25M	Wide LLC25W	Very large LLC25V	Elliptical LLC25E
LLH02AAC00	Clear	✗	LLS25N02AAC00	LLS25C02AAC00	LLS25G02AAC00	LLS25M02AAC00	LLS25W02AAC00	LLS25V02AAC00	LLS25E02AAC00

LLC22: Nominal distance

Nominal distance from PCB surface to best focus point of optic

Achieving an optimal focus position of the lens is the key factor for a successful LED/Collimator integration.

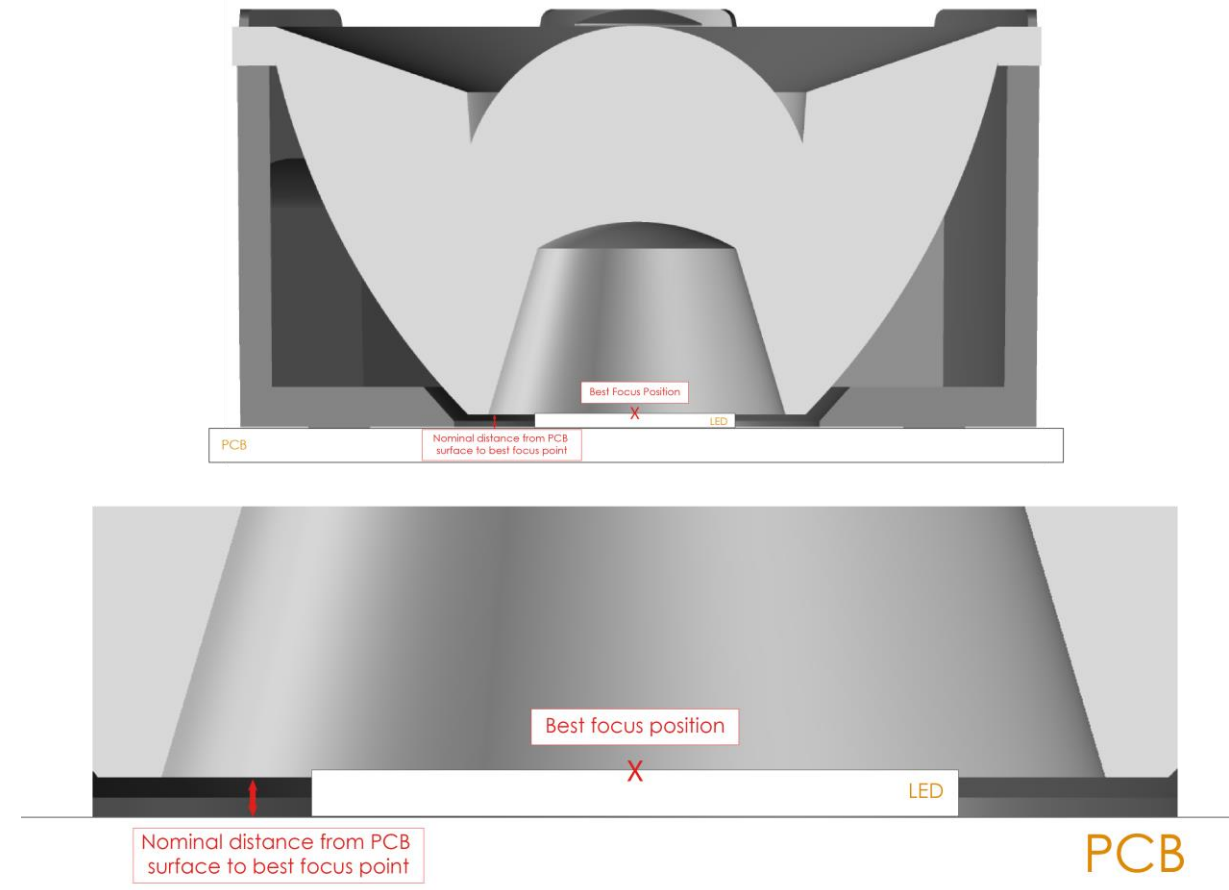
The best focus position will be achieved when matching the collimator's focus position with LED's Light Emission Surface position.

Different holder references will achieve specific PCB to Collimator's focus point distance in order to adapt to the considered LED.

Reference	Diameter (mm)	Nominal distance from PCB (mm)	Note
LLH02XALO*	32	0.25	With pins
LLH02HELO*	32	0.5	With pins, screws inside
LLH02RD10*	32	0.5	With pins, screws inside, rounded
LLH02MTB0*	32	0.5	With pins, screws inside, rounded snoot
LLH02AAC0*	32	0.99	With pins

* : colors 0 (clear), 2 (black)

If you need another color of holder, please [contact us](#)



Code form standard range

LENS

OPTICAL

01: 16 mm
02: 16 mm
12: 16 mm
22: 16 mm RGBW
05: 32 mm
25: 32 mm RGBW
07: 35 mm
45: 45 mm UFO
49: 45 mm RGBW
59: 45 mm RGBW gen 2
56: 67mm in PMMA
66: 67 mm in silicone
76: 67mm in silicone with ring
67: 67 mm UFO

PRODUCT

LLC: Collimator
LLH: Holder
LLL: Linear collimator
LLR: Reflector
LLS: Set
UFO: Ultra Flat Optic

BEAN ANGLE

N: Narrow
M: Medium
W: Wide
X: Extra large
S: Super large
L: Large
V: Very large
E: Elliptical
Z: Zoom

MATERIAL

0 or nothing : PMMA
1: PC
2: PC anti-UV
7: Silicone

LLS01W01ABC001

ABC: Holder type according to LED package

COLORS & DECORS

00: Translucent
01: White
02: Black

ADHESIVE OPTION

1: Yes
Nothing: No

TYPE

01: 16mm
02: 32mm
03: 3x16mm
04: 4x16mm

HOLDER

Contact us

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Revision

Date	Revision	Description
/12/2020	Initial edition	