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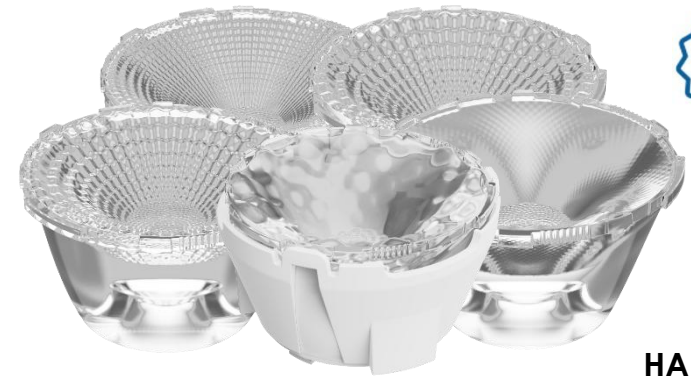
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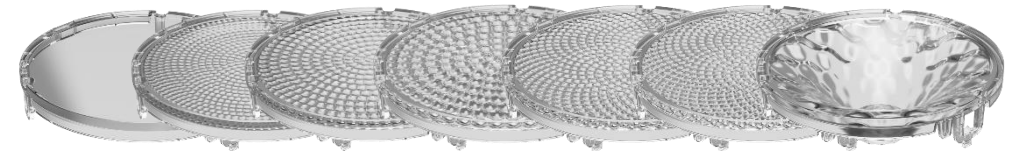
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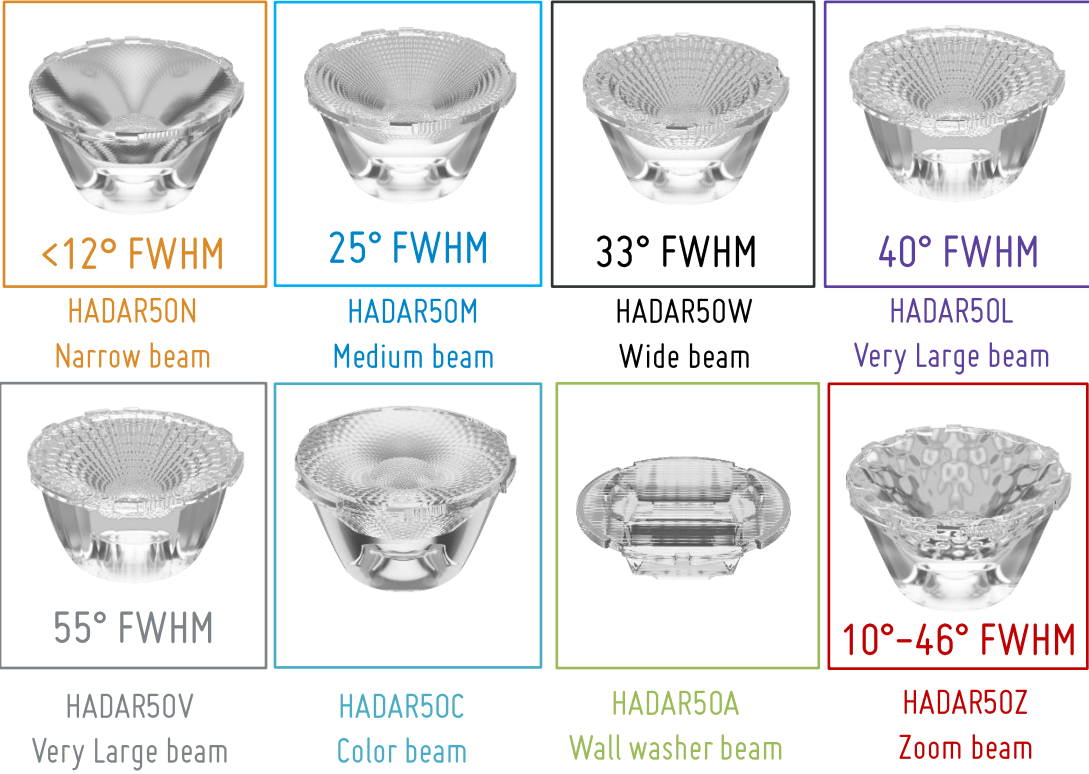
HADAR50\*



HADAR50W\* Window accessories

50 mm  
PMMA collimator  
**HADAR50\***  
Window accessories  
**HADAR50W\***

**HADAR50\*** Since the success of GAGGIONE's LLC79 premium silicone collimator family, we have developed 50mm PMMA collimator range with variety of twist and lock beam changing window accessories. HADAR50\* has **typical efficiency of 92 %** and supporting even larger COBs (3mm – 14.5mm LES), with better 3rd party connector support.



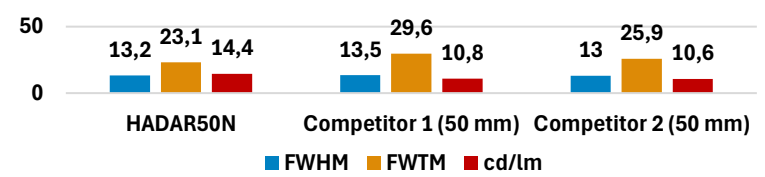
HADAR50 holder and 3rd party connector support:	
Holder reference	Compatibility
HADAR50H10* / HADAR50HA10*	LLH66 & B+W Bayonet 6xx 50G
HADAR50H10* / HADAR50HA10*	LLH66 + B+W 4XX Typ Z1 combined
HADAR50H10*	GALAXY1 & GALAXY2 (patented, colormixing)
HADAR50H40* / HADAR50HA40*	BJB 35 mm & B+W Bayonet 35/20 & B+W Bayonet 35/25
HADAR50H90* / HADAR50HA90*	HEKLA-G2 & HEKLA-K & B+W Hekla/HeklaXL



**HADAR50\* family's beams:**

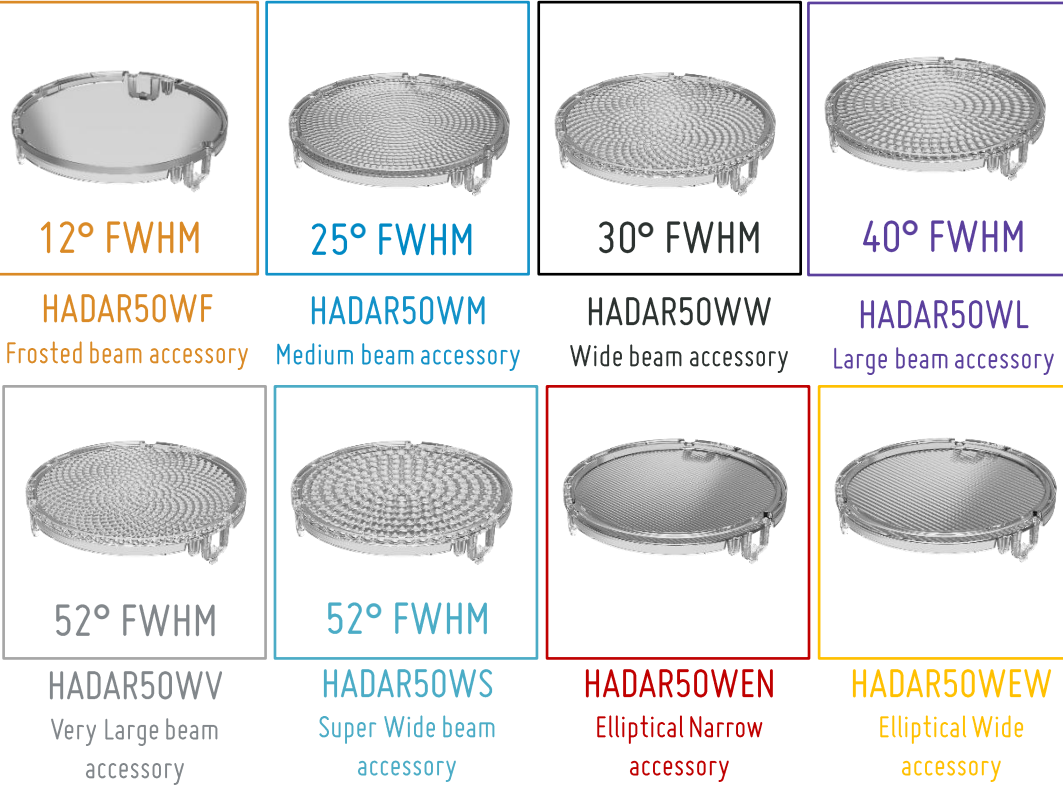
HADAR50N	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	9,6	13,8	18,4	21,4
FWTM (°)	17	22,2	30	37,6
Efficacy (cd/lm)	22,5	12,2	7,1	4,7
HADAR50M	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	25,6	25,8	26,8	28,1
FWTM (°)	39,4	42,6	47,1	51,4
Efficacy (cd/lm)	4,5	4	3,4	2,8
HADAR50W	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	33,3	31,8	31,9	32,3
FWTM (°)	51,7	53,3	56,2	59,2
Efficacy (cd/lm)	2,6	2,5	2,3	2
HADAR50L	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	47,2	46,4	44,7	45,7
FWTM (°)	77,2	77,1	77,3	79,1
Efficacy (cd/lm)	1,1	1,1	1,2	1,1
HADAR50V	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	56,5	56,2	54,9	54,7
FWTM (°)	89,8	89,8	89,9	91,8
Efficacy (cd/lm)	0,8	0,8	0,9	0,8
HADAR50C	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	12,8	14,5	18,5	22,8
FWTM (°)	23,8	27,8	34,2	41,3
Efficacy (cd/lm)	13,9	10,4	6,5	4,2
HADAR50A	LES 6 mm	LES 8,5 mm	LES 11 mm	LES 13 mm
FWHM (°)	asymmetric	asymmetric	asymmetric	asymmetric
FWTM (°)	asymmetric	asymmetric	asymmetric	asymmetric
Efficacy (cd/lm)	1,01	0,85	0,74	0,67
HADAR50Z	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	12,9 – 44,6	14,7 – 45	17,5 – 45,8	20 – 46,2
FWTM (°)	22,5 – 71,3	29,9 – 72,5	36 – 75	41,8 – 77,3
Efficacy (cd/lm)	9,8 – 1,3	7 – 1,2	4,9 – 1,1	3,5 – 1

**HADAR50N vs Competition**

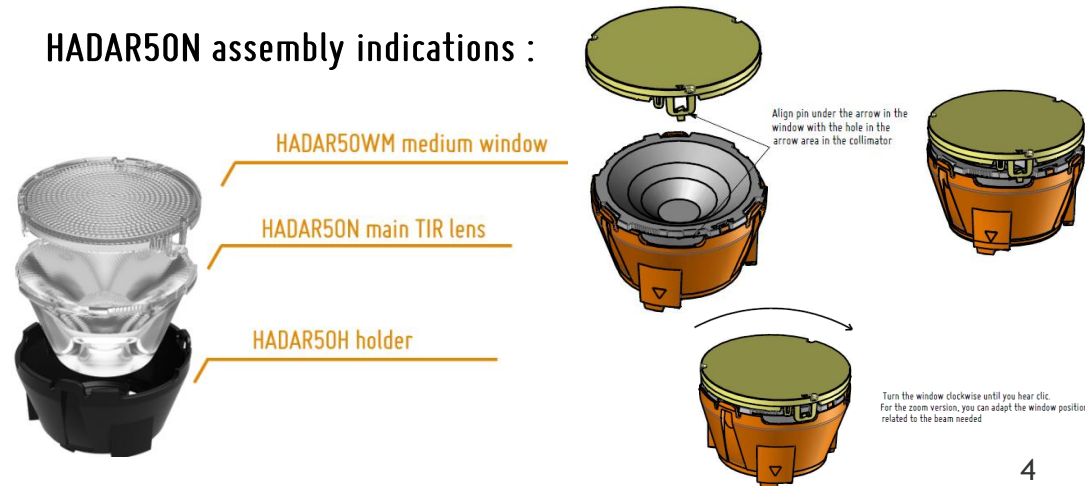


For full compatibility matrix, please refer to our website [www.optic-gaggione.com](http://www.optic-gaggione.com)

**HADAR50W\*** HADAR50W\* window accessories provide ultimate flexibility. New, revolutionary and extremely efficient (typical efficiency: >88%), twist and lock window accessories are easy to install and remove. Twist and lock windows are specifically designed to be used with HADAR50N series TIR lens, but you can mix HADAR50WF accessory also with any HADAR50 TIR lens to achieve the exact beam angle you want.



**HADAR50N assembly indications :**



**Measured beams with HADAR50N lens + HADAR50W\* accessory:**

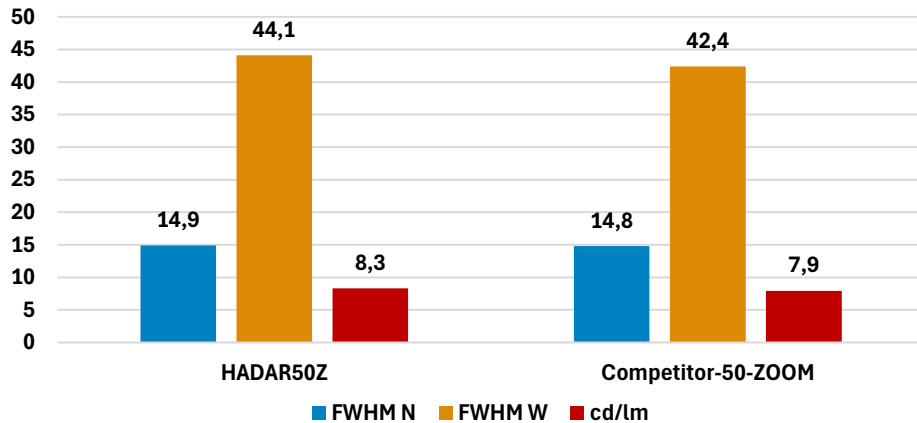
HADAR50WF	LES 4,2 mm	LES 6 mm	LES 8,5 mm	LES 11 mm
FWHM (°)	12.5	15.1	19.6	22.3
FWTM (°)	27.7	32.3	40.1	45.5
Efficacy (cd/lm)	10.2	7.4	4.5	3.4
HADAR50WM	LES 6 mm	LES 8,5 mm	LES 11 mm	LES 13 mm
FWHM (°)	23.4	23.1	25.1	27.2
FWTM (°)	38.2	40.1	45.9	51.4
Efficacy (cd/lm)	4.6	4.4	3.4	2.6
HADAR50WW	LES 6 mm	LES 8,5 mm	LES 11 mm	LES 13 mm
FWHM (°)	29.6	29.4	31.0	32.1
FWTM (°)	45.6	47.1	52.8	57.5
Efficacy (cd/lm)	3.2	3.0	2.4	2
HADAR50WL	LES 6 mm	LES 8,5 mm	LES 11 mm	LES 13 mm
FWHM (°)	39.2	38.8	40.7	41.8
FWTM (°)	56.7	58.0	63.8	68.6
Efficacy (cd/lm)	2.0	1.9	1.6	1.4
HADAR50WV	LES 6 mm	LES 8,5 mm	LES 11 mm	LES 13 mm
FWHM (°)	51.6	50.4	52.4	53.9
FWTM (°)	71.3	71.8	77.9	82.7
Efficacy (cd/lm)	1.2	1.2	1.0	0.9
HADAR50WS	LES 6 mm	LES 8,5 mm	LES 11 mm	LES 13 mm
FWHM (°)	51.6	50.3	53.9	56.0
FWTM (°)	78.7	78.9	85.7	91.0
Efficacy (cd/lm)	1.2	1.1	0.9	0.8
HADAR50WEN	LES 3,5 mm	LES 6 mm	LES 9 mm	LES 12 mm
FWHM (°)	9,1 X 33,9	13,4 X 34,9	16,9 X 36,3	21,7 X 37,9
FWTM (°)	18,1 X 42	27,5 X 48,1	33,2 X 53,6	42,3 X 60,5
Efficacy (cd/lm)	6,73	4,38	3,26	2,4
HADAR50WEW	LES 3,5 mm	LES 6 mm	LES 9 mm	LES 12 mm
FWHM (°)	9,2 X 48,8	13,5 X 49,2	17,1 X 50,8	22 X 52,5
FWTM (°)	18,6 X 56,6	28,7 X 62,4	34,2 X 68,3	44,2 X 76
Efficacy (cd/lm)	4,69	3,12	2,36	1,7

**HADAR50Z** New innovative HADAR50Z zoom is patent pending optical design providing adjustable **10 – 45° beam**. HADAR50Z has industry's highest efficiency of **+88%** and is the only solution in the market where the top lens is directly integrated to the lens holder (**rotation stop system**). Rotation stop system has **rotation angle of 14° and 7 steps**, the individual steps lock the beam and help you to easily adjust the same beam for each luminaire. HADAR50Z supports **COBs and Dim-to-warm solutions** from 3mm to 14.5mm LES. Thanks to excellent optical design, HADAR50Z provides **better color uniformity, higher efficiency and higher efficacy** vs competitors.

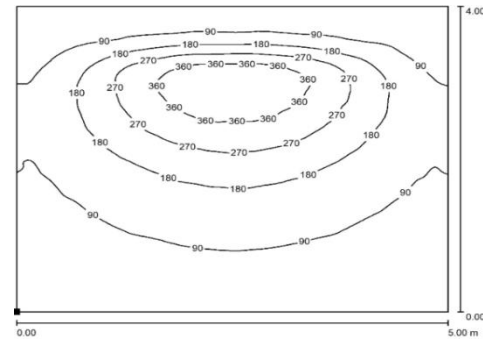
Looking for RGBW zoom? Use HADAR50Z with our patented **GALAXY base**, that is specifically designed for RGBW color mixing applications.



### HADAR50Z VS Competitor-50-Zoom (6mm LES)

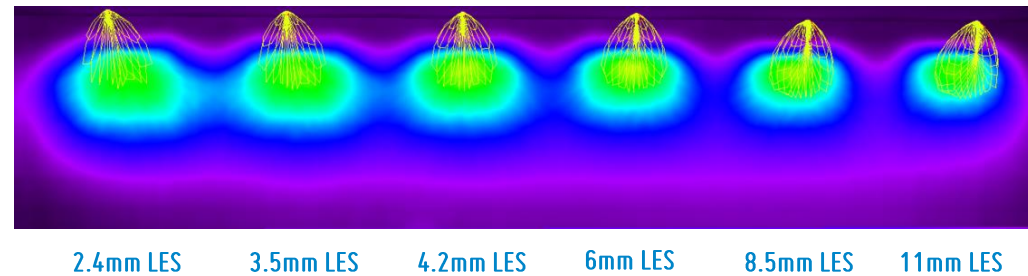


**HADAR50A** New highly efficient, low profile wall washer lens has low back, straylight and industry's standard 1:3 light ratio. HADAR50A has low surface brightness and provides UGR of <19 with up to 2500 lumens. We have minimized backlight and reduced surface brightness and softened the cut-off to provide better overlapping of the beams when multiple HADAR50A lenses are installed on the row. HADAR50A is compatible with 3 mm – 14 mm LES COBs.



Dialux simulation, four optics  
 1000 lumens per LED  
 Distance to the wall 1m  
 Optics spacing 1m

**\*\* Extremely consistent results between different LES sizes. \*\***



For full compatibility matrix please refer to our website [www.optic-gaggione.com](http://www.optic-gaggione.com)