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GAGGIONE

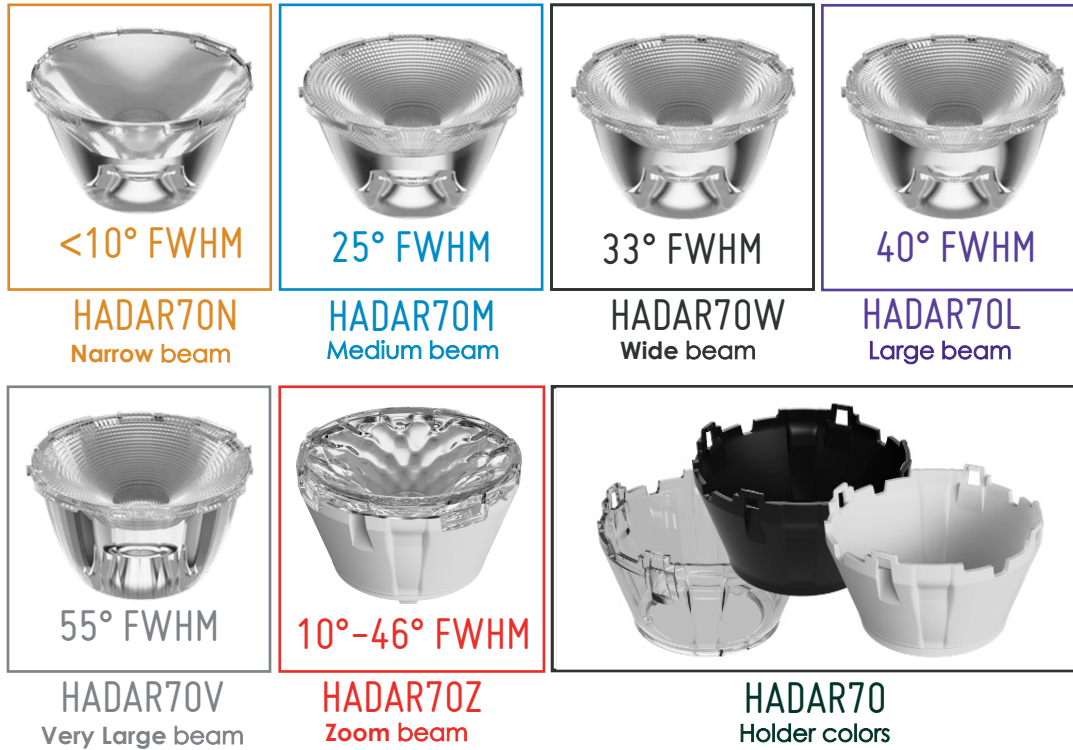
SHAPING YOUR LIGHT



HADAR70W* Window accessories

70 mm
PMMA collimator
HADAR70*
Window accessories
HADAR70W*

HADAR70* Since the success of GAGGIONE's LLC66 premium silicone collimator family, we have developed 70mm PMMA collimator range with variety of snap-on window accessories. HADAR70* has **typical efficiency of 92 %** and supporting even larger COBs (3mm – 23mm LES), with better 3rd party connector support



HADAR70 holder and 3rd party connector support:

Holder reference	Compatibility
HADAR70H10*	LLH66 & B+W Bayonet50G
HADAR70H10*	LLH66 + B+W 4XX Typ Z1 combined
HADAR70H10*	GALAXY1 & GALAXY2 (patented, colormixing)
HADAR70H40*	BJB 35 mm & B+W Bayonet 35L
HADAR70H41*	BJB 50 mm & B+W Bayonet 50L
HADAR70H90*	HEKLA-G2 & HEKLA-K & B+W Hekla/HeklaXL

* holder colors: 0 is clear, 1 is white, 2 is black



LLH66*



GALAXY1 & GALAXY2 (RGBW)



Bayonet 50G

HADAR70* family's estimated beams:

HADAR70N	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	5,1	9,7	14,4	23,4	28,7
FWTM (°)	9,4	16,2	23,4	38,1	47,9
Efficacy (cd/lm)	88,2	27,1	12,7	4,7	3,0

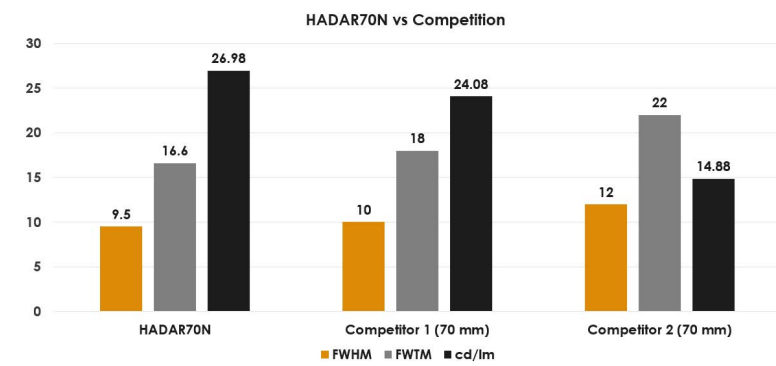
HADAR70M	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	26,2	24,5	23,3	28	32,2
FWTM (°)	37,7	39,6	42,3	51	58,2
Efficacy (cd/lm)	4,9	4,9	4,6	2,9	1,9

HADAR70W	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	32,0	32,3	33,2	36,4	38,0
FWTM (°)	52,4	52,7	53,5	56,7	60,3
Efficacy (cd/lm)	2,6	2,6	2,5	2,3	1,8

HADAR70L	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	39,3	39,5	39,5	42,6	43,6
FWTM (°)	62,1	61,6	61,6	67,4	71,6
Efficacy (cd/lm)	1,9	2,0	2,0	1,6	1,5

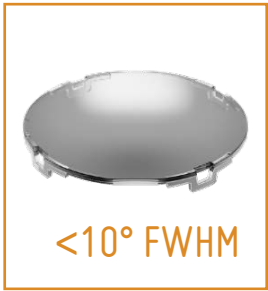
HADAR70V	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	55,3	55,7	55,8	51,2	51,6
FWTM (°)	81,4	82,1	85,2	83,3	85,6
Efficacy (cd/lm)	1,1	1,1	1,0	1,1	1,1

HADAR70Z	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	10 - 33,1	12,9 - 41,6	16,1 - 44,1	23 - 47,8	27,7 - 38,7
FWTM (°)	19,3 - 67,7	21,5 - 73,3	33,2 - 77	47,7 - 82,9	58,4 - 76,7
Efficacy (cd/lm)	17,2 - 2,9	14,3 - 1,4	6,3 - 1,2	3 - 1,1	2,1 - 1,2



For full compatibility matrix please refer to our website www.optic-gaggione.com

HADAR70W* HADAR70W* window accessories provides ultimate flexibility. Extremely efficient (typical efficiency: >88%) snap-on window accessories are specifically designed to be used with HADAR70N series TIR lens, but you can mix HADAR70WF accessory also with any HADAR70 TIR lens to achieve the exact beam angle you want.



<10° FWHM

HADAR70WF

Frosted beam accessory



25° FWHM

HADAR70WM

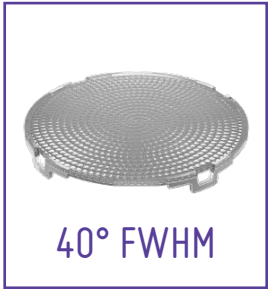
Medium beam accessory



30° FWHM

HADAR70WW

Wide beam accessory



40° FWHM

HADAR70WL

Large beam accessory



50° FWHM

HADAR70WV

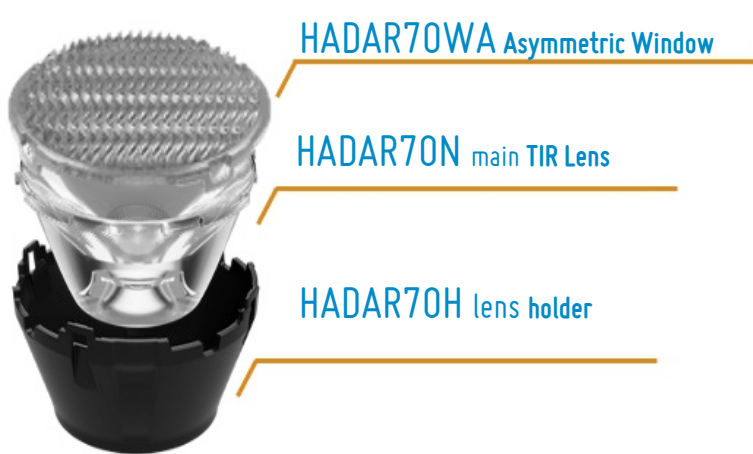
Very Large beam accessory



50° FWHM

HADAR70WS

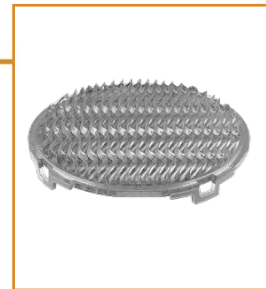
Super Wide beam accessory



HADAR70WA Asymmetric Window

HADAR70N main TIR Lens

HADAR70H lens holder



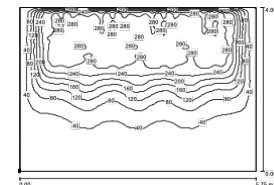
Wall washer

HADAR70WA accessory

Estimated beams with HADAR70N lens + HADAR70W* accessory:

HADAR70WF	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	6,6	10,4	15	23,7	29,1
FWTM (°)	13,3	19,9	27,1	42,1	52
Efficacy (cd/lm)	38,6	17,7	9,4	3,8	2,5
HADAR70WM	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	25,7	25,4	25,5	27,7	30,7
FWTM (°)	33,5	36,8	40,9	50,6	58,1
Efficacy (cd/lm)	4,8	4,5	4,1	2,8	2,2
HADAR70WW	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	30,9	30,9	31,9	33,1	34,9
FWTM (°)	40,9	43,9	48,2	57,4	64,7
Efficacy (cd/lm)	3,4	3,2	2,8	2,2	1,8
HADAR70WL	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	41,7	42,1	41,9	44,3	44,9
FWTM (°)	52,8	55,7	59,5	69,8	77
Efficacy (cd/lm)	1,9	1,9	1,8	1,4	1,2
HADAR70WV	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	52,7	52,7	54,3	58	58,5
FWTM (°)	69	71	75,1	86,2	95,1
Efficacy (cd/lm)	1,2	1,2	1,1	0,9	0,8
HADAR70WS	LES 3 mm	LES 6 mm	LES 9mm	LES 15mm	LES 19mm
FWHM (°)	45,7	49,5	51,2	57,3	60,1
FWTM (°)	74,4	78,4	82,1	93,7	107,3
Efficacy (cd/lm)	1,4	1,3	1,2	0,9	0,7

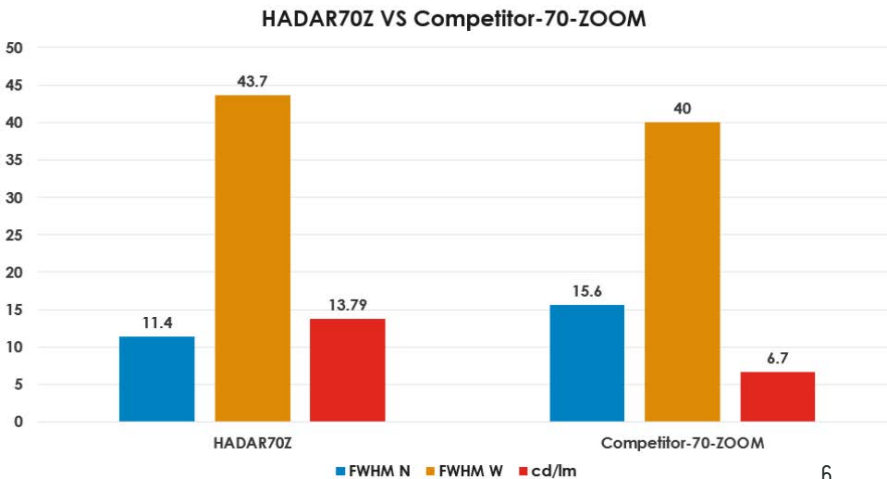
HADAR70WA
Wall washer



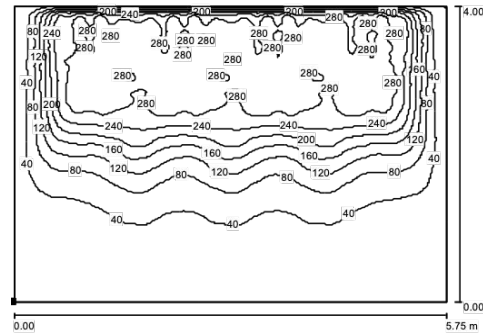
- * Dialux simulation, four optics
- * 1000 lumens per LED
- * Distance to the wall 1m
- * Optics spacing 1.25m

For full compatibility matrix please refer to our website www.optic-gaggione.com

HADAR70Z New innovative HADAR70Z zoom is patent pending optical design providing adjustable **10 – 45° beam**. HADAR70Z has industry's highest efficiency of **+88%** and is only solution in the market where the top lens is directly integrated to the lens holder (**rotation stop system**). Rotation stop system has **free rotation angle of 14°** that makes it easy to build fixture around HADAR70Z. HADAR70Z supports **COBs and Dim-to-warm solutions** from **3mm to 23mm LES**. Thanks to excellent optical design, HADAR70Z provides **broader beam range, higher efficiency and twice higher efficacy** vs competitors. Looking for RGBW zoom? use HADAR70Z with our patented **GALAXY base**, that is specifically designed for RGBW color mixing applications.

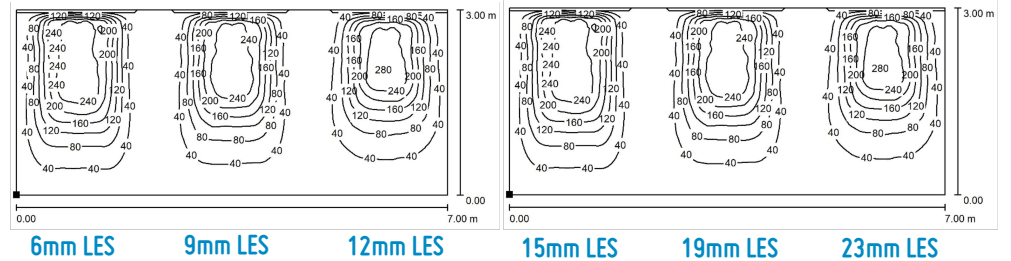


HADAR70WA New highly efficient, improved and patented wall washer window to be used with HADAR70N main TIR lens. We have minimized backlight and reduced surface brightness to provide glare-free experience. HADAR70WA' provides very visually pleasing beam, with soft cut-off. Light starts from the roof level and HADAR70WA is compatible with 3 mm – 23 mm LES COBs.



Dialux simulation, four optics
1000 lumens per LED
Distance to the wall 1m
Optics spacing 1.25m

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



For full compatibility matrix please refer to our website www.optic-gaggione.com