Standard Lens Specifications

N series lens options are designed specifically for the P1, P2, P5 and P6 series projector platforms.

Lens Part Number, Description & Throw Ratio: -
Focus, zoom (where applicable) & Iris on all lens options is motorized. Stepper motors are used throughout to ensure high degree positional accuracy.

Projector Platform	Lens Name	Lens Description	Lens Throw Ratio
P1, P2, P5, P6	N1	Extra Wide Zoom Lens	0.70 - 1.09:1 @ 8K n-shift/6K n-shift/4K Native 0.80 - 1.25:1 @ 4K UHD/4K n-shift/WQXGA
	N2	Wide Zoom Lens	1.05 - 1.40:1 @ 8K n-shift/6K n-shift/4K Native 1.20 - 1.60:1 @ 4K UHD/4K n-shift/WQXGA
	N3	Super Wide Lens	0.55:1 @ 8K n-shift/6K n-shift/4K Native 0.63:1 @ 4K UHD/4K n-shift/WQXGA
	N4	Standard Zoom Lens	1.35 - 2.27:1 @ 8K n-shift/6K n-shift/4K Native 1.55 - 2.60:1 @ 4K UHD/4K n-shift/WQXGA

Lens Shift Parameters: -
Lens Shift values provided assume 50% is on axis, that 100% Lens Shift equals half of image height / width.

Resolution / Axis	N1	N2	N3	N4
4K Native				
Vertical	± 53%	± 116%	± 87%	± 110
Horizontal	± 51%	± 75%	± 63%	± 72%
WQXGA				
Vertical	± 68%	± 120.5%	± 95%	± 115%
Horizontal	± 57.5%	± 85%	± 71%	± 82%

'Product Support – Norxe Lens Shift Explained' documentation containing calculation theory & illustrations is available separately upon request.

Lens Optical Performance Characteristics: -

Parameter	N1	N2
Working F#	2.2 - 2.55	2.2 - 2.43
Iris **Iris F#**	Yes 2.2 - 8.0	Yes 2.2 - 8.0
Focal Length	15.85 - 24.70 mm	23.85 - 31.75 mm
Focus Range	Optical: 1.5 - 8.0 M Mechanical: 1.0 - 18.0 M	Optical: 1.5 - 15.0 M Mechanical: 1.0 - 20.0 M
MTF	Centre: 60% @ 66 lp/mm Corners: 50% @ 66 lp/mm	Centre: 60% @ 66 lp/mm Corners: 50% @ 66 lp/mm
Lateral Color	660-550 nm: <4.3µm 660-440 nm: <4.3µm 630-550 nm: <3.0µm 630-440 nm: <3.0µm 550-440 nm: <3.0µm	660-550 nm: <3.6µm 660-440 nm: <3.6µm 630-550 nm: <2.4µm 630-440 nm: <3.0µm 550-440 nm: <3.0µm
Optical Distortion	0.32%	0.54%

Parameter	N3	N4
Working F#	2.2	2.2 - 2.48
Iris **Iris F#**	Yes 2.2 - 8.0	Yes 2.2 - 8.0
Focal Length	12.78 mm	30.70 - 51.45 mm
Focus Range	Optical: 0.7 - 3.0 M Mechanical: 0.4 - 6.0 M	Optical: 1.5 - 15.0 M Mechanical: TBC
MTF	Centre: 86.7% @ 66 lp/mm Corners: 75.4% @ 66 lp/mm	Centre: 65% @ 66 lp/mm Corners: 60% @ 66 lp/mm
Lateral Color	660-550 nm: <3.5µm 660-440 nm: <2.4µm 630-550 nm: <2.5µm 630-440 nm: <2.5µm 550-440 nm: <2.4µm	660-550 nm: <2.2µm 660-440 nm: <2.0µm 630-550 nm: <1.7µm 630-440 nm: <1.9µm 550-440 nm: <1.9µm
Optical Distortion	0.46%	0.54%

'Product Support – Depth of Focus' documentation containing relevant data & illustrations is available separately upon request.

Standard Lens Specifications

Projection Point: -
The Projection Point denotes the origin of a projected image within the projection lens. It should not be confused with Throw Distance.

Parameter	N1	N2	N3	N4
Theoretical Projection Point	Wide 51 mm Tele 49 mm Distance measured from last optical element back towards the DMD.	Wide 78 mm Tele 75 mm Distance measured from last optical element back towards the DMD.	71.00 mm Distance measured from last optical element back towards the DMD.	Wide 102 mm Tele 101 mm Distance measured from last optical element back towards the DMD.

'Product Support - N Series Lens Projection Point' documentation containing additional data & illustrations is available separately upon request.

Lens Length & Weight: -

Parameter	N1	N2	N3	N4
Lens Length	218.50 mm 8.61 inches	250.49 mm 9.87 inches	315.1 mm 12.41 inches	283.5 mm 11.1 inches
Lens Weight	2.20 kg/4.85 lbs	2.90 kg/6.40 lbs	5.52 kg/12.20 lbs	3.80 kg/8.40 lbs

Additional Information: -
Lens options are future proofed. Each has been designed to resolve 5.4-micron pixel pitch to ensure compatibility with the new generation native resolution 4K DLP Chip.

Lens options comprise all glass, aspherical, no doublet optical elements & include 'lens lock' technology. The 'lens lock' feature allows the end user to physically lock the lens to the projector body, lock the lens adjustment rings into position and lock the lens body to 3rd party supporting clamps for additional rigidity in extreme circumstances.

Scheimpflug adjustment is a standard feature on Norxe projectors.

Disclaimer

Specifications subject to change without prior notice. Always check www.norxe.com for the latest information.

Optical tolerances are +/- 5%.