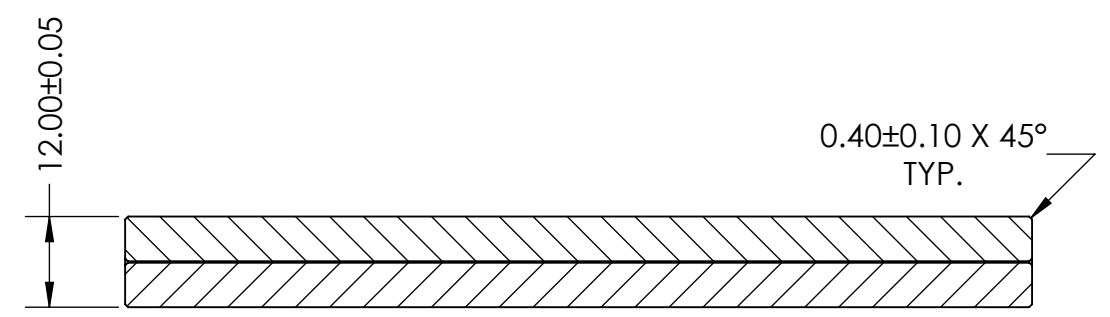


ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
1	PSPEC-OPT-002	Prism - Sky Side	SCHOTT N-LASF44	1
2	PSPEC-OPT-003	Prism - Detector Side	SCHOTT N-SF6	1
3	N/A	Cement	NOA-170F	1



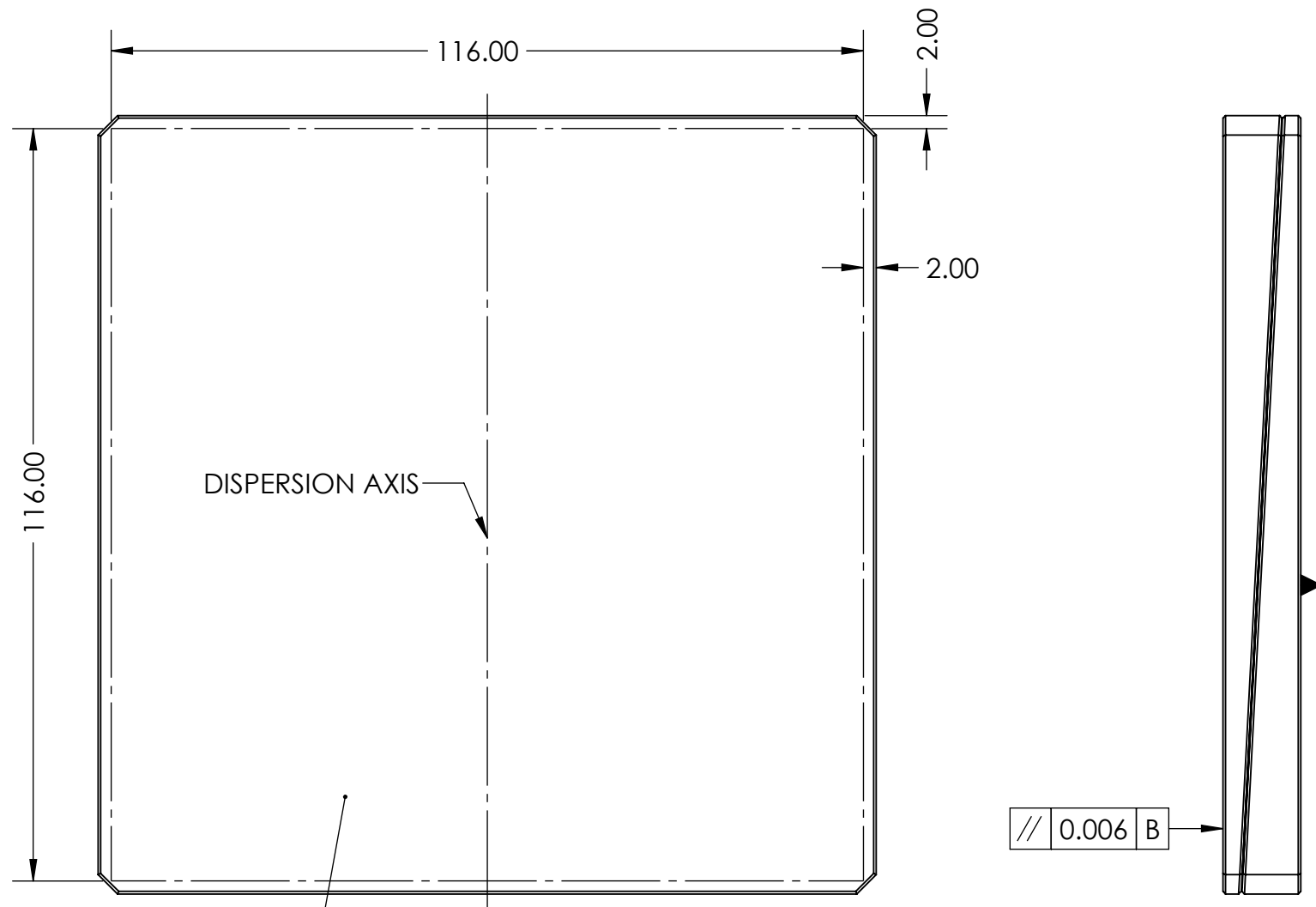
MATERIAL NOTES:

- Sky Side Prism: N-SF6HT/HT ultra instead of N-LASF44 is acceptable if n/V match within catalog tolerances. Equivalent optical glasses from other glass vendors are also acceptable.
- Quality and Certification (ISO 10110 where applicable):
 - Homogeneity/striae: vendor standard for large-area windows (target ≥ H4)
 - Free of visible bubbles/inclusions

GEOMETRIC NOTE:
 Final prism assembly thickness shall be 12.00 mm ±0.05 mm.
 For the delivered set of prisms, the thickness difference between any two units shall not exceed ±0.02 mm.

 THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN MM			INSTITUTE FOR ASTRONOMY University of Hawaii 2680 Woodlawn Drive Honolulu, HI 96822			
		NEXT ASSY	TOLERANCES FRACTION ± 0.5 X.X ± 0.3 X.XX ± 0.1 X.XXX ± 0.05 ∠ ± 0°30'	SUBSYSTEM: Pan-Spec			
MATERIAL N/A	MACHINING FINISH N7 - 1.6µM EDGE BREAK 0.25 x 45°	DESIGNED K. HODAPP DATE 12/18/2025	DRAWN M. BONNET DATE 3/5/2026	CHECKED E. MAGNIER DATE 4/7/2026	SIZE B SCALE 1:1	DRAWING NUMBER PSPEC-OPT-001	REVISION A
						SHEET 1 OF 3	

S1: Sky Side, AR Coating
 S2: Bonding Surface
 S3: Bonding Surface
 S4: Detector Side, Short Pass Coating

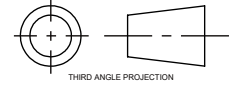




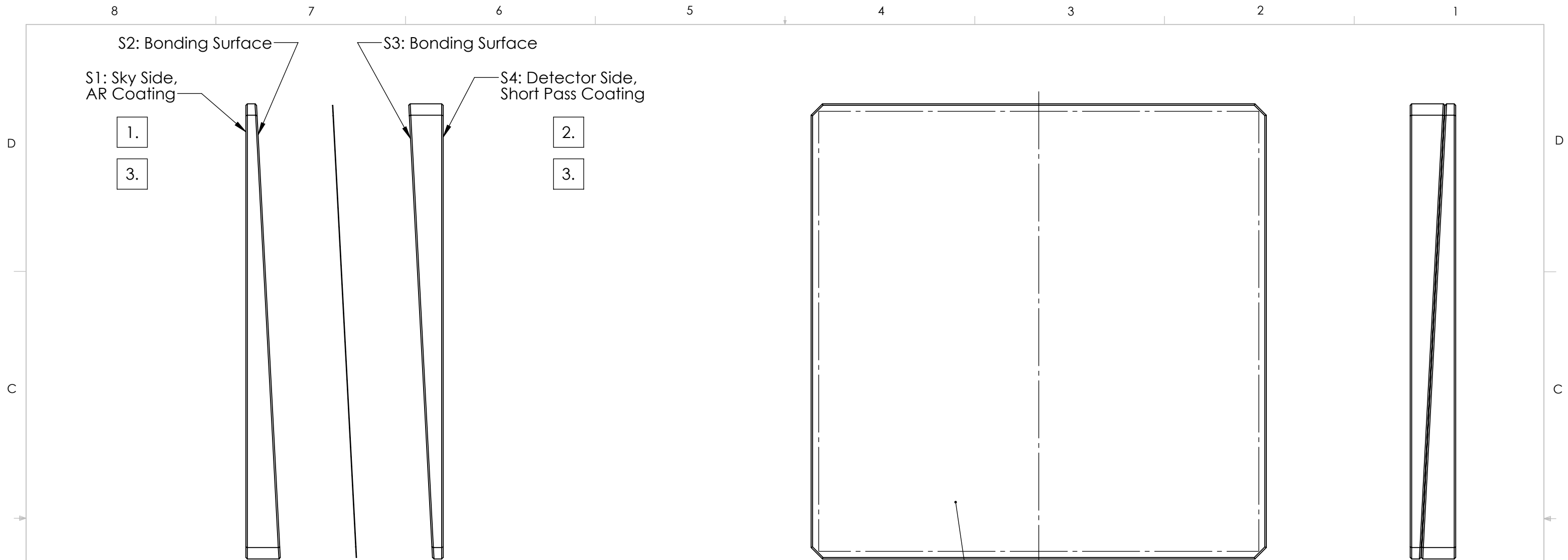
CLEAR APERTURE
 (116MM x 116MM)

Datum A is the mechanical reference edge used for prism alignment in the instrument. This surface shall remain free of adhesive and suitable for mechanical referencing. Dispersion axis shall be orthogonal to Datum A within $\pm 0.2^\circ$.

NOTES:

1. Surface Quality: 60-40 scratch-dig per MIL-PRF-13830, Goal: 40-20
2. Flatness per outer face: ≤ 3 fringes P-V @633 nm over Clear Aperture
3. ITV: $\leq 8 \mu\text{m}$ over Clear Aperture
4. Surface Roughness: $\leq 3 \text{ nm RMS}$ prior to coating
5. Stress Birefringence: per ISO 10110-2: 5/10 ($\leq 10 \text{ nm/cm}$) over clear aperture, measured at 20-23°C; 2 mm edge exclusion. Local cap: $\leq 15 \text{ nm/cm}$ within any $\varnothing 10 \text{ mm}$ sub-aperture.
6. Optical Function: Direct-Vision (zero-deviation) at $\lambda_0 = 602 \text{ nm}$.
7. Bonding: - Bond with Norland NOA-170F or equivalent high-index UV adhesive.
 - Bondline thickness: 100 μm nominal controlled with spacers.
 - Uniformity $\pm 5 \mu\text{m}$ over clear aperture.
 - Adhesive shall not spill onto side reference surfaces.
8. Environment: Optics must survive -10°C to +50°C transport environment without degradation of cement joint or coatings.
9. Cleaning Compatibility: Coatings and adhesive shall be compatible with CO₂, snow cleaning, IPA, acetone, DI water, and neutral detergents.

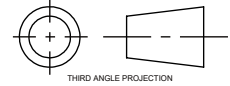


 THIRD ANGLE PROJECTION NEXT ASSY	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN MM	 INSTITUTE FOR ASTRONOMY University of Hawaii 2680 Woodlawn Drive Honolulu, HI 96822					
	TOLERANCES FRACTION ± 0.5 X.X ± 0.3 X.XX ± 0.1 X.XXX ± 0.05 $\angle \pm 0^\circ 30'$	SUBSYSTEM: Pan-Spec					
	MACHINING FINISH N7 - 1.6 μM	TITLE: Prism Assembly					
	EDGE BREAK 0.25 x 45°	DESIGNED K. HODAPP	DRAWN M. BONNET	CHECKED E. MAGNIER	SIZE B	DRAWING NUMBER PSPEC-OPT-001	REVISION A
MATERIAL N/A		DATE 12/18/2025	DATE 3/5/2026	DATE 4/7/2026	SCALE 1:1	SHEET 2 OF 3	



COATING NOTES:

1. Sky Side (S1):
 - Low-R AR optimized for r/i (e.g., 620–780 nm) or V-AR at 700–750 nm; average R ≤ 0.25 % per surface, AOI 0–5°.
 - This is the upward facing side that will collect more dust. Durability against CO2 snow cleaning is most important here.
2. Detector Side (S4)
 - Short-pass cutoff ≤ 950 nm (cone-aware). Specify performance for f/4.5 cone (chief-ray AOI ~0°, cone half-angle ≈ 6.5°), unpolarized:
 - a. Cone-averaged transmission: $T_{ave}(600-900 \text{ nm}) \geq 97\%$
 - b. Edge: $\lambda_{50} = 950 \pm 5 \text{ nm}$; 10–90% slope ≤ 80 nm (cone-averaged)
 - c. Blocking: $OD \geq 3$ for $\lambda \geq 1000 \text{ nm}$ (cone-averaged)
 - d. Uniformity across 116×116 mm: edge position $\Delta\lambda_{50} \leq \pm 3 \text{ nm}$
3. Durability & CO2 snow cleaning:
 - Coatings shall meet ISO 9211-4 abrasion/adhesion/water tests or MIL-C-48497A durability.
 - CO2 snow endurance (witness coupon): 50 full-aperture passes at room temp, per Buyer-provided CO2 procedure (standoff ~30–40 cm, oblique 30–60°, continuous sweep). No visible damage.

CLEAR APERTURE
(116MM x 116MM)

 THIRD ANGLE PROJECTION NEXT ASSY	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS IN MM	 INSTITUTE FOR ASTRONOMY University of Hawaii 2680 Woodlawn Drive Honolulu, HI 96822					
	TOLERANCES FRACTION ± 0.5 X.X ± 0.3 X.XX ± 0.1 X.XXX ± 0.05 ∠ ± 0°30'	SUBSYSTEM: Pan-Spec					
MACHINING FINISH N7 - 1.6µM	TITLE: Prism Assembly						
MATERIAL N/A	EDGE BREAK 0.25 x 45°	DESIGNED K. HODAPP DATE 12/18/2025	DRAWN M. BONNET DATE 3/5/2026	CHECKED E. MAGNIER DATE 4/7/2026	SIZE B SCALE 1:1	DRAWING NUMBER PSPEC-OPT-001 SHEET 3 OF 3	REVISION A