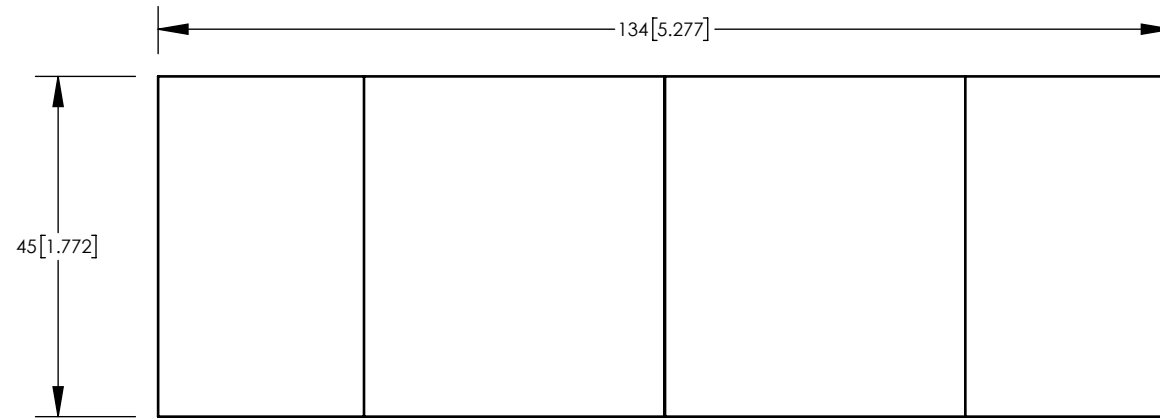


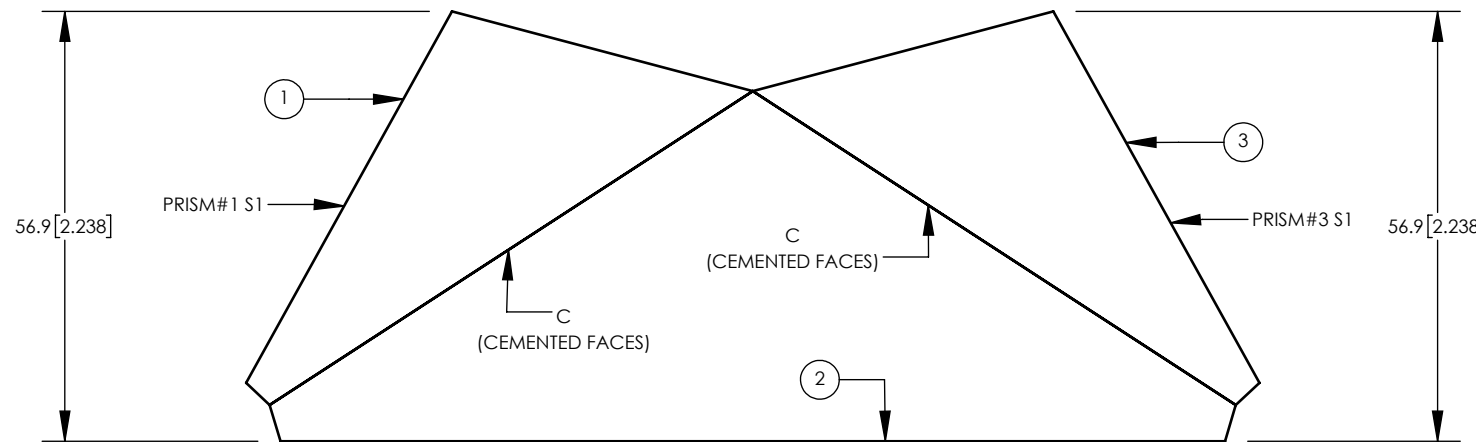
Notes: Unless otherwise DETAILED

1. Based on optical prescription 20210802G-1_SEDMKP_SPECTRO
2. **All dimensions are specified for a lab ambient temperature of 20 °C**
3. Operating temperature range is 8 °C ± 10 °C
4. Prism faces marked with "C" are cemented with Norland Optical Adhesive NOA88 with a nominal bond line thickness of 0.015 mm (or Sylgard 184 with a nominal bond line thickness of 0.040 mm)
5. Shipping container shall not contact any coated optical surfaces.
6. Prism assembly will be shipped in a protective hard case.

REVISIONS		
REV.	ZONE	DESCRIPTION
0		INITIAL RELEASE
A		NO CHANGE TO ASSY; UPDATED PRESCRIPTION REFERENCE



SCALE 1 : 1



SCALE 1 : 1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	SEDMKP-OPT-P0029	PRISM 1 (PBL1Y)	1
2	SEDMKP-OPT-P0028	PRISM 2 (BSL7Y)	1
3	SEDMKP-OPT-P0030	PRISM 3 (S-FSL5Y)	1

UNLESS OTHERWISE SPECIFIED:		
DIMENSIONS ARE IN mm [in] (<i>[in]</i> DIMS FOR REFERENCE ONLY)		
MACHINED FILLET RADII: R0.4-0.7 [0.015-0.03]		
DE-BURR/BREAK EDGES: 0.2-0.7 [0.008-0.03] RADIUS OR CHAMFER		
MACHINED SURFACE ROUGHNES: $\mu\text{m Ra}$ 1.6 0.8 [$\mu\text{in Ra}$ 63 0.03]		
GENERAL TOLERANCES		
LINEAR	ANGULAR	
0 - 6 ±0.1 [0 - 0.24] [±0.004]	MACHINED: ±0.5°	
>6 - 30 ±0.2 [>0.24 - 1.2] [±0.008]	BENT: ±1.0°	
>30 - 120 ±0.3 [>1.2 - 4.7] [±0.012]		
>120 - 315 ±0.5 [>4.7 - 12.4] [±0.020]		
>315 - 1000 ±0.8 [>12.4 - 39.4] [±0.031]		
>1000 ±1.2 [>39.4] [±0.047]		
MATERIAL		

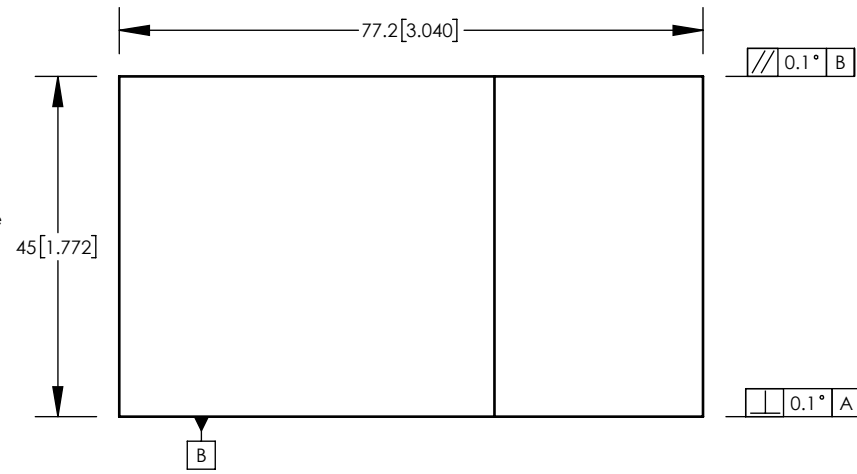
CREATED	J. Fucik
EDITED	J. Fucik
ENG APPR.	
RELEASED	
INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.100 GEOMETRIC TOLERANCING PER ASME Y14.5M-2009	
DO NOT SCALE DRAWING	
THIRD ANGLE PROJECTION	

CALIFORNIA INSTITUTE OF TECHNOLOGY CALTECH OPTICAL OBSERVATORIES		
TITLE: TRI-PRISM ASSEMBLY SEDM-KP PROJECT		
SIZE B	DWG. NO. SEDMKP-OPT-A0004	REV A
SCALE: 1:5	WT: kg	SHEET 1 OF 1

REV A
SEDMKP-OPT-A0004

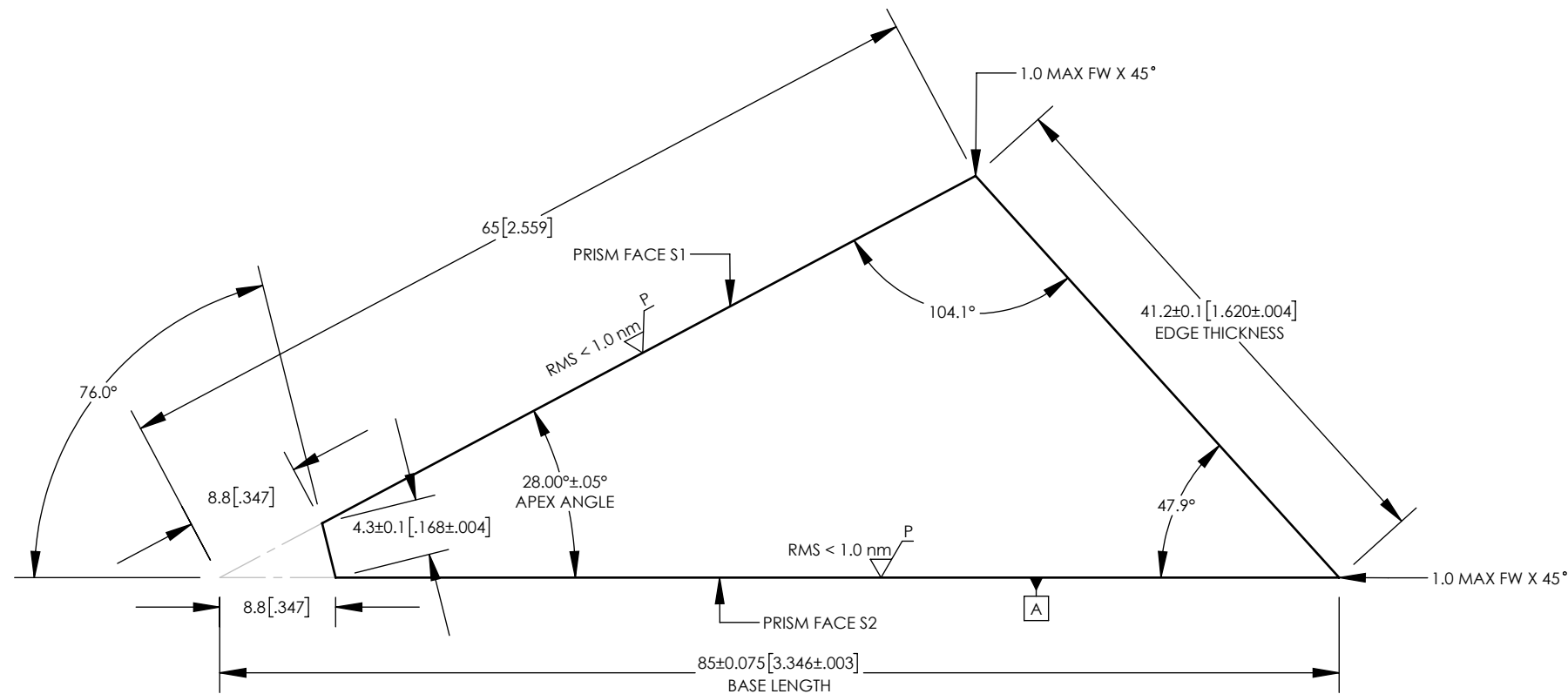
Notes: Unless otherwise DETAILED

- All non-polished surfaces are fine ground to 100 grit surface finish
- All polished surfaces have a surface roughness < 1 nm rms
- Based on optical prescription 20210802G-1_SEDMKP_SPECTRO
- All dimensions are specified for a lab ambient temperature of 20 °C**
- Operating temperature range is 8 °C ± 10 °C
- All PRISM edges have a 0.5 to 1.0 mm MAX fw x 45° protective chamfer
- Provide melt data (with typical C,d,F , and g lines) material and certification of compliance
- Provide measured surface figure error data
- Transmitted Wavefront Error (TWE) < 1/10 WAVE RMS @632.8 nm over CA.



REVISIONS		
REV.	ZONE	DESCRIPTION
0		INITIAL RELEASE
A		CHANGED APEX ANGLE FROM 29 DEG TO 28 DEG

SCALE 1 : 1



SCALE 2 : 1

TABLE IN ACCORDANCE WITH ISO 10110

LEFT SURFACE (S1)	MATERIAL	BOTTOM SURFACE (S2)
R: PLANO	GLASS: OHARA PBL1Y	R: PLANO
∅e: 95%	Nd: 1.5481 ±0.0003	∅e: 95%
CHAMFER: 0.5 MIN TO 1.0 MAX	Vd: 45.733 ±0.5%	CHAMFER: 0.5 MIN TO 1.0 MAX
λ (Anti-Reflection Coating): AOI RANGE: 44° TO 52° R < 0.75% AVERAGE FOR λ = 330 - 1000 nm R < 1.5% MAXIMUM FOR λ = 330 - 1000 nm		λ (Anti-Reflection Coating): No AR coating (cemented side)
3/ RMSI < 100 nm (SURFACE IRREGULARITY)	0/ < 5 nm/cm (BIREFRINGENCE)	3/ RMSI < 100 nm (SURFACE IRREGULARITY)
4/ --	1/ 3X0.1 (BUBBLE & INCLUSIONS)	4/ --
5/ 60-40 (SCRATCH/DIG)	2/ 2:5 (INHOMOGENEITY & STRIAE)	5/ 60-40 (SCRATCH/DIG)
6/ --		6/ --

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN mm [in] ([in] DIMS FOR REFERENCE ONLY) MACHINED FILLET RADII: R0.4-0.7 [0.015-0.03] DE-BURR/BREAK EDGES: 0.2-0.7 [0.008-0.03] RADIUS OR CHAMFER MACHINED SURFACE ROUGHNES: μm Ra 1.6 0.8 [μin Ra 63 0.03]		CREATED J. Fucik	CALIFORNIA INSTITUTE OF TECHNOLOGY CALTECH OPTICAL OBSERVATORIES TITLE: PRISM 1 SEDM-KP PROJECT
GENERAL TOLERANCES		EDITED J. Fucik	
LINEAR 0 - 6 ±0.1 [0 - 0.24] [±0.004] >6 - 30 ±0.2 [>0.24 - 1.2] [±0.008] >30 - 120 ±0.3 [>1.2 - 4.7] [±0.012] >120 - 315 ±0.5 [>4.7 - 12.4] [±0.020] >315 - 1000 ±0.8 [>12.4 - 39.4] [±0.031] >1000 ±1.2 [>39.4] [±0.047]	ANGULAR MACHINED: ±0.5° BENT: ±1.0°	ENG APPR. RELEASED	
MATERIAL		INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.100 GEOMETRIC TOLERANCING PER ASME Y14.5M-2009 DO NOT SCALE DRAWING THIRD ANGLE PROJECTION	
		SIZE B DWG. NO. SEDMKP-OPT-P0029 SCALE: 1:5 WT: kg	REV A SHEET 1 OF 1

D
 C
 B
 A
 REV A
 SEDMKP-OPT-P0029

Notes: Unless otherwise DETAILED

1. All non-polished surfaces are fine ground to 100 grit surface finish
2. All polished surfaces have a surface roughness < 1 nm rms
3. Based on optical prescription 20210802G-1_SEDMKP_SPECTRO
4. **All dimensions are specified for a lab ambient temperature of 20 °C**
5. Operating temperature range is 8 °C ± 10 °C
6. All PRISM edges have a 0.5 to 1.0 mm MAX fw x 45° protective chamfer
7. Provide melt data (with typical C,d,F , and g lines) material and certification of compliance
8. Provide measured surface figure error data
9. Transmitted Wavefront Error (TWE) < 1/10 WAVE RMS @ 632.8 nm over CA.

REVISIONS		
REV.	ZONE	DESCRIPTION
0		INITIAL RELEASE
A		NO CHANGE TO PART; UPDATED REFERENCE PRESCRIPTION

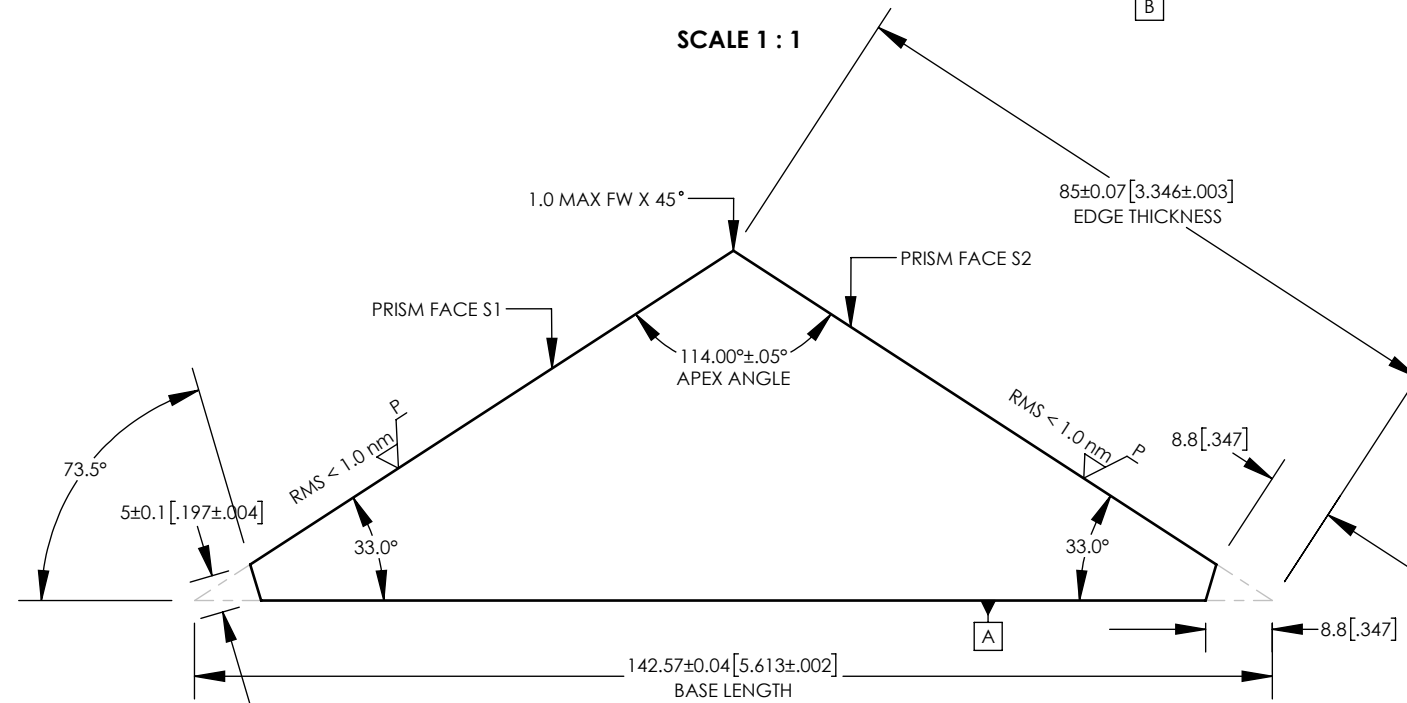
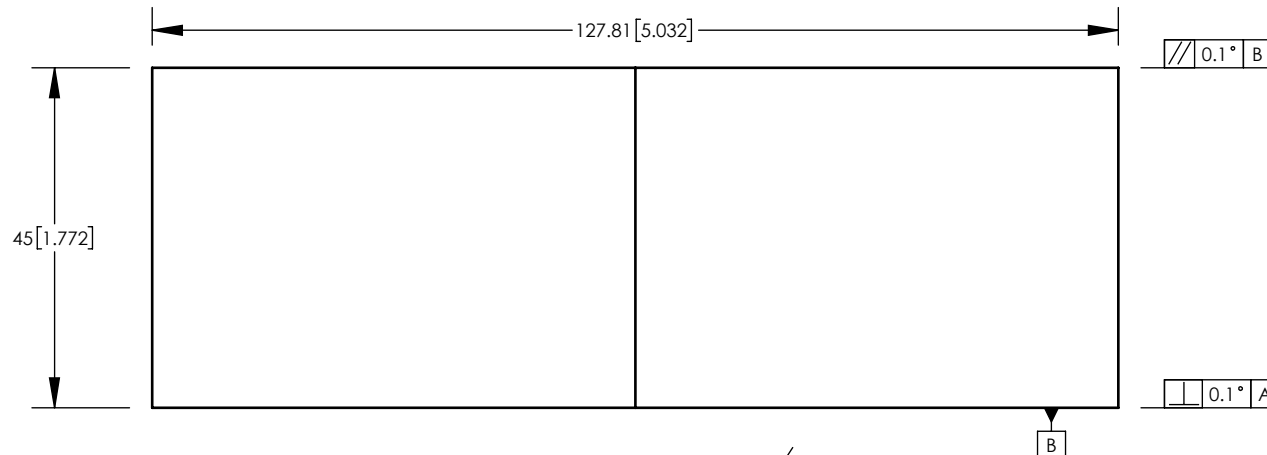


TABLE IN ACCORDANCE WITH ISO 10110

LEFT SURFACE (S1)	MATERIAL	RIGHT SURFACE (S2)
R: PLANO	GLASS: OHARA BSL7Y	R: PLANO
∅e: 95%	Nd: 1.5163 ± 0.0003	∅e: 95%
CHAMFER: 0.5 MIN TO 1.0 MAX	Vd: 64.244 ± 0.5%	CHAMFER: 0.5 MIN TO 1.0 MAX
λ (Anti-Reflection Coating): No AR coating (cemented side)		λ (Anti-Reflection Coating): No AR coating (cemented side)
3/ RMSI < 100 nm (SURFACE IRREGULARITY)	0/ < 5 nm/cm (BIREFRINGENCE)	3/ RMSI < 100 nm (SURFACE IRREGULARITY)
4/ --	1/ 3X0.1 (BUBBLE & INCLUSIONS)	4/ --
5/ 60-40 (SCRATCH/DIG)	2/ 2;5 (INHOMOGENEITY & STRIAE)	5/ 60-40 (SCRATCH/DIG)
6/ --		6/ --

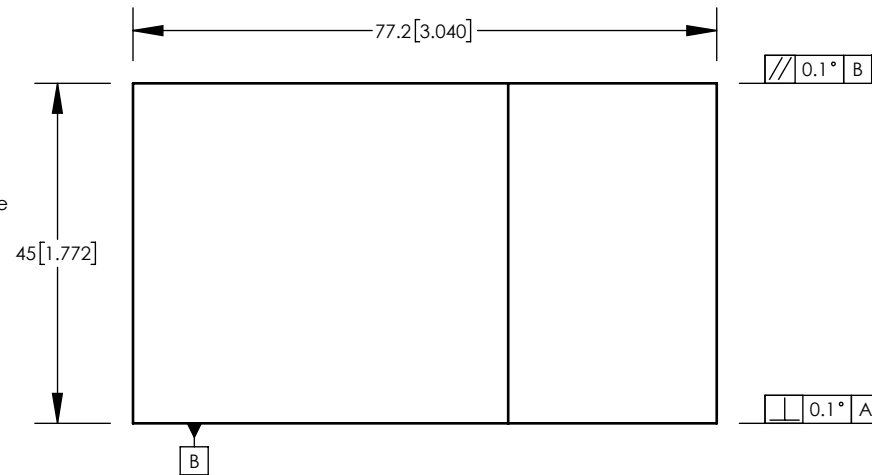
UNLESS OTHERWISE SPECIFIED:		
DIMENSIONS ARE IN mm [in] ([in] DIMS FOR REFERENCE ONLY)		
MACHINED FILLET RADII: R0.4-0.7 [0.015-0.03]		
DE-BURR/BREAK EDGES: 0.2-0.7 [0.008-0.03] RADIUS OR CHAMFER		
MACHINED SURFACE ROUGHNES: μm Ra $\sqrt{0.8}$ [μin Ra $\sqrt{63}$ 0.03]		
GENERAL TOLERANCES		
LINEAR	ANGULAR	
0 - 6 ±0.1	[0 - 0.24] [±0.004]	MACHINED: ±0.5° BENT: ±1.0°
>6 - 30 ±0.2	[>0.24 - 1.2] [±0.008]	
>30 - 120 ±0.3	[>1.2 - 4.7] [±0.012]	
>120 - 315 ±0.5	[>4.7 - 12.4] [±0.020]	
>315 - 1000 ±0.8	[>12.4 - 39.4] [±0.031]	
>1000 ±1.2	[>39.4] [±0.047]	
MATERIAL		

CREATED	J. Fucik	CALIFORNIA INSTITUTE OF TECHNOLOGY CALTECH OPTICAL OBSERVATORIES TITLE: <h2 style="text-align: center;">PRISM 2</h2> <h3 style="text-align: center;">SEDM-KP PROJECT</h3>
EDITED	J. Fucik	
ENG APPR.		
RELEASED		
INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.100 GEOMETRIC TOLERANCING PER ASME Y14.5M-2009		DO NOT SCALE DRAWING THIRD ANGLE PROJECTION
SIZE	DWG. NO.	REV
B	SEDMKP-OPT-P0028	A
SCALE: 1:5	WT: kg	SHEET 1 OF 1

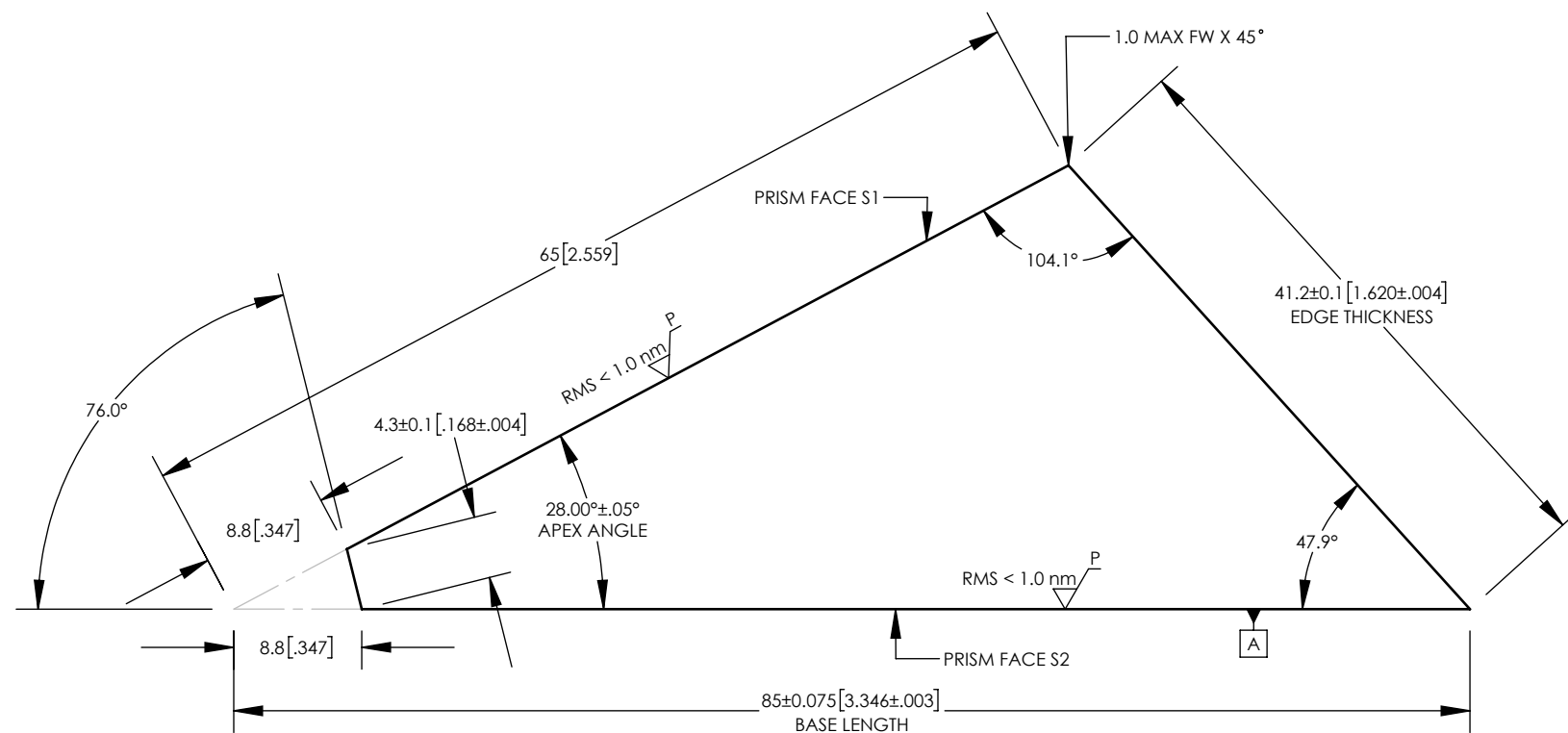
REV A
 DRAW. NO. SEDMKP-OPT-P0028

Notes: Unless otherwise DETAILED

1. All non-polished surfaces are fine ground to 100 grit surface finish
2. All polished surfaces have a surface roughness < 1 nm rms
3. Based on optical prescription 20210802G-1_SEDMKP_SPECTRO
4. **All dimensions are specified for a lab ambient temperature of 20 °C**
5. Operating temperature range is 8 °C ± 10 °C
6. All PRISM edges have a 0.5 to 1.0 mm MAX fw x 45° protective chamfer
7. Provide melt data (with typical C,d,F , and g lines) material and certification of compliance
8. Provide measured surface figure error data
9. Transmitted Wavefront Error (TWE) < 1/10 WAVE RMS @632.8 nm over CA.



SCALE 1 : 1



SCALE 2 : 1

REVISIONS		
REV.	ZONE	DESCRIPTION
0		INITIAL RELEASE
A		CHANGED PRISM MATERIAL FROM BAF2 TO OHARA S-FPL5Y CHANGED APEX ANGLE FROM 30 DEG TO 28 DEG

TABLE IN ACCORDANCE WITH ISO 10110

LEFT SURFACE (S1)	MATERIAL	BOTTOM SURFACE (S2)
R: PLANO	GLASS: OHARA S-FSL5Y	R: PLANO
∅e: 95%	Nd: 1.4875 ±0.0003	∅e: 95%
CHAMFER: 0.5 MIN TO 1.0 MAX	Vd: 70.354 ±0.5%	CHAMFER: 0.5 MIN TO 1.0 MAX
λ (Anti-Reflection Coating): AOI RANGE: 38° TO 48° R < 0.75% AVERAGE FOR λ = 330 - 1000 nm R < 1.5% MAXIMUM FOR λ = 330 - 1000 nm		λ (Anti-Reflection Coating): No AR coating (cemented side)
3/ RMS1 < 100 nm (SURFACE IRREGULARITY)	0/ < 5 nm/cm (BIREFRINGENCE)	3/ RMS1 < 100 nm (SURFACE IRREGULARITY)
4/ --	1/ 3X0.1 (BUBBLE & INCLUSIONS)	4/ --
5/ 60-40 (SCRATCH/DIG)	2/ 2:5 (INHOMOGENEITY & STRIAE)	5/ 60-40 (SCRATCH/DIG)
6/ --		6/ --

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN mm [in] ([in] DIMS FOR REFERENCE ONLY) MACHINED FILLET RADII: R0.4-0.7 [0.015-0.03] DE-BURR/BREAK EDGES: 0.2-0.7 [0.008-0.03] RADIUS OR CHAMFER MACHINED SURFACE ROUGHNES: μm Ra 1.6 0.8 [μin Ra 63 0.03]		CREATED J. Fucik	CALIFORNIA INSTITUTE OF TECHNOLOGY CALTECH OPTICAL OBSERVATORIES TITLE: <h3>PRISM 3</h3> <h3>SEDM-KP PROJECT</h3>
GENERAL TOLERANCES		EDITED J. Fucik	
LINEAR 0 - 6 ±0.1 [0 - 0.24] [±0.004] >6 - 30 ±0.2 [>0.24 - 1.2] [±0.008] >30 - 120 ±0.3 [>1.2 - 4.7] [±0.012] >120 - 315 ±0.5 [>4.7 - 12.4] [±0.020] >315 - 1000 ±0.8 [>12.4 - 39.4] [±0.031] >1000 ±1.2 [>39.4] [±0.047]	ANGULAR MACHINED: ±0.5° BENT: ±1.0°	ENG APPR. RELEASED	
MATERIAL		INTERPRET DRAWING IN ACCORDANCE WITH ASME Y14.100 GEOMETRIC TOLERANCING PER ASME Y14.5M-2009 DO NOT SCALE DRAWING THIRD ANGLE PROJECTION	
		SIZE B DWG. NO. SEDMKP-OPT-P0030 SCALE: 1:5 WT: kg	REV A SHEET 1 OF 1

DRAW. NO. SEDMKP-OPT-P0030