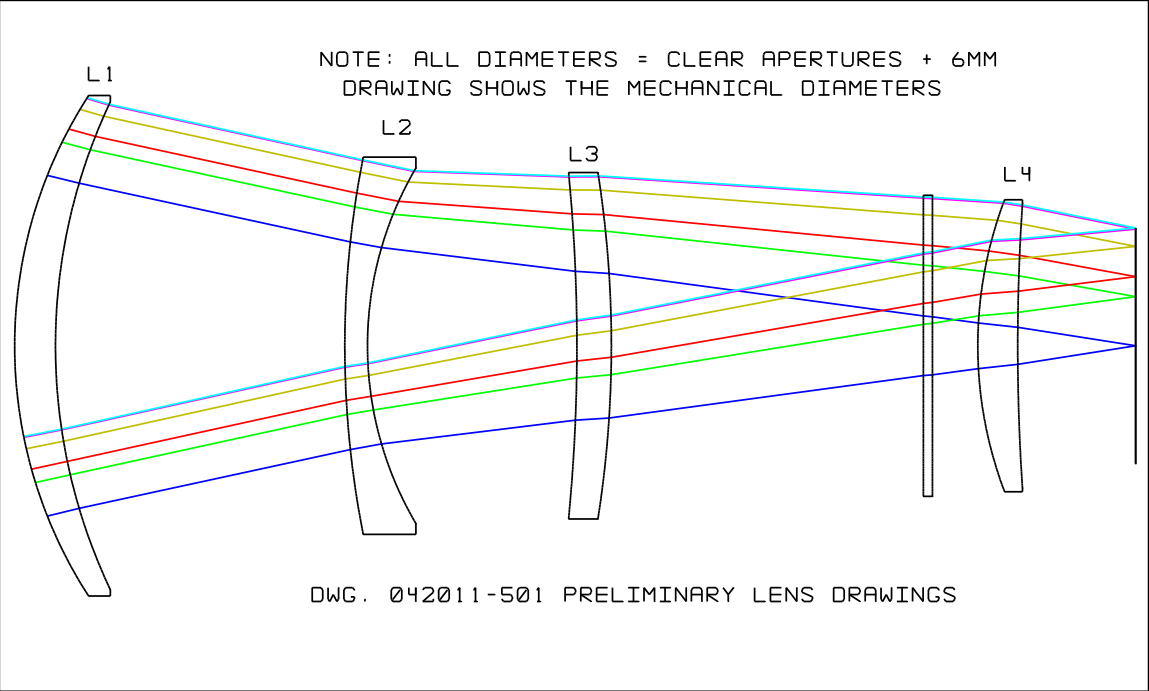




LAYOUT	
KMTNET 1.6M I BAND FINAL NOMINAL DESIGN 4/20/2011 SCALE: 0.2000	
100.00 MILLIMETERS	
NOMINAL DESIGN CORRECT CLAPS 042011.ZMX	

RADIUS	RAD TOL	IRR TOL	C.A. DIA	EDGE DIA	MATERIAL	THICK	THI TOL
507.781 CX	0.10	2 FRINGE	546	552.000	BK7	45.000	.05
628.214 CC	0.15	2 FRINGE	532				

1. ALL DIMENSIONS IN MILLIMETERS

2. MATERIAL PER MIL-G-174, GRADE A, FINE ANNEALED.

3. PITCH POLISH TO NOMINAL VALUE WITHIN POWER AND IRREGULARITY INDICATED. TEST WAVELENGTH = 546NM OR EQUIVALENT.

4. MANUFACTURE PER MIL-O-13830

5. MADE FROM SCHOTT N-BK7 OR EQUIV.
ND = 1.5168 +/- .0005, VD = 64.2 +/- 0.52

6. RADII TOLERANCES PERTAIN TO TESTPLATES, AND IRR TOLERANCES ARE: SPHERICAL ERROR IN RINGS FROM TESTPLATE FIT, AND IRREGULARITY IN FRINGES OVER THE CLEAR APERTURE.

7. COSMETIC QUALITY: 80-60.

8. BEVEL EDGES AT 45 DEGREES TO 0.5MM MAX FACE WIDTH.

9. MECHANICAL WEDGE LESS THAN 0.5 ARC-MINUTES.

10. FIND GRIND FLAT FACE ON CONCAVE SIDE, SAC = 60.51 +/- 0.03, PERP. TO AXIS WITHIN 0.5 ARC-MINUTES.

11. DIAMETER 552.0 +/- .1

12. AR COAT AIR-TO-GLASS FACES (MULTILAYER), LESS THAN 0.5% REFLECTANCE/SURFACE FROM 430 TO 1000NM, FROM 0 TO 30 DEGREES ANGLE OF INCIDENCE.

13. BLACKEN GROUND FACE AND EDGES. DIMENSIONS APPLY AFTER BLACKENING.

14. PROTECTIVE BAG AND TAG, "WATERPROOF DOME, 042011-001"

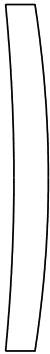
100.00 MM

TITLE			
ELEMENT L1			
DATE	SCALE	DRAWN	APPRV
4/20/2011	1:5	RAB	
PROJECT			
KMT PRELIMINARY DRAWINGS			
DRAWING		REVISION	
042011-001			

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RADIUS	RAD TOL	IRR TOL	C.A. DIA	EDGE DIA	MATERIAL	THICK	THI TOL
1988.079 CC	2.5	2 FRINGE	374	382.000	BK7	38.000	.2
1237.266 CX	1.5	2 FRINGE	376				

- ALL DIMENSIONS IN MILLIMETERS
- MATERIAL PER MIL-G-174, GRADE A, FINE ANNEALED.
- PITCH POLISH TO NOMINAL VALUE WITHIN POWER AND IRREGULARITY INDICATED. TEST WAVELENGTH = 546NM OR EQUIVALENT.
- MANUFACTURE PER MIL-O-13830
- MADE FROM SCHOTT N-BK7 OR EQUIV.
ND = 1.5168 +/- .0005, VD = 64.2 +/- 0.52
- RADII TOLERANCES PERTAIN TO TESTPLATES, AND IRR TOLERANCES ARE: SPHERICAL ERROR IN RINGS FROM TESTPLATE FIT, AND IRREGULARITY IN FRINGES OVER THE CLEAR APERTURE.
- COSMETIC QUALITY: 80-60.
- BEVEL EDGES AT 45 DEGREES TO 0.5MM MAX FACE WIDTH.
- MECHANICAL WEDGE LESS THAN 0.5 ARC-MINUTES.
- FIND GRIND FLAT FACE ON CONCAVE SIDE, SAC = 9.20 +/- 0.03, PERP. TO AXIS WITHIN 0.5 ARC-MINUTES.
- DIAMETER 382.0 +/- .1
- AR COAT AIR-TO-GLASS FACES (MULTILAYER), LESS THAN 0.5% REFLECTANCE/SURFACE FROM 430 TO 1000NM, FROM 0 TO 30 DEGREES ANGLE OF INCIDENCE.
- BLACKEN GROUND FACE AND EDGES. DIMENSIONS APPLY AFTER BLACKENING.
- PROTECTIVE BAG AND TAG, "WATERPROOF DOME, 042011-003"



100.00 MM

TITLE			
ELEMENT L3			
DATE	SCALE	DRAWN	APPRV
4/20/2011	1:5	RAB	
PROJECT			
KMT PRELIMINARY DRAWINGS			
DRAWING		REVISION	
042011-003			

System/Prescription Data

File : C:\Users\dick\Documents\ZEMAX\my zemax files 120609\POTEET 041611\Nominal design correct claps 042011.ZMX
Title: KMTNet 1.6M i band final nominal design
Date : 4/20/2011

LENS NOTES:

clear apertures for zero vignetting at 1.4 degrees off axis.

true field is 1.414 degrees, so some minor vignetting at edge of field of view.

SURFACE DATA SUMMARY:

Surf	Type	Radius	Thickness	Glass	Diameter	Conic	Comment
OBJ	STANDARD	Infinity	Infinity		0	0	
1	STANDARD	Infinity	-4000		1799.121	0	artwork
2	STANDARD	Infinity	0	MIRROR	1601.649	0	
STO	STANDARD	9579.035	3637.031	MIRROR	1601.636	-1	primary
4	STANDARD	507.781	45	BK7	552	0	L1
5	STANDARD	628.214	319.015		538	0	
6	STANDARD	1077.479	25	BK7	416	0	L2
7	STANDARD	386.714	230.89		392	0	
8	STANDARD	-1988.079	38	BK7	380	0	L3
9	STANDARD	-1237.266	344		382	0	
10	STANDARD	Infinity	10	BK7	332	0	Filter
11	STANDARD	Infinity	50		332	0	
12	STANDARD	453.709	44	SILICA	322	0	L4 window
13	STANDARD	2373.437	130.043		314	0	



RADIUS	RAD TOL	IRR TOL	C.A. DIA	EDGE DIA	MATERIAL	THICK	THI TOL
453.709 CX	2.5	2 FRINGE	316	322.000	SILICA	44.000	.2
2373.437 CC	1.5	2 FRINGE	308				

1. ALL DIMENSIONS IN MILLIMETERS

2. MATERIAL PER MIL-G-174, GRADE A, FINE ANNEALED.

3. PITCH POLISH TO NOMINAL VALUE WITHIN POWER AND IRREGULARITY INDICATED. TEST WAVELENGTH = 546NM OR EQUIVALENT.

4. MANUFACTURE PER MIL-O-13830

5. MADE FROM OPTICAL GRADE FUSED SILICA TYPE TBD

6. RADII TOLERANCES PERTAIN TO TESTPLATES, AND IRR TOLERANCES ARE: SPHERICAL ERROR IN RINGS FROM TESTPLATE FIT, AND IRREGULARITY IN FRINGES OVER THE CLEAR APERTURE.

7. COSMETIC QUALITY: 80-60.

8. BEVEL EDGES AT 45 DEGREES TO 0.5MM MAX FACE WIDTH.

9. MECHANICAL WEDGE LESS THAN 0.5 ARC-MINUTES.

10. FIND GRIND FLAT FACE ON CONCAVE SIDE, SAG = 5.20 +/-0.03, PERP. TO AXIS WITHIN 0.5 ARC-MINUTES.

11. DIAMETER 322.0 +/-0.1

12. AR COAT AIR-TO-GLASS FACES (MULTILAYER), LESS THAN 0.5% REFLECTANCE/SURFACE FROM 430 TO 1000NM, FROM 0 TO 30 DEGREES ANGLE OF INCIDENCE.

13. BLACKEN GROUND FACE AND EDGES. DIMENSIONS APPLY AFTER BLACKENING.

14. PROTECTIVE BAG AND TAG, "ELEMENT L4, 042011-004"



100.00 MM

TITLE			
ELEMENT L4			
DATE	SCALE	DRAWN	APPRV
4/20/2011	1:5	RAB	
PROJECT			
KMT PRELIMARY DRAWINGS			
DRAWING		REVISION	
042011-004			

GLASS TYPE (GLASS CODE) Nd (± 0.0005) Vd ($\pm 0.8\%$)	SURF	CURVE TOL (FRINGES)	COSMETIC (SCRATCH-DIG)	COATING	C.A. (ϕ)	ETD	TIR	EFL (@ Nd)	DRAWING NUMBER A 35584
FUSED SILICA (458678)	R1	NOTE 2/4	80-50	NOTE 3	316.0	< 0.047		1214.8	TITLE LENS
	R2	NOTE 2/4	80-50	NOTE 3	308.0				

NOTES:

1. R1 & R2 POLISHED, ALL ELSE FINE GROUND
2. SURFACE IRREGULARITY: R1 & R2: 2 FRINGES
3. COATING: R1 & R2: $R_{avg} < 0.5\%$ FROM $0.43-1.0\mu m$ @ $0^\circ-30^\circ$ AOI
4. RADIUS TOLERANCE: R1: $\pm 0.25mm$
R2: $\pm 1.5mm$
5. CHAMFER EDGES: $0.5 \times 45^\circ$ FW MAX
6. BLACKEN EDGE & FLAT; DIMENSIONS APPLY AFTER BLACKENING
7. BAG & TAG W/ "ELEMENT L4 042011-004"

DATE 08-31-2011	DRAWN BY RJC	CHKD AJC
SCALE 0.25X	NEXT ASSEMBLY	
TOLERANCES (UNLESS OTHERWISE SPECIFIED): DIMENSIONS ARE MILLIMETERS BREAK EDGES: $0.2 \times 45^\circ$ MAX ($0.3 \times 45^\circ$ FW) TRUE FLATS: $\pm 0.0004in[0.01mm]$ TIR TOLERANCES: LINEAR: ± 0.10 ANGULAR: $\pm 0^\circ 30'$ RADI: $\pm 0.1\%$ <u>ONLY ECO-FRIENDLY SUBSTITUTES ALLOWED</u> REFERENCE: 1 FRINGE = 0.5λ		
PROJECT NO. : 5403		
REV	DESCRIPTION	
DRAWING NUMBER A 35584		

DRAFT FOR APPROVAL

SIGNATURE: _____

DATE: _____