

Note:

- 1 The recycling cavity lengths are specified in Ref:T0900043-10; the ITM and ETM were moved per E1200345
- 2 BS thickness = 59.86 mm is the average as-built (5 mirrors) thickness at the center of BS
- 3 BS wedge angle = 0.073 deg is the average as-built (5 mirrors) wedge angle
- 4 Schnupp assymetry changed to 80 mm
- 5 COC pitch angles were re-calculated, accounting for yaw angles
- 6 Yaw angle is counterclockwise from positive axis direction
- 7 Pitch angle measured from global horizontal plane in positive vertical direction

	WEDGE		
	horizontal	vertical	thick side
ITM/ETM		0.076	down
CP-x	0.069		-Y
CP-y	0.069		-X
BS	0.073		+X, +Y
PRM3/SRM3		0.10	down
PRM2/SRM2		1.00	down
PRM/SRM		1.00	down
Schnupp Assymetry	80.0		
Schnupp correction	0		

OPTIC	RAY COORDINATES, mm									
	ZEMAX			GLOBAL			LOCAL			CHAMBER
	X	Y	Z	X	Y	Z	X	Y	Z	
ITMX-RADIUS	80.00	-200.00	5013.00	5013.0	-200.0	-80.0	433.0	-200.0	-80.0	LBSC3
ITMX-CP	80.01	-200.00	4793.00	4793.0	-200.0	-80.0	213.0	-200.0	-80.0	LBSC3
ITMX ELLIPTICAL BAF	82.36	-202.14	752.19	752.2	-202.1	-82.4	-3999247.8	-202.1	-82.4	LBSC2
BSAR ELLIPTICAL BAF	82.87	-202.59	-92.31	-92.3	-202.6	-82.9	20029.7	-202.6	-82.9	LBSC2
BS AR	82.89	-202.62	-136.62	-136.6	-202.6	-82.9	-136.6	-202.6	-82.9	LBSC2
BS HR	82.92	-183.89	-202.63	-202.6	-183.9	-82.9	-202.6	-183.9	-82.9	LBSC2
PR3	94.59	-174.36	-19741.00	-19741.0	-174.4	-94.6	381.0	-174.4	-94.6	LHAM2
PR2	84.21	-530.00	-3589.10	-3589.1	-530.0	-84.2	241.9	-530.0	-84.2	LHAM3
PRM	94.14	-627.33	-20207.70	-20207.7	-627.3	-94.1	-85.7	-627.3	-94.1	LHAM2
ITMY-RADIUS	80.00	4983.10	-200.00	-200.0	4983.1	-80.0	-200.0	403.1	-80.0	LBSC1
ITMY-CP	80.01	4763.10	-200.00	-200.0	4763.1	-80.0	-200.0	183.1	-80.0	LBSC1
ITMY ELLIPTICAL BAF	82.35	751.80	-202.12	-202.1	751.8	-82.3	-202.1	-3828.2	-82.3	LBSC2
BSHR ELLIPTICAL BAF	82.88	-141.46	-202.60	-202.6	-141.5	-82.9	22489.4	-141.5	-82.9	LBSC2
BS ARS	82.93	-249.82	-183.99	-184.0	-249.8	-82.9	-184.0	-249.8	-82.9	LBSC2
SR3	94.49	-19615.90	-174.62	-174.6	-19615.9	-94.5	-174.6	506.1	-94.5	LHAM5
SR2	104.36	-4178.10	-594.09	-594.1	-4178.1	-104.4	-594.1	-347.1	-104.4	LHAM4
SRM	113.22	-19908.58	305.39	305.4	-19908.6	-113.2	305.4	213.4	-113.2	LHAM5
OUTPUT FARADAY IN	117.19	-20474.11	337.60	337.6	-20474.1	-117.2	337.6	-352.1	-117.2	LHAM5
OUTPUT FARADAY OUT	117.45	-20976.89	362.26	362.3	-20976.9	-117.4	362.3	-854.9	-117.4	LHAM5
ISC STEERING MIRROR	118.75	-23317.00	507.61	507.6	-23317.0	-118.8	507.6	-625.0	-118.8	LHAM6
ETMX	80.0	-200.0	3999498.0	3999498.0	-200.0	-80.0	-502.0	-200.0	-80.0	LBSC9
ETMY	80.0	3999468.1	-200.0	-200.0	3999468.1	-80.0	-200.0	-531.9	-80.0	LBSC10

CAVITY LENGTH										
	ACTUAL	DESIGN	DIFF							
AC length	3994485.0	3994485.0	0.0							
PRC length	57656.01	57656.00	0.0							
SRC length	56008.02	56008.00	0.0							
Arm Cavity X length	3994485.0	3994485.0	0.0							
Arm Cavity Y length	3994485.0	3994485.0	0.0							
Schnupp Assymetry	80	80	0.0							
n	1.44963									
			GLOBAL							
CHAMBER										
LBSC1			0.0	4580.0	0.0					
LBSC2			0.0	0.0	0.0					
LBSC3			4580.0	0.0	0.0					
LBSC9			4000000.0	0.0	0.0					
LBSC10			0.0	4000000.0	0.0					
LHAM1			-22692.0	0.0	0.0					
LHAM2			-20122.0	0.0	0.0					
LHAM3			-3831.0	0.0	0.0					
LHAM4			0.0	-3831.0	0.0					
LHAM5			0.0	-20122.0	0.0					
LHAM6			0.0	-22692.0	0.0					

z	x	y	Comment	distance	index	optical path	average length	Schnupp	design length
z	x	y	Comment	distance	index	optical path	average length	Schnupp	design length
ACTUAL SPACING									
SIGNAL RECYCLING CAVITY									
				Y-ARM					
-80.0	-200.0	4983.1	ITMY-RADIUS			0.0			
-80.0	-200.0	4883.1	ITMY-RADIUS	100.0	1.44963	145.0			
-80.0	-200.0	4783.1	ITMY-RADIUS	100.0	1.44963	145.0			
-80.0	-200.0	4763.1	ITMY-CP	20.0	1.000	20.0			
-80.0	-200.0	4663.1	ITMY-CP	100.0	1.44963	145.0			
-82.9	-202.6	-183.9	B SHR	4847.0	1.000	4847.0			
-82.9	-184.0	-249.8	BS ARS	68.5	1.44963	99.3			
-94.5	-174.6	-19615.9	SRM3	19366.1	1.000	19366.1			
-104.4	-594.1	-4178.1	SRM2	15443.5	1.000	15443.5			
-113.2	305.4	-19908.6	SRM	15756.2	1.000	15756.2			
						55967.0			
				X-ARM					
-80.0	5013.0	-200.0	ITMX-RADIUS	0.0	1.44963	0.0			
-80.0	4913.0	-200.0	ITMX-RADIUS	100.0	1.44963	145.0			
-80.0	4813.0	-200.0	ITMX-RADIUS	100.0	1.44963	145.0			
-80.0	4793.0	-200.0	ITMX-CP	20.0	1.000	20.0			
-80.0	4693.0	-200.0	ITMX-CP	100.0	1.44963	145.0			
-82.9	-136.6	-202.6	BS AR	4829.6	1.000	4829.6			
-82.9	-202.6	-183.9	B SHR	68.6	1.44963	99.5			
-82.9	-184.0	-249.8	BSARS	68.5	1.44963	99.3			
-94.5	-174.6	-19615.9	SRM3	19366.1	1.000	19366.1			
-104.4	-594.1	-4178.1	SRM2	15443.5	1.000	15443.5			
-113.2	305.4	-19908.6	SRM	15756.2	1.000	15756.2			
						56049.1	56008.0	82	