

Detector	Material	ρ	λ_{int}	Shape	Thickness		Top z	Top width	Bot width	Mass	Station	Steve
		g/cm ³	cm		cm	λ_{int}						
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	113.34	120	120	0.161	48.316	
TCD 1X	BC408	1.032	79.46	Box	0.500	0.0063	113.34	120	120	7.430	48.314	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	112.84	120	120	0.161	48.117	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	112.83	120	120	0.161	48.115	
TCD 1Y	BC408	1.032	79.46	Box	0.500	0.0063	112.82	120	120	7.430	48.113	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	112.32	120	120	0.161	47.916	
Clearance					0.318		112.32					
TRD 1	Foam	0.050	1640.00	Box	41.400	0.0252	112.00	125	125	67.700	47.789	
Clearance					0.578		70.60					
TCD Trig Layer	BC408	1.032	79.457	Box	1.000	0.0126	70.02	120	120	14.861	31.262	
Clearance					0.578		69.02					
TRD 2	Foam	0.050	1640.00	Box	41.400	0.0252	68.45	125	125	67.700	30.641	
Clearance					1.905		27.05				14.342	14.800
SCN 0X Cover	Aluminum	2.700	39.40	Sheet	0.081	0.0021	25.14	76	76	1.268	13.592	
Clearance					0.120		25.06					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	24.94	76	76	0.065	13.513	
SCN 0X	BCF-12MC	1.032	79.46	Box	0.200	0.0025	24.93	76	76	1.192	13.511	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	24.73	76	76	0.065	13.432	
SCN 0X Sprt	Aluminum	2.700	39.40	Sheet	0.081	0.0021	24.73	76	76	1.268	13.430	
Clearance					0.120		24.65					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	24.53	76	76	0.065	13.350	
SCN 0Y	BCF-12MC	1.032	79.46	Box	0.200	0.0025	24.52	76	76	1.192	13.348	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	24.32	76	76	0.065	13.270	
SCN 0Y Sprt	Aluminum	2.700	39.40	Sheet	0.081	0.0021	24.32	76	76	1.268	13.268	
Clearance					0.120		24.24					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	24.12	76	76	0.065	13.188	
SCN 1X	BCF-12MC	1.032	79.46	Box	0.200	0.0025	24.11	76	76	1.192	13.186	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	23.91	76	76	0.065	13.108	
SCN 1X Sprt	Aluminum	2.700	39.40	Sheet	0.081	0.0021	23.91	76	76	1.268	13.106	
Clearance					0.120		23.83					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	23.70	76	76	0.065	13.026	
SCN 1Y	BCF-12MC	1.032	79.46	Box	0.200	0.0025	23.70	76	76	1.192	13.024	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	23.50	76	76	0.065	12.946	
SCN 1Y Sprt	Aluminum	2.700	39.40	Sheet	0.081	0.0021	23.49	76	76	1.268	12.944	
SCN 0/1 Sprc	Gatorfoam	0.096		Plate	1.905		23.41	76	76	1.060	12.912	
T1	Graphite	2.010	42.93	Trapezoid	9.500	0.2213	21.51	74.8	63	90.918	12.162	
Target cage	Composite				0.254		12.01			3.105		
Clearance					0.347		11.75				8.321	8.438
SCN 2 Cover	Aluminum	2.700	39.40	Sheet	0.081	0.0021	11.41	63.0	63.0	0.871	8.185	
Clearance					0.120		11.33					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	11.21	63	63	0.044	8.106	
SCN 2X	BCF-12MC	1.032	79.46	Box	0.200	0.0025	11.20	63	63	0.819	8.104	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	11.00	63	63	0.044	8.025	
SCN 2X Sprt	Aluminum	2.700	39.40	Sheet	0.081	0.0021	11.00	63	63	0.871	8.023	
Clearance					0.120		10.91					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	10.79	63	63	0.044	7.943	
SCN 2Y	BCF-12MC	1.032	79.46	Box	0.200	0.0025	10.79	63	63	0.819	7.941	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	10.59	63	63	0.044	7.863	
SCN 2Y Sprt	Aluminum	2.700	39.40	Sheet	0.081	0.0021	10.58	63	63	0.871	7.861	
T2	Graphite	2.010	42.93	Trapezoid	9.500	0.2213	10.50	62.1	51.0	61.291	7.829	
Target cage	Composite				0.254		1.00			2.158		
Clearance					0.256		0.75				3.989	4.148
SCN 3 Cover	Aluminum	2.700	39.40	Sheet	0.081	0.0021	0.49	51.0	51.0	0.571	3.888	
Clearance					0.120		0.41					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	0.29	51.0	51.0	0.029	3.808	
SCN 3Y	BCF-12MC	1.032	79.46	Box	0.200	0.0025	0.29	51.0	51.0	0.537	3.806	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	0.09	51.0	51.0	0.029	3.728	
SCN 3Y Sprt	Aluminum	2.700	39.40	Sheet	0.081	0.0021	0.08	51.0	51.0	0.571	3.726	
Abs 1	Tungsten	19.300	9.59	Box	0.350	0.0365	0	50.0	50.0	17.445	3.694	3.698
Clearance					0.041		-0.35					
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-0.39	50.0	50.0	0.028	3.540	
Cal SCN 1	BCF-12	1.032	79.46	Box	0.050	0.0006	-0.40	50.0	50.0	0.129	3.538	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-0.45	50.0	50.0	0.028	3.518	
(1) Note: S0/S1 width would have been wider but is reduced to stay under a break-point in number of HPDs per side (see preferred size at right -->)											79.000	

Detector	Material	ρ	λ_{int}	Shape	Thickness		Top z	Top width	Bot width	Mass	
		g/cm ³	cm		cm	λ_{int}	cm	cm	cm	kg	
Abs 2	Tungsten	19.300	9.59	Box	0.350	0.0365	-0.45	50.0	50.0	17.445	3.516
Clearance					0.041		-0.80				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-0.84	50.0	50.0	0.028	3.362
Cal SCN 2	BCF-12	1.032	79.46	Box	0.050	0.0006	-0.85	50.0	50.0	0.129	3.360
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-0.90	50.0	50.0	0.028	3.340
Abs 3	Tungsten	19.300	9.59	Box	0.350	0.0365	-0.90	50.0	50.0	17.445	3.338
Clearance					0.041		-1.25				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-1.29	50.0	50.0	0.028	3.184
Cal SCN 3	BCF-12	1.032	79.46	Box	0.050	0.0006	-1.30	50.0	50.0	0.129	3.182
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-1.35	50.0	50.0	0.028	3.162
Abs 4	Tungsten	19.300	9.59	Box	0.350	0.0365	-1.35	50.0	50.0	17.445	3.160
Clearance					0.041		-1.70				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-1.75	50.0	50.0	0.028	3.006
Cal SCN 4	BCF-12	1.032	79.46	Box	0.050	0.0006	-1.75	50.0	50.0	0.129	3.004
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-1.80	50.0	50.0	0.028	2.985
Abs 5	Tungsten	19.300	9.59	Box	0.350	0.0365	-1.81	50.0	50.0	17.445	2.983
Clearance					0.041		-2.16				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-2.20	50.0	50.0	0.028	2.828
Cal SCN 5	BCF-12	1.032	79.46	Box	0.050	0.0006	-2.20	50.0	50.0	0.129	2.826
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-2.25	50.0	50.0	0.028	2.807
Abs 6	Tungsten	19.300	9.59	Box	0.350	0.0365	-2.26	50.0	50.0	17.445	2.805
Clearance					0.041		-2.61				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-2.65	50.0	50.0	0.028	2.651
Cal SCN 6	BCF-12	1.032	79.46	Box	0.050	0.0006	-2.65	50.0	50.0	0.129	2.649
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-2.70	50.0	50.0	0.028	2.629
Abs 7	Tungsten	19.300	9.59	Box	0.350	0.0365	-2.71	50.0	50.0	17.445	2.627
Clearance					0.041		-3.06				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-3.10	50.0	50.0	0.028	2.473
Cal SCN 7	BCF-12	1.032	79.46	Box	0.050	0.0006	-3.11	50.0	50.0	0.129	2.471
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-3.16	50.0	50.0	0.028	2.451
Abs 8	Tungsten	19.300	9.59	Box	0.350	0.0365	-3.16	50.0	50.0	17.445	2.449
Clearance					0.041		-3.51				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-3.55	50.0	50.0	0.028	2.295
Cal SCN 8	BCF-12	1.032	79.46	Box	0.050	0.0006	-3.56	50.0	50.0	0.129	2.293
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-3.61	50.0	50.0	0.028	2.273
Abs 9	Tungsten	19.300	9.59	Box	0.350	0.0365	-3.61	50.0	50.0	17.445	2.271
Clearance					0.041		-3.96				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-4.00	50.0	50.0	0.028	2.117
Cal SCN 9	BCF-12	1.032	79.46	Box	0.050	0.0006	-4.01	50.0	50.0	0.129	2.115
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-4.06	50.0	50.0	0.028	2.096
Abs 10	Tungsten	19.300	9.59	Box	0.350	0.0365	-4.06	50.0	50.0	17.445	2.094
Clearance					0.041		-4.41				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-4.46	50.0	50.0	0.028	1.939
Cal SCN 10	BCF-12	1.032	79.46	Box	0.050	0.0006	-4.46	50.0	50.0	0.129	1.937
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-4.51	50.0	50.0	0.028	1.918
Abs 11	Tungsten	19.300	9.59	Box	0.350	0.0365	-4.52	50.0	50.0	17.445	1.916
Clearance					0.041		-4.87				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-4.91	50.0	50.0	0.028	1.762
Cal SCN 11	BCF-12	1.032	79.46	Box	0.050	0.0006	-4.91	50.0	50.0	0.129	1.760
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-4.96	50.0	50.0	0.028	1.740
Abs 12	Tungsten	19.300	9.59	Box	0.350	0.0365	-4.97	50.0	50.0	17.445	1.738
Clearance					0.041		-5.32				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-5.36	50.0	50.0	0.028	1.584
Cal SCN 12	BCF-12	1.032	79.46	Box	0.050	0.0006	-5.36	50.0	50.0	0.129	1.582
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-5.41	50.0	50.0	0.028	1.562
Abs 13	Tungsten	19.300	9.59	Box	0.350	0.0365	-5.42	50.0	50.0	17.445	1.560
Clearance					0.041		-5.77				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-5.81	50.0	50.0	0.028	1.406
Cal SCN 13	BCF-12	1.032	79.46	Box	0.050	0.0006	-5.82	50.0	50.0	0.129	1.404
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-5.87	50.0	50.0	0.028	1.384
Abs 14	Tungsten	19.300	9.59	Box	0.350	0.0365	-5.87	50.0	50.0	17.445	1.382
Clearance					0.041		-6.22				

Detector	Material	ρ	λ_{int}	Shape	Thickness		Top z	Top width	Bot width	Mass	
		g/cm ³	cm		cm	λ_{int}	cm	cm	cm	kg	
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-6.26	50.0	50.0	0.028	1.228
Cal SCN 14	BCF-12	1.032	79.46	Box	0.050	0.0006	-6.27	50.0	50.0	0.129	1.226
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-6.32	50.0	50.0	0.028	1.207
Abs 15	Tungsten	19.300	9.59	Box	0.350	0.0365	-6.32	50.0	50.0	17.445	1.205
Clearance					0.041		-6.67				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-6.71	50.0	50.0	0.028	1.050
Cal SCN 15	BCF-12	1.032	79.46	Box	0.050	0.0006	-6.72	50.0	50.0	0.129	1.048
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-6.77	50.0	50.0	0.028	1.029
Abs 16	Tungsten	19.300	9.59	Box	0.350	0.0365	-6.77	50.0	50.0	17.445	1.027
Clearance					0.041		-7.12				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-7.17	50.0	50.0	0.028	0.873
Cal SCN 16	BCF-12	1.032	79.46	Box	0.050	0.0006	-7.17	50.0	50.0	0.129	0.871
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-7.22	50.0	50.0	0.028	0.851
Abs 17	Tungsten	19.300	9.59	Box	0.350	0.0365	-7.23	50.0	50.0	17.445	0.849
Clearance					0.041		-7.58				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-7.62	50.0	50.0	0.028	0.695
Cal SCN 17	BCF-12	1.032	79.46	Box	0.050	0.0006	-7.62	50.0	50.0	0.129	0.693
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-7.67	50.0	50.0	0.028	0.673
Abs 18	Tungsten	19.300	9.59	Box	0.350	0.0365	-7.68	50.0	50.0	17.445	0.671
Clearance					0.041		-8.03				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-8.07	50.0	50.0	0.028	0.517
Cal SCN 18	BCF-12	1.032	79.46	Box	0.050	0.0006	-8.07	50.0	50.0	0.129	0.515
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-8.12	50.0	50.0	0.028	0.495
Abs 19	Tungsten	19.300	9.59	Box	0.350	0.0365	-8.13	50.0	50.0	17.445	0.493
Clearance					0.041		-8.48				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-8.52	50.0	50.0	0.028	0.339
Cal SCN 19	BCF-12	1.032	79.46	Box	0.050	0.0006	-8.53	50.0	50.0	0.129	0.337
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-8.58	50.0	50.0	0.028	0.318
Abs 20	Tungsten	19.300	9.59	Box	0.350	0.0365	-8.58	50.0	50.0	17.445	0.316
Clearance					0.041		-8.93				
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-8.97	50.0	50.0	0.028	0.161
Cal SCN 20	BCF-12	1.032	79.46	Box	0.050	0.0006	-8.98	50.0	50.0	0.129	0.159
Wrap	Teflon	2.200	49.30	Sheet	0.005	0.0001	-9.03	50.0	50.0	0.028	0.140
Base-sheet	Al (hogged out)	0.966	197.00	Sheet	0.350	0.0018	-9.03	50.0	50.0	0.923	0.138

T1 (including S0 and S1)					Target Opening Angle		
Item	Weight	Maturity	Margin	Total	deg	rad	
In the beam	106.706	80%	5.34	112.04	30	0.524	
Legs	0.000	100%	-	-			
S0/S1 closeouts	2.080	70%	0.16	2.24			
Clear fibers	7.600	70%	0.57	8.17			
Total	116.386	79%	6.06	122.45			
In lbs.	256.048			269.383			
T2 (including S2 and S3)							
Item	Weight	Maturity	Margin	Total			
In the beam	69.614	80%	3.48	73.10			
Legs	0.000	100%	-	-			
S2/S3 closeouts	1.560	70%	0.12	1.68			
Fibers out of beam	4.425	70%	0.33	4.76			
Total	75.599	79%	3.93	79.53			
In lbs.	166.319			174.964			
Calorimeter							
Item	Weight	Maturity	Margin	Total			
In the beam (no W)	4.611	60%	0.46	5.07			
Tungsten	353.589	100%	-	353.59			
Mixers, IFO fibers	10.000	60%	1.00	11.00			
Light-tight wall	2.273	70%	0.17	2.44			
Bolts, spacers, wires	1.292	80%	0.06	1.36			
Total	370.473	99%	1.63	372.10			
In lbs.	815.040			818.630			
Electronics					HPD Readouts		
Item	Weight	Maturity	Margin	Total	Item	Weight/HPD	Maturity
HPD readouts	32.680	49%	4.14	36.82	Boards	0.210	40%
HV supplies	8.000	50%	1.00	9.00	VA/TA	0.033	100%
HPD boxes	22.304	50%	2.79	25.09	HPD	0.065	100%
Other UMD boxes	8.636	40%	1.30	9.93	Cookie	0.037	50%
Wiring,bolts,nuts,washers	30.700	40%	4.61	35.31	Epoxy	0.010	40%
Total	102.320	46%	13.83	116.15	Potting	0.025	10%
In lbs.	225.104			255.531	LED system	0.050	10%
					Total	0.430	49%
Detector							
Thickness	Weight	Maturity	Margin	Total			
(cm)	(kg)	(%)	(kg)	(lbs)	(%)	(kg)	(lbs)
TCD/TRD	88.20	0.08	330.909	728.0	81%	15.925	35.0
T1 (including S0 and S1)	13.73	0.24	116.386	256.0	79%	6.061	13.3
T2 (including S2 and S3)	11.41	0.24	75.599	166.3	79%	3.930	8.6
Calorimeter	9.38	0.75	370.473	815.0	99%	1.632	3.6
UMD Electronics			102.320	225.1	46%	13.830	30.4
Common boxes			9.091	20.0	40%	1.364	3.0
Miscellaneous			30.000	66.0	0%	7.500	16.5
CREAM	122.72	1.31	1034.778	2276.5	81%	50.241	110.5
							1085.020
							2388.0
Geometry Factors							
Nucleus	Analyzable	Perfect	Comment				
	(m^2 sr)	(m^2 sr)					
Protons	0.29	0.20	Incident on target top, exit through cal bottom (perfect) or cal side, well contained shower (analyzable)				
He	0.34	0.23	Incident on target top, exit through cal bottom (perfect) or cal side, well contained shower (analyzable)				
Be and higher	1.31		Each element; Incident on TCD active area, exit bottom of lower TRD				
C, N, O, Fe (cross calib)	0.17		Each element; Incident on TCD active area, exit bottom or sides of cal, well contained shower; Provides (per hour) 4 C, 1 N, 6 O, 7 Fe (total 18) above 1 TeV for cross-calibration				