Calculations of Displacement &c. of the Composite Tea Clipper "Cutty Sark", built at Dumbarton by Messrs Scott & Linton in 1869, under the Special Survey of the Surveyors to Lloyd's Register of Shipping, and Classed + 16 A1.

THESE CALCULATIONS HAVE BEEN MADE FROM THE LINES OF THE VESSEL CONSTRUCTED FROM MEASUREMENTS AND PARTICULARS OF THE VESSEL OBTAINED WHILE IN DRY DOCK AT THE "UNION DOCKS" OF MESSRS FLETCHER, SON & FEARNELL, LIMITED, LIMEHOUSE, LONDON, JANUARY 1923.

This paper of calculations is the property of the Committee of Lloyd's Register of Shipping, London.

Sect. Nos.	Multipliers	Keel.		Water Line 1.		Water Line 2.		Water Line 3.		Water Line 20ft.		Vertical Sections. Areas.	Functions	Mult.	Moments.
		1		4		2		4		1					
Stem	1	·0	·0	·6	·0	·0	·0	·0	·0	·4	·4				
		·0		·0		·0		·0		·4		·4	·4		
1	4	·7	2·8	1·0	4·0	1·5	6·0	2·3	9·2	3·4	13·6				
		·7		4·0		3·9		9·2		3·4		20·3	21·2	1	21·2
2	2	·7	1·4	2·2	4·4	3·6	7·2	5·2	10·4	6·7	13·4				
		·7		8·8		7·2		20·8		6·7		44·2	88·4	2	176·8
3	4	·7	2·8	3·5	14·0	6·2	24·8	8·2	32·8	9·7	38·8				
		·7		14·0		12·4		32·8		9·7		69·6	278·4	3	835·2
4	2	·7	1·4	5·2	10·4	8·9	17·8	11·1	22·2	12·4	24·8				
		·7		20·8		17·8		44·4		12·4		96·1	192·2	4	768·8
5	4	·7	2·8	7·0	28·0	11·4	45·6	13·5	54·0	14·4	57·6				
		·7		28·0		22·8		54·0		14·4		119·9	479·6	5	2398·0
6	2	·7	1·4	8·7	17·4	12·7	25·4	15·4	30·8	16·0	32·0				
		·7		34·8		27·4		61·6		16·0		140·5	281·0	6	1686·0
7	4	·7	2·8	10·3	41·2	16·3	61·2	16·6	66·4	16·8	67·2				
		·7		41·2		36·6		66·4		16·8		155·7	622·8	7	4359·6
8	2	·7	1·4	11·4	22·8	16·4	32·8	17·3	34·6	17·3	34·6				
		·7		46·6		32·8		69·2		17·3		146·6	331·2	8	2649·6
9	4	·7	2·8	12·3	49·2	17·1	68·4	17·7	70·8	17·5	70·0				
		·7		49·2		34·2		70·0		17·5		172·4	689·6	9	6206·4
10	2	·7	1·4	12·7	25·4	17·4	34·8	18·0	36·0	17·7	35·4				
		·7		50·8		34·8		72·0		17·7		176·0	352·0	10	3520·0
11	4	·7	2·8	12·6	50·4	17·3	69·2	18·0	72·0	17·7	70·8				
		·7		50·4		34·6		72·0		17·7		175·4	701·6	11	7717·6
12	2	·7	1·4	11·8	23·6	16·8	33·6	17·8	35·6	17·6	35·2				
		·7		47·2		33·6		71·2		17·6		170·3	340·6	12	4087·2
13	4	·7	2·8	10·4	41·6	15·8	63·2	17·4	69·6	17·4	69·6				
		·7		41·6		31·6		69·6		17·4		160·9	643·6	13	8366·8
14	2	·7	1·4	8·7	17·4	14·3	28·6	16·6	33·2	17·0	34·0				
		·7		34·8		28·6		66·4		17·0		147·5	295·0	14	4130·0
15	4	·7	2·8	7·0	28·0	12·2	48·8	15·2	60·8	16·4	65·6				
		·7		28·0		24·4		60·8		16·4		130·3	521·2	15	7818·0
16	2	·7	1·4	5·1	10·2	9·7	19·4	12·2	26·4	15·2	30·4				
		·7		20·6		19·4		52·8		15·2		108·5	217·0	16	3472·0
17	4	·7	2·8	3·4	13·6	6·8	27·2	10·4	41·6	13·4	53·6				
		·7		13·6		13·6		41·6		13·4		82·9	331·6	17	5637·2
18	2	·7	1·4	2·0	4·0	4·1	8·2	6·9	13·8	10·5	21·0				
		·7		8·0		8·2		27·6		10·5		55·0	110·0	18	1980·0
19	4	·7	2·8	1·0	4·0	1·9	7·6	3·3	13·2	6·3	25·2				
		·7		4·0		3·8		13·2		6·3		28·0	112·0	19	2128·0
Stern	1	·5	·5	·5	·5	·5	·5	·5	·5	·5	·5				
		·5		2·0		1·0		2·0		·5		6·0	6·0	20	120·0
			41·1		410·1		632·3		732·9		793·7				
			41·1		+ 1640·3		+ 1264·6		+ 2935·6		+ 793·7		= 6475·4		62132·4
			4		3		2		1		0		4·7		10·207
			164·4		+ 4921·2		+ 2529·2		+ 2935·6				467278		10·5
													267014		51035
													3 / 31374·36		10207
													10458·124		107·1735
													10·5		428·000 = 10·5 × 10
													523904·80		2·1735 = Distance of C. of Buoy. abaft No. 10 Station.
													104581·24		
													3 / 104981·0·3330		
													34603·441		
													2		
													73304·892		
													291·149 = Mod.		
													7 / 73498·030		
													5 / 10499·718		
													2099·7436 =		
													Disp.t at 20ft. W.L.		

6476·4 / 10550·4 = 1·63

4·7
1106
633
7·436 = Cen. of Buoy. below L.W.L.

203·6 = Length of Mod.
1·3
2708
2036
264·69
1·1
264·68
264·68
7 / 291·149 = Disp.t of Mod. in salt. feet.
5 / 41·592
2·318 = Disp.t of Mod. in tons.

176·0
4·7
123·20
7040
3 / 3237·36
276·733
2
551·466
1·43 = Mod. 1·2×1·1
552·896 = Area of Mod. Sec.

793·7
10·5
39685
79370
3 / 8335·85
2777·95
2
12 / 5555·90
7 / 462·991
5 / 66·141
13·2282 = Disp.t in tons per inch at L.W.L.

632·3
10·5
31615
6323
3 / 6639·15
2213·05
2
12 / 4426·10
7 / 368·841
5 / 52·691
10·238 = Disp.t in tons per inch at 2nd W.L.

732·9
10·5
36645
7329
3 / 7696·45
2565·48
2
12 / 5131·20
7 / 427·598
5 / 61·085
12·3374 = Disp.t in tons per inch at 3rd W.L.

410·1
10·5
20505
4101
3 / 4306·05
1435·35
2
12 / 2870·70
7 / 239·225
5 / 34·175
8·235 = Disp.t in tons per inch at 4th W.L.

41·1 × 1 = 41·1
206·3 × 4 = 825·2
418·1 × 1 = 418·1
1284·4
2·35
63920
38392
25528
3 / 2999·540
999·846
10·5
4999230
999846
3 / 10498·3926
3499·441
2
6998·922
291·149 = Mod.
7 / 2390·670
5 / 1047·638
208·1274 = Disp.t at 5th W.L.

41·1 × 1 = 41·1
410·1 × 4 = 1640·4
632·3 × 3 = 1896·9
2513·8
4·7
1761946
92553
3 / 10074·86
3358·953
10·5
17874765
4623852
3 / 38063·0665
12687·3555
2
25374·6710
291·149 = Mod.
7 / 3624·381
5 / 724·876
124·9 = Disp.t at 2nd W.L.

41·1 × 1 = 41·1
410·1 × 3 = 1230·3
632·3 × 3 = 1896·9
732·1 × 1 = 732·9
3902·2
4·7
273154
156088
3 / 1214·34
4113·446
10·5
30567230
4113446
5 / 40191·1830
8023·2992
2
24071·6984
2
48143·3969
291·149 = Mod.
7 / 6877·6281
5 / 1375·5256
235·7 = Disp.t at 3rd W.L.

73498·03 / 312 × 34 × 20 W.L. D. D. = ·431 Coeff. of Disp.t

552·896 / 36·20 = ·767 Coeff. of Mid Sec.

Area of Mod. 5555·9 / 2½ × 3½ = ·740 Coeff. of L.W.L.

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