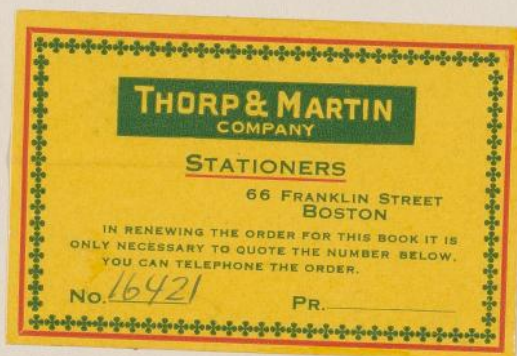


J



Doubles

A 3346 Nos 403-404

✓ A 14280 No 327-327a spiral on edge

✓ A 14280 IC 1948-1949 br. spiral in plan

A 14280 Nos 442-443 edge of pl.; long exp would
bring them within definition.

✓ A 14280 Nos 476-477

✓ A 14269 " 323-198 red. Double

" 381-382 "

" 126(red)++ triple 60" class 3

" 240 double? or neb++

✓ " ~~126-127-128 triple~~

880 + 66 red. double

IC 1945-1946 double in mid region

330-331

363-362

891-892

overlapping double
prob not phys. pair.

866-867

wide double

Sylvia F. Russell

Diameters of all nebula 13.0 and brighter falling on
long exposure 7 plates

1 = maximum or ns measure

2 = minimum or ew measure

3 = a measure diagonally through the center of concentration at a 45° angle to the maximum, minimum measure, or ns ew measure, as near as possible to a nw se direction

4 = as above, but as near as possible to a ne sw direction

a) If the maximum diameter is two times or more the minimum diameter, readings 1 + 2 only are taken.

b) In all cases where a ns ew measure is taken, note of this is made above the measure. See (d).

c) Number of seconds = $20 \times$ scale readings
 " " minutes = $\frac{1}{3}$ scale reading.

d) Correction to b). In measurements which superseded on page 36, four measures were taken only when the nebula appeared on inspection to be nearly circular. Then the measures were always made ns, ew, nw se, and ne sw, in order named.

Measurements superseded - see page 36

	Diameter I				Diameter II				Mean							
	1	2	3	4	1	2	3	4	1	2	3	4				
H 14860.																
N 24	14.3	2.3	2.3	2.3	15.0	2.6			14.7	2.5						
	ns	sw			ns	sw										
{ 49°	14.3	15.0	15.6	14.3	14.0	14.6	15.3	15.0	14.2	14.8	15.5	14.7	29.0	23.0	23.0	26.0
{ very large,	diffuse, almost scattered; concentration off center															
H 14992																
N 7793	32.0	15.6			32.0	15.3			32.0	15.5						
{ resolvable,	concentration ends abruptly on eastern half of nebula and barely perceptible nebulosity continues half as much again.															
H 15808																
N 15-1	10.6	5.0			10.6	5.0			10.6	5.0						
157	9.0	6.3	7.6	6.6	9.6	6.3	8.6	7.0	9.3	6.3	8.2	6.8				
	ns	sw			ns	sw										
255	3.3	3.0	2.6	2.6	4.3	4.0	2.6	2.6	3.8	3.5	2.6	2.6				
274	2.3	1.0			2.6	1.3			2.5	1.2						
	ns	sw			ns	sw										
309	5.0	6.0	5.0	5.0	6.0	6.0	5.0	4.6	5.5	6.0	5.0	4.8				
275	2.6	1.3			3.0	1.0			2.8	1.2						
H 12651																
N 205	32.3	15.6			32.3	15.6			32.3	15.6						
224	423.0	102.0			423.0	102.0			423.0	102.0						
221	9.0	7.0	5.6	5.6	10.0	8.0	6.0	6.0	9.5	7.5	5.8	5.8				
H 14308																
N 247	57.0	17.3			57.0	17.6			57.0	17.5						
{ concentration	off center															
H 3386																
N 253	70.6	14.3			71.0	14.3			70.8	14.3						
H 16226																
N 357	1.0	0.6	0.6	1.0	1.0	1.0	0.6	1.0	1.0	0.8	0.6	1.0				
	ns	sw			ns	sw										
New 1	7.6	8.0	8.0	6.3	7.6	8.3	7.3	6.3	7.6	8.2	7.7	6.3				

4

	Diameter I				Diameter II				mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
F 14207													
71406	8.3	2.3			8.3	2.3			8.3	2.3			
F 15854													
71428	11.3	9.0	8.0	7.6	11.3	9.0	7.3	7.6	11.3	9.0	7.7	7.6	
450	9.6	6.6	8.0	8.6	9.6	7.0	7.0	8.3	9.6	6.8	7.5	8.5	
521	7.6	8.6	7.0	7.0	8.0	8.6	7.3	7.0	7.8	8.6	7.2	7.0	
533	3.0	1.3			3.0	1.3			3.0	1.3			
F 14331													
71578	13.0	7.0	7.0	7.3	13.0	7.3	7.3	7.3	13.0	7.2	7.2	7.3	
F 16262													
71584	7.0	3.0	on very edge of plate		7.3	3.6			7.2	3.3			
596	6.3	3.0	near edge		7.3	3.6			6.8	3.3			
615	8.6	3.0			9.0	2.3			8.8	2.7			
F 16145													
71625	9.0	3.0			9.3	3.0			9.2	3.0			
F 13082													
{ 71598	144.0	81.0	108.0	102.0	144.0	82.0	108.0	102.0	144.6	81.5	108.6	102.0	
	very large, scattered, resolvable												
F 15817													
71681	off plate												
701	5.3	2.0	near edge		5.3	2.3			5.3	2.2			
788													

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
H 16303									✓	✓	✓	✓	
H 772	15.0	8.6	8.3	10.0	15.0	8.6	9.0	9.0	15.0	8.6	8.7	9.5	
H 16305									✓	✓			
H 976	2.0	1.0			2.0	1.0			2.0	1.0			
H 16300	ns	EW			ns	EW			✓	✓	✓	✓	
H 991	7.6	7.0	6.3	6.3	7.0	7.0	7.3	7.0	7.3	7.0	6.8	6.7	
1022	5.3	3.0	3.3	3.3	5.6	3.0	4.3	3.6	5.5	3.0	3.8	3.5	
1035	5.6	1.8			5.3	2.0			5.5	1.8			
² 1048	15.6	9.3	11.0	10.0	15.6	9.0	11.0	10.0	15.6	9.2	11.0	10.0	
1052	6.6	4.0	3.3	3.0	6.6	4.0	3.6	3.3	6.6	4.0	3.5	3.2	
1084	8.0	3.3			7.6	3.3			7.8	3.3			
H 16181									✓	✓			
H 1055	17.3	5.3			17.0	5.3			17.2	5.3			
1068	ns	EW			ns	EW			8.0	7.3	6.3	7.0	
1073	15.0	12.6	13.3	14.0	15.0	13.0	13.6	14.0	15.0	12.8	13.5	14.0	
1087	10.6	5.0			10.6	5.0			10.6	5.0			
1090	10.6	4.0			10.6	4.0			10.6	4.0			
H 14949													
H 1201	off plate								✓	✓	✓	✓	
1255	11.3	6.0	7.0	6.0	12.3	6.0	7.0	6.0	11.8	6.0	7.0	6.0	
1292	7.0	3.0			6.0	3.0			6.5	3.0			
1302	ns	EW			12.0	10.3	11.0	12.0	12.0	10.2	11.0	12.3	

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
H 14272													
γ 1249	16.0	6.0			16.0	6.0			16.0	6.0			
H 15837													
γ 1241	4.0	3.0	2.0	2.3	5.0	3.0	3.0	3.0	4.5	3.0	2.5	2.7	
1337	14.0	3.3			13.6	3.3			15.5	3.3			
~~1388~~									~~13.8~~	~~3.3~~			
H 14956													
γ 1288	6.3	5.0	5.0	5.2	7.3	6.0	5.3	5.3	6.8	5.5	5.2	5.5	
1339	3.0	1.3			3.0	1.3			3.0	1.3			
1344	7.6	3.3			7.6	3.0			7.6	3.2			
1366	5.0	1.6			4.6	1.6			4.8	1.6			
1406	10.0	2.0			10.3	2.0			10.2	2.0			
H 15884													
γ 1291	27.6	23.6	24.0	24.3	27.0	23.3	23.6	24.3	27.3	23.5	23.8	24.3	
very faint, barely perceptible outer ring, the max. min. diam. of which (here measured) is at ab. 15 to inner max. min. diam.													
1316	24.0	17.0	17.6	17.3	24.0	17.0	17.6	17.6	24.0	17.0	17.6	17.5	
ns ew					ns ew								
1317	7.3	7.0	7.3	7.6	7.3	7.3	7.6	7.3	7.3	7.2	7.5	7.5	
1326	off plate												
H 16338													
γ 1313	11.3	8.3	9.6	10.3	11.0	8.0 9.3	9.6	9.6	11.2	8.2	9.6	10.0	
H 13105													
γ 1325	8.6	2.6			8.6	2.6			8.6	2.6			
1332	8.6	1.6			8.6	2.0			8.6	1.8			
1353	5.6	2.0			5.6	2.3			5.6	2.2			
ns ew					ns ew								
I 1953	6.3	6.6	6.3	6.6	6.3	6.6	5.6	7.0	6.3	6.6	6.0	6.8	

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
<u>H14269</u>													
~~I1433~~													
I1954	10.0	4.3			10.0	5.0			10.0	4.7			
~~H15839~~													
~~H1337~~													
H14963													
~~H1326~~	~~4.3~~	~~3.6~~	~~3.0~~	~~2.6~~	~~4.0~~	~~3.6~~	~~3.3~~	~~3.0~~	12.3	6.0	unmeasured on H15033		
1351	3.3	1.3			3.6	1.0			3.5	1.2			
1350	18.3	8.6	hardly perceptible outer ring		18.6	8.6			18.5	8.6			
1365	28.6	10.0			28.6	10.0			28.6	10.0			
1374	1.2	1.2	1.3	1.0	2.0	2.0	1.3	1.3	1.8	1.8	1.3	1.2	
H15831													
~~H1359~~													
1400													
1407													
1440													
1452													
1461													
H15833													
~~H1371~~													
1385													
1395													
1398													
1426													
1439													
1445													

	Diameter I				Diameter II				Mean			
	1	2	3	4	1	2	3	4	1	2	3	4
#15825	ns	ew										
11379	4.3	4.6	4.3	4.3	4.6	4.3	4.0	4.0	4.5	4.5	4.2	4.2
1380	11.6	5.0	17.3	1.0	11.3	5.0			11.5	5.0		
1381	5.3				6.0				5.7			
	~~10.7~~	1.0			11.0	1.3			~~10.7~~	1.2		
1386	9.3	2.6			9.3	3.0			9.3	2.8		
	ns	ew			ns	ew						
1387	6.0	6.6	7.0	6.3	6.0	6.6	6.6	6.0	6.0	6.6	6.8	6.2
1389	5.0	2.3			4.6	2.0			4.8	2.2		
	ns	ew			ns	ew						
1399	10.6	11.0	12.0	11.3	10.6	11.0	12.3	11.3	10.6	11.0	12.2	11.3
1404	5.3	4.3	4.3	4.0	5.0	4.0	4.6	4.0	5.2	4.2	4.5	4.0
1427	4.3	2.6	2.3	2.0	4.3	2.3	2.0	2.3	4.3	2.5	2.2	2.2
1437	5.0	3.3	4.3	5.0	5.3	4.3	4.3	4.3	5.2	3.8	4.3	4.7
	ns	ew										
I 2006	3.0	3.0	2.6	2.6	2.6	3.0	2.6	2.0	2.8	3.0	2.6	2.3

~~#15833~~~~#1426~~~~1439~~

#1181

#1433

1448

	ns	ew			ns	ew						
	22.0	20.3	20.6	20.6	21.3	20.6	20.3	20.3	21.7	20.5	20.5	20.5
	24.0	3.3			24.6	4.0			24.3	3.7		

#12790

#1511

	ns	ew			ns	ew						
	8.0	2.0			8.0	1.6			8.0	1.8		

#15842

#1507

	ns	ew			ns	ew						
	11.0	1.3			11.0	1.6			11.0	1.5		

	Diameter I				Diameter II				Mean			
	1	2	3	4	1	2	3	4	1	2	3	4

A 4183

A 1515 17.3 2.3

17.6 3.0

17.5 2.8

1566 25.6 11.0

25.6 11.0

24.5 24.0 24.0 21.0

1596 8.3 2.3

1617 15.3 8.0

1688 on A 16

A 15890 plate

A 1518

1521

1640

A 15844 ns ew

A 1533 6.6 6.6

1556

1543 on A 142

1546 7.0 4.6

1549 6.6 7.0

1553 7.0 3.0

1566 23.6 11.0

1574 5.6 4.6 5.0 5.3

1596 8.3 1.6

1617 11.0 6.0 6.3 7.0

1672 on A 16350

A 15849

A 1531 2.6 1.3

3.0 1.3

2.8 1.3

A 1532 27.2 8.3

27.2 8.3

59.0

27.2 8.2

1539 off plate

A 14299

A 1543 8.6 3.0

8.6 3.0

8.6 3.0

at groups of galaxies
look up farax and also
of luminosity curve
20 square degrees
3 hour survey as well as RB
survey

luminosity curve 9-18 2

RB AX, Bruce

340-36

A 14963

	Diameter I				Diameter II				Mean			
	1	2	3	4	1	2	3	4	1	2	3	4
F 4183												
Y 1515	17.3	2.2			17.2	3.0			✓ 17.5	✓ 2.8		
1566	~~25.6~~	11.0			~~25.6~~	11.0			✓ 24.8	✓ 24.0	✓ 24.0	21.0
1596	8.3	2.3			9.0	2.3			✓ 8.7	✓ 2.3		
1617	15.3	6.0			15.3	5.6			✓ 15.3	✓ 5.8		
1688	on F 16350											
F 15890	plate missing											
Y 1518												
1521												
1640												
F 15844	ns	sw										
Y 1533	6.6	6.6	6.0	6.3	6.3	6.6	5.6	6.3	✓ 6.5	✓ 6.6	✓ 5.8	✓ 6.3
1556												
1543	on F 14299											
1546	7.0	4.6	4.6	4.6	7.0	4.6	5.0	5.0	✓ 7.0	✓ 4.6	✓ 4.8	✓ 4.8
barely perceptible, faint outer ring												
1549	6.6	7.0	6.6	7.2	7.0	7.0	6.6	7.0	✓ 6.8	✓ 7.0	✓ 6.6	✓ 7.3
1553	~~7.0~~	~~3.0~~			7.6	3.3			✓ 9.0	✓ 5.0		
1566	~~23.6~~	11.0			24.0	11.0			✓ 7.3	✓ 3.2		
1574	ns	sw			ns	sw			✓ 24.8	✓ 24.0	✓ 24.0	21.0
1574	5.6	4.6	5.0	5.3	5.6	4.6	4.6	5.3	✓ 23.6	✓ 11.0		
1596	8.3	1.6			8.3	2.0			✓ 5.6	✓ 4.6	✓ 4.8	✓ 5.3
1617	11.0	6.0	6.3	7.0	11.0	6.0	7.3	7.0	✓ 8.3	✓ 1.8		
1672	on F 16350								✓ 11.0	✓ 6.0	✓ 6.8	✓ 7.0
F 15849												
Y 1531	2.6	1.3			3.0	1.3			✓ 2.8	✓ 1.3		
1532	~~27.2~~	8.3			~~27.2~~	8.3			✓ 59.0			
very faint irregular outer ring; also long ft. extension well beyond nucleus												
1537	off plate								✓ 27.2	✓ 8.2		
F 14299												
Y 1543	8.6	3.0			8.6	3.0			✓ 8.6	✓ 3.0		

	Diameter I				Diameter II				Mean			
	1	2	3	4	1	2	3	4	1	2	3	4
#16350												
I 2056	2.0	1.8	1.6	1.6	2.0	2.0	2.0	2.0	2.0	1.8	1.8	1.8
M 1559	9.3	4.6			9.3	4.6			9.3	4.6		
1688	8.0	6.0	6.3	6.6	7.6	6.0	7.0	7.0	7.8	6.0	6.7	6.8
on very edge 1672	12.3	6.0			13.3	5.6			12.8	5.8		
#14327												
M 1744	19.0	9.3			19.0	9.3			19.0	9.3		
very faint, hardly perceptible outer ring												
#12295												
M 1796	5.0	2.3			5.0	2.3			5.0	2.3		
ns ew					ns ew							
1947	3.0	3.0	2.6	2.6	3.3	2.6	2.3	2.6	3.2	2.8	2.5	2.6
ns ew												
2082	5.0	4.3	3.3	3.6	5.0	4.3	4.0	3.6	5.0	4.3	3.7	3.6
#14088												
M 2090	8.0	3.0			8.0	3.0			8.0	3.0		
2188	10.6	2.3			10.6	3.0			10.6	2.7		
#14578												
M 2139	5.6	4.6	5.0	4.0	5.6	5.6	4.0	4.3	5.6	5.6	4.5	4.2
sub. not measured ns ew as it has a def. axis at an angle to row direction												
#15852												
M 2149	5.3	2.6			5.3	2.6			5.3	2.6		
wrap of nebulae, star involved; no definite form & no concentration												
#14564												
ns ew					ns ew							
M 2217	12.6	12.3	12.0	11.0	12.6	12.3	11.3	10.3	12.6	12.3	11.7	10.7
#14055												
ns ew												
M 2223	9.0	9.0	9.0	8.6	9.3	8.6	9.0	8.6	9.2	8.8	9.0	8.6
#14322												
M 1964	15.0	4.0			15.0	4.0			15.0	4.0		

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
#15882													
#12427	17.0	6.3			17.0	6.3			17.0	6.3			
#15821													
#2525	off plate												
#14519													
#12613	23.2	3.3			23.3	3.0			23.5	3.2			
#15875	off plate												
#12764													
2903													
#14533													
#12784	11.2	4.0			11.2	4.0			11.2	4.0			
2815	12.0	3.6			11.2	3.3			11.8	3.5			
2835	20.3	13.2	14.3	14.6	20.3	12.6	14.6	14.0	20.5	13.2	14.5	14.3	
spiral arm just inside of north just escapes diameter measuring													
2865	3.2	2.3	2.0	2.0	3.2	2.0	2.3	2.0	3.2	2.2	2.2	2.0	
#5102													
#13059	6.2	5.3	6.0	6.2	6.2	5.3	6.3	6.3	6.2	5.3	6.2	6.5	
#15934													
#13044	14.3	2.0			14.3	2.0			14.3	2.0			
#15181													
#13054	7.2	4.3	6.0	5.3	8.0	4.0	5.6	5.6	7.8	4.2	5.8	5.5	
3078	2.0	1.2	1.6	1.6	2.3	1.6	2.0	2.0	2.2	1.3	1.8	1.8	

	Diameter I				Diameter II				mean					
	1	2	3	4	1	2	3	4	1	2	3	4		
✓ A 4342														
M 5087	ns	ew												
	3.0	2.3	2.0	2.3	3.0	2.0	2.0	2.0	3.0	2.2	2.0	2.2		
3095	8.0	3.3			8.0	3.0			8.0	3.2				
3223	10.6	7.0	7.0	8.3	11.0	7.0	7.0	8.3	10.8	7.0	7.0	8.3		
A 15938														
M 3115	19.0	5.0			19.0	5.0			19.0	5.0				
3145	8.0	3.6			8.0	3.6			8.0	3.6				
A 5049														
M 3136	2.0	1.0			2.0	1.0			2.0	1.0				
✓ A 15989														
M 3177	1.6	1.3	1.3	1.6	2.0	1.3	1.3	1.3	1.8	1.3	1.3	1.5		
3185	5.0	3.6	3.6	4.3	5.0	3.6	4.0	4.0	5.0	3.6	3.8	4.2		
3190	10.3	2.3	2.3	1.3	10.3	2.3			10.3	2.3				
3193	2.3	1.3	2.0	1.6	2.3	1.6	2.0	1.6	2.3	1.5	2.0	1.6		
A 9264														
M 3241														
	plate missing													
✓ A 15160														
M 3256	4.6	3.0	4.3	4.6	4.6	3.0	3.6	4.6	4.6	3.0	4.0	4.6		
irregular, concentration off center														
3261	8.0	5.3	6.0	7.0	7.6	5.3	5.6	7.0	7.8	5.3	5.8	7.0		
A 15940														
M 3258	ns	ew			ns	ew								
	2.6	3.0	2.6	2.3	2.6	3.0	2.6	2.3	2.6	3.0	2.6	2.3		
3268	3.6	2.0	3.0	2.3	3.6	2.0	3.0	2.3	3.6	2.0	3.0	2.3		
3271	3.6	2.0	2.0	2.0	3.6	1.6	2.3	2.0	3.6	1.8	2.2	2.0		
3275	ns	ew												
	3.3	3.6	3.6	4.8	4.0	3.6	4.0	4.3	3.7	3.6	3.8	4.6		
3281	8.0	3.0			7.6	3.0			7.8	3.0				

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
✓ 15883													
72205													
3309	ns 2.3	sw 1.7	2.0	2.3	2.0	2.0	2.0	2.0	✓ 2.2	✓ 1.8	✓ 2.0	✓ 2.2	
2812													
✓ 14725													
72464													
3511	16.3	4.7			16.7	4.7			✓ 16.5	✓ 4.7			
3513	6.3	6.7	5.7	6.3	6.7	6.0	6.0	6.7	✓ 6.5	✓ 6.3	✓ 5.8	✓ 6.5	
✓ 15983													
72605													
3607	5.0	5.0	4.7	5.3	5.0	5.0	4.7	5.0	✓ 5.0	✓ 5.0	✓ 4.7	✓ 5.2	
3608	3.7	4.3	3.7	4.0	3.7	4.7	4.0	4.3	✓ 3.7	✓ 4.5	✓ 3.8	✓ 4.2	
3626	6.0	2.7			6.0	2.7			✓ 6.0	✓ 2.7			
3646	10.7	5.0			11.0	5.0			✓ 10.8	✓ 5.0			
3659	4.3	2.0			4.7	2.0			✓ 4.5	✓ 2.0			
3686	9.3	6.3	7.0	6.0	9.7	6.0	7.0	7.0	✓ 9.5	✓ 6.2	✓ 7.0	✓ 6.5	
on very edge; probably goes slightly off													
15377													
72523 off plate													
{ 3627	26.7	12.3			26.7	12.0			✓ 26.7	✓ 12.2			
{ 3628	40.3	7.7			40.3	7.0			✓ 40.3	✓ 7.3			
{ 3666	12.0	2.3			12.0	1.7			✓ 12.0	✓ 1.8			
3773	ns 0.7	sw 1.0	0.7	0.7	ns 0.7	sw 1.0	1.0	0.7	✓ 0.7	✓ 1.0	✓ 0.8	✓ 0.7	
3810	12.0	7.0	8.7	8.3	12.0	7.0	9.0	8.0	✓ 12.0	✓ 7.0	✓ 8.8	✓ 8.2	
3872	2.0	1.7	1.7	1.7	2.0	1.7	1.7	1.7	✓ 2.0	✓ 1.7	✓ 1.7	✓ 1.7	
3705	13.0	4.0			13.0	3.3			✓ 13.0	✓ 3.7			

If 3773 is btr. 12.0, I think 3692 should be included

	Diameter I				Diameter II				Mean			
	1	2	3	4	1	2	3	4	1	2	3	4
A 15431	ns	ew							✓	✓	✓	✓
73627	1.6	1.3	1.3	1.0	1.3	1.3	1.3	1.3	1.5	1.3	1.3	1.2
A 15439									✓	✓		
73672	12.0	6.0			11.6	6.0			11.8	6.0		
3732	ns	ew			ns	ew			✓	✓	✓	✓
	2.0	2.0	1.6	1.6	1.9	1.3	1.0	1.3	1.7	1.7	1.3	1.5
3818	ns	ew			ns	ew			✓	✓	✓	✓
	1.3	1.6	1.3	1.3	1.3	1.0	1.3	1.3	1.3	1.3	1.3	1.3
A 15964												
73720	ns	ew			ns	ew			✓	✓	✓	✓
	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
A 15447									✓	✓	✓	✓
73865	ns	ew			ns	ew			4.0	4.5	5.0	4.3
	4.0	4.3	5.0	4.3	4.0	4.6	5.0	4.3				
A 8261									✓	✓		
73900	6.3	2.3	3.0	1.0	6.3	2.3			6.3	2.3		
3912	3.0	1.0			3.0	1.3			3.0	1.2		
4008	2.3	1.0			2.3	1.0			2.3	1.0		
A 15454												
42955	off plate											
A 15903									✓	✓		
73957	9.0	1.0			8.3	1.0			8.7	1.0		
3956	9.6	3.0			9.6	2.6			9.6	2.8		
3981	9.0	2.0			9.0	2.0			9.0	2.0		
4024	ns	ew			ns	ew			✓	✓	✓	✓
	3.6	3.6	3.6	3.3	3.6	3.0	3.3	3.3	3.6	3.3	3.5	3.3
4027	7.0	8.0	6.0	6.0	7.0	6.0	6.3	7.0	7.0	6.0	6.2	6.5

Diameter I Diameter II Mean

	1	2	3	4	1	2	3	4	1	2	3	4
74033	7.0	2.0			6.6	2.0			6.8	2.0		

4038 P.O. 3.3:

P.O. 3.0:

P.O. 3.2

attached to 74039. measured as above neb. Most amazing object. Resembles a shrimp.
Inches very much off center. Two long arms as:

715387

743976 off plate

714551

4293 17.6 7.3

17.6 7.3

17.6 7.3

74064 13.0 2.3

13.0 2.3

13.0 2.3

4.3 3.0

ns ew

ns ew

4152 4.6 4.6

4.0 5.0 4.3 4.6

4.2 5.0 4.5 4.2

4262 2.0 2.0 2.0 2.0

2.0 2.0 2.0 2.0

2.0 2.0 2.0 2.0

4192 27.0 7.3

27.2 7.3

27.3 7.3

4237 4.0 2.3 3.0 3.0

4.6 3.0 3.0 3.0

4.3 2.7 3.0 3.0

715251

ns ew

1.6 2.0 2.0 1.6

1.6 2.0 2.0 1.6

74045 1.6 2.0 2.0 1.6

1.6 2.0 2.0 1.6

1.6 2.0 2.0 1.6

4078

4116 7.0 4.0 5.0 4.6

7.0 4.0 5.3 4.6

7.0 4.0 5.2 4.2

4123 9.0 7.6 6.6

9.0 6.6 6.6 6.6

9.0 6.6 7.2 6.2

4179 11.0 1.3

11.0 1.3

11.0 1.3

4234 2.6 2.6 2.3 2.3

2.6 2.3 2.3 2.3

2.6 2.5 2.3 2.3

714538

72945 9.0 2.0

8.6 2.0

8.8 2.0

73936

73936 11.0 1.3

11.0 1.3

11.0 1.3

714630

ns ew

ns ew

3.6 3.3 2.6 3.0

74105 2.6 2.6 2.0 2.3

2.6 2.6 2.0 2.3

2.6 2.6 2.0 2.3

4106 2.3 3.0 2.3 2.3

2.3 3.0 2.3 2.6

2.3 3.0 2.3 2.5

764 6.6 2.6

6.6 2.6

15.0 5.0
6.6 2.5

716037

74129 5.6 1.0

5.6 1.0

5.6 1.0

Diameter I

Diameter II

Mean

	1	2	3	4		1	2	3	4		1	2	3	4	
7 6718	11.3	2.6													
7 4124	~~17.0~~ ns	~~5.5~~ EW	4.0	5.0		11.0	2.6				11.2	2.6			
4168	~~2.0~~ 5.5	~~2.0~~ 5.0	2.0	2.0		~~ns~~ 2.0	~~EW~~ 2.0	~~2.0~~	2.0		3.0	3.0	2.6	3.0	
4178	16.0	5.3									2.0	2.0	2.0	2.0	
4189	~~26.0~~ 6.3	~~8.5~~ 5.0	9.0	4.0		15.3	5.0				15.7	5.2			
4192	~~11.5~~ 27.0	~~7.5~~ 7.3	8.0	8.0		6.0	4.6	5.0	4.3		6.2	4.5	5.0	4.3	
4212	8.0	4.0	repeated on 714551												
4216	~~14.0~~ 24.0	~~8.5~~ 4.0	7.0	9.5		8.0	4.0				8.0	4.0			
4237	~~31.0~~ 21.0	~~7.5~~ 7.5	7.5	6.5		24.6	4.3				24.3	4.2			
4254	13.0	10.0	13.0	10.3		13.0	9.6	12.0	9.3		13.0	9.8	12.5	9.8	
4267	~~8.6~~ 15.0	~~9.3~~ 15.0	8.6	9.0		~~ns~~ 9.3	~~EW~~ 9.0	8.3	9.0		9.0	9.2	8.5	9.0	
4268	on 714551														
4294	~~6.3~~ 14.0	~~2.3~~ 5.0	4.0	4.0		6.3	2.3				6.3	2.3			
4298	~~8.0~~ 14.0	~~4.0~~ 7.5	9.0	8.5		8.0	4.0				8.0	4.0			
4302															
4399															
4371	~~ns~~ 3.6	~~EW~~ 3.3	9.6	3.6		4.0	4.3	4.0	4.0		3.8	3.8	3.8	3.8	
4374	~~ns~~ 5.0	~~EW~~ 5.0	5.3	6.0		~~ns~~ 5.6	~~EW~~ 5.0	5.0	6.0		5.3	5.0	5.2	6.0	
4377	on 76719														
4380	12.6	4.3				12.6	4.3				12.6	4.3			
4388	19.3	3.0				19.0	3.0				19.2	3.0			
4424	8.6	2.3				8.3	2.6				8.5	2.5			
4429	11.3	4.0				11.3	4.0				11.3	4.0			
4435	4.0	2.0				4.0	2.0				4.0	2.0			
4438	24.3	7.6				24.0	7.6				24.2	7.6			
4442	9.8	3.0				10.0	3.0				9.8	3.0			
4459	3.0	2.0	1.6	2.0		3.0	2.0	1.3	2.3		3.0	2.0	2.0	2.2	
4461	8.0	2.0				8.3	2.3				8.2	2.2			
4477	~~ns~~ 7.6	~~EW~~ 7.0	6.6	7.0		7.3	7.0	7.6	7.0		7.5	7.0	7.2	7.0	

{very irregular faint outer ring; concentration of center

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
#9387													
~~44186~~	~~5.2~~	~~4.3~~	~~5.3~~	~~5.0~~	~~6.0~~	~~4.0~~	~~6.0~~	~~5.2~~	~~5.8~~	~~4.2~~	~~5.7~~	~~5.3~~	omitted as on very edge.
4245	3.2	1.3			4.0	1.6			3.8	1.5			
4251	4.3	1.3			4.6	1.3			4.5	1.3			
4274	12.0	3.3			12.0	3.2			12.0	3.5			
4278	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
4283	1.2	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.8	1.0	1.0	1.0	
4314	2.0	2.0			7.0	2.0			7.0	2.0			
4448	4.3	2.3			9.3	3.0			9.3	2.7			
#13810													
4215	4.0	1.0			4.3	1.0			4.2	1.0			
4224	7.3	2.3			7.3	2.3			7.3	2.3			
4233	5.0	2.0			5.0	2.0			5.0	2.0			
4235	13.2	2.0			13.3	1.3			13.5	1.7			
4260	7.0	3.0			7.0	2.2			7.0	2.8			
4261	4.3	4.0	4.6	4.3	3.2	4.0	4.0	4.3	4.0	4.0	4.3	4.3	
4270	4.2	1.3			4.2	1.3			4.2	1.3			
4273	6.0	4.0	3.2	4.0	5.3	3.2	3.2	3.2	5.7	3.8	3.2	3.8	
4281	6.2	2.0			6.2	2.0			6.2	2.0			
4303	17.3	17.2	17.3	19.0	17.0	17.2	17.0	19.0	17.2	17.2	17.2	19.0	
4307	10.0	2.0			10.0	2.0			10.0	2.0			
4324	5.3	2.0			5.0	2.0			5.2	2.0			
4339	2.0	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.2	2.0	2.0	2.0	
4342	2.0	1.0			2.0	1.0			2.0	1.0			
4365	11.0	11.0	12.0	11.0	12.0	11.0	11.0	10.2	11.5	11.0	11.5	10.8	
4378	10.0	8.0	9.0	9.3	10.0	8.3	9.0	9.0	10.0	8.2	9.0	9.2	
4449	9.2	2.3			9.2	2.3			9.2	2.3			
4472	11.3	10.0	11.3	12.0	11.3	10.0	11.0	12.3	11.3	10.0	11.2	12.3	

Diameter I

Diameter II

span

"

	1	2	3	4	1	2	3	4	1	2	3	4
	ns	ew			ns	ew						
7 4519	6.8	6.0	5.3	6.0	6.8	6.8	5.3	6.0	6.7	6.3	5.3	6.0
4522	11.0	2.8			11.7	2.8			11.3	2.7		
4526	18.0	4.3			18.3	3.7			18.2	4.0		
4535	16.0	13.0	15.0	15.0	17.0	13.3	14.0	16.0	16.5	13.2	14.5	15.5
4532	16.8	12.0			7.0	2.3			6.8	2.2		
4570	on H 14586											
4588	on H 14586											
H 14933												
H 14293	on H 14551											
H 13035												
H 4304	4.6	4.3	3.8	4.8	5.0	4.3	4.8	5.0	4.8	4.3	4.2	4.8
I 3203	8.0	3.0			7.8	2.8			7.8	2.8		
H 6719												
H 4321	17.3	13.0	15.0	15.8	17.3	13.3	15.0	15.8	17.3	13.2	15.0	15.8
4340	7.8	5.0	6.0	6.3	7.8	5.0	6.3	6.3	7.8	5.0	6.2	6.3
4350	7.0	2.0			7.0	2.0			7.0	2.0		
4382	14.8	9.0	12.3	11.0	14.8	9.0	12.8	10.8	14.8	9.0	12.5	10.8
4379	1.8	2.0	2.0	2.0	1.3	2.0	2.0	1.8	1.5	2.0	2.0	1.8
4383	3.0	1.3			3.3	1.0			3.2	1.2		
4394	9.8	8.3	9.0	9.8	9.8	8.0	10.0	10.0	9.8	8.2	9.5	9.8
4419	8.0	2.8			7.8	2.3			7.8	2.5		
4450	14.8	11.0	12.0	12.0	14.8	11.0	11.8	12.3	14.8	11.0	11.8	12.2
4501	18.0	9.0			18.0	9.0			18.0	9.0		
4540	4.8	2.8	2.3	2.3	4.8	3.0	2.3	2.8	4.8	2.8	2.3	2.5
4548	15.8	12.0	12.8	13.8	15.3	11.3	13.0	14.0	15.5	11.7	12.8	13.8
4561	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
M 4651	10.3	7.6	8.0	8.0	10.3	7.0	8.0	8.0	10.3	7.3	8.0	8.0	
4710	10.6	2.0			11.0	2.0			10.8	2.0			
4377	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.0	
F 15258													
M 4454	ns	ew			ns	ew			4.2	3.3	4.2	3.3	
	4.3	3.3	4.0	3.3	4.0	3.3	4.3	3.3					
4546	5.3				5.3	2.3			5.3	2.2			
	10.3	2.0											
4592	8.0				8.0	2.0			8.0	2.0			
	13.0	2.0							10.6				
4593	7.0	2.3			6.6	2.0			6.8	2.2	(remeasured on F 15291)		
4597	on F 15291												
4602	on F 15291												
F 14638													
M 4325	5.0	2.3			4.3	3.0			4.7	2.7			
4412	3.0	3.0	2.6	2.6	3.0	3.0	2.6	2.6	3.0	3.0	2.6	2.6	
4420	4.0	2.0			4.0	2.0			4.0	2.0			
4457	5.0	3.3	2.6	3.3	4.3	3.0	2.6	2.6	4.7	3.2	2.6	3.0	
F 6720													
M 4406	7.0	5.0	5.0	5.6	7.6	5.0	5.3	5.3	7.3	5.0	5.2	5.5	
4417	8.3	2.0			8.0	2.0			8.2	2.0			
4473	8.0	2.3			8.0	2.0			8.0	2.2			
4474	4.0	1.3			4.0	1.3			4.0	1.3			
4478	ns	ew			ns	ew			2.0	1.8	1.6	1.8	
	1.6	1.6	1.6	2.0	2.3	2.0	1.6	1.6					
4486	ns	ew			ns	ew			11.6	12.0	10.3	10.3	
	11.6	12.0	10.3	10.3	11.6	12.0	10.3	10.3					
4503	6.3	2.0			6.3	2.0			6.3	2.0			
4550	6.0	1.6			6.0	1.3			6.0	1.5			
4552	ns	ew			ns	ew			5.6	6.0	5.6	5.6	
	5.6	6.0	5.6	5.6	5.6	6.0	5.6	5.6					
4564	5.0	1.3			5.6	1.3			5.3	1.3			

Diameter I Diameter II Mean

	1	2	3	4	1	2	3	4	1	2	3	4
71 4567	6.0	3.0			6.0	3.0			6.0	3.0		
4568	12.0	4.6			12.0	4.6			12.0	4.6		
4571	10.0	7.6	8.6	8.3	9.6	7.6	9.3	7.6	9.8	7.6	9.0	8.0
4569	31.6	10.0			31.6	9.6			31.6	9.8		
4578	4.6	2.6	2.0	2.0	4.6	2.3	2.0	2.0	4.6	2.5	2.0	2.0
4579	17.0	10.0	10.0	10.6	17.3	10.0	10.0	10.0	17.2	10.0	10.0	10.3
4596	6.3	2.6			6.3	2.6			6.3	2.6		
4608	7.6	5.0	5.0	5.0	7.6	4.6	4.6	4.6	7.6	4.8	4.8	4.8
4621	8.0	3.6			7.6	2.6			7.8	3.0		
4638	3.0	1.0			3.0	1.0			3.0	1.0		
4639	4.0	3.3	3.0	3.3	4.6	3.6	3.6	3.6	4.3	3.5	3.3	3.5
4647	6.0	5.0	4.0	5.3	7.0	5.0	4.6	5.3	6.5	5.0	4.3	5.3
4649	11.3	8.0	9.3	9.0	11.0	7.0	9.0	9.0	11.2	7.5	9.2	9.0
4654	13.0	7.0	7.6	8.0	13.0	7.0	7.0	8.0	13.0	7.0	7.3	8.0
4660	3.0	1.0			3.3	1.3			3.2	1.2		
4689	ns 7.0	sw 6.3	6.3	6.3	ns 8.0	sw 7.0	6.3	6.6	7.5	6.7	6.3	6.5
4694	6.0	2.0			6.0	2.0			6.0	2.0		
4754	on F 15370											
4762	on F 15370											

F 15291

71 4433	4.0	1.6			4.0	1.3			4.0	1.5		
4487	10.0	8.6	8.3	8.3	9.6	5.3	8.6	8.3	9.8	8.0	8.5	8.3
4504	9.6	6.0	(6.3)	(6.0)	9.6	6.0	(6.3)	(5.0)	9.6	6.0	5.5	6.3
4658	4.3	2.0			4.0	2.0			4.2	2.0		
4597	10.0	5.0			10.0	4.6			10.0	4.8		
4602	3.0	2.6			2.6	2.6			{2.8 10.0}	{0.6 2.6}	re-measured on F 15258	

F 15361

71 4455	7.6	1.3			7.3	1.3			7.5	1.3		
4635	ns 5.0	sw 4.3	5.0	4.3	ns 5.0	sw 4.6	5.0	4.3	5.0	4.5	5.0	4.3

	Diameter I				Diameter II				mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
H 14718													
74462	9.0	3.0			9.0	2.3			9.0	2.7			
1715449													
74494	4.6	2.6	2.6	2.6	4.3	2.6	2.6	3.3	4.5	2.6	2.6	3.0	
4559	24.6	5.6			25.0	5.6			24.8	5.6			
4565	44.3	4.3			43.6	4.6			44.0	4.5			
4670	2.6	1.3			2.0	1.3			2.3	1.3			
H 16040													
74517	29.6	3.6			29.3	3.6			29.5	3.6			
4496	6.3	6.3	6.3	6.6	6.6	6.3	6.3	6.6	6.5	6.3	6.3	6.6	
R 80	11.0	6.3	9.3	7.6	11.0	6.3	9.3	7.6	11.0	6.3	9.3	7.6	
very faint surface brightness													
4527	19.6	4.6			19.3	5.0			19.5	4.8			
4536	21.3	7.3			21.6	7.3			21.5	7.3			
4586	11.6	3.0			11.3	3.0			11.5	3.0			
4632	9.6	3.0			9.0	3.0			9.3	3.0			
4636	5.0	4.3	4.3	3.6	5.0	4.3	4.3	4.0	5.0	4.3	4.3	3.8	
4643	5.3	2.3			5.0	2.3			5.2	2.3			
4665	5.0	2.3			4.6	2.0			4.8	2.2			
4688	7.0	4.0	4.6	4.3	7.0	4.0	4.0	4.0	7.0	4.0	4.3	4.2	
4701	2.3	1.6	2.0	2.0	3.0	2.0	2.0	2.0	2.7	1.8	2.0	2.0	
H 14586													
4570	10.0	2.0			10.0	2.0			10.8	2.0			
74612	3.6	3.6	3.0	3.6	3.6	3.6	3.3	3.6	3.6	3.6	3.2	3.6	
4580	4.6	3.6	4.0	3.6	4.6	4.0	4.0	4.0	4.6	3.8	4.0	3.8	
4698	8.6	3.0			8.6	3.6			8.6	3.3			
4713	6.0	4.0	4.3	4.3	6.0	5.0	4.0	4.0	6.0	4.5	4.2	4.2	
4795	2.6	3.0	3.0	4.0	2.6	3.0	3.0	4.0	2.6	3.0	3.0	4.0	
H 9394													
74725	15.3	10.0	10.3	11.0	15.3	10.0	12.3	11.0	15.3	10.6	11.0	10.7	24

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
# 15289									✓	✓			
Y 4666	12.0	2.3			11.3	2.3			11.8	2.3			
4668	3.0	1.3			3.0	1.3			3.0	1.5			
4684	4.3	1.0			4.3	1.0			4.3	1.0			
4691	4.3	1.0			4.3	1.3			4.3	1.2			
4753	10.0	4.3			9.3	4.3			9.5	4.3			
# 14689									✓	✓			
Y 4697	8.0	4.0			8.0	4.0			8.0	4.0			
4699	10.3	5.0			10.3	5.3			10.3	5.2			
New 3	~~8.3~~	~~5.0~~	~~6.3~~	~~6.3~~	~~8.3~~	~~5.0~~	~~6.3~~	~~6.3~~	~~8.3~~	~~5.0~~	~~6.3~~	~~6.3~~	
4731	17.0	6.0			17.0	6.0			17.0	6.0			
4775	ns	EW			ns	EW			5.8	6.8	5.2	5.0	
4786	3.0	1.0			3.0	1.3			3.0	1.2			
4790	4.0	2.3	2.3	2.3	4.0	2.3	2.3	2.3	4.0	2.3	2.5	2.3	
4818	10.3	3.0			10.0	3.3			10.3	3.2			
# 14703									✓	✓			
Y 4700	8.0	1.0			7.3	1.0			7.5	1.0			
4742	5.0	2.0			5.0	2.0			5.0	2.0			
4760	ns	EW			ns	EW			3.0	3.5	3.2	3.3	
4781	8.0	4.0			8.3	4.0			8.2	4.0			
4782	ns	EW			ns	EW			2.0	2.0	1.8	1.8	
4783	ns	EW			ns	EW			2.3	1.3	1.7	1.3	
4825	2.3	1.3			3.0	1.3			2.8	1.3			
4856	12.3	3.0			12.3	3.3			12.5	3.2			
4891	ns	EW			ns	EW			7.0	7.0	7.3	7.5	
4899	6.3	4.0	4.0	4.0	6.3	4.0	4.0	4.0	6.3	4.0	4.0	4.0	
4902	ns	EW			ns	EW			7.0	7.3	7.0	7.0	

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
714933	4.2	2.0			4.3	2.0			4.5	2.0			
4939	~~4.7~~	7.0	7.6	7.0	~~4.8~~	7.0	7.6	8.0	~~4.7~~	7.0	7.6	7.5	
A 12949													
714712	7.0	2.3			7.0	3.0			7.0	2.7			
4747	9.3	2.0			9.6	2.0			9.5	2.0			
4790	4.0	2.0			4.0	1.6			4.0	1.8			
4872	^{ns} 0.6	^{ew} 1.0	1.0	1.0	0.6	1.0	1.0	1.0	0.6	1.0	1.0	1.0	
A 10280													
714765	2.0	1.0			2.0	1.0			2.0	1.0			
4771	12.0	1.3			12.0	1.3			12.0	1.3			
4772	11.0	2.0			11.0	1.6			11.0	1.8			
new 4	11.6	~~4.3~~			11.3	~~4.6~~			11.5	~~4.5~~			
4808	6.6	2.0			6.6	2.0			6.6	2.0			
4845	15.6	2.2			15.6	2.0			15.6	2.3			
4900	^{ns} 4.0	^{ew} 5.0	4.3	4.3	^{ns} 4.0	^{ew} 5.0	5.0	5.0	4.0	5.0	4.7	4.7	
4904	6.3	3.0			6.3	3.0			6.3	3.0			
4999	^{ns} 4.6	^{ew} 5.0	4.3	5.0	^{ns} 4.6	^{ew} 5.0	4.3	5.0	4.6	5.0	4.3	5.0	
A 6750													
~~4996~~	off plate												
A 15370													
714866	10.0	2.0			10.0	2.0			10.0	2.0			
4754	^{ns} 3.0	^{ew} 3.0	2.2	3.0	^{ns} 3.0	^{ew} 2.3	2.0	2.2	3.0	2.7	2.3	2.8	
4762	18.0	1.0			18.0	1.0			18.0	1.0			
nebula appears to stop abruptly, then faint, barely discernible ends continue for a short distance													
A 15295													
714915	^{ns} 1.0	^{ew} 1.0	1.3	1.0	^{ns} 1.3	^{ew} 1.0	1.3	1.0	1.2	1.0	1.3	1.0	

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
H 15299	ns	EW			ns	EW			✓	✓	✓	✓	
H 4928	2.0	2.3	2.0	1.8	2.0	2.3	2.0	2.0	2.0	2.3	2.0	1.8	
4941	8.0	3.8			8.0	3.8			8.0	3.8			
4951	3.8	1.8			3.8	1.8			3.8	1.8			
4958	5.8	1.8			5.8	1.8			5.8	1.8			
4981	ns	EW	3.0	3.8	ns	EW	3.3	3.8	4.5	3.8	3.2	3.8	
4995	ns	EW	3.8	3.3	ns	EW	3.0	3.3	3.0	3.8	2.8	3.3	

H 14715	ns	EW			ns	EW			✓	✓	✓	✓	
H 4936	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	

H 12373													
{ H 4945	460+	5.8:			460+	5.8:			46.0+	5.8:	6.3		
<i>hand-off plate</i>													
4976	8.0	4.8	6.3	6.3	8.0	4.3	6.3	6.3	8.0	4.5	6.3	6.3	
5156	2.8	2.8	2.8	2.8	ns	EW	2.8	2.8	2.8	2.8	2.8	2.8	
5266	3.8	2.3	3.0	2.3	3.8	2.3	3.0	2.8	3.8	2.3	3.0	2.5	

H 14707	ns	EW			ns	EW			✓	✓	✓	✓	
H 4984	4.0	3.8	3.8	4.0	4.0	4.0	3.8	4.0	4.0	3.8	3.8	4.0	
5044	ns	EW	5.3	4.8	ns	EW	5.0	5.0	4.5	4.5	5.2	4.8	
5054	12.8	5.0			12.3	4.8			12.5	4.8			
5077	2.0	1.0			2.0	1.0			2.0	1.0			

H 13719													
H 5011	off plate												
{ 5128	30.6	34.0	32.8	33.0	ns	EW	33.0	32.8	30.6	34.5	32.8	32.7	
<i>great deal of variability</i>													
5090	2.8	2.8	2.3	2.3	ns	EW	2.3	2.3	2.8	2.8	2.3	2.3	

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
H 7738													
H 5018 on H 15357													
H 14716													
H 5061	ns	ew			ns	ew			✓	✓	✓	✓	
	4.0	4.3	3.8	3.8	4.0	4.0	4.0	4.0	4.0	4.2	3.8	3.8	
5085	ns	ew			ns	ew			✓	✓	✓	✓	
	7.0	7.0	8.0	7.8	7.0	7.0	8.0	7.0	7.0	7.0	8.0	7.3	
H 14710													
H 5068									✓	✓	✓	✓	
	19.8	15.3	15.8	16.0	19.3	15.0	15.3	16.0	19.5	15.2	15.5	16.0	
5004									✓	✓			
	10.3	1.0			10.0	1.3			10.2	1.2			
5087									✓	✓			
	7.0	1.8			4.0	1.3			4.0	1.5			
5124									✓	✓			
	5.8	2.3			6.0	2.3			5.8	2.3			
H 6714													
H 5101									✓	✓			
	7.0	3.0			6.8	2.3			6.8	2.7			
5730									✓	✓			
	5.0	2.0			5.0	2.0			5.0	2.0			
5236	ns	ew			ns	ew			✓	✓	✓	✓	
	33.0	32.0	32.8	31.0	33.0	31.8	33.0	31.0	33.0	31.8	32.8	31.0	
H 15359													
H 5147	ns	ew			ns	ew			✓	✓	✓	✓	
	3.3	4.3	3.8	4.0	3.3	4.8	4.3	4.0	3.3	4.5	4.0	4.0	
5300									✓	✓	✓	✓	
	10.0	6.8	8.0	8.0	10.0	6.8	8.3	8.0	10.0	6.6	8.2	8.0	
H 14653													
H 5161									✓	✓			
	14.8	4.0			14.3	4.0			14.5	4.0			
5193	ns	ew			ns	ew			✓	✓	✓	✓	
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
5253									✓	✓			
	9.0	3.3			9.0	2.8			9.0	3.0			
I 4329									✓	✓			
	3.3	1.0			3.3	1.0			3.3	1.0			

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
H 15357													
H 5175	off plate												
5018	ns	sw			ns	sw			✓	✓	✓	✓	
	1.0	1.3	1.0	1.0	1.0	1.2	1.3	1.3	1.0	1.5	1.2	1.2	
H 2012													
H 5194	30.0	16.3	19.0	16.0	30.0	16.0	19.0	16.0	33.0	19.2	20.0	18.0	
spiral arms included in measurement									30.0	16.2	19.0	16.0	
5195	5.2	2.0			5.2	2.0			5.6	2.0			
stacked to 5.2, measured as 5.194													
5198	ns	sw			ns	sw			✓	✓	✓	✓	
	1.2	1.3	1.3	1.3	1.3	1.3	1.0	1.3	1.5	1.3	1.2	1.3	
5301	9.2	1.2			9.2	1.2			9.2	1.2			
5302	error; no long exp. plate												
H 15296													
{ H 5247	13.0	10.2	8.0	9.2	13.0	10.2	8.0	9.0	✓	✓	✓	✓	
{ nebula mostly spiral arms									13.0	10.2	8.0	9.3	
H 14741													
H 5328	2.0	1.3	1.3	1.3	2.0	1.3	1.0	1.2	✓	✓	✓	✓	
									2.0	1.3	1.2	1.5	
H 6765													
{ H 5865	ns	sw			ns	sw			✓	✓	✓	✓	
measured	2.0	1.3	1.2	2.0	2.0	1.2	1.2	2.0	2.0	1.5	1.2	2.0	
5483	ns	sw			6.0	6.0	6.0	5.2	✓	✓	✓	✓	
	6.0	6.3	6.0	5.0	6.0	6.0	6.0	5.2	6.0	6.2	6.0	5.2	
5330	10.0	4.2			10.2	4.2			✓	✓			
									10.2	4.2			
I 4444	ns	sw			ns	sw			✓	✓	✓	✓	
	3.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	4.0	4.0	4.0	
H 5643	8.0	6.0	7.0	6.0	8.0	8.0	7.0	7.0	✓	✓	✓	✓	
without much form									8.0	6.0	7.0	6.5	
H 15215													
I 4301	off plate												
H 55422													
H 5427	ns	sw			ns	sw			✓	✓	✓	✓	
	6.0	6.3	5.0	5.0	5.3	6.0	5.3	5.2	5.7	6.2	5.2	5.3	
5426	5.0	2.3			5.0	2.3			✓	✓			
									5.0	2.5			

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
75468	ns	sw			ns	sw			✓	✓	✓	✓	
	6.0	7.0	6.6	6.3	6.0	7.0	6.0	6.0	6.0	7.0	6.3	6.2	
5534		2.0	1.0			2.0	1.0		✓	✓			
									2.0	1.0			
715374													
75494	ns	sw			ns	sw			✓	✓	✓	✓	
	5.0	5.6	5.0	5.0	4.3	5.0	4.6	5.0	4.7	5.3	4.8	5.0	
5556	ns	sw			ns	sw			✓	✓	✓	✓	
	8.6	6.0	7.0	5.0	8.3	6.5	6.0	5.2	8.5	6.0	6.5	5.3	
76763													
75600	ns	sw			ns	sw			✓	✓	✓	✓	
near edge	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
74466													
75612	1.3	0.6	0.6	1.0	1.6	1.0	1.0	1.0	✓	✓	✓	✓	
									1.5	0.8	0.8	1.0	
715942													
75690	8.0	2.0			8.0	2.0			✓	✓			
									8.0	2.0			
5691	3.3	2.0	1.6	2.0	3.6	2.0	2.0	2.0	✓	✓	✓	✓	
									3.5	2.0	1.8	2.0	
5713	ns	sw			ns	sw			✓	✓	✓	✓	
	5.0	5.6	6.0	5.6	5.0	5.0	5.0	4.6	5.0	5.3	5.5	5.2	
5740	5.0	2.3			5.0	2.3			✓	✓			
									5.0	2.3			
5746	20.3	3.0			20.0	3.0			✓	✓			
									20.2	3.0			
5750	5.0	3.0	3.3	3.0	5.3	3.0	3.0	3.0	✓	✓	✓	✓	
									5.2	3.0	3.2	3.0	
5768	ns	sw			ns	sw			✓	✓	✓	✓	
	2.6	3.0	2.6	2.6	2.3	3.0	3.0	3.0	2.5	3.0	2.8	2.8	
5792	7.0	3.6	5.0	4.6	7.0	3.6	5.0	5.0	✓	✓	✓	✓	
									7.0	3.6	5.0	4.8	omitted as an edge of plate
716160													
75775	11.3	1.6			11.6	2.3			✓	✓			
									11.5	2.0			
5806	5.6	2.3			5.6	2.3			✓	✓			
									5.6	2.3			
5813	ns	sw			ns	sw			✓	✓	✓	✓	
	4.3	4.3	4.3	5.0	4.0	4.3	4.0	4.6	4.2	4.3	4.2	4.8	
5831	ns	sw			ns	sw			✓	✓	✓	✓	
	2.0	2.3	2.0	2.3	2.0	2.0	2.0	2.3	2.0	2.2	2.0	2.3	

Diameter I. Diameter II. Mean

	1	2	3	4	1	2	3	4	1	2	3	4
η 5838	12.0 ~~7.0~~	3.3			12.0	3.3			12.0	3.3		
5846	ns 3.3	sw 3.6	3.6	3.0	ns 3.6	sw 3.7	3.7	3.0	3.5	3.6	3.6	3.0
5850	ns 7.0	sw 7.6	7.0	7.0	ns 7.0	sw 7.6	7.0	7.0	7.0	7.6	7.0	7.0
5854	inner part of ins. a spindle but surrounded by a very faint outer ring											
	8.0	1.0			8.0	1.0			8.0	1.0		
5864	4.6	1.0			4.6	1.0			4.6	1.0		

η 15865

η 5812	ns 1.0	sw 1.0	1.0	1.0	ns 1.0	sw 1.0	1.0	1.0	1.0	1.0	1.0	1.0
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✓ η 16165

η 5861

off plate

5885	ns 8.0	sw 7.3	7.6	7.3	ns 8.0	sw 7.6	8.0	7.6	8.0	7.5	7.8	7.5
{ large; small surface brightens												

η 13017

η 5898	1.3:	0.6:			1.3:	0.6:			1.5:	0.6:		
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5903
plate a 4-i quality

1.3:	0.6:			1.5:	0.6:		
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η 4537

η 5967	7.0	4.0	4.3	5.6	7.0	4.0	5.0	6.0	7.0	4.0	4.7	5.8
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η 13471

η 6026	ns 2.0	sw 2.0	2.0	2.0	ns 2.0	sw 2.0	2.0	2.0	2.0	2.0	2.0	2.0
{ a very hard, stellar center												

η 15972

η 6070	11.0	4.3			11.0	4.3			11.0	4.3		
--------	------	-----	--	--	------	-----	--	--	------	-----	--	--

η 15991

η 6181	7.0	2.6	7.0		7.0	3.0			7.0	2.8		
faint spiral arms extend along the max. diam.; included in measurement												

	Diameter I				Diameter II				Mean			
	1	2	3	4	1	2	3	4	1	2	3	4
76452												
76215	4.0	4.2	4.0	3.8	5.0	3.8	4.0	4.0	4.5	4.2	4.0	3.8
6221	8.0	6.0	6.3	7.0	8.0	6.0	6.3	7.0	8.0	6.0	6.3	7.0

75455												
76300	~~9.2~~	~~5.7~~	~~7.0~~	~~7.0~~	~~10.0~~	~~5.3~~	~~7.0~~	~~7.0~~	~~10.3~~	~~9.0~~	~~8.3~~	~~8.3~~
IH662	4.2	2.3			4.2	2.3			4.6	2.3		

74611												
IH710	ns	EW			ns	EW						
very large & faint	9.0	9.2	9.3	10.0	9.0	9.2	9.3	10.0	9.0	9.2	9.3	10.0
76684	12.6	7.0	8.2	9.0	12.3	7.0	8.0	8.0	12.5	7.0	8.3	8.5

75655												
IH721	14.2	3.0			14.3	2.2			14.5	2.8		
I think this measure is fairly accurate but plate darkness badly and overexposure plate too badly broken to be accurate	ns	EW			ns	EW						
76699	4.0	4.3	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3	4.2	4.0
6753	ns	EW			ns	EW						
	7.0	7.0	7.0	7.0	7.0	6.3	6.2	6.3	7.0	6.7	6.8	6.7
6758	ns	EW			ns	EW						
	1.2	1.2	1.2	1.2	2.0	1.2	1.2	1.2	1.8	1.2	1.6	1.6

7412												
IH797	4.0	1.3			3.0	1.3			3.5	1.3		
H.F. 85	ns	EW			ns	EW						
	2.0	1.2	1.3	1.3	1.2	1.0	1.3	1.0	1.8	1.3	1.3	1.2

75548 Plate with W. J. Livingston

76744

6769

6776

6782

Diameter I Diameter II Mean

1 2 3 4 1 2 3 4 1 2 3 4

H 5656

M 6810

I 4837

8.0	2.0			8.0	2.0			8.0	2.0		
4.0	3.0	2.6	2.2	4.0	2.3	2.3	2.3	4.0	2.7	2.5	2.5

H 4738

M 6808

3.0	1.0			3.0	1.0			3.0	1.0		
-----	-----	--	--	-----	-----	--	--	-----	-----	--	--

H 7443

I 4889

4.0	2.0			4.0	2.0			4.0	2.0		
-----	-----	--	--	-----	-----	--	--	-----	-----	--	--

H 8494

M 6801

ns	ew			ns	ew			1.2	1.2	1.2	1.2
1.7	1.7	1.0	1.3	1.0	1.0	1.0	1.0	1.2	1.2	1.0	1.2

6861

3.0	1.3			3.0	1.3			3.0	1.3		
-----	-----	--	--	-----	-----	--	--	-----	-----	--	--

6868

3.2	2.3	2.0	2.0	3.0	2.3	1.2	2.0	3.3	2.3	1.8	2.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

6875

3.2	1.0			3.2	1.0			3.6	1.0		
-----	-----	--	--	-----	-----	--	--	-----	-----	--	--

6890

ns	ew			ns	ew			2.8	2.5	2.3	2.5
3.0	2.2	2.3	2.3	2.2	2.3	2.3	2.2	2.8	2.5	2.3	2.5

6893

5.0	4.0	4.2	4.2	5.0	4.3	4.3	4.3	5.0	4.2	4.5	4.5
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

6909

4.0	1.3			4.0	1.3			4.0	1.3		
-----	-----	--	--	-----	-----	--	--	-----	-----	--	--

H 4749

M 6876

3.2	2.0	2.2	2.2	3.2	2.0	2.0	2.0	3.6	2.0	2.3	2.3
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

H 7451

M 6887

11.0	3.2			11.0	3.2			11.0	3.6		
------	-----	--	--	------	-----	--	--	------	-----	--	--

M 6885

6942

H 10425

M 6907

7.0	4.0	4.0	4.2	7.0	4.0	5.0	5.0	7.0	4.0	4.5	4.8
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

H 16214

M 6935

2.2	2.3	2.2	3.0	3.0	2.2	2.2	3.0	2.8	2.5	2.6	3.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

6942

5.0	5.0	4.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.7	5.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	Diameter I				Diameter II				Mean				
	1	2	3	4	1	2	3	4	1	2	3	4	
A16214	an A7451												
A6935													
6942													
A4606													
A6943	10.3	3.0			10.0	3.3			10.2	3.2			
I5052	10.0	2.0			10.0	1.6			10.0	1.8			
A6770													
I5063	ns	EW			ns	EW							
	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
A13033													
A6970	ns	EW			ns	EW							
	1.6	2.0	1.6	2.0	1.6	1.6	1.6	2.0	1.6	1.8	1.6	2.0	
7029	2.0	1.0			2.0	1.0			2.0	1.0			
Encaridge													
7038	7.6	4.3	6.0	6.0	8.0	4.3	6.3	6.0	7.8	4.3	6.2	6.0	
Encaridge													
A7377													
A7007	ns	EW			ns	EW			2.3	1.0			
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
A7064	9.0	1.0			9.0	1.0			9.0	1.0			
7090	18.0	2.3			18.0	2.3			18.0	2.3			
A6994													
A7083	11.0	6.0	8.3	8.3	11.0	6.0	8.0	8.3	11.0	6.0	8.2	8.3	
A14103													
A7162													
A7166	4.0	1.0			4.0	1.0			4.0	1.0			
7213	ns	EW			ns	EW							
	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3	2.3	
- on edge of a large defect													

Diameter I

Diameter II

Mean

"

I 5181

5.0 1.0

5.0 1.0

5.0 1.0

H 7232

5.3 1.0

5.3 1.3

5.3 1.2

I 5201

28.2 12.0

28.2 11.3

28.2 11.7

H 7497

H 7124

7.2 3.0

7.2 3.3

7.2 3.2

7100

3.0 1.3

3.0 1.0

3.0 1.2

H 2534

short exposure

H 7135

H 16260

H 7177

~~3.3~~ ~~2.0~~ 2.3 2.3~~4.0~~ ~~2.0~~ 2.0 2.06.0 3.3
3.7 ~~4.0~~ 2.2 2.2

H 7501

H 7168

ns ew
1.3 1.0 1.0 1.0ns ew
1.3 1.0 1.0 1.0

1.3 1.0 1.0 1.0

I 5152

12.2 4.6

12.2 4.6

12.2 4.6

H 7196

2.0 1.0

2.0 1.0

2.0 1.0

H 6810
H 4604with
w/ long time

H 7192

H 7500

H 7205

10.0 5.0

10.2 5.0

10.3 5.0

H 14947

H 7252

on H 14954

H 14961

H 7361

12.0 1.2

12.0 1.2

12.0 1.2

Diameter I Diameter II Mean

714954

77314	2.0	4.0			2.0	4.0			9.0	4.0
7232	1.6	2.0	1.6	2.0	1.3	2.0	1.3	1.6	1.5	2.0

74615 With W. J. Lystra

77329

712193

I5240	7.6	5.0	5.6	6.0	7.6	5.0	6.0	6.0	7.6	5.0
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

{ 77412	11.0	5.3			11.0	5.0			11.0	5.2
---------	------	-----	--	--	------	-----	--	--	------	-----

{ I5267	17.6	12.0	14.0	13.3	17.6	12.0	13.6	13.3	17.6	12.0
---------	------	------	------	------	------	------	------	------	------	------

714809

77377	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	2.0	2.0
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

715790

77606	14.3	4.6			14.3	4.6			14.3	4.6
-------	------	-----	--	--	------	-----	--	--	------	-----

714262

77619	1.3	1.3	1.6	1.3	1.6	1.6	1.6	1.3	1.6	1.6
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

7626	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

716115

I5328	1.3	1.6	1.6	1.3	1.3	1.0	1.3	1.3	1.3	1.3
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

77744	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

715781

{ 77716	2.0	1.0			2.0	1.0			2.0	1.0
---------	-----	-----	--	--	-----	-----	--	--	-----	-----

715792

77721	10.3	3.0			10.6	3.0			10.5	3.0
-------	------	-----	--	--	------	-----	--	--	------	-----

Complete set of New Measurements
for Nebulae 12.0 and Brighter

Diameter I Diameter II Mean

A 14860

N 24 13.0 3.0 13.7 3.0 13.4 3.0 ✓

45

26.3 21.0

26.7 22.3

26.5 21.6

I should like the limits of this checked by someone else
very large, diffuse, almost scattered; concentration off center

A 14992

N 7793 32.0 16.7 32.3 16.3 32.2 16.5 ✓

resolvable; concentration ends abruptly on east half; neb. & barely perceptible on by
continues half as much again.

A 15403

N 151 11.0 4.3 11.3 4.3 11.2 4.3 ✓

1

157 9.0 6.0 9.0 6.0 9.0 6.0 ✓

253 5.0 4.0 5.0 4.0 5.0 4.0 ✓

neb. of 9 class with faint circular extension off one side

274 3.3 2.0 3.3 2.0 3.3 2.0 ✓

pair in
contact

309 7.0 6.0 7.0 6.0 7.0 6.0 ✓

faint spiral arms

275 measured as part of 274; cannot be separated with accuracy

A 12651

N 205 32.0 15.7 32.0 15.3 32.0 15.5

224 423.0 102.0 423.0 102.0 423.0 102.0

221 11.3 9.0 11.3 9.0 11.3 9.0

Andromeda &
companions

diameter I diameter II Mean

A 14358

M 247 61

concentr

A 3386

M 253 72

No. Neg. on Long
Exposure Plates
(13.0 + brighter) = 532

A 16226

M 307 5

No. Plates Missing = 4 = 16 neg.

No. Plates with Wf L. = 3 = 6 neg.

5.3
1.0 ✓

New 1 7

faint
small sur

No. Neg. Measured on
Long Exp. Available = 510

6.3 ✓
its

A 14207

M 406 12

A 15854

M 428 13

Missing Wf L.
A 15831 A 4615
15833 6810
15890 - Baker 5548
9264

450 10.

521 10.

593 4.

9.0 ✓

A 14331

M 578 13

A 16262

M 584 6.3: 3.3

6.3: 3.3

6.3: 3.3

on very edge of plate

596 7.3 4.0

7.3 4.0

7.3 4.0 ✓

near edge

	diameter I				diameter II				Mean			
#14358												
M 247	61.3	18.3			62.0	18.0			61.6	18.2		✓
concentration off center												
#3386												
M 253	72.0	16.0			72.0	16.0			72.0	16.0		✓
#16226												
M 357	5.6	5.0	5.6	5.3	5.6	5.0	5.6	5.3	5.6	5.0	5.6	5.3
	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~	~~1.0~~
M 1	7.6	8.0	8.0	6.3	7.6	8.0	8.0	6.3	7.6	8.0	8.0	6.3
faint small surface brightness, almost impossible to determine limits												
#14207												
M 406	12.0	2.6			12.0	3.0			12.0	2.8		✓
#15854												
M 428	13.8	9.0			13.8	9.2			13.8	9.4		✓
450	10.0	7.0			10.0	7.0			10.0	7.0		✓
521	10.0	9.3	8.6	9.0	10.0	9.3	9.0	9.0	10.0	9.3	8.8	9.0
533	4.6	2.3			4.6	2.3			4.6	2.3		✓
#14331												
M 578	13.0	8.0			13.0	8.0			13.0	8.0		✓
#16262												
M 584	6.3	3.3			6.3	3.3			6.3	3.3		
on very edge of plate												
596	7.3	4.0			7.3	4.0			7.3	4.0		✓
near edge												

	Diameter I		Diameter II		Mean
N 615	12.0	3.6	12.0	3.6	12.0 3.6 ✓
H 16145					
N 625	9.6	3.3	9.3	3.6	9.5 3.5 ✓
H 13082					
N 598	17.0	11.0	17.0	11.0	17.0 11.0
very large, scattered, unsolvable. Should like a check on limit					
H 10817					
N 701	7.0	3.0	6.6	3.0	6.8 3.0 ✓
near edge					
H 16303					
N 772	20.8	12.3	21.0	12.3	20.8 12.3 ✓
H 16305					
N 976	4.6	3.0	4.6	3.0	4.6 3.0 ✓
H 16300					
N 991	9.6	7.3	9.3	7.0	9.5 7.2 ✓
1022	8.0	6.6	8.0	6.0	8.0 6.4 ✓
1035	7.3	2.3	7.0	2.0	7.2 2.2 ✓
1042	18.0	9.0	18.0	9.0	18.0 9.0
1052	7.0	5.0	7.0	5.0	7.0 5.0 ✓
1084	10.3	4.0	10.6	4.0	10.5 4.0 ✓

	Diameter I	Diameter II	Mean
A16181			
N1055	26.0 8.0	25.6 8.0	25.8 8.0 ✓
	S.F.M. 22.0 19.0	H.S. 22.0 21.0	22.0 20.0
1068	~~10.6 8.0~~	~~10.6 7.8~~	~~10.6 7.8~~
<i>most peculiar; very ft. doubling around.</i>			
1073	17.3 15.0	17.3 15.0	17.3 15.0 ✓
1087	11.0 7.3	11.0 7.0	11.0 7.2 ✓
1090	13.0 5.0	13.0 5.0	13.0 5.0 ✓
A14949			
N1205	11.2 6.6	11.2 6.6	11.2 6.6 ✓
1292	11.3 3.6	11.6 4.3	11.5 4.0 ✓
1302	12.0 10.0	12.0 10.0	12.0 10.0 ✓
A14272			
N1249	24.3 8.0	24.0 9.0	24.2 8.5 ✓
<i>Very faint oval line borders an otherwise invisible projection of the preceding end of maximum diameter.</i>			
A15837			
N1241	7.6 4.0	8.0 4.0	7.8 4.0 ✓
1337	13.3 3.6	13.3 3.6	13.3 3.6 ✓
A14956			
N1288	7.3 6.3	7.0 6.6	7.2 6.5 ✓
1339	4.0 3.0	4.0 2.3	4.0 2.6 ✓

	Diameter I				Diameter II				Mean			
η 1344	7.3	5.6			7.3	5.2			7.3	5.6	✓	
1366	5.3	2.0			5.3	2.0			5.3	2.0	✓	
1406	10.3	2.3			10.3	2.6			10.3	2.5	✓	
η 15884												
η 1291	25.6	26.6	27.0	24.3	25.2	27.0	27.6	25.0	25.6	26.8	27.4	24.6 ✓
very faint barely perceptible outer ring, the max. diam. of which (here measured) is at rt. 15 to inner diam. min. diam.												
1316	24.0	17.0			24.0	17.0			24.0	17.0	✓	
1317	7.3	7.0	7.3	7.6	7.3	7.0	7.3	7.6	7.3	7.0	7.3	7.6 ✓
very, very faint haze of nebulosity about hard st. center												
η 16338	34.0	30.6			34.0	30.6			34.0	30.6	✓	
η 1313	18.0	11.0			18.0	11.0			18.0	11.0	✓	
η 13105												
η 1325	10.0	3.0			10.3	3.0			10.2	3.0	✓	
1332	10.0	2.3			10.0	3.0			10.0	2.6	✓	
1353	9.0	3.0			9.0	3.0			9.0	3.0	✓	
I 1953	7.6	7.0	6.0	7.0	7.6	6.6	6.0	7.0	7.6	6.8	6.0	7.0 ✓
η 14269												
I 1954	11.0	4.6			11.0	4.6			11.0	4.6	✓	

	diameter I				diameter II				Mean			
A 14963												
M 1351	3.0	1.6			3.0	1.6			3.0	1.6		✓
(1326)	12.3	6.0			12.3	6.0			12.3	6.0		✓
	measured on 15033											
(1350)	18.3	8.6			18.3	8.6			18.3	8.6		✓
	barely perceptible outer ring											
(1365)	28.6	10.0			28.6	10.0			28.6	10.0		✓
	41.0	31.0			41.0	31.0			41.0	31.0		
	remeasured on A 15825											
1374	2.6	2.3	2.2	2.2	2.6	2.3	3.0	3.0	2.6	2.3	2.8	2.8 ✓
A 15825												
M 1379	4.6	4.0	4.3	4.3	4.6	4.0	4.2	4.0	4.6	4.0	4.0	4.2 ✓
1380	13.0	6.0			12.6	6.0			12.8	6.0		✓
(1381)	5.3	1.0			5.6	2.0			5.5	1.5		✓
1386	10.6	3.3			10.6	3.0			10.6	3.2		✓
(1387)	6.0	6.6	7.0	6.3	7.0	7.0	7.0	7.0	6.5	6.8	7.0	6.6 ✓
	very fr. nebulosity about a hard bright center											
1389	4.3	2.3			5.0	2.3			4.6	2.3		✓
(1399)	10.6	11.0	12.0	11.3	10.6	11.0	12.0	11.3	10.6	11.0	12.0	11.3 ✓
	very fr. nebulosity about a hard br. center											
1404	6.0	5.3	5.6	5.6	5.6	5.3	5.6	5.0	5.8	5.3	5.6	5.4 ✓
1427	6.0	4.0			6.0	4.0			6.0	4.0		✓
1437	7.0	5.6			7.0	5.6			7.0	5.6		✓

	Diameter I				Diameter II				Mean				
I 2006	4.3	4.3	4.3	4.0	4.3	4.2	4.2	4.0	4.3	4.5	4.5	4.0	✓
A 4181													
N 1433	23.0	18.0			23.0	18.0			23.0	18.0			✓
1448	24.3	5.3			24.2	5.3			24.5	5.3			✓
A 12790													
N 1511	9.0	2.3			9.0	2.3			9.0	2.5			✓
A 15842													
N 1509	13.3	2.3			13.2	2.3			13.5	2.5			✓
	spindle showing tendency to spiral at one end.												
A 4183													
N 1515	20.3	3.3			20.3	4.3			20.3	3.8			✓
1566	24.8	24.0	24.0	21.0	24.8	24.0	24.0	21.0	24.8	24.0	24.0	21.0	✓
1596	10.2	2.2			11.0	3.0			10.8	2.8			✓
A 15844													
N 1533	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	✓
1546	9.0	6.0			9.0	5.2			9.0	5.8			✓
	barely perceptible faint outer ring												
1549	8.0	9.0	8.8	8.0	8.0	9.0	8.6	8.0	8.0	9.0	8.6	8.0	✓
1553	~~14.0~~ ~~10.0~~ 20.3	~~10.0~~ ~~5.0~~ 13.2			~~14.0~~ ~~10.0~~ 22.2	~~10.0~~ ~~5.0~~ 15.0			~~14.0~~ ~~10.0~~ 21.4	~~10.0~~ ~~5.0~~ 14.3			
	11.6	8.5			11.6	8.5			11.6	8.5			
1574	3.0	3.0	3.0	2.5	3.0	3.0	3.0	2.5	3.0	3.0	3.0	2.8	✓

	diameter I				diameter II				mean			
M 1617	12.0	6.3			12.0	6.3			12.0	6.3	✓	
A 15849												
M 1531	4.0	2.0			4.3	2.3			4.2	2.2	✓	
1532	30.6	5.3			30.3	5.3			30.5	5.3	✓	
	very fr., irregular outer ring, also long, fr. extension well beyond nucleus											
A 14299												
M 1543	10.6	7.3			10.3	7.3			10.5	7.3	✓	
A 16350												
I 2056	3.0	2.3			3.0	2.3			3.0	2.3	✓	
M 1559	10.0	6.0			10.0	6.0			10.0	6.0	✓	
1688	8.6	6.6			8.6	6.6			8.6	6.6	✓	
1672	12.3	6.0			13.3	6.0			12.8	6.0	✓	
	on very edge											
A 14327												
M 1744	19.0	12.6			19.0	13.0			19.0	12.8	✓	
	very fr., barely perceptible outer ring											
A 12290												
M 1746	5.3	3.0			5.6	2.6			5.5	2.8	✓	
1947	4.0	4.6	5.0	4.6	4.0	4.6	5.0	4.0	4.0	4.6	5.0	4.4
2082	4.3	4.3	4.3	4.0	4.3	4.6	4.6	4.0	4.3	4.5	4.5	4.0

	diameter I				diameter II				mean			
H 14588												
N 2090	8.6	3.6			8.3	3.0			8.5	3.4	✓	
2188	12.0	4.0			12.0	4.0			12.0	4.0	✓	
H 14578												
N 2139	7.0	6.0			7.0	6.0			7.0	6.0	✓	
neb. not measured as ew as it has def. axis at an L to ew direction												
1715802												
N 2149	5.6	3.0			5.6	3.0			5.6	3.0	✓	
wisp of nebulosity, stars involved, no definite form, no concentration												
1714564												
N 2217	14.6	13.6	13.6	14.0	14.0	13.6	13.6	13.6	14.4	13.6	13.6	13.8 ✓
H 14555												
N 2223	8.6	8.6	8.6	8.6	9.0	8.6	8.6	8.6	8.8	8.6	8.6	8.6 ✓
H 14322												
N 1964	15.0	4.8			15.0	5.0			15.0	4.5	✓	
1715882												
N 2427	17.0	7.6			17.0	7.6			17.0	7.6	✓	
H 14519												
N 2613	23.6	3.3			23.6	3.6			23.4	3.5	✓	
H 14533												
N 2784	18.0	6.6			18.0	7.0			18.0	6.8	✓	
2815	14.0	4.3			14.3	4.3			14.2	4.3	✓	

	Diameter I				Diameter II				Mean			
#2835	22.0	12.6			22.0	12.0			22.0	12.4		✓
	spiral arm just west of north just escapes diameter measuring											
2865	4.8	3.6			5.0	3.6			4.8	3.6		✓
#3102												
#3059	7.0	7.6	7.6	7.6	7.0	7.3	7.6	7.0	7.0	7.5	7.6	7.4 ✓
#15934												
#3044	17.3	2.3			17.3	2.6			17.3	2.5		✓
#15141												
#3054	8.6	5.0			8.6	5.0			8.6	5.0		✓
3075	3.0	2.0			4.0	2.0			3.5	2.0		✓
#4342												
#3087	5.0	3.6			5.3	3.0			5.2	3.4		✓
3095	9.3	4.0			9.0	4.3			9.2	4.2		✓
3223	11.0	8.0			11.0	8.0			11.0	8.0		✓
#15938												
#3115	20.6	7.6			21.0	7.3			20.8	7.5		
3145	10.3	5.0			10.6	5.0			10.5	5.0		✓
#5049												
#3136	4.0	2.0			4.3	2.0			4.2	2.0		✓

Diameter I Diameter II Mean

H 15949

H 3177

2.3 1.2

2.0 1.2 2.0 2.0

2.2 1.2 2.0 2.0 ✓

3185

6.0 4.0

6.0 4.0

6.0 4.0 ✓

3190

12.6 2.3

12.0 3.0

12.4 2.6
~~2.4~~ ✓

3193

4.2 3.0

4.2 3.2

4.2 3.4

H 9264

plate missing

H 3241

H 15160

H 3256

7.0 5.3

7.0 5.2

7.0 5.5 ✓

irregular; concentration off center

3261

12.0 6.3

12.0 6.0

12.0 6.2 ✓

H 15940

H 3258

4.0 4.3 4.3 4.6

4.0 4.0 4.2 4.2

4.0 4.2 4.5 4.6 ✓

3268

4.2 3.2

5.0 4.0

4.8 3.8 ✓

3271

7.0 3.2

7.0 3.3

7.0 3.5 ✓

3275

9.0 8.0

8.2 7.0

8.8 7.5 ✓

3281

11.0 5.2

11.0 5.3

11.0 5.5 ✓

H 15883

H 3309

5.0 5.3 5.0 5.0

5.0 5.0 5.3 5.0

5.0 5.2 5.2 5.0 ✓

Not. Will you please
check this.

hard bright center in pt. haze of nebulosity

	Diameter I		Diameter II		Mean											
#14725																
#3511	14.0	5.0	14.0	5.0	14.0	5.0 ✓										
3513	8.0	7.0	8.0	7.0	8.0	7.0 ✓										
#15983					Third Measure		Mean									
#3607	^{8.0} ~~6.0~~	6.0	6.2	7.0	8.0	7.0	7.2	7.0	8.3	7.3	8.0	7.0	8.1	6.8	7.5	7.0 ✓
3608	^{7.0} ~~6.2~~	^{7.0} ~~5.0~~	7.0	7.3	7.0	7.0	7.0	7.2	7.0	7.0	7.0	7.3	7.0	7.0	7.0	7.4 ✓
3626	8.0	4.0	7.3	4.0	7.3	4.0	7.5	4.0 ✓								
3646	12.0	8.0	13.0	8.0	13.0	8.0	12.7	8.0 ✓								
3659	5.2	2.5	6.2	2.0	7.0	2.0	6.5	2.2 ✓								
3686	11.0	6.2	12.0	6.2	12.0	6.3	11.7	6.6 ✓								
on very edge, probably goes slightly off																
#15377					Mean											
#3627	50.0	15.2	30.0	16.0	30.0	15.8										
near edge																
3628	43.0	9.0	43.0	9.0	43.0	9.0 ✓										
on very edge																
3666	16.0	4.0	16.0	4.0	16.0	4.0 ✓										
3773	^{2.0} ~~1.2~~	1.3	2.0	1.0	2.0	1.2 ✓										
If this is the 13.0, I think 3692 should be included																
3810	15.0	10.0	15.0	10.0	15.0	10.0 ✓										
3872	2.3	1.6	2.3	1.6	2.3	1.6 ✓										

	Diameter I				Diameter II				Mean			
H 3705	18.0	7.6			18.0	7.6			18.0	7.6	✓	
H 15431												
H 3637	2.3	2.0	2.0	2.3	2.0	1.6	2.0	2.0	2.2	1.8	2.0	2.2 ✓
H 15439												
H 3672	15.6	8.0			15.3	8.0			15.5	8.0	✓	
3732	2.6	3.0	2.6	2.6	2.6	3.0	2.6	3.0	2.6	3.0	2.6	2.8 ✓
3818	4.6	2.6			4.6	2.6			4.6	2.6	✓	
H 15964												
H 3720	1.6	2.0	1.6	1.6	2.0	2.0	2.0	2.0	1.8	2.0	1.8	1.8 ✓
H 15447												
H 3865	5.0	4.0			5.0	4.0			5.0	4.0	✓	
H 2261												
H 3900	6.0	3.6			6.0	3.3			6.0	3.5	✓	
3912	4.0	2.3			4.3	2.0			4.2	2.2	✓	
4008	4.3	2.0			4.0	2.0			4.2	2.0	✓	
H 15903												
H 3957	10.6	1.3			10.3	1.3			10.5	1.3	✓	
3956	14.0	5.3			14.0	5.3			14.0	5.3	✓	

	Diameter I				Diameter II				Mean			
N 3981	16.0	7.0			16.0	7.0			16.0	7.0		
4024	5.2	6.0	5.2	5.3	5.2	6.0	6.0	5.0	5.2	6.0	5.8	5.2
4027	9.0	8.0	8.3	8.2	9.0	8.0	8.0	8.2	9.0	8.0	8.2	8.2
(4033)	7.0	2.0			6.2	3.0			6.8	2.5		
4038	40.3	14.0			40.6	13.6			40.5	13.8		
attached to N 4039. measured as all are ind. most amazing obj. Resembles a shrimp. Nucleus very much off center. Two long arms as:												
F 1455-1												
N 4064	17.0	6.2			16.2	6.2			16.8	6.2		
4102	9.0	6.0			9.0	6.0			9.0	6.0		
4192	31.0	9.0			31.0	8.2			31.0	8.8		
4237	6.3	4.0			6.3	4.0			6.3	4.0		
(4262)	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5
4293	18.0	11.0			18.0	11.0			18.0	11.0		
F 1520-1												
N 4045	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
4116	10.3	5.2			10.0	6.2			10.2	6.2		
4123	11.2	9.0			11.3	9.0			11.5	9.0		

	Diameter I				Diameter II				Mean			
H 4179	15.0	2.3			14.7	2.0			14.8	2.2	✓	
H 234	3.3	4.0	3.7	3.7	7.0	4.0	4.0	3.7	3.6	4.0	3.8	3.7 ✓
H 1453A												
I 2995	12.0	4.0			12.0	4.0			12.0	4.0	✓	
H 3936	16.0	2.7			16.0	2.3			16.0	2.5	✓	
H 14630												
H 4105	3.7	3.3	2.7	3.0	4.0	4.0	3.7	4.0	3.8	3.6	3.2	3.5 ✓
4106	4.0	3.7	4.0	4.0	4.0	3.7	4.0	4.0	4.0	3.7	4.0	4.0 ✓
I 764	15.0	5.0			15.0	5.0			15.0	5.0	✓	
H 16037												
H 4129	8.7	1.3			8.7	2.0			8.7	1.6	✓	
H 6718									H.S.			Mean
H 4124	13.0	4.3			16.0	5.0			14.5	4.6	✓	
4168	3.0	3.0	2.7	3.0	4.0	4.0	4.0	4.0	3.5	3.5	3.4	3.5 ✓
4178	18.0	6.0			20.3	6.0			18.0	5.2		18.8 5.7 ✓
4189	9.0	6.0			8.0	5.3						8.5 5.6 ✓
H 212	11.3	6.7			11.0	5.7						11.2 6.2 ✓

	Diameter I				Diameter II				H. S. ~~Mean~~	Mean
4216	26.0	5.8			27.3	5.0			27.5 5.2	26.9 5.3 ✓
4254	15.3	14.0			15.0	14.0			15.0 14.0	15.1 14.0 ✓
4267	9.0	9.0	9.0	9.0	10.0	10.8	11.0	11.0	10.0 11.0 11.0 10.5	9.7 10.2 10.3 10.2 ✓
4294	10.0	4.0			11.0	4.3			9.8 5.4	10.5 4.6 ✓
4298	10.8	5.0			9.8	5.3				10.2 5.2 ✓
4371	9.8	6.0			8.0	5.3			8.0 5.5	8.6 5.6 ✓
4374	14.8	14.0	14.0	14.0	12.0	12.8	12.3	13.0	17.3 16.5 17.0 16.0	14.7 14.4 14.5 14.3
4380	17.3	7.0			16.0	7.0				16.6 7.0 ✓
4388	19.3	3.0			22.0	5.8			19.3 3.5	20.2 ~~20.2~~ 4.0 ✓
4424	11.0	4.0			13.0	5.3				12.0 4.6 ✓
4429	16.0	6.0			17.0	6.8			15.0 5.5	16.0 6.1 ✓
4435	8.0	4.0			10.0	5.0			6.0 4.0	8.0 4.3 ✓
4438	33.8	13.0			34.3	14.0			30.0 10.0	32.7 12.3 ✓
very irregular, faint outer ring; concentration off center										
4442	13.0	3.8			15.0	4.0			11.0 4.5	13.0 4.1 ✓
4459	9.0	8.0	8.0	8.0	12.0	12.0	12.0	12.0		10.5 10.0 10.0 10.0 ✓

	Diameter I				Diameter II				Mean			
✓ 4461	15.0	4.0			18.0	4.0			16.5	4.0	✓	
4479	10.0	9.0	9.0	9.0	12.0	12.0	12.3	12.0	11.0	10.5	10.6	10.5 ✓
7 9387												
✓ 4245	6.6	5.0			6.6	5.0			6.6	5.0	✓	
4251	8.6	2.0			8.6	2.0			8.6	2.0	✓	
4274	12.3	5.6			12.3	5.3			12.3	5.5	✓	
4278	4.3	5.0	4.6	5.0	4.6	5.3	5.0	5.0	4.5	5.2	4.8	5.0 ✓
4283	5.0	1.6			2.3	1.0			2.6	1.4	✓	
4314	9.3	3.0			9.6	3.0			9.5	3.0	✓	
4448	14.0	4.0			14.0	4.0			14.0	4.0	✓	
7 13810	S.P.M. Measures				H.S. Measures							
✓ 4215	5.6	1.6			5.1	1.5			5.4	1.6	✓	
4224	9.6	3.0			9.3	2.7			9.5	2.8	✓	
4233	6.6	3.0			8.4	2.9			7.6	2.8	✓	
4235	13.0	2.6			15.6	4.2			14.4	3.4	✓	
4260	9.0	4.6			9.0	4.5			9.0	4.6	✓	

	Diameter I		Diameter II		Mean
4261	10.0	8.6	16.8	16.0	13.4 12.3 ✓
4270	6.0	2.0	6.3	2.4	6.2 2.2 ✓
4273	8.0	4.0	6.3	4.2	7.2 4.1 ✓
4281	9.6	4.0	9.9	4.8	9.8 4.4 ✓
4303	20.0	19.0	23.0	17.0	21.5 18.0 ✓
4307	11.0	2.3	13.7	2.1	12.4 2.2 ✓
4324	9.0	2.0	7.5	4.0	8.2 3.0 ✓
4339	7.6	6.6	8.7	8.4	8.2 7.6 ✓
4342	2.6	1.0	3.0	1.9	2.8 1.4 ✓
4365	19.3	16.3	21.5	21.8	20.4 19.0 ✓
4378	11.0	10.0	10.9	10.3	11.0 10.2 ✓
4469	11.0	3.6	12.0	3.6	11.0 3.6 ✓
4472	37.0	31.0	35.0	33.0	36.0 32.0
4519	11.0	7.0	11.1	9.0	11.0 8.0 ✓
4522	12.3	3.6	13.4	3.0	12.8 3.4 ✓

	Diameter I				Diameter II				Mean			
η 4526	23.0	4.6			24.6	5.1			23.8	4.9		
4535	20.0	15.0			22.1	17.1			21.0	16.0	✓	
4532	9.0	2.6			7.2	3.0			8.1	2.8	✓	
η 13035												
η 4304	6.6	7.0	6.6	6.6	6.3	7.0	6.6	6.6	6.5	7.0	6.6	6.6 ✓
I 3253	10.0	4.0			10.0	4.0			10.0	4.0	✓	
η 6719												
η 4321	18.3	14.3			20.3	20.0	20.6	19.0	19.3	17.1	20.6	19.0 ✓
4340	9.6	6.0			11.0	7.0			10.4	6.5	✓	
4350	9.0	3.0			10.0	2.3			9.5	2.6	✓	
4342	18.0	10.6			21.3	13.0			19.6	11.8		
4379	4.6	4.0	4.0	4.6	4.6	4.0	4.3	4.0	4.6	4.0	4.2	4.4 ✓
4343	4.6	2.6			5.0	2.3			4.8	2.5	✓	
4394	12.0	11.0			12.3	12.0	11.6	12.0	12.2	11.5	11.6	12.0 ✓
4419	11.0	2.6			11.3	4.0			11.2	3.4	✓	
4450	17.6	13.0			18.0	12.0			17.8	12.0	✓	

	Diameter I				Diameter II				Mean			
η 4501	21.0	10.6			22.6	11.6			21.8	11.1	✓	
,												
4540	5.3	3.6			5.0	3.6			5.2	3.6	✓	
4548	15.0	12.6			16.0	13.0			15.5	12.8	✓	
4561	5.0	4.3	4.0	4.3	5.3	3.6			5.2	4.0	4.0	4.3 ✓
4651	11.6	9.0			11.6	9.0			11.6	9.0	✓	
4710	14.8	3.0			15.0	3.2			14.8	3.2	✓	
4877	4.0	4.0	4.0	3.6	3.6	4.0	4.0	3.6	3.8	4.0	4.0	3.6 ✓
π 15258												
η 4454	4.6	4.0			4.6	4.0			4.6	4.0	✓	
4546	7.6	3.6			7.3	3.6			7.5	3.6	✓	
4592	12.0	3.3			12.0	3.0			12.0	3.2	✓	
4593	10.6	2.3			9.6	2.3			10.1	2.3	✓	
measured on π 15291												
π 14638												
η 4300	5.0	3.6			5.0	3.6			5.0	3.6	✓	
4412	4.0	4.0	4.0	4.0	3.6	4.0	4.0	4.0	3.8	4.0	4.0	4.0 ✓
4420	6.0	2.3			6.0	2.3			6.0	2.3	✓	

	Diameter I S.P.M.				Diameter II H.S.				Mean			
N 4407	6.0	4.3			5.3	4.0			5.6	4.2	✓	
measured on F 16045												
F 6720												
N 4406	22.3	23.3	22.0	22.6	22.0	23.6	23.0	23.3	22.2	23.5	22.5	23.0
4417	13.3	3.0			13.3	2.0			13.3	2.5	✓	
4473	16.0	8.3			16.0	8.3			16.0	8.5		
4474	7.6	3.0			7.0	3.0			7.4	3.0	✓	
447F	3.0	3.3	3.0	3.6	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.4 ✓
44F6	23.0	21.0	22.6	22.6	23.0	21.0	22.0	22.6	23.0	21.0	22.4	22.6
4503	11.3	5.0			11.0	5.0			11.2	5.0	✓	
4550	11.0	3.0			10.6	2.3			10.8	2.6	✓	
4552	11.0	11.0	11.0	11.0	11.0	11.0	11.3	11.0	11.0	11.0	11.2	11.0
4564	10.0	3.0			9.6	2.6			9.8	2.8	✓	
4567	9.6	4.0::			9.6	4.0::			9.6	4.0::	✓	
a pair; impossible to separate minimum diameters												
4568	15.6	5.6::			15.6	5.0::			15.6	5.4::	✓	
4571	11.3	12.0	12.0	11.6	11.3	11.6	12.0	11.0	11.3	11.8	12.0	11.4 ✓
4569	42.6	20.0			42.3	20.0			42.5	20.0		

	diameter I				diameter II				Mean
44578	12.0	9.6			12.0	9.3			12.0 9.5 ✓
4579	19.0	21.2	20.0	22.0	19.0	21.6	20.0	21.6	19.0 21.6 20.0 21.8
4596	13.3	14.0	14.0	14.0	13.3	13.2	14.0	14.0	13.3 13.8 14.0 14.0
4608	9.0	8.0			9.0	7.6			9.0 7.8 ✓
	barred spiral								
4621	14.0	8.0			13.2	8.6			13.8 8.4 ✓
4638	4.0	1.6			4.0	1.3			4.0 1.5 ✓
4639	11.6	6.3			11.2	6.6			11.2 6.5 ✓
4647	8.6	6.0			8.6	6.0			8.6 6.0 ✓
a pair; 4647 in nebula of 4649									
4649	23.3	20.0			23.3	19.3			23.3 19.6
4654	13.0	7.0			13.0	8.0			13.0 7.5 ✓
4660	6.6	2.3			6.6	2.3			6.6 2.3 ✓
4679	10.0	10.0	10.0	10.6	10.0	10.0	10.0	10.6	10.0 10.0 10.0 10.6 ✓
4694	14.0	4.0			13.0	4.0			13.5 4.0 ✓
1715291									
44433	5.0	2.6			5.0	2.3			5.0 2.5 ✓
4489	14.2	10.0			14.2	10.0			14.5 10.0 ✓

	Diameter I		Diameter II		Mass	
H 4504	12.0	9.6	11.6	9.6	11.8	9.6 ✓
4658	7.0	2.6	6.6	3.6	6.8	3.2 ✓
4597	14.0	6.3	14.0	6.0	14.0	6.2 ✓
4602	10.0	2.6	10.0	2.6	10.0	2.6 ✓
measured on H 5258						
H 15361						
H 4455	9.6	2.3	9.6	2.0	9.6	2.2 ✓
4635	9.3	7.0	9.3	6.6	9.3	6.8 ✓
H 14718						
H 4462	13.6	4.6	13.6	5.0	13.6	4.8 ✓
H 15449						
H 4494	13.0	12.0	13.0	13.0	13.0	12.0 12.8 12.8 ✓
4559	35.3	16.0	35.0	16.0	35.2	16.0 ✓
4565	47.6	7.0	47.6	7.0	47.6	7.0 ✓
4670	4.0	2.0	4.0	1.6	4.0	1.8 ✓
H 16045	SPM		Hf			
H 4517	32.0	3.3	32.0	4.0	32.0	3.6 ✓
4496	11.3	8.6	11.0	8.0	11.2	8.4 ✓

	Diameter I		Diameter II		Mean	
P 80	11.2	7.0	11.0	~~2.0~~ 7.0	11.4	7.0 ✓
<i>very faint surface brightness</i>						
174527	19.3	5.0	19.0	5.0	19.2	5.0 ✓
4536	23.0	10.3	23.0	10.0	23.0	10.2 ✓
4586	14.6	3.6	15.0	3.8	14.8	3.6 ✓
4632	9.0	3.0	9.0	3.0	9.0	3.0 ✓
4636	22.6	17.6	22.6	18.0	22.6	17.8 ✓
4643	6.0	3.3	6.0	3.3	6.0	3.3 ✓
4665	10.0	9.0	10.0	9.0	10.0	9.0 ✓
4688	8.0	7.0	8.0	7.0	8.0	7.0 ✓
<i>one spiral arm</i>						
4701	5.0	2.6	5.0	2.6	5.0	2.6 ✓
1714586						
174570	14.0	3.3	13.8	3.8	13.8	3.2 ✓
4580	8.2	8.0	8.3	8.0	8.0	8.0 8.2 ✓
4612	6.0	5.6	5.6	6.0	5.8	5.8 5.6 6.2 ✓
4698	11.0	5.0	11.0	5.0	11.0	5.0 ✓

	Diameter I				Diameter II				Mean			
N 4713	10.0	5.3			10.0	5.3			10.0	5.3	✓	
4795	7.6	6.0			7.3	6.0			7.5	6.0	✓	
F 9394												
N 4725	20.0	12.3			20.0	12.3			20.0	12.3	✓	
F 15289												
N 4666	15.6	4.3			15.3	4.0			15.5	4.2	✓	
466F	4.3	3.6			4.3	3.6			4.3	3.6	✓	
4684	9.0	3.6			9.0	3.6			9.0	3.6	✓	
4691	9.0	3.6			8.6	3.3			8.8	3.0	✓	
4753	15.0	8.0			15.0	8.0			15.0	8.0	✓	
F 14689												
N 4697	21.3	15.0			21.6	14.6			21.5	14.8	✓	
4699	14.0	9.0			14.0	8.6			14.0	8.8	✓	
N 473	9.0	9.0	9.0	8.6	9.0	9.0	9.0	8.6	9.0	9.0	9.0	8.6 ✓
4731	23.3	15.3			23.3	15.0			23.3	15.2	✓	
4775	7.3	8.0	8.3	8.0	7.6	7.6	7.6	8.0	7.5	7.8	8.0	8.0 ✓
4746	5.0	4.0			5.0	4.0			5.0	4.0		✓

	diameter I				diameter II				mean			
H 4790	6.0	3.6			6.0	4.0			6.0	3.8	✓	
H 4818	22.0	5.6			22.0	5.6			22.0	5.6	✓	
H 4703												
H 4700	10.3	2.0			10.0	2.0			10.2	2.0	✓	
H 4742	6.6	4.0			6.6	3.0			6.6	3.5	✓	
H 4760	7.2	7.3	7.3	7.6	7.3	7.0	7.3	7.3	7.5	7.2	7.3	7.5 ✓
H 4781	13.0	6.3			13.0	6.0			13.0	6.2	✓	
H 4782	6.3	3.6			6.0	3.6			6.2	3.6	✓	
cannot be separated, measured as one												
H 4783												
H 4825	7.0	5.0			7.0	5.0			7.0	5.0	✓	
H 4856	19.0	5.3			19.0	5.3			19.0	5.3	✓	
H 4891	11.3	11.0	11.3	10.6	11.0	11.0	11.0	10.3	11.2	11.0	11.2	10.5 ✓
H 4899	10.0	5.0			10.0	5.3			10.0	5.2	✓	
H 4902	11.0	11.6	11.0	12.0	11.0	11.6	11.0	11.0	11.0	11.6	11.0	11.5 ✓
H 4933	9.3	4.0			9.0	4.0			9.2	4.0	✓	
H 4939	21.0	10.6			21.0	11.0			21.0	10.8	✓	

	Diameter I				Diameter II				Mean			
712949												
4712	9.3	4.0			9.0	4.0			9.2	4.0	✓	
4747	11.6	7.0			11.6	7.0			11.6	7.0	✓	
4793	7.6	3.0			7.6	3.0			7.6	3.0	✓	
4884												
4872	0.6	1.0	1.0	1.0	0.6	1.0	1.0	1.0	0.6	1.0	1.0	1.0
715280												
4765	2.3	2.0	2.0	2.0	1.6	2.0	1.6	1.3	2.0	2.0	1.8	1.6 ✓
	very near edge of plate; I allowed for elongation											
4771	18.0	3.0			18.0	2.3			18.0	2.6	✓	
4772	15.0	4.3			15.0	4.3			15.0	4.3	✓	
	S.F.M.				H.S.							
	17.0	8.6			12.5	8.0			14.8	8.4		
New 4	~~22.0~~	~~8.0~~			~~24.0~~	~~7.0~~			~~29.5~~	~~7.5~~	✓	
4808	10.6	4.0			10.3	4.0			10.5	4.0	✓	
4845	22.0	5.0			21.2	4.6			21.8	4.8	✓	
4900	6.3	6.6	6.3	6.3	6.0	6.6	6.3	6.0	6.2	6.6	6.3	6.2 ✓
4904	8.3	5.0			8.0	5.0			8.2	5.0	✓	
4999	8.6	7.3			8.3	7.0			8.5	7.2	✓	

	Diameter I		Diameter II		Mean	
#15370						
✓ 4466	15.0	3.0	14.2	2.3	14.8	2.6 ✓
4704	15.0	8.3	14.2	8.3	14.8	8.3 ✓
4762	39.3	2.6	39.3	2.0	39.3	2.4 ✓
neb. appears to stop abruptly; then fl., barely discernible ends continue short distance						
#15295						
✓ 4915	2.3	1.3	2.0	1.0	2.2	1.2 ✓
#15299						
✓ 4928	3.3	2.6	3.0	2.0	3.2	2.4 ✓
4941	10.0	5.3	10.0	5.3	10.0	5.3 ✓
4951	8.3	2.6	8.3	2.6	8.3	2.6 ✓
4958	14.0	3.0	14.0	3.0	14.0	3.0 ✓
4981	10.0	7.0	10.0	6.8	10.0	6.8 ✓
4995	9.0	7.0	9.0	6.8	9.0	6.8 ✓
#14715						
✓ 4936	6.3	5.0 6.0 6.0	6.0 6.0 6.0 6.0	6.2	6.0 6.0 6.0	✓
#12373						
✓ 4945	46.0	5.6:	46.0	5.6:	46.0	5.6: ✓
runs off plate						
4976	14.0	9.3	14.0	9.0	14.0	9.2 ✓

	Diameter I				Diameter II				Mean				
N 5156	5.3	5.2	5.2	5.2	6.0	6.0	5.2	5.2	5.6	5.8	5.2	5.2	✓
5266	9.3	5.0			9.3	5.0			9.3	5.0			
17 14707													
N 4984	5.3	5.3	6.0	5.3	5.0	5.2	5.2	5.3	5.2	5.5	5.8	5.3	✓
5044	12.0	11.3	11.2	11.2	11.2	11.3	11.0	11.2	11.8	11.3	11.4	11.2	✓
5054	18.2	9.0			19.0	8.2			18.8	8.8			
5077	6.0	5.0	6.0	5.3	5.2	4.2	6.0	5.3	5.8	4.8	6.0	5.3	✓

17 13719

N 5128	75.0	60.0			75.0	60.0			75.0	60.0			
	~~34.2~~	~~34.0~~	~~32.2~~	~~33.0~~									

great deal of nebby extends out from center; almost impossible to determine outer limits; befid

5096	9.0	9.2	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.4	9.0	9.0	✓
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17 14716

N 5061	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	✓
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5085	15.0	12.0											
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15.3	12.0												
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15.2	12.0												
------	------	--	--	--	--	--	--	--	--	--	--	--	--

very fr., barely perceptible spiral arm

17 14710

N 5068	24.0	24.0	22.0	25.0	23.0	24.0	22.0	24.5	23.5	24.0	22.0	24.8	✓
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5084	15.2	4.3											
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15.2	4.3												
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15.2	4.3												
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5087	6.0	2.3											
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5.2	2.3												
-----	-----	--	--	--	--	--	--	--	--	--	--	--	--

5.8	2.3												
-----	-----	--	--	--	--	--	--	--	--	--	--	--	--

	Diameter I				Diameter II				Mean			
75134	8.0	4.8			8.0	4.3			8.0	4.5	✓	
76714												
75101	10.0	5.0			9.8	5.0			9.8	5.0	✓	
51305	7.0	2.3			6.3	2.0			6.6	2.2	✓	
5236	40.0	4.00	39.0	39.0	40.0	40.0	39.0	39.0	40.0	40.0	39.0	39.0
715359												
75147	6.8	4.8			6.8	4.8			6.8	4.8	✓	
5300	14.0	10.0			13.3	10.0			13.6	10.0	✓	
714603												
75161	23.3	8.0			23.3	8.0			23.3	8.0	✓	
5193	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
5203	19.0	6.8			19.0	6.8			19.0	6.8	✓	
	~~9.0~~	~~3.3~~										
74329	8.8	4.0			8.8	3.8			8.8	3.8	✓	
715307												
75018	3.0	3.3	3.0	3.3	3.0	3.2	3.3	3.2	3.0	3.5	3.2	3.5
72512												
75194	34.3	20.3			34.3	20.0			34.3	20.2		
spiral arms included in measurement												
5198	2.0	1.8	1.8	2.0	2.0	1.8	1.8	2.0	2.0	1.8	1.8	2.0

	Diameter I				Diameter II				Mean			
M 5301	17.0	2.3			16.6	2.0			16.8	2.2	✓	
M 5296												
M 5247	15.6	15.0	15.0	15.0	15.3	15.0	15.0	14.3	15.5	15.0	15.0	14.6 ✓
	nebula mostly spiral arms											
M 14741												
M 5328	3.0	3.6	3.6	3.6	3.0	3.3	3.6	3.6	3.0	3.5	3.6	3.6 ✓
M 6765												
M 5365	2.6	2.6	2.3	2.3	2.3	2.0	2.0	2.0	2.5	2.4	2.2	2.2 ✓
	near edge											
5483	11.0	10.3	11.0	10.0	11.0	10.0	11.3	10.0	11.0	10.2	11.2	10.0 ✓
5530	17.0	8.0			16.6	8.0			16.8	8.0	✓	
M 4444	4.3	5.0	5.0	5.0	4.0	4.3	4.3	4.0	4.2	4.6	4.6	4.5 ✓
M 5643	16.3	17.0	17.0	16.3	16.3	17.0	17.0	15.3	16.3	17.0	17.0	15.8 ✓
	without much form											
M 5422												
M 5427	8.0	6.0			7.6	6.0			7.8	6.0	✓	
5426	10.0	6.0			10.0	6.0			10.0	6.0	✓	
5468	9.6	9.0	9.0	9.6	9.3	9.0	9.0	9.3	9.5	9.0	9.0	9.5 ✓
5534	5.0	1.3			5.0	1.3			5.0	1.3		
	spiral arms almost at rt. 45											

	Diameter I				Diameter II				Mean			
A 15376												
15494	7.8	7.0	7.0	7.0	7.0	7.0	6.2	7.0	7.4	7.0	6.8	7.0
5556	13.0	8.0			13.3	8.0			13.2	8.0		
A 6763												
15600	4.3	4.3	4.0	4.6	4.0	4.0	4.0	4.0	4.2	4.2	4.0	4.4
	near edge											
A 4466												
15612	3.0	1.3			3.0	1.3			3.0	1.3		
A 15943												
15690	11.0	3.0			10.2	3.0			10.8	3.0		
5691	6.2	3.3			6.3	3.2			6.5	3.5		
5713	9.0	9.0	9.2	9.3	9.0	9.0	10.0	10.0	9.0	9.0	9.8	9.6
5740	15.0	5.0			15.0	5.0			15.0	5.0		
5746	31.0	4.6			30.2	4.3			30.8	4.5		
5750	12.2	5.0			12.2	5.0			12.2	5.0		
5768	4.0	3.0	3.5	4.0	3.2	3.2	3.2	4.0	3.8	3.4	3.2	4.0
A 16160												
15775	14.2	4.0			14.2	4.0			14.2	4.0		
5806	8.0	4.3			8.8	4.3			8.0	4.3		

	Diameter I				Diameter II				Mean			
H 5813	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
5831	6.3	7.0	7.0	6.8	6.3	7.0	6.2	6.2	6.3	7.0	6.8	6.2
5838	17.3	5.0			17.0	5.0			17.2	5.0		
5846	10.0	9.6	9.6	9.3	10.0	9.6	9.3	9.3	10.0	9.6	9.5	9.3
5850	9.6	8.3			9.6	8.3			9.6	8.3		
inner part of neb. a spindle but surrounded by a very fl. outer ring; barred spiral												
5854	11.0	2.3			10.6	2.0			10.8	2.2		
5864	11.0	3.0			11.0	3.0			11.0	3.0		
	~~7.2~~	~~1.3~~			~~7.0~~	~~1.3~~			~~7.2~~	~~1.3~~		
H 15365												
H 5812	2.0	2.3	2.3	2.3	1.6	2.0	2.0	1.2	1.8	2.2	2.2	2.0
H 16165												
H 5885	11.0	11.3	11.0	11.0	11.0	11.3	11.0	11.0	11.0	11.3	11.0	11.0
large, small surface brightness												
H 13017												
H 5898	2.3:	1.3:			1.6:	1.0:			2.0:	1.2:		
plate a 4 in quality												
5903	2.0:	1.3:			2.0:	1.3:			2.0:	1.3:		
plate a 4 in quality												
H 4557												
H 5967	13.0	5.6			13.0	5.0			13.0	5.4		
H 13471												
H 6026	2.8	3.0	3.0	2.8	2.3	2.6	3.0	2.3	2.5	2.8	3.0	2.5
very hard stellar center												

	Diameter I				Diameter II				Mean			
A15992												
N6070	12.2	5.2			12.2	5.2			12.2	5.2		
A15991												
N6181	9.2	3.2			9.2	3.0			9.2	3.2		
faint spiral arms extend along the max. diam., included in measurement												
76452												
N6215	6.2	7.2	6.2	7.2	6.2	7.2	6.2	7.2	6.5	7.2	6.2	7.5
6221	12.2	11.0			12.2	11.0			12.2	11.0		
A5455												
N6300	10.2	9.0			10.2	9.0			10.2	9.0		
I4662	6.2	5.0			6.2	5.0			6.2	5.0		
A4611												
N66F4	12.2	7.0			12.2	7.0			12.2	7.0		
I4710	15.0	11.0			15.0	10.2			15.0	10.8		
very large and faint												
A5655												
N6699	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
I4721	14.2	3.0			14.2	3.0			14.2	3.0		
I think this measure is fairly accurate but plate darkness badly overlaps plate too badly broken to be missed.												
N6753	8.2	8.0	8.2	7.2	8.2	8.0	8.2	7.2	8.2	8.0	8.2	7.2
6758	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

	Diameter I				Diameter II				mean			
F 7412												
I 4797	6.0	2.6			6.0	2.3			6.0	2.5		
H. A. 85	3.0	2.6	2.6	3.0	2.6	2.6	2.6	3.0	~~2.8~~ 2.6	2.6	3.0	✓
F 5656												
H 6810	13.0	2.3			12.6	3.0			12.8	2.6		✓
I 4837	14.6	4.6			14.6	4.6			14.6	4.6		✓
	near edge											
F 4738												
H 6808	3.6	1.3			3.3	1.3			3.5	1.3		✓
F 7443												
I 4889	6.6	3.3			6.3	3.3			6.5	3.3		✓
F 494												
H 6851	1.6	1.6	1.6	1.6	3.0	2.6	2.6	3.0	2.4	2.2	2.2	2.4 ✓
6861	6.0	3.6			7.0	3.3			6.5	3.5		✓
6868	7.3	7.3	7.6	7.3	6.3	7.0	6.3	6.3	6.8	~~7.2~~ 7.0	6.5	6.8 ✓
6875	5.0	2.6			7.3	2.6			6.2	2.6		✓
6890	3.6	3.0										
	6.0	4.0	3.3	4.0	3.6	3.3	3.3	4.0	3.6	3.2	3.3	4.0 ✓
6893	10.0	6.3			11.0	6.0			10.5	6.2		✓
6909	7.0	2.3			7.0	2.3			7.0	2.3		✓

	Diameter I				Diameter II				mean			
A 74749												
N 6876	5.3	4.0			5.3	4.0			5.3	4.0		
A 7451												
N 6887	15.0	5.3			15.0	5.3			15.0	5.3		
A 15425												
N 6907	8.6	9.0	8.0	8.3	8.6	9.0	9.0	8.3	8.6	9.0	9.0	8.3
A 76214												
N 6935	5.0	5.0	5.0	4.6	5.0	5.0	5.0	4.6	5.0	5.0	5.0	4.6
6942	7.0	7.0	7.0	7.3	7.0	7.0	7.0	7.6	7.0	7.0	7.0	7.5
A 4606												
N 6943	14.3	6.0			14.3	6.0			14.3	6.0		
I 5002	15.0	2.0			15.0	2.0			15.0	2.0		
A 6770												
I 5063	2.6	2.6	2.6	3.0	2.0	2.0	2.0	2.3	2.4	2.4	2.4	2.6
A 13033												
N 6970	2.0	2.0	2.0	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2
7029	3.0	2.0			3.0	1.6			3.0	1.6		
near edge												
7038	9.6	5.3			9.6	5.6			9.6	5.5		
near edge												

	diameter I				diameter II				mean			
177377												
N7007	2.2	1.0			2.2	1.2			2.2	1.4	✓	
									~~1.2~~			
7064	14.0	2.0			14.0	1.2			14.0	1.8	✓	
7090	23.2	4.2			23.2	4.2			23.2	4.5	✓	
176994												
N7083	14.0	8.0			14.0	8.0			14.0	8.0	✓	
1714103												
N7166	7.0	2.3			7.0	2.0			7.0	2.2	✓	
7213	4.0	4.0	4.0	4.3	4.0	4.0	4.0	4.3	4.0	4.0	4.0	4.3 ✓
	an edge of a large defect											
I5181	9.0	2.3			9.0	2.0			9.0	2.2	✓	
N7232	8.0	2.0			7.3	2.0			7.6	2.0	✓	
I5201	28.2	12.0			28.2	11.2			28.2	11.8	✓	
177497												
N7124	11.0	5.0			10.2	5.0			10.8	5.0	✓	
7155	4.0	2.0			3.2	2.0			3.8	2.0	✓	
1716260												
N7177	9.2	6.0			9.0	5.2			9.2	5.8	✓	

	diameter I				diameter II				mean			
A7501												
N7168	2.0	2.0	2.0	2.0	1.8	2.0	2.0	2.0	1.8	2.0	2.0	2.0 ✓
I5152	16.0	10.3			15.8	10.8			15.8	10.5		✓
N7196	3.0	2.0			3.0	2.0			3.0	2.0		✓
A7500												
N7205	13.3	7.0			13.2	6.8			13.5	6.8		✓
A714961												
N7361	12.0	1.8			12.0	2.0			12.0	1.8		✓
A714954												
N7314	15.0	5.8			15.0	5.8			15.0	5.8		✓
7252	3.0	2.0			3.0	2.0			3.0	2.0		✓
A712193												
I5240	11.0	7.0			10.8	7.2			10.8	7.2		✓
N7412	14.0	10.3			14.0	10.3			14.0	10.3		✓
	spiral arms											
I5267	19.0	16.0			19.0	16.0			19.0	16.0		✓
	very faint outer ring											
A14809												
N7377	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	✓
A15790												
N7606	18.0	7.2			18.0	7.0			18.0	7.2		✓

	diameter I				diameter II				mean			
H14262												
H7619	4.0	3.3			4.0	3.3			4.0	3.3		
7626	7.0	6.0	7.0	7.0	7.0	6.0	7.0	7.0	7.0	6.0	7.0	7.0

H16115

I5328	3.0	2.0			3.0	2.0			3.0	2.0		
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H7744	2.0	1.3			2.0	1.3			2.0	1.3		
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H15781

H7716	6.3	5.3			6.0	5.0			6.2	5.2		
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near edge

H15792

H7721	14.3	5.0			14.0	5.0			14.2	5.0		
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502

diameter I	diameter II	mean
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