

Measurements of WHT M1 as a check, after sustained calima and reported rain. No cleaning.
 Taken by Neil O'Mahony using SMS micro-Scan reflectometer, through M1 portholes
 Measuring high due to high ambient temperatures (20deg). Last CO2 cleaning was on 3 July.
 Successive measurements with similar scattering measurements are in same location
 %R exceeding specification repeatability of 0.5% are marked "skip" & omitted from average
 Ref are measurements of MG reference mirror, typically 91-93% using SMS

Lambda	0.67 micron		
Incident Angle	25 deg		<--SMS Summary characteristics
BW Limits	1	0.01	

datum #	Scattering at angles Θ, Φ			Reflectivity	user comment	Roughness RMS(Å)	TIME	DATE
	$\Theta_s \rightarrow$	$\Phi_s \rightarrow$						
1	location 1	5.30E-03	2.61E-03	0.853		52.9	10:39:59	07-24-1912
2		5.29E-03	2.62E-03	0.854		52.9	10:40:03	07-24-1912
3	2	6.22E-03	2.57E-03	0.853		58	10:40:16	07-24-1912
4		6.22E-03	2.57E-03	0.853		58	10:40:20	07-24-1912
5	3	6.36E-03	3.36E-03	0.845		58.1	10:40:35	07-24-1912
6		6.74E-03	3.62E-03	0.842		59.8	10:42:11	07-24-1912
7		6.73E-03	3.61E-03	0.841		59.8	10:42:16	07-24-1912
8	4	6.24E-03	2.87E-03	0.849		57.8	10:42:27	07-24-1912
9		6.24E-03	2.87E-03	0.85		57.7	10:42:33	07-24-1912
10	5	5.61E-03	2.64E-03	0.846		54.8	10:42:45	07-24-1912
11	6	6.15E-03	2.97E-03	0.843		57.4	10:43:51	07-24-1912
12		6.14E-03	2.97E-03	0.843		57.3	10:43:56	07-24-1912
13	7	6.49E-03	3.05E-03	0.843		59	10:44:06	07-24-1912
14		6.49E-03	3.05E-03	0.844		59	10:44:12	07-24-1912
15	7 again	6.49E-03	3.08E-03	0.841	delay 2min	59.1	10:46:20	07-24-1912
16		6.49E-03	3.08E-03	0.841		59.1	10:46:25	07-24-1912
17	8	8.79E-03	5.78E-03	0.821		68.8	10:46:38	07-24-1912
18		8.77E-03	5.78E-03	0.821		68.7	10:46:43	07-24-1912
19	9	6.74E-03	2.41E-03	0.845	close to8	61.6	10:46:56	07-24-1912
20		6.74E-03	2.41E-03	0.844		61.6	10:47:01	07-24-1912
21	10	5.61E-03	3.11E-03	0.848		54.3	10:48:16	07-24-1912
22		5.61E-03	3.10E-03	0.848		54.3	10:48:20	07-24-1912
23	11	5.47E-03	2.43E-03	0.855		54	10:48:30	07-24-1912
24		5.47E-03	2.43E-03	0.856		54	10:48:35	07-24-1912
25	12	6.96E-03	3.09E-03	0.832		61.8	10:48:46	07-24-1912
26		6.97E-03	3.09E-03	0.834		61.8	10:48:51	07-24-1912
27	13	7.20E-03	3.13E-03	0.837	close to12	62.7	10:49:01	07-24-1912
28		7.22E-03	3.13E-03	0.832		63	10:49:06	07-24-1912
Mean values		6.46E-03	3.12E-03	0.843		58.8		
std deviations				0.009077				
std error				0.002517				

Measurements on Reference mirror immediately afterwards. Up to 1.5% higher than usual.

This implies that M1 measurements may be up to 1.5% overestimated.

29	3.41E-03	1.44E-03	0.945	40.7	11:05:47	07-24-1912
30	3.41E-03	1.44E-03	0.945	40.8	11:05:51	07-24-1912
31	2.40E-03	2.04E-03	0.953	33.3	11:05:59	07-24-1912
32	2.40E-03	2.04E-03	0.952	33.4	11:06:03	07-24-1912
33	3.38E-03	1.52E-03	0.945	40.4	11:06:10	07-24-1912
34	5.27E-03	1.95E-03	0.938	51.5	11:06:16	07-24-1912
35	5.28E-03	1.94E-03	0.936	51.6	11:06:21	07-24-1912

0.945

If this higher reading were due to temperature it would imply a 10 degree difference wr.t. July 3

Only about 5 degrees increase can be accounted for, leading to overestimation of about 0.5% R

Scattering and roughness at levels prior to last cleaning.

Decrease in R% significant only if we assume it is overestimated by >0.9%, which seems unlikely.