

INT Primary mirror washing, 11-12 August 2025.

Ground floor void, INT. Mirror top was pointing north, towards garage door.
Mirror initial appearance was generally dusty, 3-4 water streaks extending top-to-bottom, some insects adhered (top-mid), fingerprints on top edge, signs of coating damage possibly due to contact of petals (top-mid); a few small oil stains.

Washing over two days: on 11th following usual soap and water procedure, preceded by dry air spray, taking note of adhered stains. Sprayed and bulk DI rinses. On the 12th, water and oil stains near bottom further reduced mixing DIW, IPA, absorbent textured tissue and localised pressure. Repeat soap/rinse on spotting. Final appearance is much improved, but as usual non-uniform, due to patches of foggy residues in shape of sponges, however does not affect top left. The top-right one-third has extensive small spots, which were only partly reduced by re-cleaning using sponges, tissue. Doesn't affect reflectivity.

Measurements on arbitrary locations on the mirror surface **before** any cleaning actions

Index	Date & time	Temp r/°C	%Reflectivity per waveband (nm)							%Dust Index per waveband (nm)						
			365	404	464	522	624	760	970	365	404	464	522	624	760	970
258	11/08/2025 12:51 INT Primary	21.6	91.38	87.87	86.65	85.75	85.88	82.93	88.06	7.8	8.8	9.5	10.0	8.9	12.2	10.9
259	11/08/2025 12:51 INT Primary	22.2	88.35	85.29	84.27	83.57	83.15	80.94	85.29	12.3	13.0	14.4	15.2	13.0	17.1	15.8
260	11/08/2025 12:52 INT Primary	22.6	89.86	86.58	85.41	85.01	84.36	82.06	86.62	9.7	10.3	11.5	12.2	11.5	14.6	13.9
Averages			89.86	86.58	85.44	84.78	84.46	81.98	86.66	9.9	10.7	11.8	12.5	11.1	14.6	13.5

Measurements following Dry Pressurised **Air spray** only

262	11/08/2025 12:57 INT Primary	23.4	93.14	89.96	88.64	88.26	87.86	85.54	90.42	5.5	6.3	7.0	6.9	6.3	8.2	7.1
263	11/08/2025 12:57 INT Primary	24.1	87.43	84.61	83.55	83.15	82.76	80.32	84.58	13.6	13.8	15.6	16.4	14.6	18.4	17.7
264	11/08/2025 12:58 INT Primary	24.4	92.68	89.39	88.35	87.80	87.52	85.24	89.70	6.1	6.1	6.7	7.2	6.3	7.9	7.8
Averages			91.08	87.99	86.85	86.40	86.05	83.70	88.23	8.4	8.7	9.8	10.2	9.1	11.5	10.9
Improvement from dry air			1.22	1.41	1.40	1.63	1.58	1.72	1.58	-1.5	-2.0	-2.0	-2.3	-2.1	-3.1	-2.7

Measurements on day 1, following Soap and Water **washing, drying**

265	11/08/2025 15:08 water stain	21.3	93.23	91.06	90.57	90.18	90.37	87.85	93.49	2.2	2.0	2.1	1.1	1.0	1.0	0.6
266	11/08/2025 15:08 same	22.0	94.44	91.54	90.72	90.17	90.07	87.80	93.04	3.9	3.6	2.9	3.0	2.1	2.1	2.0
267	11/08/2025 15:09 random	22.6	94.72	91.58	90.57	90.36	90.24	87.97	93.33	2.8	3.0	2.4	1.9	1.5	1.4	1.1
268	11/08/2025 15:10 same, top left	23.1	95.73	92.47	91.35	90.93	90.76	88.34	93.47	1.8	1.6	1.4	1.4	0.9	1.0	0.9
269	11/08/2025 15:10 same	23.5	95.76	92.51	91.37	91.05	90.77	88.44	93.46	1.5	1.4	1.3	1.0	0.9	0.8	0.8
270	11/08/2025 15:11 scratches ?	23.9	94.55	91.30	90.16	90.10	89.87	87.66	92.80	4.2	4.1	4.2	3.5	3.0	3.0	2.3
271	11/08/2025 15:11 or streaks?	24.2	93.69	90.44	89.71	88.99	89.46	86.83	91.85	5.6	5.6	5.0	5.9	3.7	5.1	4.4

272	11/08/2025 15:12	same, bottom	24.6	94.29	91.05	90.11	90.00	89.88	87.62	92.77	4.1	4.0	3.7	3.5	2.6	2.9	2.2
		Averages		94.79	91.56	90.55	90.24	90.16	87.81	92.95	3.3	3.3	3.0	2.9	2.1	2.4	2.0
		Best		95.75	92.49	91.36	90.99	90.77	88.39	93.47	1.7	1.5	1.4	1.2	0.9	0.9	0.9
		Std dev.		0.88	0.71	0.58	0.63	0.45	0.50	0.56	1.4	1.4	1.3	1.7	1.1	1.5	1.3

Measurements of selected foggy or stained areas following repeat water/alcohol washes.

				%Reflectivity per waveband (nm)							%Dust Index per waveband (nm)						
Index	Date & time	Temp r/°C		365	404	464	522	624	760	970	365	404	464	522	624	760	970
273	12/08/2025 11:19 INT Primary	19.4		95.14	92.30	91.08	90.73	90.47	87.98	93.60	2.3	2.0	2.0	1.5	1.2	1.2	1.0
274	12/08/2025 11:20 INT Primary	20.1		94.29	91.59	90.57	90.33	90.20	87.81	93.40	3.3	3.0	2.8	2.0	1.6	1.3	1.1
275	12/08/2025 11:20 INT Primary	20.6		93.26	90.60	89.76	89.65	89.64	87.37	92.89	6.2	5.6	5.1	4.3	3.1	2.8	2.2
276	12/08/2025 11:21 INT Primary	21.2		93.41	90.79	90.14	89.95	89.94	87.72	93.17	4.6	4.3	3.3	2.8	1.8	1.6	1.3
277	12/08/2025 11:22 INT Primary	21.3		94.58	91.80	90.72	90.41	90.35	87.94	93.26	3.6	3.2	2.9	2.6	1.6	1.8	1.5
278	12/08/2025 11:22 INT Primary	21.8		94.22	91.20	89.88	89.91	89.90	87.30	92.92	6.2	6.6	6.8	4.9	3.6	4.1	2.3
279	12/08/2025 11:24 INT Primary	22.3		93.29	91.10	90.39	90.36	90.25	87.92	93.20	2.7	2.6	2.2	2.0	1.3	1.4	1.4
280	12/08/2025 11:25 INT Primary	22.9		94.25	91.22	90.27	89.89	90.03	87.45	92.77	3.7	3.8	3.4	3.7	2.3	3.0	2.2

More foggy areas on bottom right, following repeated washes

281	12/08/2025 13:48	INT Primary	19.6	95.52	92.96	91.45	90.97	90.80	88.20	93.70	1.2	1.1	1.1	0.8	0.8	0.7	0.8
282	12/08/2025 13:48	INT Primary	20.7	94.04	91.44	90.12	89.93	89.71	87.39	92.81	4.4	4.2	4.2	3.7	3.3	3.3	2.6
283	12/08/2025 13:49	INT Primary	21.2	94.04	91.45	90.24	89.92	89.80	87.50	92.79	4.6	4.2	3.9	3.8	3.1	3.0	2.6
284	12/08/2025 13:49	INT Primary	21.7	95.14	92.38	91.09	90.81	90.60	88.16	93.37	1.8	1.5	1.6	1.2	1.1	1.1	1.2
285	12/08/2025 13:50	INT Primary	22.0	95.17	92.34	91.03	90.79	90.59	88.13	93.36	2.0	1.8	1.8	1.4	1.2	1.3	1.1
286	12/08/2025 13:50	INT Primary	22.3	94.94	92.27	91.01	90.70	90.52	88.13	93.10	2.2	1.7	1.7	1.5	1.3	1.3	1.5
287	12/08/2025 13:51	INT Primary	22.6	94.81	91.99	90.72	90.61	90.45	88.05	93.23	2.4	2.2	2.3	1.7	1.4	1.5	1.2
288	12/08/2025 13:51	INT Primary	22.8	94.42	91.63	90.48	90.30	90.23	87.86	92.99	3.2	3.1	2.7	2.5	1.8	2.0	1.7
289	12/08/2025 13:52	INT Primary	23.1	93.59	91.12	90.23	89.94	89.86	87.66	92.47	4.8	4.1	3.4	3.5	2.7	2.8	2.8

Measurements of spotted area on top/right comparing repeated washes with untreated areas

290	12/08/2025 14:25	INT Primary	22.3	94.65	92.36	90.96	90.79	90.65	88.30	93.65	1.5	1.3	1.1	0.8	0.7	0.7	0.7
291	12/08/2025 14:26	INT Primary	22.8	94.86	92.43	91.07	90.81	90.72	88.40	93.57	2.0	1.7	1.4	1.3	0.9	0.8	0.9
292	12/08/2025 14:26	INT Primary	23.2	94.93	92.44	91.08	90.91	90.66	88.40	93.52	1.8	1.5	1.4	1.1	1.0	0.9	1.0
293	12/08/2025 14:27	INT Primary	23.5	94.50	92.02	90.85	90.63	90.58	88.30	93.42	2.2	2.0	1.5	1.3	1.0	0.9	0.9
294	12/08/2025 14:27	INT Primary	23.9	94.98	92.29	90.90	90.78	90.65	88.30	93.41	2.0	2.0	1.7	1.7	1.2	1.4	1.1

Global averages of washed mirror		94.46	91.81	90.64	90.41	90.30	87.92	93.21	3.1	2.9	2.7	2.3	1.7	1.8	1.5
overall improvement (subtract initial)		3.37	3.82	3.79	4.01	4.25	4.22	4.98	-5.3	-5.8	-7.1	-7.9	-7.3	-9.7	-9.4
Averages omitting higher scattering		94.91	92.23	91.01	90.73	90.59	88.19	93.45	2.01	1.79	1.68	1.32	1.08	1.06	0.99
Deficit wrt Fresh Aluminium		0.44	0.11	0.28	0.29	0.08	0.02	-0.12							
Check on standard reference surface															
	22/11/2023 15:54 average Gauge %R	84.86	83.43	87.56	89.72	89.91	83.62	86.36	"historical" (2023)						
213	23/04/2024 12:26 Gauge %R	85.66	85.13	88.89	90.95	90.22	84.22	87.16	Most recent (2024)						
295	13/08/2025 13:56 Gauge %R	87.08	85.50	89.19	90.90	90.40	84.71	87.10	day after cleaning						
	change	1.42	0.37	0.3	-0.05	0.18	0.49	-0.06	implied overestimate (%)						
Corrected deficit wrt Aluminium		1.86	0.48	0.58	0.24	0.26	0.51	-0.18							