



## Unexposed and Exposed Accelerated Lightfastness Data for GOLDEN Heavy Body Acrylics

Based on averaged readings of 40% reflectance tints following ASTM D4303 lightfastness testing protocols

Product #	GOLDEN Heavy Body Acrylic	Lab Unexposed			Lab Exposed			DE*	ASTM LF	DL*	Da*	Db*	Munsell (Unexposed)			Munsell (Exposed)		
		L*	a*	b*	L*	a*	b*						Hue	Value	Chroma	Hue	Value	Chroma
1450	Alizarin Crimson Hue	76	20	-3	76	19	-2	1.2	I	0.0	-0.9	0.8	3.9 RP	7.4	5.8	4.3 RP	7.4	5.6
1005	Anthraquinon Blue	77	-7	-19	78	-7	-19	1.0	I	1.0	-0.2	0.2	3.2 PB	7.5	5.5	3 PB	7.6	5.4
1464	Azurite Hue	80	-11	-15	80	-11	-15	0.6	I	-0.1	0.2	0.5	0.3 PB	7.8	4.7	0.3 PB	7.8	4.6
1009	Benzimidazolone Yellow Light	95	-8	42	95	-7	41	1.0	I	-0.3	0.3	-0.9	0.4 GY	9.5	5.5	0.3 GY	9.5	5.3
1008	Benzimidazolone Yellow Medium	94	-2	39	93	-3	38	1.4	I	-0.8	-0.1	-1.1	7.0 Y	9.4	5.1	7.1 Y	9.3	5.0
1007	Bismuth Vanadate Yellow	96	-8	39	95	-8	40	0.4	I	0.2	0.2	0.0	0.9 GY	9.6	5.0	0.7 GY	9.5	5.2
1010	Bone Black	70	-1	-3	70	-1	-3	0.3	I	0.2	0.0	0.2	2.6 PB	6.8	1.1	2.6 PB	6.9	1.1
1020	Burnt Sienna	78	10	9	78	10	10	0.6	I	-0.3	0.1	0.1	0.7 YR	7.7	2.9	0.7 YR	7.7	2.9
1030	Burnt Umber	75	4	7	76	4	7	0.8	I	0.8	0.2	0.1	5.7 YR	7.4	1.5	5.6 YR	7.5	1.6
1035	Burnt Umber Light	76	6	8	77	6	8	0.9	I	0.7	0.3	0.3	3.5 YR	7.5	1.9	3.3 YR	7.6	2.0
1552	Cadmium Red Medium Hue	79	28	-1	81	24	-1	4.9	II	2.4	-4.3	-0.2	5.6 RP	7.8	7.4	5.3 RP	8.0	6.4
1554	Cadmium Yellow Medium Hue	92	3	44	93	3	41	3.2	I	0.2	0.1	-3.2	4.4 Y	9.3	6.2	4.2 Y	9.3	5.8
1040	Carbon Black	76	-1	-4	75	-1	-4	0.3	I	-0.2	0.0	0.2	3.1 PB	7.4	1.5	3 PB	7.4	1.4
1051	Cerulean Blue Deep	79	-13	-15	78	-13	-15	0.5	I	-0.3	0.0	0.2	9.3 B	7.6	4.9	9.2 B	7.6	4.9
1050	Cerulean Blue, Chromium	81	-10	-18	81	-10	-18	0.5	I	-0.2	0.1	0.2	1.8 PB	7.8	5.4	1.8 PB	7.8	5.4
1061	Chrome Oxide Green Dark	74	-7	-1	73	-7	-1	0.8	I	-0.8	0.0	-0.1	5.7 BG	7.2	1.5	5.8 BG	7.1	1.5
1060	Chromium Oxide Green	76	-10	5	76	-10	5	0.2	I	0.1	0.1	-0.1	3.5 G	7.4	2.0	3.7 G	7.4	2.0
1140	Cobalt Blue	80	-7	-24	80	-7	-24	0.7	I	-0.5	-0.1	0.6	4.7 PB	7.7	6.6	4.6 PB	7.7	6.5
1556	Cobalt Blue Hue	80	-11	-23	80	-10	-22	1.1	I	0.0	0.2	1.1	2.3 PB	7.8	6.5	2.3 PB	7.8	6.3
1142	Cobalt Green	81	-10	-3	81	-10	-3	0.2	I	-0.2	0.0	0.0	1.1 B	7.9	2.2	1.1 B	7.9	2.2
1144	Cobalt Turquoise	80	-17	-9	80	-17	-9	0.5	I	-0.5	0.0	0.2	3.7 B	7.8	4.0	3.6 B	7.8	3.9
1465	Cobalt Violet Light Hue	78	11	-14	79	10	-13	2.2	I	0.8	-1.1	1.7	5.9 P	7.6	5.6	6.1 P	7.7	5.1
1070	CP Cadmium Orange	84	24	20	84	23	19	1.0	I	0.0	-0.8	-0.6	9.8 R	8.4	5.9	9.9 R	8.4	5.7
1080	CP Cadmium Red Dark	75	17	2	75	16	2	0.6	I	0.2	-0.5	0.0	7.8 RP	7.3	4.9	7.9 RP	7.3	4.8
1090	CP Cadmium Red Light	79	25	10	79	24	10	1.0	I	0.0	-1.0	-0.1	3.2 R	7.9	6.4	3.4 R	7.9	6.1
1100	CP Cadmium Red Medium	76	20	4	77	19	4	1.5	I	0.8	-1.2	-0.1	9.3 RP	7.5	5.5	9.5 RP	7.6	5.3
1110	CP Cadmium Yellow Dark	91	6	37	91	6	35	2.3	I	-0.2	-0.2	-2.3	2.5 Y	9.2	5.4	2.5 Y	9.2	5.1
1120	CP Cadmium Yellow Light	97	-9	32	96	-7	35	3.5	I	-1.0	2.6	1.9	2.2 GY	9.6	4.0	0.7 GY	9.5	4.5
1130	CP Cadmium Yellow Medium	93	1	36	93	2	34	1.8	I	-0.3	0.3	-1.7	4.9 Y	9.4	5.0	4.6 Y	9.3	4.7
1135	CP Cadmium Yellow Primrose	97	-9	32	96	-8	30	3.9	I	-0.9	1.1	-3.7	2.1 GY	9.6	4.0	2 GY	9.5	3.7
1147	Diarylilide Yellow	91	11	30	90	11	30	0.5	I	-0.3	-0.2	-0.3	9.5 YR	9.1	4.8	9.5 YR	9.1	4.8
1150	Dioxazine Purple	79	9	-19	83	6	-15	6.8	II	3.6	-3.1	4.9	2.2 P	7.7	6.0	1.8 P	8.1	4.6
1160	Graphite Gray	72	-2	-6	72	-2	-6	0.2	I	0.0	0.0	0.1	3 PB	7.0	2.0	3 PB	7.0	2.0
1170	Green Gold	89	-11	45	89	-12	44	1.2	I	0.5	-0.6	-0.9	2.4 GY	8.9	6.1	2.8 GY	8.9	6.0
1180	Hansa Yellow Light	96	-9	37	96	-6	28	9.1	Fair	-0.4	2.3	-8.8	1.5 GY	9.6	4.7	1.2 GY	9.5	3.5
1190	Hansa Yellow Medium	95	-3	36	95	-2	26	10.1	Fair	0.3	1.7	-10.0	8.3 Y	9.5	4.8	7.1 Y	9.5	8.4
1191	Hansa Yellow Opaque	94	0	40	93	0	36	3.5	I	-0.3	0.2	-3.5	5.8 Y	9.4	5.4	5.7 Y	9.4	4.9
1454	Hookers Green Hue	76	-14	7	77	-14	7	0.9	I	0.7	0.3	0.5	4.3 G	7.5	2.4	3.7 G	7.6	2.4
1455	Indian Yellow Hue	90	0	31	90	-1	30	0.8	I	0.0	-0.3	-0.7	4 Y	9.0	4.1	4.2 Y	9.0	4.0
1195	Jenkins Green	78	-15	11	78	-14	11	0.7	I	0.2	0.4	-0.6	1.6 G	7.7	3.0	1.8 G	7.7	2.9
1574	Light Bismuth Yellow	96	-8	40	95	-7	39	0.7	I	-0.5	0.2	-0.5	0.7 GY	9.5	5.1	0.56 GY	9.5	5.1
1558	Light Green BS	89	-25	22	89	-24	23	2.0	I	-0.3	0.9	1.7	1 G	8.8	5.0	0.4 G	8.8	5.0
1560	Light Green YS	92	-19	26	92	-19	25	1.1	I	0.0	0.7	-0.8	8.5 GY	9.1	4.5	8.5 GY	9.1	4.3
1562	Light Magenta	79	27	0	81	23	0	4.4	II	2.0	-3.9	-0.3	6.4 RP	7.8	7.1	6.1 RP	8.1	6.3
1575	Light Orange	86	17	24	86	16	24	1.3	I	0.2	-1.3	-0.3	3.5 YR	8.5	5.2	4 YR	8.6	5.0
1577	Light Phthalo Blue	83	-17	-19	84	-16	-18	1.2	I	0.4	0.5	1.0	9.2 B	8.1	6.0	9.1 B	8.1	5.8
1578	Light Phthalo Green	89	-22	3	89	-21	3	1.3	I	0.0	1.2	-0.4	1.7 BG	8.8	3.9	2 BG	8.8	3.7

1564	Light Turquoise (Phthalo)	86	-24	-4	85	-23	-4	1.6	I	-1.1	0.8	0.5	8.3 BG	8.4	4.7	8 BG	8.3	4.6
1566	Light Ultramarine Blue	83	-3	-21	83	-3	-20	0.7	I	-0.4	-0.2	0.5	5.7 PB	8.1	5.6	5.6 PB	8.0	5.6
1568	Light Violet	75	11	-23	79	8	-19	6.5	II	4.1	-2.9	4.2	2 P	7.2	7.1	1.7 P	7.7	5.8
1457	Manganese Blue Hue	83	-18	-18	83	-17	-17	1.6	I	0.4	0.7	1.4	8.1 B	8.0	5.9	7.9 B	8.1	5.5
1200	Mars Black	71	-1	-4	71	-1	-4	0.6	I	-0.1	0.1	0.2	3.7 PB	6.9	1.4	3.7 PB	7.0	1.3
1202	Mars Yellow	79	14	15	79	14	15	0.5	I	-0.1	-0.3	-0.4	1.6 YR	7.9	4.0	1.6 YR	7.9	3.9
1570	Medium Magenta	77	26	-14	78	25	-13	1.8	I	0.2	-1.2	1.3	0.2 RP	7.6	8.4	0.5 RP	7.6	8.0
1572	Medium Violet	79	14	-16	80	13	-14	3.1	I	1.5	-0.8	2.6	5.9 P	7.7	6.2	6.4 P	7.9	5.7
1210	Naphthol Red Light	80	26	0	83	22	0	4.8	II	2.4	-4.1	-0.1	6.3 RP	7.9	7.0	6.1 RP	8.2	6.0
1459	Naples Yellow Hue	86	6	25	85	5	24	1.7	I	-0.7	-0.8	-1.3	0.9 Y	8.6	3.8	1.3 Y	8.5	3.6
1220	Naphthol Red Medium	78	26	-4	80	24	-4	2.8	I	1.4	-2.4	-0.1	4.1 RP	7.7	7.2	3.8 RP	7.9	6.7
1225	Nickel Azo Yellow	93	-5	33	93	-5	33	0.4	I	0.1	-0.2	-0.3	8.8 Y	9.3	4.2	9.1 Y	9.3	4.2
1240	Paynes Gray	75	-4	-15	74	-4	-15	0.4	I	-0.2	-0.1	0.2	4.3 PB	7.2	4.3	4.2 PB	7.2	4.3
1250	Permanent Green Light	83	-34	12	83	-33	12	1.0	I	0.0	0.9	-0.5	6.4 G	8.1	6.3	6.5 G	8.1	6.1
1252	Permanent Maroon	75	14	-5	75	13	-5	1.1	I	0.4	-0.7	0.8	1.6 RP	7.3	4.8	2 RP	7.4	4.5
1253	Permanent Violet Dark	78	17	-16	78	16	-14	1.9	I	0.1	-1.0	1.6	6.9 P	7.6	6.7	7.2 P	7.7	6.3
1255	Phthalo Blue (Green Shade)	83	-17	-19	83	-16	-18	0.9	I	0.2	0.4	0.8	9.1 B	8.1	6.0	9.1 B	8.1	5.8
1260	Phthalo Blue (Red Shade)	80	-13	-23	80	-12	-22	1.1	I	0.3	0.4	1.0	1.8 PB	7.7	6.8	1.8 PB	7.7	6.5
1270	Phthalo Green (Blue Shade)	85	-27	-2	85	-26	-2	0.5	I	0.0	0.5	-0.1	6.3 BG	8.4	5.1	6.4 BG	8.4	5.0
1275	Phthalo Green (Yellow Shade)	86	-28	5	86	-27	5	0.8	I	0.0	0.7	-0.3	0.6 BG	8.4	5.2	0.9 BG	8.4	5.1
1500	Primary Cyan	82	-16	-20	82	-16	-19	1.2	I	0.0	0.5	1.0	9.5 B	7.9	6.2	9.4 B	8.0	6.0
1510	Primary Magenta	79	27	-7	78	25	-5	2.7	I	-0.7	-1.8	1.9	3.1 RP	7.7	7.5	3.8 RP	7.7	7.0
1530	Primary Yellow	92	3	44	93	3	41	3.2	I	0.2	0.1	-3.2	4.4 Y	9.3	6.2	4.2 Y	9.3	5.8
1460	Prussian Blue Hue	76	-9	-21	76	-10	-19	2.3	I	0.7	-0.9	2.0	2.8 PB	7.3	6.1	2 PB	7.4	5.6
1276	Pyrrrole Orange	83	27	10	84	25	9	2.0	I	0.7	-1.5	-1.1	3.2 R	8.3	6.4	2.8 R	8.3	6.1
1277	Pyrrrole Red	79	23	1	79	22	0	0.8	I	0.3	-0.7	-0.2	6.5 RP	7.8	6.3	6.4 RP	7.8	6.1
1278	Pyrrrole Red Dark	77	21	-2	79	19	-2	2.6	I	1.6	-2.0	-0.1	4.8 RP	7.6	6.0	4.6 RP	7.7	5.6
1279	Pyrrrole Red Light	80	25	7	81	23	7	2.3	I	0.9	-2.0	-0.8	1.2 R	7.9	6.5	1 R	8.1	6.1
1280	Quin Burnt Orange	78	19	7	78	18	7	1.3	I	0.1	-1.2	0.5	1.7 R	7.7	5.2	2.6 R	7.7	4.9
1301	Quinacridone / Nickel Azo Gold	87	5	26	87	4	25	0.6	I	0.0	-0.2	-0.5	0.6 Y	8.6	3.8	0.6 Y	8.6	3.7
1290	Quinacridone Crimson	79	19	-4	79	17	-3	2.1	I	0.0	-1.6	1.4	3 RP	7.7	5.8	3.6 RP	7.7	5.3
1305	Quinacridone Magenta	79	25	-13	79	23	-12	1.9	I	-0.2	-1.2	1.5	10 P	7.8	7.9	0.4 RP	7.8	7.5
1310	Quinacridone Red	80	25	-8	80	24	-7	1.7	I	0.0	-1.3	1.0	2.4 RP	7.9	7.2	2.7 RP	7.9	6.8
1320	Quinacridone Red Light	82	29	0	82	26	2	3.4	I	-0.1	-3.1	1.5	7 RP	8.2	6.9	8 RP	8.2	6.3
1330	Quinacridone Violet	80	10	-12	80	9	-11	1.4	I	0.0	-0.7	1.1	6.4 P	7.9	5.1	6.6 P	7.9	4.8
1340	Raw Sienna	86	6	17	86	6	17	0.3	I	-0.1	0.0	-0.1	8.9 YR	8.6	2.7	8.9 YR	8.6	2.7
1350	Raw Umber	73	1	2	73	1	2	0.3	I	0.3	-0.1	-0.1	9.1 YR	7.1	0.3	9.3 YR	7.2	0.3
1360	Red Oxide	74	16	5	74	15	4	0.3	I	-0.1	-0.2	-0.1	1.3 R	7.3	4.2	1.3 R	7.3	4.2
1461	Sap Green Hue	81	-9	12	81	-8	12	0.6	I	0.1	0.4	-0.5	8.1 GY	8.0	2.1	8.1 GY	8.0	2.0
1467	Smalt Hue	77	-1	-14	78	-2	-13	2.0	I	0.6	-1.2	1.5	6.6 PB	7.5	4.2	5.7 PB	7.6	3.8
1369	Teal	85	-22	-8	85	-22	-8	0.8	I	-0.1	0.6	0.5	1.6 B	8.3	4.7	1.5 B	8.3	4.6
1468	Terre Verte Hue	77	-7	5	77	-6	5	0.3	I	-0.2	0.3	0.0	1.9 G	7.5	1.3	1.7 G	7.5	1.3
1370	Titan Buff	84	1	13	82	1	12	2.6	I	-1.9	-0.5	-1.7	2.2 Y	8.3	1.8	2.8 Y	8.1	1.6
1371	Titan Green Pale	79	-5	12	79	-5	13	0.7	I	0.7	-0.1	0.1	5.5 GY	7.8	1.8	5.5 GY	7.9	1.8
1576	Titan Mars Pale	82	12	13	82	12	13	0.3	I	-0.1	-0.2	-0.3	1.8 YR	8.1	3.5	1.7 YR	8.1	3.5
1573	Titan Violet Pale	88	4	-1	88	4	-1	0.2	I	-0.1	-0.1	0.0	1.2 RP	8.7	1.9	1.3 RP	8.7	1.9
1375	Titanate Yellow	94	-6	26	94	-7	26	1.3	I	0.0	-0.6	-0.6	1.1 GY	9.4	3.2	1.8 GY	9.4	3.2
1383	Transparent Brown Iron Oxide	82	7	13	81	7	14	1.4	I	-1.2	0.4	0.6	6.3 YR	8.1	2.5	6.4 YR	8.0	2.7
1384	Transparent Pyrrrole Orange	85	19	21	87	14	16	6.6	II	2.0	-4.4	-4.4	2.2 YR	8.5	5.0	2.5 YR	8.7	3.9
1385	Transparent Red Iron Oxide	82	12	18	82	12	18	0.2	I	0.1	0.0	-0.1	4.3 YR	8.2	3.8	4.3 YR	8.2	3.7
1386	Transparent Yellow Iron Oxide	89	4	22	89	4	22	0.5	I	-0.4	0.0	-0.3	1.7 Y	8.9	3.1	1.7 Y	8.8	3.1
1390	Turquoise (Phthalo)	85	-20	-9	85	-19	-9	0.6	I	-0.4	0.2	0.4	3.2 B	8.3	4.4	3 B	8.3	4.3
1400	Ultramarine Blue	79	-2	-26	78	-3	-25	0.6	I	-0.3	-0.2	0.5	6 PB	7.6	6.9	6 PB	7.6	6.9
1401	Ultramarine Violet	74	10	-20	74	10	-20	0.3	I	0.1	-0.2	0.1	1.9 P	7.2	6.0	1.8 P	7.2	6.0

1462	Van Dyke Brown Hue	77	2	6	76	2	6	0.5	I	-0.4	0.0	0.0	0.3 Y	7.5	0.9	0.4 Y	7.5	1.0
1403	Vat Orange	83	26	14	83	24	13	2.8	I	-0.4	-1.9	-2.0	6 R	8.3	6.3	5.5 R	8.3	6.0
1405	Violet Oxide	74	8	-2	74	8	-3	0.3	I	-0.2	-0.1	-0.1	2.4 RP	7.2	2.7	2.2 RP	7.2	2.7
1469	Viridian Green Hue	82	-21	-2	82	-20	-2	1.2	I	0.3	1.1	0.3	7.1 BG	8.0	4.1	7 BG	8.0	3.9
1407	Yellow Ochre	87	6	21	87	6	21	0.5	I	-0.3	0.0	-0.3	10 YR	8.7	3.3	10 YR	8.7	3.3
1410	Yellow Oxide	88	5	24	88	5	24	0.5	I	-0.2	0.1	-0.4	1.4 Y	8.8	3.5	1.3 Y	8.8	3.5

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