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FAX MESSAGE From:

CORNING

Canton Plant
334 County Route 16
Canton, NY 13617

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FROM: Randy VanBrocklin

DATE: 12 August, 1996

TO: Gari Lynn Billingsley

SUBJECT: Requested 7980 Fused Silica Information

Total Number Of Pages Including Cover Letter - 2

Please find with this fax a page from Corning's Fused Silica catalogue. The information supplied should answer your questions on Index of Refraction at various wavelengths and change of index over change in temperature.

If you have any questions concerning this information, please give me a call.

Thank you.



5 Optical Properties

Birefringence constant
(nm/cm/Kg/cm²) 3.45

Refractive index and dispersion, 25°
 n_p(486nm) 1.46313
 n_D(589nm) 1.45840
 n_c(656nm) 1.45637

Abbe Number, V = $\frac{n_D - 1}{n_F - n_C} = 67.8$

Glass Type No. 458/678 (MIL-G-174)

Refractive Index versus Wavelength Reference Table - measured at 20°C

K = Maximum possible transmittance assuming absorption = 0 R = Single surface reflectance

Wavelength in Microns	Index of Refraction	R	K
1.05	1.55789	.0457	.910
1.10	1.55772	.0457	.910
1.15	1.55755	.0457	.910
1.20	1.55738	.0457	.910
1.25	1.55721	.0457	.911
1.30	1.55704	.0457	.912
1.35	1.55687	.0457	.913
1.40	1.55670	.0457	.914
1.45	1.55653	.0457	.915
1.50	1.55636	.0457	.916
1.55	1.55619	.0457	.917
1.60	1.55602	.0457	.918
1.65	1.55585	.0457	.919
1.70	1.55568	.0457	.920
1.75	1.55551	.0457	.921
1.80	1.55534	.0457	.922
1.85	1.55517	.0457	.923
1.90	1.55500	.0457	.924
1.95	1.55483	.0457	.925
2.00	1.55466	.0457	.926
2.05	1.54411	.0457	.911
2.10	1.53836	.0449	.912
2.15	1.53316	.0443	.913
2.20	1.52845	.0437	.914
2.25	1.52419	.0431	.915
2.30	1.52042	.0425	.916
2.35	1.51719	.0420	.917
2.40	1.51445	.0416	.918
2.42	1.51208	.0416	.919
2.48	1.50855	.0411	.919
2.50	1.50745	.0409	.920
3.00	1.48779	.0384	.925

Wavelength in Microns	Index of Refraction	R	K
2.55	1.48522	.0380	.926
2.60	1.48300	.0377	.927
2.65	1.48078	.0374	.928
2.70	1.47856	.0371	.929
2.75	1.47634	.0368	.930
2.80	1.47412	.0365	.931
2.85	1.47190	.0362	.932
2.90	1.46968	.0359	.933
2.95	1.46746	.0356	.934
3.00	1.46524	.0353	.935
3.05	1.46302	.0350	.936
3.10	1.46080	.0347	.937
3.15	1.45858	.0344	.938
3.20	1.45636	.0341	.939
3.25	1.45414	.0338	.940
3.30	1.45192	.0335	.941
3.35	1.44970	.0332	.942
3.40	1.44748	.0329	.943
3.45	1.44526	.0326	.944
3.50	1.44304	.0323	.945
3.55	1.44082	.0320	.946
3.60	1.43860	.0317	.947
3.65	1.43638	.0314	.948
3.70	1.43416	.0311	.949
3.75	1.43194	.0308	.950
3.80	1.42972	.0305	.951
3.85	1.42750	.0302	.952
3.90	1.42528	.0299	.953
3.95	1.42306	.0296	.954
4.00	1.42084	.0293	.955
4.05	1.41862	.0290	.956
4.10	1.41640	.0287	.957
4.15	1.41418	.0284	.958
4.20	1.41196	.0281	.959
4.25	1.40974	.0278	.960
4.30	1.40752	.0275	.961
4.35	1.40530	.0272	.962
4.40	1.40308	.0269	.963
4.45	1.40086	.0266	.964
4.50	1.39864	.0263	.965
4.55	1.39642	.0260	.966
4.60	1.39420	.0257	.967
4.65	1.39198	.0254	.968
4.70	1.38976	.0251	.969
4.75	1.38754	.0248	.970
4.80	1.38532	.0245	.971
4.85	1.38310	.0242	.972
4.90	1.38088	.0239	.973
4.95	1.37866	.0236	.974
5.00	1.37644	.0233	.975
5.05	1.37422	.0230	.976
5.10	1.37200	.0227	.977
5.15	1.36978	.0224	.978
5.20	1.36756	.0221	.979
5.25	1.36534	.0218	.980
5.30	1.36312	.0215	.981
5.35	1.36090	.0212	.982
5.40	1.35868	.0209	.983
5.45	1.35646	.0206	.984
5.50	1.35424	.0203	.985
5.55	1.35202	.0200	.986
5.60	1.34980	.0197	.987
5.65	1.34758	.0194	.988
5.70	1.34536	.0191	.989
5.75	1.34314	.0188	.990
5.80	1.34092	.0185	.991
5.85	1.33870	.0182	.992
5.90	1.33648	.0179	.993
5.95	1.33426	.0176	.994
6.00	1.33204	.0173	.995
6.05	1.32982	.0170	.996
6.10	1.32760	.0167	.997
6.15	1.32538	.0164	.998
6.20	1.32316	.0161	.999
6.25	1.32094	.0158	.999
6.30	1.31872	.0155	.999
6.35	1.31650	.0152	.999
6.40	1.31428	.0149	.999
6.45	1.31206	.0146	.999
6.50	1.30984	.0143	.999
6.55	1.30762	.0140	.999
6.60	1.30540	.0137	.999
6.65	1.30318	.0134	.999
6.70	1.30096	.0131	.999
6.75	1.29874	.0128	.999
6.80	1.29652	.0125	.999
6.85	1.29430	.0122	.999
6.90	1.29208	.0119	.999
6.95	1.28986	.0116	.999
7.00	1.28764	.0113	.999
7.05	1.28542	.0110	.999
7.10	1.28320	.0107	.999
7.15	1.28098	.0104	.999
7.20	1.27876	.0101	.999
7.25	1.27654	.0098	.999
7.30	1.27432	.0095	.999
7.35	1.27210	.0092	.999
7.40	1.26988	.0089	.999
7.45	1.26766	.0086	.999
7.50	1.26544	.0083	.999
7.55	1.26322	.0080	.999
7.60	1.26100	.0077	.999
7.65	1.25878	.0074	.999
7.70	1.25656	.0071	.999
7.75	1.25434	.0068	.999
7.80	1.25212	.0065	.999
7.85	1.24990	.0062	.999
7.90	1.24768	.0059	.999
7.95	1.24546	.0056	.999
8.00	1.24324	.0053	.999
8.05	1.24102	.0050	.999
8.10	1.23880	.0047	.999
8.15	1.23658	.0044	.999
8.20	1.23436	.0041	.999
8.25	1.23214	.0038	.999
8.30	1.22992	.0035	.999
8.35	1.22770	.0032	.999
8.40	1.22548	.0029	.999
8.45	1.22326	.0026	.999
8.50	1.22104	.0023	.999
8.55	1.21882	.0020	.999
8.60	1.21660	.0017	.999
8.65	1.21438	.0014	.999
8.70	1.21216	.0011	.999
8.75	1.20994	.0008	.999
8.80	1.20772	.0005	.999
8.85	1.20550	.0002	.999
8.90	1.20328	.0000	.999
8.95	1.20106	.0000	.999
9.00	1.19884	.0000	.999
9.05	1.19662	.0000	.999
9.10	1.19440	.0000	.999
9.15	1.19218	.0000	.999
9.20	1.18996	.0000	.999
9.25	1.18774	.0000	.999
9.30	1.18552	.0000	.999
9.35	1.18330	.0000	.999
9.40	1.18108	.0000	.999
9.45	1.17886	.0000	.999
9.50	1.17664	.0000	.999
9.55	1.17442	.0000	.999
9.60	1.17220	.0000	.999
9.65	1.16998	.0000	.999
9.70	1.16776	.0000	.999
9.75	1.16554	.0000	.999
9.80	1.16332	.0000	.999
9.85	1.16110	.0000	.999
9.90	1.15888	.0000	.999
9.95	1.15666	.0000	.999
10.00	1.15444	.0000	.999

Wavelength in Microns	Index of Refraction	R	K
2.25	1.56200	.0463	.910
2.30	1.56183	.0463	.910
2.35	1.56166	.0463	.910
2.40	1.56149	.0463	.910
2.45	1.56132	.0463	.910
2.50	1.56115	.0463	.910
2.55	1.56098	.0463	.910
2.60	1.56081	.0463	.910
2.65	1.56064	.0463	.910
2.70	1.56047	.0463	.910
2.75	1.56030	.0463	.910
2.80	1.56013	.0463	.910
2.85	1.55996	.0463	.910
2.90	1.55979	.0463	.910
2.95	1.55962	.0463	.910
3.00	1.55945	.0463	.910
3.05	1.55928	.0463	.910
3.10	1.55911	.0463	.910
3.15	1.55894	.0463	.910
3.20	1.55877	.0463	.910
3.25	1.55860	.0463	.910
3.30	1.55843	.0463	.910
3.35	1.55826	.0463	.910
3.40	1.55809	.0463	.910
3.45	1.55792	.0463	.910
3.50	1.55775	.0463	.910
3.55	1.55758	.0463	.910
3.60	1.55741	.0463	.910
3.65	1.55724	.0463	.910
3.70	1.55707	.0463	.910
3.75	1.55690	.0463	.910
3.80	1.55673	.0463	.910
3.85	1.55656	.0463	.910
3.90	1.55639	.0463	.910
3.95	1.55622	.0463	.910
4.00	1.55605	.0463	.910
4.05	1.55588	.0463	.910
4.10	1.55571	.0463	.910
4.15	1.55554	.0463	.910
4.20	1.55537	.0463	.910
4.25	1.55520	.0463	.910
4.30	1.55503	.0463	.910
4.35	1.55486	.0463	.910
4.40	1.55469	.0463	.910
4.45	1.55452	.0463	.910
4.50	1.55435	.0463	.910
4.55	1.55418	.0463	.910
4.60	1.55401	.0463	.910
4.65	1.55384	.0463	.910
4.70	1.55367	.0463	.910
4.75	1.55350	.0463	.910
4.80	1.55333	.0463	.910
4.85	1.55316	.0463	.910
4.90	1.55299	.0463	.910
4.95	1.55282	.0463	.910
5.00	1.55265	.0463	.910
5.05	1.55248	.0463	.910
5.10	1.55231	.0463	.910
5.15	1.55214	.0463	.910
5.20	1.55197	.0463	.910
5.25	1.55180	.0463	.910
5.30	1.55163	.0463	.910
5.35	1.55146	.0463	.910
5.40	1.55129	.0463	.910
5.45	1.55112	.0463	.910
5.50	1.55095	.0463	.910
5.55	1.55078	.0463	.910
5.60	1.55061	.0463	.910
5.65	1.55044	.0463	.910
5.70	1.55027	.0463	.910
5.75	1.55010	.0463	.910
5.80	1.54993	.0463	.910
5.85	1.54976	.0463	.910
5.90	1.54959	.0463	.910
5.95	1.54942	.0463	.910
6.00	1.54925	.0463	.910
6.05	1.54908	.0463	.910
6.10	1.54891	.0463	.910
6.15	1.54874	.0463	.910
6.20	1.54857	.0463	.910
6.25	1.54840	.0463	.910
6.30	1.54823	.0463	.910
6.35	1.54806	.0463	.910
6.40	1.54789	.0463	.910
6.45	1.54772	.0463	.910
6.50	1.54755</		