

CURRENT TRANSFORMER CHARACTERISTICS TEST

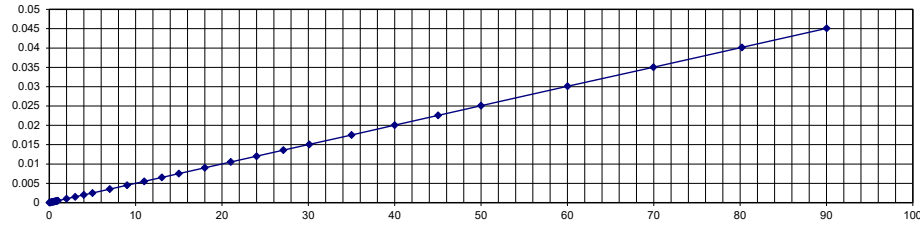
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	1
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000659135	0.000659135	2.22293E-05	0.000338625	-0.000658912	103.3736387	29.65162601	98.5174187
0.1A	0.100452935	0.100452935	5.6022E-05	0.000492341	-0.000609678	109.1887891	1793.09788	10.34510599
0.2A	0.201232399	0.201232399	0.00010564	0.000547959	-0.000548868	119.2468751	1904.889985	4.755500729
0.3A	0.299003363	0.299003363	0.000159214	0.000508656	-0.000507045	131.4004318	1877.992372	6.100381395
0.4A	0.401174305	0.401174305	0.000211184	0.000499036	-0.000458934	146.0162081	1899.641744	5.017912775
0.5A	0.500295414	0.500295414	0.000260649	0.000494468	-0.000411755	163.3020784	1919.420338	4.028983091
0.6A	0.603618253	0.603618253	0.000311739	0.000514183	-0.000348765	189.3837503	1936.293032	3.185348391
0.7A	0.704039639	0.704039639	0.000363374	0.0004453	-0.000345626	205.1351311	1937.506711	3.124664473
0.8A	0.800721186	0.800721186	0.000406426	0.000498606	-0.000259891	256.3835227	1970.150633	1.492468336
0.9A	0.90263318	0.90263318	0.00045724	0.000563848	-0.000150187	404.4480182	1974.089408	1.295529583
1A	0.999795664	0.999795664	0.000512025	0.000502423	-0.000156815	426.5160542	1952.629873	2.368506365
2A	2.00196584	2.00196584	0.001015538	0.000497054	0.00033595	-202.2881101	1971.334496	1.433275225
3A	3.00291663	3.00291663	0.001513065	0.000498698	0.000838414	-80.46759505	1984.657917	0.767104138
4A	4.00085515	0.040008552	0.002010735	0.00049138	0.001306804	-53.86659548	1989.747526	0.512623722
5A	5.00648071	0.050064807	0.002504879	0.000498837	0.001838283	-36.26187827	1998.691574	0.065421322
7A	7.01449038	0.035072452	0.003506549	0.000502748	0.002867388	-22.29070139	2000.397268	-0.019863406
9A	9.00557408	0.04502787	0.004507563	0.000505397	0.003892256	-15.80846908	1997.881134	0.10594329
11A	10.9939382	0.021987876	0.005512476	0.000493939	0.004771201	-15.53643507	1994.373886	0.281305714
13A	13.031229	0.026062458	0.006518774	0.000504147	0.005910517	-10.29108914	1999.03075	0.048462489
15A	15.00730935	0.030014619	0.007515008	0.000501189	0.006862357	-9.510605692	1996.978445	0.151077746
18A	18.0133476	0.036026695	0.0090216	0.00050022	0.008351499	-8.023728602	1996.690988	0.165450584
21A	21.0181896	0.042036379	0.010524682	0.000500843	0.009867683	-6.658083572	1997.038048	0.148097592
24A	23.99470025	0.047989401	0.012015447	0.000504289	0.011441127	-5.019786022	1996.987765	0.150611753
27A	27.0986768	0.027098677	0.013580748	0.000497652	0.012826564	-5.879856645	1995.374423	0.23127887
30A	30.1010893	0.030101089	0.015074903	0.000494936	0.01423897	-5.870742242	1996.768344	0.161582797
35A	35.0124047	0.035012405	0.017505689	0.000509673	0.017185749	-1.861657575	2000.058695	-0.00293476
40A	39.9891592	0.039989159	0.020042207	0.0005027	0.019443426	-3.079604468	1995.2473	0.237635008
45A	45.0218762	0.045021876	0.022572155	0.000503522	0.022010365	-2.55238966	1994.575883	0.271205827
50A	49.9928159	0.049992816	0.025075132	0.000502104	0.024442472	-2.588362701	1993.720946	0.313952684
60A	60.0269864	0.030013493	0.030113332	0.000495119	0.029061348	-3.619873054	1993.36913	0.331543517
70A	69.9560052	0.034978003	0.035029375	0.000501209	0.034403433	-1.819415773	1997.066907	0.14665463
80A	80.2059162	0.040102958	0.040166721	0.00050112	0.039533617	-1.601432429	1996.825098	0.158745097
90A	90.0256066	0.045012803	0.04508756	0.00050083	0.044428425	-1.483588263	1996.683954	0.165802276

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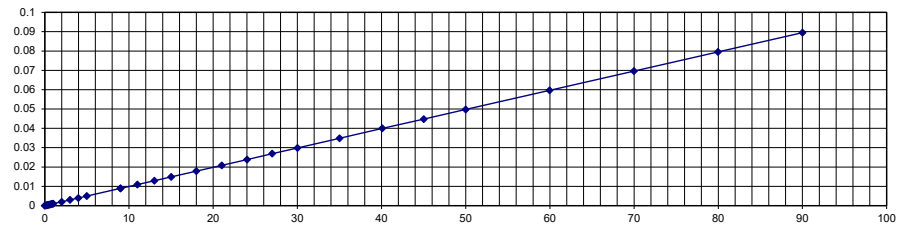
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	2
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000660437	0.000660437	2.16577E-05	0.00085863	-0.00065987	103.2821183	60.98862239	96.95056888
0.1A	0.100752956	0.100752956	0.0001076	0.00096537	-0.000563173	119.1060559	1872.729331	6.36353344
0.2A	0.199759722	0.199759722	0.000203178	0.000996573	-0.000461362	144.0388472	1966.348811	1.682559455
0.3A	0.299744911	0.299744911	0.000302821	0.00100239	-0.000359975	184.1226729	1979.684454	1.015777323
0.4A	0.400406721	0.400406721	0.000403723	0.001003613	-0.000258584	256.1287891	1983.569877	0.821506148
0.5A	0.499855859	0.499855859	0.000503532	0.001048126	-0.000136525	468.820192	1985.399566	0.730021692
0.6A	0.600819611	0.600819611	0.000609354	0.000927594	-0.00010312	690.9186789	1971.987247	1.400637654
0.7A	0.699892644	0.699892644	0.000701254	0.001057752	7.9876E-05	-777.9278449	1996.117207	0.194139626
0.8A	0.80144068	0.80144068	0.000808667	0.000980337	0.000125246	-545.6650058	1982.128573	0.893571363
0.9A	0.900314389	0.900314389	0.000905596	0.001004506	0.000243934	-271.2459929	1988.334959	0.583252053
1A	1.00051494	1.00051494	0.001006248	0.000992924	0.000332999	-202.1776955	1988.604404	0.569779822
2A	2.00194082	2.00194082	0.002000589	0.000991367	0.001324221	-51.07661691	2001.351912	-0.06759561
3A	3.00175657	3.00175657	0.002991773	0.000980217	0.002281935	-31.10685283	2006.674157	-0.333707828
4A	3.98783656	0.039878366	0.003958345	0.000992781	0.003298612	-20.0003197	2014.901092	-0.745054613
5A	4.99014193	0.049901419	0.004953415	0.001001267	0.004336026	-14.2385826	2014.829128	-0.741456421
7A	9.008122	0.04504061	0.008976484	0.004584921	0.040641088	77.91278628	2007.049094	-0.352454704
9A	8.99349164	0.044967458	0.008909405	0.000997451	0.008310126	-7.211427778	2018.875945	-0.943797265
11A	11.0009961	0.022001992	0.010911791	0.000984228	0.01016705	-7.325051064	2016.350166	-0.817508304
13A	13.01574415	0.026031488	0.012894762	0.000997977	0.01232898	-4.589048072	2018.764479	-0.938223957
15A	15.0138288	0.030027658	0.014888805	0.000990655	0.014213095	-4.754139386	2016.794282	-0.839714112
18A	18.0060011	0.036012002	0.017853017	0.000992615	0.017212582	-3.720742101	2017.138145	-0.856907252
21A	21.02033215	0.042040664	0.020845086	0.00099234	0.020198885	-3.199193007	2016.814135	-0.84070677
24A	24.0276417	0.048055283	0.02382936	0.0010238	0.023939072	0.458296223	2016.641764	-0.832088217
27A	27.0194324	0.027019432	0.026892357	0.000987115	0.026010853	-3.388984834	2009.450678	-0.472533889
30A	30.0112688	0.030011269	0.029845644	0.001000878	0.029377194	-1.594604756	2011.098772	-0.554938607
35A	35.0125647	0.035012565	0.034851333	0.00100787	0.034627683	-0.645869633	2009.252553	-0.462627644
40A	40.1083563	0.040108356	0.039987229	0.000977365	0.038540053	-3.754991992	2006.058289	-0.302914462
45A	45.0208563	0.045020856	0.044788533	0.001001883	0.044445213	-0.772457153	2010.374227	-0.51871134
50A	50.0002444	0.05000244	0.0497773	0.000991377	0.048908662	-1.776039801	2008.957694	-0.447884683
60A	59.971581	0.029985791	0.059662655	0.000993006	0.058891682	-1.309136119	2010.355771	-0.51778856
70A	69.9851286	0.034992564	0.069606164	0.000994302	0.068925915	-0.986927208	2010.888823	-0.54444115
80A	79.9686378	0.039984319	0.079532787	0.000994149	0.078840275	-0.878373913	2010.96028	-0.548013991
90A	90.010416	0.045005208	0.089515807	0.000994505	0.08885537	-0.743271672	2011.050763	-0.552538168

CURRENT TRANSFORMER CHARACTERISTICS TEST

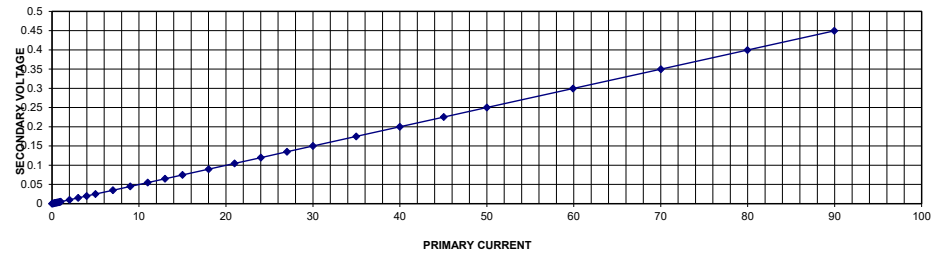
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	10
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000729361	0.000729361	2.74241E-05	0.004786455	-0.00072587	103.7781018	265.9561672	86.70219164
0.1A	0.099337256	0.099337256	0.000499406	0.004990951	-0.000233574	313.8108515	1989.106703	0.54466486
0.2A	0.200355231	0.200355231	0.001003582	0.004993679	0.000271148	-270.1227133	1996.400903	0.179954875
0.3A	0.297842234	0.297842234	0.001490401	0.005010148	0.000762872	-95.36702313	1998.403356	0.079832207
0.4A	0.401013216	0.401013216	0.002007303	0.004984773	0.001269599	-58.10531997	1997.771348	0.111432611
0.5A	0.499714418	0.499714418	0.002499306	0.004994357	0.001766391	-41.49221772	1999.412741	0.029362952
0.6A	0.600061387	0.600061387	0.003000475	0.005068415	0.002311999	-29.7783891	1999.888248	0.005587616
0.7A	0.701172512	0.701172512	0.003512948	0.004908167	0.002712111	-29.52819071	1995.966271	0.201686464
0.8A	0.800838991	0.800838991	0.004002127	0.005059642	0.003322597	-20.45177153	2001.033215	-0.051660649
0.9A	0.901080958	0.901080958	0.004509316	0.004971009	0.00374992	-20.25099097	1998.265316	0.08673422
1A	0.999773242	0.999773242	0.004999916	0.005001619	0.004271124	-17.06324032	1999.580033	0.020998352
2A	2.00528573	2.00528573	0.010029107	0.004999293	0.009295649	-7.890331735	1999.465905	0.026704771
3A	3.00904779	3.00904779	0.015047207	0.00504377	0.014447584	-4.150338928	1999.738363	0.013081829
4A	3.97973747	0.039797375	0.019943143	0.005032505	0.019298689	-3.339365609	1995.541771	0.222911455
5A	4.99340052	0.049934005	0.025044408	0.004841321	0.023445295	-6.820612446	1993.818572	0.309071394
7A	7.00400496	0.035020025	0.03477839	0.005015348	0.034398161	-1.105375883	2013.895698	-0.694784898
9A	8.99712718	0.044985636	0.044774591	0.004983488	0.04410771	-1.511937307	2009.426981	-0.471349026
11A	11.00983495	0.02201967	0.054804896	0.004967522	0.053962241	-1.561562699	2008.914505	-0.445725236
13A	13.00450055	0.026009001	0.064713442	0.004997097	0.064255394	-0.712855203	2009.55168	-0.47758401
15A	15.01403545	0.030028071	0.074755283	0.004989293	0.07418006	-0.775441755	2008.424663	-0.421233171
18A	18.00527245	0.036010545	0.089679441	0.004995707	0.089219702	-0.515288845	2007.73692	-0.386846022
21A	20.9886691	0.041977338	0.104583616	0.004963331	0.103444341	-1.10134111	2006.879271	-0.343963532
24A	24.0232103	0.048046421	0.119645047	0.005142168	0.122802027	2.57078797	2007.873364	-0.393668198
27A	27.0304616	0.027030462	0.135108839	0.004979331	0.133864254	-0.929736252	2000.643466	-0.032173321
30A	30.0143769	0.030014377	0.149966741	0.005022687	0.150023457	0.037804839	2001.402224	-0.070111212
35A	34.9929052	0.034992905	0.17497233	0.004994385	0.174038688	-0.536456427	1999.910797	0.004460134
40A	39.9973129	0.039997313	0.19996627	0.004984483	0.198636576	-0.669410439	2000.202979	-0.010148962
45A	45.0584335	0.045058434	0.225193341	0.005029703	0.225901191	0.313344756	2000.877704	-0.043885179
50A	50.0054253	0.050005425	0.250075242	0.004986001	0.248597736	-0.594336134	1999.615192	0.019240409
60A	59.9224066	0.029961203	0.29952132	0.004977406	0.29752879	-0.669693214	2000.60572	-0.030285991
70A	70.0180448	0.035009022	0.349771411	0.004995967	0.349078453	-0.198510623	2001.822979	-0.091148959
80A	79.9789168	0.039989458	0.399535595	0.005002915	0.399398322	-0.034369915	2001.797031	-0.089851569
90A	89.9565766	0.044978288	0.449452974	0.004996333	0.448723613	-0.162541324	2001.468047	-0.07340234

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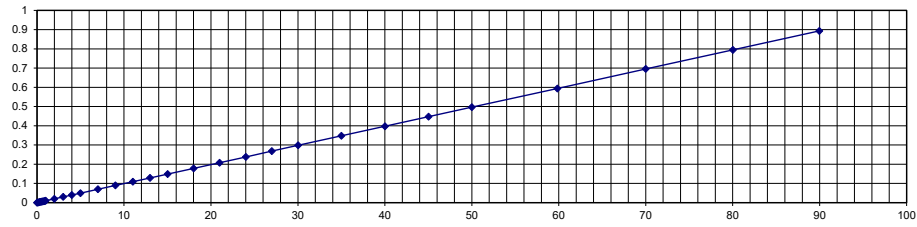
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	20
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000690746	0.000690746	1.99301E-05	0.009837159	-0.000683951	102.9139614	693.1697175	65.34151412
0.1A	0.100516447	0.100516447	0.001001931	0.00989244	0.000303607	-230.0089492	2006.453675	-0.322683769
0.2A	0.199434871	0.199434871	0.001980476	0.009950405	0.001293712	-53.08474984	2014.009521	-0.700476065
0.3A	0.300151753	0.300151753	0.00298265	0.00996382	0.002299912	-29.68536097	2012.651737	-0.632586861
0.4A	0.399988318	0.399988318	0.003977403	0.009945491	0.003287335	-20.99173727	2011.303843	-0.565192132
0.5A	0.499562658	0.499562658	0.004967719	0.009839292	0.004224597	-17.59035942	2011.235616	-0.561780781
0.6A	0.599752653	0.599752653	0.005953517	0.009896749	0.005244856	-13.51154991	2014.784225	-0.739211236
0.7A	0.700811265	0.700811265	0.006953669	0.00989434	0.006309962	-10.20144351	2015.65891	-0.782945498
0.8A	0.799843476	0.799843476	0.007942945	0.009920167	0.007243836	-9.651091444	2013.972113	-0.698605627
0.9A	0.899954445	0.899954445	0.008936062	0.009908455	0.008226412	-8.626486852	2014.208041	-0.710402038
1A	0.999872523	0.999872523	0.009926096	0.009952523	0.009260509	-7.187377137	2014.633954	-0.731697723
2A	2.00096333	2.00096333	0.019889475	0.009942465	0.019203763	-3.570720088	2012.082571	-0.604128556
3A	2.99939356	2.99939356	0.029816333	0.00976699	0.028604301	-4.237237439	2011.913101	-0.595655071
4A	3.99685404	0.03996854	0.03955852	0.009770986	0.038362459	-3.117789398	2020.729841	-1.036492025
5A	4.99199267	0.049919927	0.049282005	0.01009794	0.049718098	0.877132281	2025.888626	-1.294431304
7A	6.9997838	0.034998919	0.06955656	0.00989601	0.069234299	-0.4654645	2012.688322	-0.634416078
9A	9.01887206	0.04509436	0.089726445	0.009673994	0.086557772	-3.660761055	2010.304104	-0.515205187
11A	11.02354365	0.022047087	0.109119627	0.009806823	0.107415198	-1.586767313	2020.451124	-1.02255619
13A	13.00528755	0.026010575	0.128554239	0.009934386	0.128508798	-0.035359893	2023.315241	-1.165762025
15A	15.02020205	0.030040404	0.148571177	0.009903124	0.148056181	-0.3478381	2021.9537	-1.097684984
18A	18.01117675	0.036022354	0.178191171	0.009896827	0.177562764	-0.353907212	2021.556584	-1.077829215
21A	21.00440615	0.042008812	0.207814646	0.00989634	0.207176008	-0.308258807	2021.455807	-1.027290365
24A	24.0170988	0.048034198	0.237629278	0.010279139	0.246184355	3.475069395	2021.392229	-1.069611464
27A	26.9958568	0.026995857	0.268248346	0.009964491	0.268309232	0.02269264	2012.751035	-0.637551741
30A	30.0241499	0.03002415	0.298423746	0.00990758	0.296775923	-0.555241446	2012.182362	-0.609118083
35A	34.9959878	0.034995988	0.347682628	0.009927829	0.346743452	-0.270856185	2013.09959	-0.654979518
40A	40.0074347	0.040007435	0.397435418	0.009943651	0.397129215	-0.077104089	2013.279788	-0.663989388
45A	45.0210654	0.045021065	0.447289211	0.009956055	0.447541459	0.056362947	2013.062882	-0.65314408
50A	49.998364	0.04999836	0.496858129	0.009844159	0.491515588	-1.086952504	2012.640369	-0.632018441
60A	59.8363546	0.029918177	0.593690377	0.010002955	0.597849589	0.695695426	2015.742782	-0.787139085
70A	70.0118868	0.035005943	0.695475763	0.009908559	0.693026189	-0.353460523	2013.352313	-0.667615645
80A	80.0366718	0.040018336	0.79480694	0.009936491	0.794592895	-0.02693765	2013.99026	-0.699513016
90A	89.9550852	0.044977543	0.893361162	0.009931191	0.892670416	-0.077379685	2013.857083	-0.692854163

CURRENT TRANSFORMER CHARACTERISTICS TEST

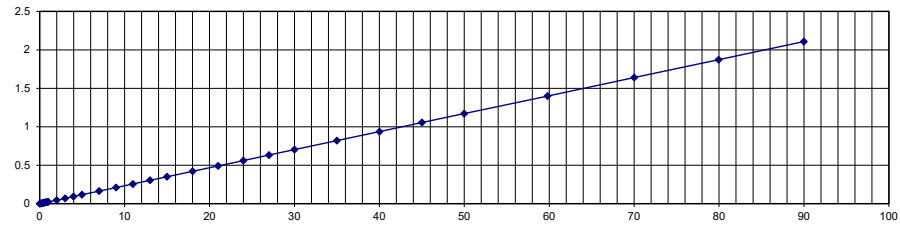
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	47
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000678054	0.000678054	1.96461E-05	0.023458511	-0.000662148	102.9670337	1622.126335	18.89368325
0.1A	0.100558663	0.100558663	0.002362697	0.023226476	0.001657569	-42.53982671	2000.365744	-0.018287177
0.2A	0.199771822	0.199771822	0.004667069	0.0235413	0.004024834	-15.9567838	2011.814396	-0.590719782
0.3A	0.300001704	0.300001704	0.00702661	0.02333374	0.006322108	-11.14347384	2006.668884	-0.333444197
0.4A	0.400005425	0.400005425	0.009360071	0.023483088	0.008715309	-7.398042448	2008.559005	-0.427950251
0.5A	0.500443439	0.500443439	0.011718666	0.023442556	0.011053619	-6.016548204	2007.126241	-0.356312034
0.6A	0.600238047	0.600238047	0.014058107	0.023380398	0.013355751	-5.258826577	2006.755903	-0.337795168
0.7A	0.701013387	0.701013387	0.016414274	0.023374183	0.015707562	-4.49918718	2007.254722	-0.36273608
0.8A	0.79992139	0.79992139	0.018726168	0.023483064	0.018106551	-3.422057295	2007.688147	-0.384407346
0.9A	0.900909327	0.900909327	0.021097674	0.023369213	0.020375488	-3.544387988	2006.986086	-0.349304308
1A	1.00067401	1.00067401	0.023429096	0.021662175	0.020998722	-11.57391607	2007.404727	-0.370236369
2A	2.00098902	2.00098902	0.045098095	0.023895076	0.047135732	4.322912267	2085.375968	-4.268798408
3A	3.00013166	3.00013166	0.068972685	0.024671409	0.073339421	5.954146275	2044.377252	-2.218862601
4A	3.99342899	0.03993429	0.09347873	0.023359258	0.092605484	-0.942973784	2007.84888	-0.392443999
5A	4.98488597	0.04984886	0.116638429	0.023065857	0.114302613	-2.043536716	2008.683095	-0.434154763
7A	6.99956524	0.034997826	0.163108733	0.023207551	0.161764714	-0.8308481	2016.934104	-0.84670521
9A	9.01240894	0.045062045	0.209821906	0.023492883	0.211049413	0.581620625	2018.775009	-0.938750452
11A	10.9796063	0.021959213	0.256037043	0.023490938	0.257243196	0.468876369	2015.495454	-0.774772676
13A	13.008099	0.026016198	0.303688239	0.023155638	0.300532776	-1.049956232	2013.18515	-0.659257503
15A	15.0064566	0.030012913	0.349961484	0.023480133	0.351675541	0.487397139	2015.374527	-0.768726338
18A	18.0130947	0.036026189	0.420557746	0.023244823	0.418033138	-0.603925322	2013.077773	-0.65388867
21A	21.01153745	0.042023075	0.490256016	0.023462409	0.492303228	0.415843655	2014.339912	-0.716995602
24A	24.00100505	0.04800201	0.560396127	0.02400445	0.575452866	2.616502542	2012.94617	-0.647308484
27A	27.0040461	0.027004046	0.632482475	0.023378517	0.630636489	-0.29271793	2006.68037	-0.33401848
30A	30.0097388	0.030009739	0.702751112	0.023454453	0.703183966	0.061556287	2007.051571	-0.352578567
35A	35.0130858	0.035013086	0.820101881	0.023381366	0.817975706	-0.259931359	2006.598291	-0.329914534
40A	40.0248704	0.04002487	0.937284249	0.023534521	0.941288099	0.425358638	2007.042059	-0.35210294
45A	45.0139501	0.04501395	1.05469985	0.023415029	1.053324902	-0.130534048	2005.931502	-0.29657512
50A	49.986078	0.049986078	1.17112237	0.023174973	1.15774794	-1.155210855	2006.063351	-0.30316755
60A	59.8073038	0.029903652	1.39872901	0.023636792	1.412974754	1.008209361	2009.64108	-0.482054011
70A	70.0185858	0.035009293	1.64009096	0.023362329	1.635119208	-0.304060542	2006.518914	-0.325945721
80A	79.9526192	0.03997631	1.87217312	0.023469209	1.875746706	0.190515376	2007.171806	-0.3585903
90A	89.9826192	0.04499131	2.10756929	0.02342196	2.106891236	-0.032182675	2006.663848	-0.333192424

CURRENT TRANSFORMER CHARACTERISTICS TEST

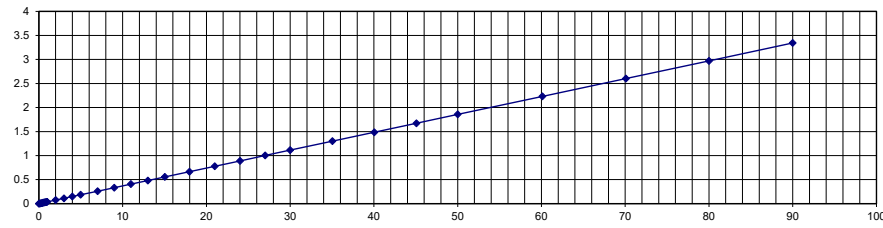
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	75
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000736707	0.000736707	3.04313E-05	0.036894671	-0.000709527	104.2889613	1815.663451	9.216827445
0.1A	0.100285074	0.100285074	0.003703236	0.037043875	0.00297824	-24.34306864	2031.02949	-1.551474506
0.2A	0.200599224	0.200599224	0.00741926	0.03712557	0.006710653	-10.55943524	2027.82234	-1.391116981
0.3A	0.30049494	0.30049494	0.011127946	0.037109642	0.010414552	-6.849966795	2025.272329	-1.263616428
0.4A	0.399768272	0.399768272	0.014811944	0.037143528	0.014112097	-4.959196682	2024.219199	-1.210959926
0.5A	0.501139767	0.501139767	0.018577239	0.037212396	0.017911904	-3.714482485	2023.200732	-1.160036582
0.6A	0.600490729	0.600490729	0.022274326	0.037101937	0.021542662	-3.39634879	2021.915504	-1.095775197
0.7A	0.700350564	0.700350564	0.025979319	0.03699652	0.025173826	-3.199723718	2021.85023	-1.092511505
0.8A	0.800975572	0.800975572	0.029702094	0.037384863	0.029207655	-1.692842476	2022.522974	-1.126148708
0.9A	0.901130801	0.901130801	0.033446384	0.0370489	0.032649198	-2.441671145	2020.691106	-1.034555307
1A	1.00176628	1.00176628	0.037174818	0.03720008	0.036529078	-1.767740603	2021.058234	-1.052911692
2A	2.00117783	2.00117783	0.074353007	0.037146345	0.073599734	-1.023472292	2018.591362	-0.92956809
3A	3.00033623	3.00033623	0.111468089	0.037271872	0.111091439	-0.339044699	2018.741142	-0.937057085
4A	3.98831538	0.039883154	0.148291921	0.037328996	0.148143103	-0.100455744	2017.127106	-0.856355317
5A	4.98131505	0.049813151	0.185359602	0.03594138	0.178298628	-3.960195225	2015.534263	-0.776713135
7A	7.01729446	0.035086472	0.258535511	0.037013802	0.259000039	0.179354499	2035.685862	-1.784293087
9A	8.99600768	0.044980038	0.33177521	0.037434431	0.33602372	1.264348209	2033.607562	-1.680378109
11A	10.99017445	0.021980349	0.406425708	0.036881304	0.404595254	-0.452416161	2028.078115	-1.403905748
13A	13.011124	0.026022248	0.480960962	0.037087259	0.481810214	0.176262858	2028.926206	-1.446310314
15A	15.05263795	0.030105276	0.556675118	0.036977223	0.555868045	-0.145191443	2028.019234	-1.400961687
18A	17.99237265	0.035984745	0.665378344	0.037155061	0.667770992	0.3583037	2028.061119	-1.403055939
21A	21.0054546	0.042010909	0.777329587	0.036871719	0.773770504	-0.459966183	2026.693852	-1.334692603
24A	24.0191509	0.048038302	0.888449749	0.038083024	0.913985189	2.793857054	2027.617566	-1.380878295
27A	27.0172012	0.027017201	1.00262457	0.03748297	1.011948244	0.921358743	2020.985871	-1.049293556
30A	30.0069093	0.03006909	1.11468771	0.036839819	1.104712408	-0.902977256	2018.967445	-0.948372235
35A	35.0396202	0.03503962	1.30009187	0.037159255	1.301309484	0.09356839	2021.373701	-1.068685054
40A	40.0500352	0.040050035	1.48627516	0.03710116	1.485166072	-0.07467771	2020.993636	-1.04968181
45A	45.0791275	0.045079128	1.67286032	0.037463435	1.688082276	0.901730664	2021.050127	-1.052506359
50A	50.0058927	0.05005893	1.85743387	0.036959925	1.847477325	-0.538926506	2019.152344	-0.957617202
60A	60.1156116	0.030057806	2.23108832	0.037287859	2.240845725	0.43543405	2020.83926	-1.041963009
70A	70.0922534	0.035046127	2.60309593	0.037016199	2.59381206	-0.35792376	2019.487236	-0.974361805
80A	80.0036434	0.040001822	2.96997791	0.037336711	2.986336225	0.547772057	2020.309052	-1.015452586
90A	90.0051898	0.045002595	3.34340276	0.037146778	3.34266053	-0.022039512	2019.017665	-0.95088327

CURRENT TRANSFORMER CHARACTERISTICS TEST

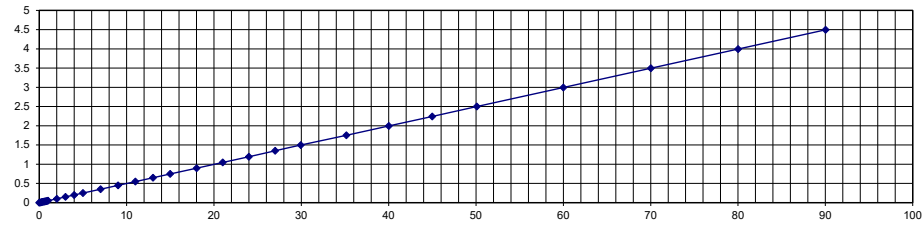
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	100
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000694908	0.000694908	3.56293E-05	0.049740093	-0.000660343	105.3955651	1950.386384	2.480680819
0.1A	0.100048524	0.100048524	0.004977487	0.049761514	0.004283658	-16.19712545	2010.020646	-0.50103231
0.2A	0.200540948	0.200540948	0.009978143	0.050228978	0.009378059	-6.398804942	2009.802396	-0.490119777
0.3A	0.300280893	0.300280893	0.014987978	0.049487105	0.014165124	-5.80901422	2003.478328	-0.173916387
0.4A	0.399777315	0.399777315	0.019911768	0.050203487	0.019375307	-2.768785585	2007.743938	-0.387196908
0.5A	0.501126844	0.501126844	0.024999868	0.049637988	0.02418002	-3.39059963	2004.517976	-0.225898795
0.6A	0.599359202	0.599359202	0.029875924	0.050219764	0.029404769	-1.60230821	2006.161195	-0.308059757
0.7A	0.70076951	0.70076951	0.034968726	0.050055387	0.034382381	-1.705365722	2003.989245	-0.199462227
0.8A	0.800195762	0.800195762	0.039945546	0.049745421	0.039111167	-2.133352141	2003.216504	-0.160825191
0.9A	0.900342341	0.900342341	0.044927379	0.049829838	0.044169005	-1.716983076	2003.994791	-0.199739561
1A	0.999752652	0.999752652	0.049880979	0.050030567	0.049323284	-1.130692479	2004.276323	-0.213816172
2A	2.00443746	2.00443746	0.10014593	0.049929896	0.099386446	-0.76417218	2001.516647	-0.075832338
3A	3.0009825	3.0009825	0.14985917	0.050262654	0.150097991	0.159110381	2001.945059	-0.097252974
4A	4.00226551	0.040022655	0.200230756	0.049442316	0.197186369	-1.543913298	1998.826549	0.058672555
5A	5.00133553	0.050013355	0.249627092	0.049502695	0.246884677	-1.110808199	2003.522731	-0.176136531
7A	7.01632534	0.035081627	0.349374517	0.050070764	0.350617864	0.354616063	2008.253321	-0.412666045
9A	9.01948222	0.045097411	0.449674113	0.049129105	0.442424177	-1.638684502	2005.781956	-0.289097807
11A	11.0089988	0.022017998	0.547417281	0.049892601	0.548572681	0.210619312	2011.07988	-0.55399402
13A	13.02197225	0.026043945	0.647849763	0.050152804	0.652393518	0.696474509	2010.029639	-0.501481931
15A	14.9871233	0.029974247	0.746407599	0.049604621	0.742735663	-0.494379936	2007.900686	-0.395034295
18A	18.01347135	0.036026943	0.896528447	0.049898448	0.898149347	0.180471151	2009.247047	-0.462352367
21A	21.0003962	0.042000792	1.04557136	0.049532368	1.039504436	-0.58363616	2008.509127	-0.425456374
24A	24.00761405	0.048015228	1.19452598	0.051612239	1.238391795	3.542159688	2009.802587	-0.490129357
27A	27.0034347	0.027003435	1.34914699	0.050934669	1.374716095	1.859955327	2001.519101	-0.07595503
30A	29.9412186	0.029941219	1.49878204	0.048471492	1.450600631	-3.321479955	1997.703322	0.114833909
35A	35.1658201	0.03516582	1.75202627	0.050188387	1.764220869	0.691217258	2007.151417	-0.357570837
40A	40.0209138	0.040020914	1.99569559	0.049519241	1.981110355	-0.73621518	2005.361639	-0.268081967
45A	44.9950868	0.044995087	2.24201286	0.050586839	2.275464319	1.470093781	2006.90583	-0.345291507
50A	50.1058637	0.050105864	2.50055091	0.049982321	2.503712462	0.126274567	2003.792984	-0.189649208
60A	60.0083656	0.030004183	2.99550094	0.050043949	3.002360692	0.228478618	2003.28315	-0.164157518
70A	70.0322088	0.035016104	3.49713364	0.049907724	3.494453215	-0.076705142	2002.560268	-0.128013409
80A	80.0203576	0.040010179	3.99561941	0.04996179	3.99726539	0.041177645	2002.702194	-0.135109715
90A	90.026363	0.045013182	4.49553735	0.04935788	4.494842442	-0.015460122	2002.571795	-0.128589745

CURRENT TRANSFORMER CHARACTERISTICS TEST

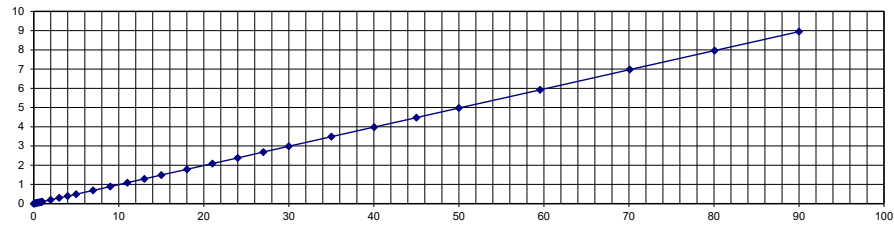
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	200
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000698332	0.000698332	6.43479E-05	0.098402805	-0.000629614	110.2202164	2170.487817	-8.524390859
0.1A	0.100236731	0.100236731	0.009859206	0.099371408	0.009262333	-6.444083393	2033.363234	-1.668161681
0.2A	0.200112604	0.200112604	0.019784012	0.098999122	0.019112664	-3.512709006	2022.972965	-1.148648229
0.3A	0.299913222	0.299913222	0.029664185	0.09902192	0.029263656	-1.3688906	2022.056018	-1.102800892
0.4A	0.400412218	0.400412218	0.039704255	0.099015639	0.03894874	-1.939768698	2016.973823	-0.848691148
0.5A	0.499674614	0.499674614	0.049532785	0.100391316	0.04946466	-0.137723862	2017.551062	-0.877553121
0.6A	0.600625708	0.600625708	0.059667398	0.0990296	0.058765391	-1.534929003	2013.24585	-0.662292496
0.7A	0.700550292	0.700550292	0.069560228	0.099639668	0.069104267	-0.659816213	2014.226564	-0.711328178
0.8A	0.800662392	0.800662392	0.079535364	0.098924684	0.078506942	-1.309975983	2013.34941	-0.66747051
0.9A	0.900626846	0.900626846	0.089424316	0.09993924	0.08930963	-0.128413722	2014.277291	-0.713864559
1A	1.00083529	1.00083529	0.099439072	0.099382811	0.098767493	-0.679959847	2012.961851	-0.648092534
2A	2.0069718	2.0069718	0.198808157	0.099416858	0.198204696	-0.304463655	2012.69124	-0.634561991
3A	3.0164053	3.0164053	0.2983188	0.095717221	0.286610359	-4.085142464	2012.371014	-0.618550691
4A	3.99159919	0.39915992	0.393074892	0.097516993	0.388550418	-1.16444971	2030.961158	-1.548057921
5A	4.99463376	0.049946338	0.490887807	0.099932343	0.498427122	1.512621266	2034.939018	-1.746950908
7A	6.99638962	0.034981948	0.69092796	0.098248526	0.686686634	-0.617650826	2025.21537	-1.260768489
9A	8.99530576	0.044976529	0.887318524	0.101059094	0.908359119	2.316330027	2027.525746	-1.376287282
11A	11.01016645	0.022020333	1.09093852	0.099515713	1.094986233	0.369658829	2018.476064	-0.923803204
13A	13.0229298	0.02604586	1.2912401	0.099499014	1.295070341	0.295755433	2017.119791	-0.855989525
15A	15.012426	0.030024852	1.48919301	0.098631073	1.479993357	-0.621600981	2016.182711	-0.809135547
18A	18.0174736	0.036034947	1.78558408	0.099582272	1.793522617	0.44262263	2018.104194	-0.905209684
21A	21.0145882	0.042029176	2.08404356	0.099072446	2.08126833	-0.133343208	2016.712952	-0.8356476
24A	23.9928957	0.047985791	2.37911177	0.101612608	2.437282383	2.386699786	2016.962465	-0.848123247
27A	27.0024174	0.027002417	2.68491712	0.099932194	2.697712486	0.474304281	2011.415339	-0.570766967
30A	30.001568	0.030001568	2.98462882	0.0998156	2.99392619	0.31054106	2010.405301	-0.520265029
35A	35.0174675	0.035017468	3.48529384	0.099148931	3.471246139	-0.404687543	2009.441333	-0.472066654
40A	40.0426421	0.040042642	3.98353453	0.098856834	3.95779048	-0.650465198	2010.407682	-0.520384092
45A	45.0138962	0.045013896	4.47497697	0.10010023	4.505193715	0.67070911	2011.804597	-0.590229853
50A	50.0020471	0.050002047	4.97429099	0.098800555	4.939531687	-0.703696327	2010.419061	-0.520953037
60A	59.5555512	0.029777776	5.9181825	0.099868174	5.947005794	0.484669004	2012.629763	-0.63148813
70A	70.1057136	0.035052857	6.97180795	0.099329015	6.962833179	-0.128895395	2011.120045	-0.556002263
80A	80.0852134	0.040042607	7.96306184	0.09921288	7.94478631	-0.23003174	2011.417593	-0.570879656
90A	90.0109768	0.045005488	8.94782541	0.099408158	8.947127078	-0.007805097	2011.907311	-0.59536555

CURRENT TRANSFORMER CHARACTERISTICS TEST

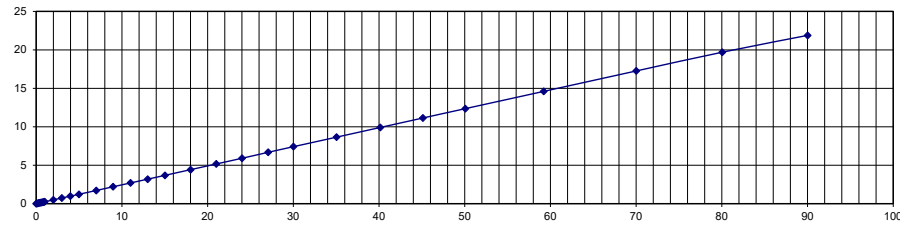
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	500
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000693409	0.000693409	0.000147102	0.243710984	-0.000524418	128.0506149	2356.892777	-17.84463886
0.1A	0.100384654	0.100384654	0.024442954	0.246382954	0.024039659	-1.677623801	2053.447689	-2.672384464
0.2A	0.200517409	0.200517409	0.049113958	0.245189981	0.048471451	-1.325536894	2041.348508	-2.067425423
0.3A	0.300203771	0.300203771	0.073556055	0.246789622	0.073393766	-0.221120455	2040.646219	-2.032310936
0.4A	0.400555013	0.400555013	0.0983217	0.243714686	0.09692773	-1.438153639	2036.961386	-1.848069295
0.5A	0.50116158	0.50116158	0.122840998	0.247701864	0.123445249	0.489488799	2039.879145	-1.993957262
0.6A	0.601291206	0.601291206	0.147643293	0.2450416	0.14664795	-0.678729305	2036.297057	-1.814852843
0.7A	0.700800828	0.700800828	0.17202729	0.24631323	0.171923106	-0.060598911	2036.888531	-1.844426544
0.8A	0.800713752	0.800713752	0.196637165	0.246645226	0.196798815	0.082139965	2036.018349	-1.800917441
0.9A	0.900127081	0.900127081	0.221156988	0.246608519	0.221285597	0.058119131	2035.041011	-1.752050561
1A	1.00236552	1.00236552	0.246369858	0.246501155	0.246390849	0.008519418	2034.269793	-1.713489643
2A	2.0006048	2.0006048	0.492436993	0.246375128	0.492205855	-0.046959529	2031.330737	-1.566536858
3A	3.00271103	3.00271103	0.739331044	0.23755064	0.712602518	-3.750832313	2030.694541	-1.534727047
4A	3.98487165	0.039848717	0.972643928	0.245151086	0.976202203	0.364501814	2048.474028	-2.4237014
5A	4.98727554	0.049872755	1.21838433	0.244243055	1.217414007	-0.079703631	2046.675838	-2.333791916
7A	7.01911112	0.035095556	1.71464606	0.246682993	1.730801928	0.933432531	2046.8105	-2.340525018
9A	8.97701606	0.04488508	2.19762791	0.243679616	2.186822416	-0.494118497	2042.433121	-2.121656027
11A	11.0066237	0.022013247	2.69220192	0.246973845	2.717654772	0.936574129	2044.167567	-2.208378375
13A	13.01246225	0.026024925	3.18759158	0.245126861	3.189010614	0.044497635	2041.111906	-2.055595294
15A	15.03107175	0.030062144	3.68240699	0.247228755	3.715419753	0.88853387	2040.930285	-2.046513264
18A	18.01755845	0.036035117	4.42075238	0.247565519	4.459832802	0.876275498	2037.838461	-1.891923033
21A	21.0159523	0.042031905	5.16305131	0.246577415	5.181365787	0.353468127	2035.225978	-1.761298882
24A	24.01911015	0.04803822	5.90356221	0.253534271	6.088974177	3.045044391	2034.289578	-1.714478884
27A	27.0616236	0.027061624	6.67494364	0.248422123	6.722012574	0.700220863	2027.105026	-1.355251293
30A	30.0240406	0.030024041	7.41087356	0.246331384	7.395170076	-0.212347843	2025.674865	-1.283743262
35A	35.0544858	0.035054486	8.65003009	0.247094507	8.661077472	0.127552055	2026.263807	-1.313190345
40A	40.1519922	0.040151992	9.90959592	0.247347149	9.930787398	0.213391716	2025.914706	-1.295735276
45A	45.1181856	0.045118186	11.1379697	0.245954697	11.09633626	-0.375199855	2025.422353	-1.271117662
50A	50.0725488	0.050072549	12.3565186	0.245345648	12.28438851	-0.587168735	2026.159245	-1.307962261
60A	59.230719	0.02961536	14.6034358	0.246094148	14.5756399	-0.190701058	2027.972041	-1.398602033
70A	70.0175964	0.035008798	17.2580232	0.242758928	16.99670323	-1.537474452	2028.552042	-1.427602091
80A	80.0523536	0.040026177	19.6940501	0.219891789	17.60216187	-11.88426879	2032.399461	-1.619973029
90A	90.007276	0.045003638	21.8830558	0.243125409	21.88236239	-0.003168803	2056.551809	-2.827590468

CURRENT TRANSFORMER CHARACTERISTICS TEST

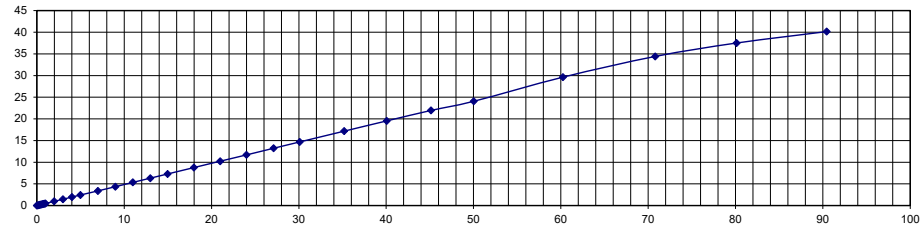
PRIMARY CURRENT VERSUS OUTPUT VOLTAGE

CT PRIMARY CURRENT VERSUS SECONDARY VOLTAGE

PRODUCT:	CR8449-2000
Lot #:	30437
TURNS/RATIO:	2000
DATE:	June 3, 2020
TESTER:	lb

TEST SETUP

FULL SCALE PRIMARY CURRENT(Amps):	75
Burden (Ohms):	1000
MEASUREMENT CT TURNS RATIO:	2000
FREQUENCY(Hz):	60



Input Current R	Primary Current	MEASURED CURRENT	Secondary Voltage	Slope	Normalized Output	% Linear Error Affected by Core and DCR	Equivalent Turns Ratio	% Absolute Error Affected by turns ratio
0A	0.000696314	0.000696314	0.000260377	0.479040786	-0.000362751	171.7783408	2674.255276	-33.71276382
0.1A	0.099521011	0.099521011	0.047601437	0.485384424	0.047609635	0.017218112	2090.71441	-4.5357205
0.2A	0.200237972	0.200237972	0.096487882	0.481565664	0.095731418	-0.790193456	2075.265504	-3.763275184
0.3A	0.299734232	0.299734232	0.144401864	0.484733419	0.144594885	0.13349097	2075.695034	-3.784751698
0.4A	0.400510657	0.400510657	0.193251565	0.485067847	0.193578528	0.168904674	2072.483382	-3.624169098
0.5A	0.499143418	0.499143418	0.241095146	0.485636009	0.241705704	0.252603812	2070.31716	-3.515858009
0.6A	0.600543199	0.600543199	0.290338531	0.484456833	0.290240943	-0.033623194	2068.424046	-3.4212023
0.7A	0.701470928	0.701470928	0.339233659	0.483668397	0.338583005	-0.192169671	2067.810518	-3.390525879
0.8A	0.800770149	0.800770149	0.387261554	0.484920886	0.387613856	0.090889986	2067.776005	-3.388800247
0.9A	0.901489527	0.901489527	0.436102484	0.485401341	0.436887912	0.179777824	2067.150636	-3.357531781
1A	0.999717043	0.999717043	0.483782252	0.486426476	0.485592524	0.372796561	2066.460766	-3.323038295
2A	1.9990602	1.9990602	0.969889222	0.486145412	0.971137632	0.128551256	2061.122193	-3.056109639
3A	3.00111688	3.00111688	1.45703448	0.490651814	1.471807127	1.003708109	2059.743212	-2.987160606
4A	4.02478661	0.040247866	1.95929989	0.489200711	1.968232156	0.453821765	2054.196313	-2.709815647
5A	5.00800223	0.050080022	2.44028967	0.474197825	2.374087449	-2.788533361	2052.216297	-2.610814846
7A	6.99245642	0.034962282	3.38131353	0.485958612	3.397348102	0.471973176	2067.970438	-3.398521876
9A	8.9985031	0.044992516	4.35616919	0.49508695	4.454345142	2.204049055	2065.691829	-3.284591433
11A	11.0071882	0.022014376	5.35064297	0.488153755	5.372503941	0.406904704	2057.171122	-2.858556081
13A	12.9955373	0.025991075	6.32126305	0.489737446	6.363704938	0.666936761	2055.845042	-2.792252096
15A	14.97550795	0.029951016	7.29092882	0.488988239	7.322150952	0.426406554	2053.991792	-2.699589584
18A	17.99765	0.0359953	8.76872074	0.48941185	8.807566867	0.441054013	2052.482971	-2.624148571
21A	20.99320775	0.041986416	10.2347822	0.483751527	10.15479999	-0.787629621	2051.163116	-2.558155805
24A	24.0097204	0.048019441	11.6940248	0.49280541	11.83142379	1.161305628	2053.161406	-2.658070299
27A	27.1230736	0.027123074	13.2283021	0.488894831	13.25963417	0.23629661	2050.382082	-2.519104096
30A	30.1089939	0.030108994	14.6881031	0.488240818	14.69974351	0.079187834	2049.88988	-2.494493996
35A	35.1968182	0.035196818	17.1721866	0.486151934	17.11030491	-0.361663254	2049.641028	-2.482051412
40A	40.0704806	0.040070481	19.541527	0.476177168	19.07995166	-2.419164099	2050.529654	-2.526482705
45A	45.1303849	0.045130385	21.9509379	0.431891912	19.49075191	-12.62232471	2055.966133	-2.798306627
50A	50.0249563	0.050024956	24.0648637	0.545322949	27.27906038	11.78265173	2078.755023	-3.937751162
60A	60.2337856	0.030116893	29.6319726	0.452647487	27.26397536	-8.685443736	2032.729525	-1.63647627
70A	70.8151036	0.035407552	34.4215796	0.33250258	23.54550834	-46.19170293	2057.288028	-2.864401377
80A	80.121155	0.040060578	37.5158657	0.255128672	20.44050755	-83.53685986	2135.660567	-6.783028334
90A	90.4288918	0.045214446	40.1456649	0.443947328	40.14496859	-0.001734498	2252.519469	-12.62597347