VIRTUAL ⊙ RANGE TARGETING™

The Long Distance Training Solution target has two options for the grid in either MilRadian (MRAD or MIL) or Minute Of Angle (MOA). Each "cell" in the grid is measured at 0.1 MIL or 0.36 inches square for MIL and 0.25 inches square for MOA. Each RED line represents a full MIL (or full MOA), colored red for easier readability when counting MILS and MOA. Additionally, black hash marks are place at the 0.5 MIL locations on the MIL grid (only), again, for quicker acquisition of elevation and/or windage adjustments.

D.O.P.E.

This is the introduction to the use of a DOPE card or ballistic calculator. We have developed a DOPE card "cheat sheet" for you which corresponds specifically to this target with the bullseyes offset to the aiming point of R0. These offset values with the corresponding yardages shown on the DOPE card correspond to a specific bullet velocity, ballistics coefficient that is used as an example. Your yardages for your ammunition and rifle will be different but for now you can refer to this DOPE card, find the target you wish to IMPACT, and dial the value(s) on the DOPE card.

Things can begin to get confusing so we MUST discuss a DOPE card in more detail and how it is developed.

You have a rifle. You go to the store and buy a box of ammo. If you buy the SAME ammo every time, you can develop a reasonably consistent DOPE. If you jump around and buy different ammo each time, your accuracy will be all over the target as the bullet characteristics and velocity will vary between different ammunition. For now, let us assume you have a rifle, a zeroed scope, and decent ammo that you buy every time.

On that box of ammo, you will find some data: Velocity, Bullet weight, Ballistic Coefficient or BC. Sometimes you may see the barrel length that determined the velocity at the factory. These are good STARTING numbers, but they will change based on YOUR experience shooting them out of your gun.

For now, we will input those data points into a ballistic calculator. These calculators can be found online for free, or free downloadable apps for your smart phones. Some allow you to export tables so you can print your ballistics table. Some popular apps include Hornady and Athlon. It would be counterproductive to try and teach you how to use the calculators. Suffice it to say, you will need the numbers on that box of ammo, as well as the characteristics of your gun and scope. For instance, your barrel has a certain "twist rate", and whether it is a RIGHT or LEFT twist. Your scope rings are a certain

height from the center point of your barrel, altitude of your location, humidity and barometric pressure….. all this will be fed into the calculator to give you the best shot at an accurate table.

Here is a sample of MY ballistic table and the associated readout from the Hornady 4DOF® Ballistic Calculator for 375 yards.

Printed DOPE Card

6.5 CREEDMOOR BALLISTICS

	BULLET: 6.5CM, SMK 140gr		LENGTH: 1.31"		POWDER: H4350-41.7gr.		MV: 2786 fps
Range	Drop MIL	Velocity	Time	Spin Drift	Spin MIL	Drop "	Energy
0	0.00	2786	0	0.0	0.00	-3.0	2406
25	-2.00	2743	0.03	0.0	0.01	-1.8	2344
50	0.50	2701	0.06	0.0	0.01	-0.9	2283
75	0.11	2659	0.08	0.1	0.02	-0.3	2222
100	0.00	2618	0.11	0.1	0.02	0.0	2165
125	0.00	2576	0.14	0.1	0.03	0.0	2108
150	0.07	2536	0.17	0.2	0.03	-0.4	2051
175	0.17	2495	0.2	0.2	0.04	-1.1	1997
200	0.29	2455	0.23	0.3	0.04	-2.1	1944
225	0.43	2416	0.26	0.4	0.05	-3.5	1892
250	0.58	2377	0.29	0.5	0.05	-5.3	1840
275	0.75	2338	0.32	0.6	0.06	-7.4	1789
300	0.92	2299	0.36	0.7	0.07	-10.0	1740
325	1.10	2261	0.39	0.8	0.07	-12.9	1692
350	1.29	2223	0.42	1.0	0.08	-16.3	1646
375	1.49	2186	0.46	1.1	0.08	-20.1	1599
400	1.70	2148	0.49	1.3	0.09	-24.4	1554
425	1.91	2112	0.53	1.4	0.09	-29.2	1510
450	2.12	2075	0.56	1.6	0.10	-34.4	1466
475	2.35	2039	0.6	1.8	0.11	-40.2	1425
500	2.58	2003	0.64	2.0	0.11	-46.4	1384

Hornady Ballistic Calculator
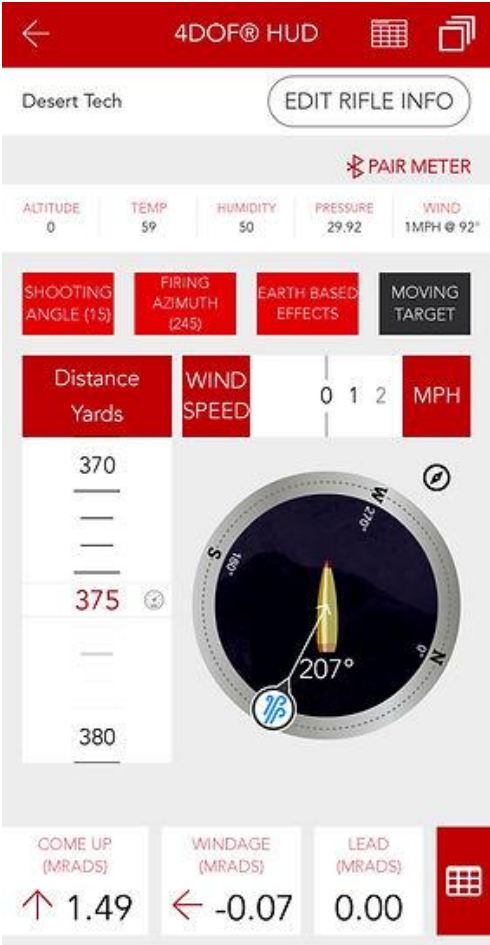
As you can see, there is more information in a typical DOPE card than we use for our target. But remember, we are attempting to keep things fundamental for learning purposes. You can easily learn how to develop YOUR DOPE card using your rifle, ammo, scope, mounting, and a ballistic calculator.

This table continues according to my settings. You could develop a table that increments every 100 yards, or every 50 yards. Each yardage will tell you how much to dial your scope in order to put the crosshairs on target for an accurate impact at that distance.

This is an invaluable tool to help you QUICKLY acquire the proper settings for your scope to fire and hit targets at known ranges. Most apps will allow you to type or dial a yardage, estimate a wind speed and direction, and it will give you your firing solution in elevation and windage.

Will you need to develop your own DOPE in order to use this system accurately?

No.

We developed a DOPE card that matches every bullseye on this target. Since this is a SIMULATION of long-range shooting, we also simulate the DOPE values you have to use in order to make it work at 100 yards. However, when you get to a real long range, you will need to have developed your own DOPE as described above.

For now, let's move on to the DOPE card which is included on our website in the D.O.P.E. tab. You can click on the MIL or MOA card to enlarge the image. You can also click on the DOWNLOAD MIL DOPE or DOWNLOAD MOA DOPE buttons to download the cards.

MIL DOPE Card

MIL D.O.P.E. For **VIRTUAL RANGE TARGETING**

SAMPLE DATE - You will develop your own data (D.O.P.E.) based on RIFLE & AMMO.

All yardages are based on the following ballistic data:

6.5 Creedmoor   BC=G7 .264 / G1 .535   2800 FPS

LANE	YARDS	MIL DROP	ACTUAL	MIL WIND	ACTUAL
P0	100	0.0		0.0	
P1	311	1.0		0.0	
P2	438	2.0		0.0	
P3	548	3.0		0.0	
P4	646	4.0		0.0	
P5	733	5.0		0.0	
P6	813	6.0		0.0	
P7	887	7.0		0.0	

LANE	YARDS	10" TARGET in MIL	YARDS to Target = SIZE (10) X 27.77 / TARGET in MIL See YELLOW EXAMPLE		
S1	200	1.40			
S2	300	0.95			
S3	400	0.70	This section represents a 10" x 10" steel plate as seen at the different yardages shown for each target.		
S4	500	0.55			
S5	600	0.45			
S6	700	0.40			
S7	800	0.35	S3 EXAMPLE: A 10" target at 400 yards will measure .7 MIL in your reticle.		
S8	900	0.31			
S9	1000	0.28			

LANE	YARDS	MIL DROP	ACTUAL	MIL WIND	ACTUAL
R0	100	0.0		0.0	
R1	311	1.0		0.0	
R2	461	2.2		0.0	
R3	598	3.5		0.0	
R4	725	4.9		0.0	
R5	813	6.0		0.0	
R6	895	7.1		0.0	

LANE	YARDS	MIL DROP	ACTUAL	MIL WIND	ACTUAL
B0	100	0.0		0.0	
B1	320	1.1		.3 R	
B2	445	2.1		.6 L	
B3	575	3.3		.4 R	
B4	650	4.1		.9 L	
B5	760	5.3		.3 L	
B6	855	6.6		.5 R	
B7	885	7.0		.9 L	

MOA DOPE Card

MOA D.O.P.E. for **Virtual Range Targeting**

SAMPLE DATE - You will develop your own data (D.O.P.E.) based on RIFLE & AMMO.

All yardages are based on the following ballistic data:
6.5 Creedmoor   BC=G7 .264 / G1 .535   2800 FPS

LANE	YARDS	MOA DROP	ACTUAL	MOA WIND
P0	100	0.0		0.0
P1	367	5.0		0.0
P2	471	8.0		0.0
P3	564	11.0		0.0
P4	648	14.0		0.0
P5	726	17.0		0.0
P6	797	20.0		0.0
P7	863	23.0		0.0

LANE	YARDS	10" TARGET in MOA	YARDS to Target = SIZE (10) X 95.5 / TARGET in MOA See YELLOW EXAMPLE	
S1	200	5.00		
S2	300	3.25		
S3	400	2.50	This section represents a 10" x 10" steel plate as seen at the different yardages shown for each target.	
S4	500	2.00		
S5	600	1.75		
S6	700	1.50	S3 EXAMPLE: A 10" target at 400 yards will measure 2.5 MOA in your reticle.	
S7	800	1.25		
S8	900	1.10		
S9	1000	1.00		

LANE	YARDS	MOA DROP	ACTUAL	MOA WIND
R0	100	0.00		0.0
R1	310	3.50		0.0
R2	455	7.50		0.0
R3	586	11.75		0.0
R4	713	16.50		0.0
R5	820	21.00		0.0
R6	890	24.25		0.0

LANE	YARDS	MOA DROP	ACTUAL	MOA WIND
B0	100	0.00		0.0
B1	320	3.75		1.25 R
B2	447	7.25		2.25 L
B3	579	11.50		1.75 R
B4	655	14.25		3.5 L
B5	762	18.50		1.5 L
B6	858	22.75		2.0 R
B7	890	24.25		2.75 L