



# 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 placed 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, ballistic 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



DOPE

Long-Distance Training Solution™

MIL  
 MOA

**SAMPLE DATA - You will develop your own data (D.O.P.E.) based on RIFLE & AMMO**  
(See **FACTORY AMMO** examples below)

All yardages are based on the following ballistic data:  
6.5 Creedmoor 140gr BC = G7 0.261 MV = 2800 FPS

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

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

ELEVATION	YARDS	MIL ELEVATION	
R0	100	0.0	
R1	311	1.00	
R2	461	2.20	
R3	598	3.50	
R4	725	4.90	
R5	813	6.00	
R6	895	7.10	

ELEV & WIND	YARDS	MIL ELEVATION	MIL WIND		
B0	100	0.00	0.00	Hornady BLACK 6.5CM MV 2690, BC = G7 0.283	Berger Match 6.5CM MV 2850, BC = G7 0.311
B1	320	1.10	0.3 R	0.00	0.00
B2	445	2.10	0.6 L	1.30	1.08
B3	575	3.30	0.4 R	2.38	2.00
B4	650	4.10	0.9 L	3.68	3.09
B5	760	5.30	0.3 L	4.51	3.78
B6	855	6.60	0.5 R	5.85	4.88
B7	885	7.00	0.9 L	7.14	5.92
				7.57	6.27

**FACTORY AMMO SAMPLE DATA**  
This data is not compatible with this target system

Hornady BLACK 6.5CM MV 2690, BC = G7 0.283	Berger Match 6.5CM MV 2850, BC = G7 0.311
0.00	0.00
1.23	1.02
2.53	2.10
3.93	3.29
5.41	4.52
6.55	5.45
7.72	6.39

<b>SCOPE ADJUSTMENTS</b>	Dial Elevation turret to MIL DROP Dial Windage turret to MIL WIND Aim at Point Of Aim (P.O.A.) bull, hit Point Of Impact (P.O.I.) TARGET
<b>FACTORY AMMO</b>	Compare the BLUE cells to the corresponding ORANGE cells to see the difference in turret adjustments with different ammo. (NOTE: The big difference is the MUZZLE VELOCITY, which greatly affects the bullet drop over time.) Develop your own DOPE by using Factory Ammo data on packaging and a Ballistic Calculator.

# MOA DOPE Card



DOPE

Long-Distance Training Solution™

MIL  
 MOA

**SAMPLE DATA - You will develop your own data (D.O.P.E.) based on RIFLE & AMMO**  
(See **FACTORY AMMO** examples below)

All yardages are based on the following ballistic data:  
6.5 Creedmoor    140gr    BC = G7 0.261    MV = 2800 FPS

ZERO	YARDS	MOA ELEVATION
P0	100	0.0
P1	311	5.0
P2	438	8.0
P3	548	11.0
P4	646	14.0
P5	733	17.0
P6	813	20.0
P7	887	23.0

SCALING	YARDS	10" TARGET IN MOA
S1	200	5.00
S2	300	3.25
S3	400	2.50
S4	500	2.00
S5	600	1.75
S6	700	1.50
S7	800	1.25
S8	900	1.10
S9	1000	1.00

YARDS to Target = SIZE (10") X 95.5 / TARGET in MOA

This section represents a 10" x 10" steel plate as seen at the different yardages shown for each target.

S4 EXAMPLE: A 10" target at 500 yards will measure 2.0 MOA in your reticle.

ELEVATION	YARDS	MOA ELEVATION
R0	100	0.00
R1	311	3.50
R2	461	7.50
R3	598	11.75
R4	725	16.50
R5	813	21.00
R6	895	24.25

FACTORY AMMO SAMPLE DATA	
This data is not compatible with this target system	
Hornady BLACK 6.5CM MV 2690, BC = G7 0.283	Berger Match 6.5CM MV 2850, BC = G7 0.311
0.00	0.00
4.23	3.50
8.71	7.31
13.50	11.33
18.59	15.53
22.53	18.73
26.55	21.96

ELEV & WIND	YARDS	MOA ELEVATION	MOA WIND
B0	100	0.00	0.00
B1	320	3.75	1.25 R
B2	445	7.25	2.25 L
B3	575	11.50	1.75 R
B4	650	14.25	3.5 L
B5	760	18.50	1.5 L
B6	855	22.75	2.0 R
B7	885	24.25	2.75 L

FACTORY AMMO SAMPLE DATA	
Hornady BLACK 6.5CM MV 2690, BC = G7 0.283	Berger Match 6.5CM MV 2850, BC = G7 0.311
0.00	0.00
4.47	3.71
8.19	6.87
12.65	10.61
15.51	12.99
20.11	16.77
24.55	20.36
26.04	21.56

**SCOPE ADJUSTMENTS**

Dial Elevation turret to MOA DROP  
 Dial Windage turret to MOA WIND  
 Aim at Point Of Aim (P.O.A.) bull, hit Point Of Impact (P.O.I.) TARGET

**FACTORY AMMO**

Compare the BLUE cells to the corresponding ORANGE cells to see the difference in turret adjustments with different ammo. (NOTE: The big difference is the MUZZLE VELOCITY, which greatly affects the bullet drop over time.) Develop your own DOPE by using Factory Ammo data on packaging and a Ballistic Calculator.