

!" #&/

4;O <548G=>3> 70AB>AC20==O ;V:0@AL:>3> 70A>1C

(ENAM)

!;:04:

4VNG0 @5G>28=0: enalapril;

1 B01;5B:0

4>?>28=8: ;0:B>70 1572>4=0, :8A;>B0 <0;5W=>20, F8=:C AB50@0B (B01;5B:8 2,5 <3 B0 5 <3); ;0:B>70 1572>4=0, F8=:C AB50@0B (B01;5B:8 10 <3).

V:0@AL:0 D>@<0. "01;5B:8.

A=>2=V DV78:>-EV2;0AB82>ABV: :@C3;V B01;5B:8 1V;>3> 01> <0965 1V;>3> :>;L>@C, 7 D0A:>N, 7 <0@:C20==O< 2,5 01> 5, 01> 10 B0 @8A:>N 7 >4=>3> 1>:C B0 <0@:C20==O< " 7 V=H>3>.

\$0@<0:>B5@0?52B8G=0 3@C?0. =3V1VB>@8 0=3V>B5=78=?5@5B2>@N20;L=>3> D5@<5=BC, <>=>:> =5=B=V. >4 "% !0902.

\$0@<0:>;>3VG=V 2;0AB82>ABV.

\$0@<0:>48=0

=0;0?@8;C <0;50B AV;L<0;5W=>2>W :8A;>B8 5=0;0?@8;C, ?>EV4=>W 42>E 0:8A;>B, L-0;0=V=C B0 L -?@>;V=C.

5E0=V7< 4VW. =3V>B5=78=?5@5B2>@N20;L=89 D5@<5=B ?5?B848;>20 48?5?B84070, O:0 :0B0;V7CT :>=25@AVN 0=3V>B5=78=C C ?@5A>@=C AC1AB0=FN 0=3V>B5=78= II. VA;O 01A>@1FVW 5=0;0?@8; 3V4@>;V7CTBLAO 4> 5=0;0?@8;0BC, O:89 ?@83=VGCT \$. @83=VG5==O \$ A?@8G8=OT 7=865==O @V2=O C ?;072V 0=3V>B5=78=C II, I> ?@872>48BL 4> 71V;LH5==O 0:B82=>ABV @5=V=C ?;07<8 (G5@57 ?@83=VG5==O =530B82=>3> 72>@>B=>3> 72O7:C B5=78=C II V 282V;L=5==O< @5=V=C) V 7<5=H5==O A5:@5FVW 0;L4>AB5@>=C.

\$ T V45=B8G=8< 4> :V=V=078 II. "0:8< G8=<<, 5=0;0?@8; B0:>6 <>65 1;>;:C20B8 @>7I5?;5==O

1@048:V=V=C, A8;L=>3> 207>45?@5A>@=>3> ?5?B84C. 4=0: 7=0G5==O FL>3> O28I0 4;O

B5@0?52B8G=>3> 5D5:BC ?@5?0@0BC 70;8H0TBLAO =57OA>20=8;>65==OE 157 VAB>B=>3>

71V;LH5==O G0AB>B8 A5@F52>3> @8B

!8<0B8G=0 ?>ABC@0;L=0 3V?>B5=7VO 28=8:0T =5G0AB>. # 45O:8E ?0FVT=BV2 4>AO3=5==O >?B8 <0;L=>3> 7=865==O 0@B5@V0;L=>3> B8A:C <>65 ?>B@51C20B8 :V;L:>E B86=V2 B5@0?VW. 0?B>20 2V4FVN20;0AO 7V H284:8< ?V428I5==O< 0@B5@V0;L=>3> B8A:C.

D5:B82=5 ?@83=VG5==O 0:B82=>ABV \$ 70728G09 4>AO30TBLAO G5@57 2-4 3>48=8 ?VA;O

?5@>@0;L=>3> ?@89>2>W 4>78 5=0;0?@8;C. >G0B>: 0=B83V?5@B5=782=>W 0:B82=>ABV 70728G09 A?>AB5@V30TBLAO G5@57 1 3>48=C, 0 ?V:>25 7=865==O 0@B5@V0;L=>3> B8A:C 4>AO30TBLAO G5@57 4-6 3>48= ?VA;O ?@89>78. ;5 C @07V 70AB>AC20==O C @5:><5=4>20=8E 4>70E

0=B83V?5@B5=782=89 B0 35<>48=0=09<5=H5 ?@>BO3>< 24 3>48=. # E>4V 35<>48=0A;V465=L C

?0FVT=BV2 7 5A5=FV0;L=>N 3V?5@B5=7VTN 7=865==O 0@B5@V0;L=>3> B8A:C 70728G09

AC?@>2>46CTBLAO 7<5=H5==O< ?5@8D5@8G=>3> ?>@C 0@B5@V9 7V 71V;LH5==O< A5@F52>3> 28:84C V =57=0G=8< ?@8A:>@5==O< A5@F52>3> @8B 157 B0:>3>. VA;O 70AB>AC20==O 5=0;0?@8;C

70728G09 71V;LHCTBLAO =8@:>289 :@>2>BV;; H284:VABL 3;>5@C;O@=>W DV;LB@0FVW =5 7 2>48 =5 28O2;5=>. 4=0: C ?0FVT=BV2 7 =87L:8<8 28EV4=8<8 @V2=O<8 3;>5@C;O@=>W

DV;LB@0FVW FV @V2=V 70728G09 ?V428IC20;8AO.

V4 G0A 4>A;V465=L C ?0FVT=BV2, E2>@8E =0 FC:@>289 4V015B 01> 157 =L>3> 7 E2>@>1>N =8@>:

?VA;O 70AB>AC20==O 5=0;0?@8;C A?>AB5@V30;8 7<5=H5==O 0;L1CgG V 7030;L=>3> ?@>B5W=C A5GV.

@8 AC BV0784-V=4C:>20=>W 3V?>:0;VT

?0FVT=BV2 V7 A5@F52>N =54>AB0B=VABN, O:V ?@89<0NBL A5@F52V 3;V:>7848 B0 4VC@5B8:8, ?@89>< 5=0;0?@8;C 0A>FVN202AO 7V 7=865==O< ?5@8D5@8G=>3> ?>@C B0 B8A:C :@>2V.

15@F5289 28:84 71V;LHC202AO, 0 G0AB>B0 A5@F528E A:>@>G5=L (70728G09 71V;LH5=0 C

?0FVT=BV2 V7 A5@F52>N =54>AB0B=VABN) 7<5=HC20;0AO. "0:>6 7=86C202AO B8A: C :V=F528E ;535=528E :0?V;O@0E. >:@0IC20;0AO ?5@5=>A83> =020=B065==O B0 7<5=HC20;0AO BO6:VABL

A5@F52>W =54>AB0B=>ABV, >FV=5=V 70 :@8B5@VO<8 NYHA (New York Heart Association). &V

5D5:B8 715@V30;8AO ?@>BO3>< B@820;>3> ;V:C20==O.
?0FVT=BV2 7 ;53:>N B0 ?>N A5@F52>N =54>AB0B=VABN 5=0;0?@8; A?>2V;L=N202
?@>3@5AC20==O 48;0B0FVW/71V;LH5==O :0@40 B0 A5@F52>W =54>AB0B=>ABV, ?@> I> A2V4G8;8
7=865=V :V=F5289 4V0AB>;VG=89 B0 A8AB>;VG=89 >1T<8 ;V2>3> H;C=>G:0 B0 ?>:@0I5=0 D@0:FVO
28:84C.
4>A;V465==V 282G0;8 ?>?C;OFVN 7 157A8<=>N 48ADC=:FVTN ;V2>3> H;C=>G:0 (D@0:FVO 28:84C
;V2>3> H;C=>G:0 <35 %). # 4>A;V465==V C ?0FVT=BV2 7 48ADC=:FVTN ;V2>3> H;C=>G:0 5=0;0?@8; 7
<5=H82 @878: V=D0@:BC :0@40 =0 23 % (95 % 11-34 %, @ <0,001) V 7<5=H82 @878:
3>A?VB0;V70FVW 7 ?@82>4C =5AB01V;L=>W AB5=>:0@4VW =0 20 % (95 % ,9-29 %, @ <0,001).
;V=VG=0 D0@<0:>;>3VO C 4VB59.
>A2V4 70AB>AC20==O 4VBO< 2V:× 2V4 6 @>:V2 7 0@B5@V0;L=>N 3V?5@B5=7VTN >1<565=89. #
E>4V ;V=VG=>3> 4>A;V465==O 7 CG0ABN 110 4VB59 7 0@B5@V0;L=>N 3V?5@B5=7VTN 2V4 6 4>
16 @>:V2 7 <0A>N BV;0 ≥ 20 :3 V H284:VABN ;;C1>G:>2>W DV;LB@0FVW > 30<2 <;E2/1,73 <2
?0FVT=B8, O:V 2068;8 <50 :3, >B@8 2,5, 01> 20 <3 5=0;0?@8;C =0 4>1C V ?0FVT=B8, O:V 2068;8 ≥ 50 :3,
>B@8 5, 01> 40 <3 5=0;0?@8;C =0 4>1C. @89>< 5=0;0?@8;C 1 @07 =0 4>1C 7<5=HC202 =86=T
7=0G5==O 0@B5@V0;L=>3> B8A:C 70;56=> 2V4 4>78.
>7>70;56=89 0=B83V?5@B5=782=89 5D5:B 5=0;0?@8;C 1C2 >4=0:>28< C 2AVE ?V43@C?0E (2V.,
AB04VO 70 "0==5@><, AB0BL, @0A0). 4=0: =09=86GV 7 4>A;V465=8E 4>7, 0,625 <3 V 1,25 <3, I>
2V4?>2V40T 2 A5@54=L> 40 <3) 1 @07 =0 4>1C. @>DV;L ?>1VG=8E 5D5:BV2 C 4VB59 =5
2V4@V7=OTBLAO 2V4 B0:>3> C 4>@>A;8E ?0FVT=BV2.
\$0@<0:>:V=5B8:0.
IA>@IFVO. VA;O ?5@>@0;L=>3> ?@89>2A<>:BCTBLAO, <0:A8<0;L=0 :>=F5=B@0FVO 5=0;0?@8;C 2
A8@>20BFV :@>2V 4>AO30TBLAO ?@>BO3>< 1 3>48=8 ?VA;O ?@89>. AB0=>28BL ?@81;87=> 60 %.
002=VABL W6V C H;C=>2>:-:8H:>2>5=0;0?@8;C. VA;O 2A<>:BC20==O ?@89=OB89 2A5@548=C
5=0;0?@8; H284:> B0 5:AB5=A82=> 3V4@>;V7CTBLAO 4> 5=0;0?@8;0BC, ?>BC6=>3> V=3V1VB>@C \$.
0:A8<0;L=0 :>=F5=B@0FVO 5=0;0?@8;0BC 2 A8@>20BFV :@>2V A?>AB5@V30TBLAO ?@81;87=>
G5@57 4 3>48=8 ?VA;O ?@89>78 5=0;0?@8;C ?5@>@0;L=>. D5:B82=89 ?5@V>4 =0?V2282545==O ("1/2)
5=0;0?@8;0BC ?VA;O 1030B>@07>2>3> ?5@>@0;L=>3> 70AB>AC20==O AB0=>28BL 11 3>48=
>7?>4V;. # <560E CAL>3> 4V0?07>=C B5@0?52B8G=8E :>=F5=B@0FV9 =5 1V;LH5 60 % 5=0;0?@8;0BC
7207CTBLAO 7 1V;;0<8 A8@>20B:8 :@>2V.
V>B@0=AD>@<0FVO. 0 28=OB:>< ?5@5B2>@5==O =0 5=0;0?@8;0B, 1V;LH5 =5 VA=CT 6>4=>3>
4>:07C 7=0G=>3> <5B01>;V7
82545==O. =0;0?@8;0B 282>48BLAO 3>;>2=8< G8=>< =8@:0<8. >;>2=8<8 :>=5=B0<8 2 A5GV T
5=0;0?@8;0B, I> AB0=>28BL ?@81;87=> 40 % 4>78, B0 =5720 %).
>@CH5==O DC=:FVW =8@>:. # ?0FVT=BV2 7 =8@:>2>N =54>AB0B=VABN 71V;LHCTBLAO
5:A?>78FVO 4> 5=0;0?@8;C B0 5=0;0?@8;0BC. # ?0FVT=BV2 7 ;53:8<8 B0 ?>U! 5=0;0?@8;0BC C
AB01V;L=> 2 2 @078 1V;LH>N, =V6 C ?0FVT=BV2 7 =>@<0;L=>N DC=:FVTN =8@>:, ?VA;O 22545==O
5 <3 1 @07 =0 4>1C. @8 BO6:V9 D>@2>W =54>AB0B=>ABV (:;V@5=A :@50B8=V=C ≤ 30 <;E2) U!
71V;LH8;0AL ?@81;87=> C 8 @07V2. @8 FL>2>W =54>AB0B=>ABV 5D5:B82=89 ?5@V>4
=0?V2282545==O 5=0;0?@8;0BC ?>4>26CTBLAO, 0 G0A 4> AB01V;L=>3> AB0=C A?>2V;L=NTBLAO
(482. @>74V; <!>?AVI 70AB>AC20==O B0 4>78»), =0;0?@8;0B <>6=0 2825AB8 V7 7030;L=>3>
:@>2>>1V3C 70 4>?><>3>N 35<>4V0;V7C. ;V@5=A 5=0;0?@8;0BC ?@8 4V0;V7V AB0=>28BL 62<;E2.

>V=VG=V E0@0:B5@8AB8:8.

>:070==O.

- V:C20==O 0@B5@V0;L=>W 3V?5@B5=7VW.
- V:C20==O ;V=VG=> 28@065=>W A5@F52>W =54>AB0B=>ABV.
- @>DV;0:B8:0 ;V=VG=> 28@065=>W A5@F52>W =54>AB0B=>ABV C ?0FVT=BV2 V7 157A8
<=>N 48ADC=:FVTN ;V2>3> H;C=>G:0 (D@0:FVO 28:84C ≤ 35 %).

@>B8?>:070==O.

- V428I5=0 GCB;82VABL 4> 5=0;0?@8;C, 4> 1C4L-O:>W 4>?>W @5G>28=8 01> 4> 1C4L-O:>3>
V=H>3> V=3V1VB>@C \$.
- 002=VABL 2 0=0<=57V 0=3V>=52@>B8G=>3> =01@O:C, ?>2 O70=>3> V7 70AB>AC20==O<
V=3V1VB>@V2 \$.
- !?04:>289 01> V4V>?0B8G=89 0=3V>=52@>B8G=89 =01@O:.

□ 03VB=V 01> 6V=:8, O:V ?;0=CNBL 70203VB=VB8 (482. «0AB>AC20==O C ?5@V>4 203VB=>ABV 01> 3>4C20==O 3@C44N»).

5 A;V4 70AB>A>2C20B8 =0< 7 ?@5?0@0B0<8, I> 2).

70T<>4VO 7 V=H8<8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9.

V?>B5=782=0 B5@0?VO.

!C?CB=V9 ?@89>< F8E ?@5?0@0BV2 <>65 ?>A8;8B8 3V?>B5=782=89 5D5:B 5=0;0?@8;C. !C?CB=V9 ?@89>< 7 =VB@>3;VF5@8=><, V=H8<8 =VB@0B0<8 01> V=H8<8 207>48;0B0B>@0<8 <>65 4>40B:>2> 7=878B8 0@B5@V0;L=89 B8A:.

0;V9715@V30NGV 4VC@5B8:8 01> 4>102:8 7 :0;VT<.

=3V1VB>@8 \$?>A8;NNBL A?@8G8=5=C 4VC@5B8:0<8 2B@0BC :0;VN. 0AB>AC20==O :0;V9715@V30NG8E 4VC@5B8:V2 (=0?@8::04 A?V@=>=>0;B>=C, 5?;5@5=>=C, B@V0 0@84C), 0 B0:>6 70AB>AC20==O E0@G>28E 4>102>: 01> A>;L>28E 70 A>2C20B8 7 >15@56=VABN, @53C;O@=> 287=0G0NG8 @V25=L :0;VN 2 A8@>20BFV :@>2V (482. @>74V;«A>1;82>ABV 70AB>AC20==O»).

VC@5B8:8 (BV0784=V 01> ?5B;L>2V 4VC@5B8:8).

>?5@54=T ;V:C20==O 4VC@5B8:0<8 C 25;8:8E 4>70E <>65 ?@8725AB8 4> 7=865==O >1TW :@>2V B0 ?V428I5==O @878:C 0@B5@V0;L=>W 3V?>B5=7VW =0 ?>G0B:C B5@0?VW 5=0;0?@8;< (482.

@>74V; «A>1;82>ABV 70AB>AC20==O»). V?>B5=782=V 5D5:B8 <>6=0 7<5=H8B8 H;OE>< ?@8?8=5==O ?@89>1 □T6820==O A>;V 01> O:I> @>7?>G0B8 B5@0?VN 7 =87L:>W 4>78 5=0;0?@8;C.

@>B84V015B8G=V ?@5?0@0B8.

?V45;>3VG=V 4>A;V465==O ?>:070;8, I> ACAC20==O V=3V1VB>@V2 \$ B0 ?@>B84V015B8G=8E ?@5?0@0BV2 (V=AC;V=C, ?5@>@0;L=8E 3V?>3;V:51V2) <>65 A?@8G8=8B8 7=865==O @V2=O 3;N:>78 2 :@>2V 7 @878:<< @>728B:C 3V?>3;V:5<5= =091V;LH 2V@>3V4=89 ?@>BO3<< ?5@H8E B86=V2 AC3> ?@89>2>N =54>AB0B=VABN (482. @>74V; «A>1;82>ABV 70AB>AC20==O», «>1VG=V @50:FVW»). VBV9 A8@>20B:8 :@>2V.

@8 >4=>G0A=>AC20==V V=3V1VB>@V2 \$ V ;VBVN ?>2V4<<;O;8 ?@> >1>@>B=V ?V428I5==O @V2=O ;VBVN 2 A8@>20BFV :@>2V B0 B>:A8G=VABL. !C?CB=V9 ?@89>< V=3V1VB>@V2 \$ B0 BV0784=8E 4VC@5B8:V2 <>65 4>40B:>2> 71V;LH8B8 @V2=V ;VBVN 2 A8@>20BFV :@>2V B0 ?V428I8B8 @878: V=B>:A8:0FVW ;VBVT<5=4CTBLAO ?@89>< 5=0;0?@8;C 7 ;VBVT<, 0;5 O:I> B0:0 :> <1V=0FVO T =5>1EV4=>N 4;O ?0FVT=B0, A;V4 74V9A=N20B8 @5B5;L=89 <=>VB>@8=3 @V2=V2 ;VBVN 2 A8@>20BFV :@>2V (482. @>74V; «A>1;82>ABV 70AB>AC20==O»).

"@8F8:;VG=V 0=B845?@5A0=B8/=59@>;5?B8:8/0=5AB5B8:8/A=>4V9=V.

!C?CB=V9 ?@89>< ?52=8E 0=5AB5B8:V2, B@8F8:;VG=8E 0=B845?@5A0=BV2 B0 =59@>;5?B8:V2 7 V=3V1VB>@0<8 \$ <>65 ?@8725AB8 4> 4>40B:>2>3> 7=865==O 0@B5@V0;L=>3> B8A:C (482. @>74V; «A>1;82>ABV 70AB>AC20==O»).

5AB5@>W4=V ?@>B870?0;L=V 70A>18, 2:;NG0NG8 A5;5:B82=V V=3V1VB>@8 F8:;>>:A835=078-2.

5AB5@>W4=V ?@>B870?0;L=V 70A>18 (), 2:;NG0NG8 A5;5:B82=V V=3V1VB>@8 F8:;>>:A835=078-2 (&-2- V=3V1VB>@8), <>6CBL 7=86C20B8 5D5:B 4VC@5B8:V2 B0 V=H8E 0=B83V?5@B5=782=8E ?@5?0@0BV2. ">B5=782=89 5D5:B 0=B03>=VABV2 @5F5?B>@V2 0=3V>B5=78=C II 01> V=3V1VB>@V2 \$ <>65 1CB8 >A;01;5=89 =5AB5@>W4=8<8 ?@>B870?0;L=8<8 70A>10<8, 2:;NG0NG8 A5;5:B82=V V=3V1VB>@8 &-2.

4=>G0A=89 ?@89><, 2:;NG0NG8 &-2-V=3V1VB>@8, B0 0=B03>=VABV2 @5F5?B>@V2 0=3V>B5=78=C II 01> V=3V1VB>@V2 \$ A?@8G8=OT 048B82=89 5D5:B =0 ?V428I5==O :0;VN A8@>20B:8 B0 <>65 ?@8725AB8 4> ?>@CH5==O DC=:FVW =8@>: 0728G09 FV O28I0 >1>@>B=V. @V4:0 <>6;820 3>AB@0 =8@>:20 =54>AB0B=VABL, >A>1;82> C 45O:8E ?0FVT=BV2 7 ?>@CH5==O< DC=:FVW =8@>: (=0?@8::04 C ?0FVT=BV2 ;VB=L>3> 2V:C 01> ?0FVT=BV2 7V 7=865=8< >1T<< F8@:C;NNG>W :@>2V, 2:;NG0NG8 B8E, EB> ?@89>0T 4VC@5B8:8). "<1V=0FVN A;V4 22>48B8 7 >15@56=VABN ?0FVT=B0< 7 ?>@CH5==O<8 DC=:FVW =8@>: 0FVT=B8 ?>28==V A?>6820B8 4>AB0B=N :V;L:VABL @V48=8 B0 7=0E>48B8AL ?V4 @5B5;L=8 :>=B@>;5< DC=:FVW =8@>: =0 ?>G0B:C AC?CB=L>W B5@0?VW B0 ?5@V>48G=> ?@>BO3<< B0:>3> ;V:C20==O.

>42V9=0 1;:>:040 @5=V=-0=3V>B5=78=-0;L4>AB5@>=>2>W A8AB5<8 (RAAS).

>42V9=0 1;:>:040 (=0?@8::04, ?@8 4>4020==V V=3V1VB>@C \$ 4> 0=B03>=VAB0 @5F5?B>@0 0=3V>B5=78=C II) ?>28==O >1<56C20B8AO BV;L:8 :>:@5<8<8 28?04:0<8 7 @5B5;L=8< :>=B@>;5< 0@B5@V0;L=>3> B8A:C, DC=:FVW =8@>: V @V2=V2 5;5:B@>;VBV2. V4 G0A :V;L:>E 4>A;V465=L ?>2V4<<;O;>AO, I> C ?0FVT=BV2 7V 2AB0=>2;5=8< 0B5@>A:;5@>B8G=8< C@065==O< AC48=, A5@F52>N =54>AB0B=VABN 01> 4V015B< 7 :V=F528< C@065==O< >@30=V2 ?>42V9=0 1;:>:040 @5=V=-0=3V>B5=78=-0;L4>AB5@>=>2>W A8AB5<8 ?>2O70=0 7 28I>N G0AB>B>N 0@B5@V0;L=>W

3V?>B5=7VW, =5?@8B<=>8E AB0=V2, 3V?5@:0;VT3V@H5==O DC=:FVW =8@>: (C B>AB@>N
=8@>:2>N =54>AB0B=VABN) ?>@V2=O=> 7 B0:>N ?@8 70AB>AC20==V >4=>3> ?@5?0@0BC, I> 4VT
=0 @5=V=-0=3V>B5=78=-0;L4>AB5@=>=>2C A8AB5A>2C20B8 =0< 7 0;VA:V@5=< ?0FVT=B0< 7
FC:@>28< 4V015B>< 01> 7 ?>@CH5==O< DC=:FVW =8@>: ((\$ < 60 <;/E2/1,73 <2) (482. @>74V;
«@>B8?>:070==O» 01> «A>1;82>ABV 70AB>AC20==O»).

@5?0@0B8 7>;>B0.

@V4:0 ?>2V4<<;O;>AO ?@> =VB@8B>W4=V @50:FVW (A8<8, I> 2;;NG0NBL =01@O: >1;8GGO,
=C4>BC, 1;N20==O B0 0@B5@V0;L=C 3V?>B5=7VN) C ?0FVT=V2, O:V ;V:C20;8AO V=T:FV9=8<8
?@5?0@0B0<8 7>;>B0 (=0B@VN 0C@>BV><0;0B) B0 AC V=3V1VB>@<< \$, C B>

!8.

!8□;:>3>;L.

!8@B=5 ?V4A8;NT 3V?>B5=782=89 5D5:B V=3V1VB>@V2 \$.

F5B8;A0;VF8;>20 :8A;>B0, B@><1>;VB8:8 B0 β-1;>:0B>@8.

=0;0?@8; <>6=0 157?5G=> 70AB>A>2C20B8 AC?CB=L> 7 0F5B8;A0;VF8;>2>N :8A;>B>N (C
:0@4V>;>3VG=8E 4>70E), B@><1>;VB8:0<8 B0 β-1;>:0B>@0<8.

!C?CB=O B5@0?VO V=3V1VB>@<< \$ B0 0=B03>=VAB>< @5F5?B>@V2 0=3V>B5=78=C. >2V4>

<;O;>AO, I> C ?0FVT=V2 7 ?V4B25@465=>N 0B5@>A;:5@>B8G=>N E2>@>1>N, A5@F52>N
=54>AB0B=VABN 01> 7 FC:@>28< 4V015B>< 7 C@065==O< :V=F52>3> >@30=0 AC?CB=O B5@0?VO
V=3V1VB>@<< \$ B0 0=B03>=VAB< @5F5?B>@V2 0=3V>B5=78=C 0A>FVNTBLAO 7 28I>N
G0AB>B>N ?>O28 0@B5@V0;L=>W 3V?>B5=7VW, A8=:>?5, 3V?5@:0;VT3V@H5==O DC=:FVW =8@>:
(2;;NG0NG8 3>AB@C =8@>:2C =54>AB0B=VABL) ?>@V2=O=> 7 B0:>N ?@8 70AB>AC20==V BV;L:8
?@5?0@0BC @5=V=-0=3V>B5=78=-0;L4>AB5@=>=>2>W A8AB5<8. >42V9=0 1;>:040 (=0?@8;:04, :>
<1V=C20==O< V=3V1VB>@C \$ 7 0=B03>=VAB< @5F5?B>@V2 0=3V>B5=78=C II) ?>28==0 >1
<56C20B8AL V=482V4C0;L=> 287=0G5=8<8 28?04:0<8 B0 AC?@>2>46C20B8AO @5B5;L=8<
<>=VB>@8=3>< DC=:FVW =8@>:, @V2=V2 :0;VN B0 0@B5@V0;L=>3> B8A:C.

A>1;82>ABV 70AB>AC20==O.

!8<0B8G=0 3V?>B5=7VO.

!8<0B8G=0 3V?>B5=7VO @V4:> A?>AB5@V30TBLAO C ?0FVT=V2 7 =5CA;:04=5=>N
0@B5@V0;L=>N 3V?5@B5=7VTN. # ?0FVT=V2 7 0@B5@V0;L=>N 3V?5@B5=7VTN, O:V >B@8:
B5@0?VW 4VC@5B8:0<8, >1<565==O 26820==O A>;V, C ?0FVT=V2, O:V ?5@51C20NBL =0 35
<>4V0;V7V, 0 B0:>6 C E2>@8E 7 4V0@5TN 01> 1;N20==O< (482. @>74V;8 «□70T<>4VO 7 V=H8<8
;V:0@AL:8<8 70A>10<8» B0 <>1VG=V @50:FVW»). !8<0B8G=C 3V?>B5=7VN A?>AB5@V30;8 9 C
?0FVT=V2 V7 A5@F52>N =54>AB0B=VABN, O:0 AC?@>2>46C20;0AO 01> =5 AC?@>2>46C20;0AO
=8@>:2>N =54>AB0B=VABN. !8<0B8G=0 3V?>B5=7VO @>72820;0AO G0ABVH5 C ?0FVT=V2 V7
1V;LH B06:8<8 D>@<0<8 A5@F52>W =54>AB0B=>ABV, O:8< 70AB>A>2C20;8 28IV 4>78 ?5B;L>28E
4VC@5B8:V2, 7 3V?>=0B@VT ?>@CH5==O<8 DC=:FVW =8@>:. "0:8< ?0FVT=B0< ;V:C20==O
5=0;0?@8;< A;V4 @>7?>G8=0B8 ?V4 =03;04<< ;V:0@O. @8 778 5=0;0?@8;C B0/01> 4VC@5B8:0
=03;04 <0T 1CB8 >A>1;82> @5B5;L=83VG=8< G8=>< A;V4 =03;040B8 70 ?0FVT=B0<8 7 VH5N
E2>@>1>N A5@FO, 0 B0:>6 V7 70E2>@N20==O<8 AC48=<>7:C, C O:8E =043> B8A:C <>65
?@8725AB8 4> V=D0@:BC :0@40 01> V=AC;LBC. @8 @>728B:C 0@B5@V0;L=>W 3V?>B5=7VW
E2>@>@87>=B0;L=>3> ?>;>65==O B0, O:I> =5>1EV4=>, 225AB8 2=CB@VH=L>25==>
DV7V>;>3VG=89 @>7G8=. "@0=78B>@=0 0@B5@V0;L=0 3V?>B5=7VO ?@8 ?@89>B8?>:070==O< 4;O
?>40;LH>3> ?@89>

45O:8E ?0FVT=V2 V7 A5@F52>N =54>AB0B=VABN 7 =>@<0;L=8< 01> 7=865=8< B8A:>< 5=0;0?@8;
<>65 4>40B:>2> 7=878B8 @V25=L 0@B5@V0;L=>3> B8A:C. "0:0 @50:FVO =0 ?@89>< ?@5?0@0BC T
>GV:C20=>N B0 70728G09 =5 T ?V4AB02>N 4;O ?@8?8=5==O ;V:C20==O. # @07V, :>;8 0@B5@V0;L=0
3V?>B5=7VO AB0T @578AB5=B=>N 4> ;V:C20==O, A;V4 7<5=H8B8 4>7C B0/01> ?@8?8=8B8
;V:C20==O 4VC@5B8:< B0/01> 5=0;0?@8;>

>@B0;L=89 01> 7/3V?5@B@>DVG=0 :0@4V>?0BVO.

/: V 2AV 207>48;0B0B>@8, V=3V1VB>@8 \$ A;V4 ?@87=0G0B8 7 >15@56=VABN ?0FVT=B0< 7
>1AB@C:FVTN 28EV4=>3> >B2>@C ;V2>3> H;C=>G:0 B0 >1AB@C:FVTN H;OEC 2V4B>;C; WE=L>3>
?@89>35==>3> H>;C B0 35<>48=0 7=0G=>W >1AB@C:FVW. >@CH5==O DC=:FVW =8@>:.
0FVT=B0< 7 ?>@CH5==O< DC=:FVW =8@>: (:;V@5=A :@50B8=V=C < 80 <;/E2) ?>G0B:>2C 4>7C
5=0;0?@8;C A;V4 ?V418@0B8 73V4=> 7 ;V@5=A< :@50B8=V=C (482. @>74V; «!/?>AVI
70AB>AC20==O B0 4>78») B0 =040;V 7 2V4?>2V44N =0 ;V:C20==O. ;O B0:8E ?0FVT=V2
AB0=40@B=>N <548G=>N ?@0:B8:>N T @53C;O@=89 :>=B@>;L 2

@> ?>@CH5==O DC=:FVW =8@>: ?>2V4<;O;8 C 7207:C 7 ?@89><< 5=0;0?@8;C, I> 3>;>2=8< G8=>< A?>AB5@V30;>AL C ?0FVT=BV2 7 BO6:>N A5@F52>N =54>AB0B=VABN 01> 7 70E2>@N20==O< =8@>:, 2;;NG0NG8 AB5=>7 0@B5@VW =8@>:. @8 A2>TG0A=>2V4=>20 =54>AB0B=VABL, ?>2070=0 7 B5@0?VTN 5=0;0?@8;<;, 70728G09 =>A8BL >1>@>B=89 E0@0:B5@.

45O:8E ?0FVT=BV2 7 3V?5@B5=7VTN, C O:8E =5 1C;> 28O2;5=> 70E2>@N20==O =8@>: 4> ?>G0B:C ;V:C20==O, 5=0;0?@8; AC 7 4VC@5B8:0<8 A?@8G8=O2 70728G09 =57=0G=5 B0 A:>@>8=CG5 ?V428I5==O 228=8 C :@>2V B0 :@50B8=V=C C A8@>20BFV :@>2V. # B0:8E 28?04:0E<>65 1CB8 =5>1EV4=8< 7<5=H5==O 4>78 B0/01> 2V4

5=>20A:C;O@=0 3V?5@B5=7VO.

A=CT ?V428I5=89 @878: 0@B5@V0;L=>W 3V?>B5=7VW B0 =8@>:2>W =54>AB0B=>ABV, :>;8 ?0FVT=B8 7 42>AB>@>==V< AB5=>7< 0@B5@V9 =8@>: 01> AB5=>7< 0@B5@VW T48=>W DC=:FV>=CNG>W =8@>8 ;V:CNBLAO V=3V1VB>@0<8 \$. B@B0 DC=:FVW =8@>: <>6;820 265 ?@8 20BFV :@>2V. "0:8< ?0FVT=B0< ;V:C20==O A;V4 @>7?>G8=0B8<0;8<8 4>70<8 ?V4 @5B5;L=8< ;V:0@AL:8< =03;O4>< 7 >15@56=8< B8B@C20==O< B0 <=>VB>@8=3>< DC=:FVW =8@>:.

"@0=A?;0=B0FVO =8@>8.

5<0T 4>A2V4C I>4> ?@89>

5GV=:>20 =54>AB0B=VABL.

V4:> V=3V1VB>@8 \$ 0A>FVN20;8AL V7 A8=4@><<, I> @>7?>G8=0TBLAO 7 E>;5AB0B8G=>W 6>2BO=8FV 01> 35?0B8BC B0 ?@>3@5ACT 4> <8BBT2>3> =5:@>7C ?5GV=:8 B0 (V=>4V) ;5B0;L=>3> =0A;V4:C. 5E0=V7< FL>3> A8=4@>20=8

59B@>?5=VO/03@0=C;>F8B>7.

?0FVT=BV2, O:V ?@89<0;8 V=3V1VB>@8 \$, ?>2V4<;O;>AO ?@> ?>O2C =59B@>?5=VW /03@0=C;>F8B>7C, B@><1>F8B>?5=VW B0 0=5@<0;L=>N DC=:FVTN =8@>: B0 ?@8 2V4ACB=>ABV V=H8E CA:;04=NNG8E D0:B>@V2 =59B@>?5=VO 28=8:0;0 @V4>: =0;0?@8; A;V4 ?@87=0G0B8 4C65 >15@56=> ?0FVT=B0< 7 :>;035=>7< AC48=, O:V ?@>E>4OBL VAC?@5A0=B=C B5@0?VN, ;V:C20==O 0;>?C@8=>;< 01> ?@>:0W=0<, 01> ?@8 :><1V=0FVW F8E CA:;04=NNG8E D0:B>@V2, >A>1;82> O:I> 265 VA=CT ?>@CH5==O DC=:FVW =8@>: # 45O:8E V7 F8E ?0FVT=BV2 @>72820;8AO A5@9>7=V V=D5:FVW, O:V V=>4V =5 2V4?>2V40;8 =0 V=B5=A82=C B5@0?VN 0=B81V>B8:0<8. @8 ?@87=0G5==V 5=0;0?@8;C B0:8< ?0FVT=B0< @5:><5=4CTBLAO ?5@V>48G=89 <=>VB>@8=3 :V;L:>ABV ;59:>F8BV2, 0 ?0FVT=B8 ?>28==V ?>2V4<;OB8 ?@> 1C4L-O:89 ?@>O2 V=D5:FVW.

V?5@GCB;82VABL/0=3V>=52@>B8G=89 =01@O:

@8 70AB>AC20==V V=3V1VB>@V2 \$, C B.G. 5=0;0?@8;C, 1C;8 >?8A0=V ?>>48=>:V 28?04:8 0=3V>=52@>B8G=>3> =01@O:C >1;8GGO, :V=FV2>:, 3C1, O78:0, 3>;>A>2>W IV;8=8 B0/01> 3>@B0=V, I> 28=8:02 C @V7=V ?5@V>48 ;V:C20==O. # F8E 28?04:0E A;V4 =5309=> ?@8?8=8B8 ;V:C20==O 5=0;0?@8;< V 2AB0=>28B8 ?>ABV9=89 =03;O4 70 ?0FVT=B<, I>1 C?52=8B8AL C ?>2=> 3> =03;O4 <>6=0 ?@8?8=8B8. 02VBL B>4V, :>; 2 V41C20TBLAO =01@O: BV;L:8 O78:0 157 ?>@CH5==O 48E0==O, ?0FVT=B8 <>6CBL ?>B@51C20B8 ?>4>265=>3> A?>AB5@565==O, >A:V;L:8 ;V:C20==O 0=B83VAB0?>2V4<;O;>AO ?@> ;5B0;L=89 =0A;V4>: G5@57 0=3V>=52@>B8G=89 =01@O: 3>@B0=V 01> =01@O: O78:0. # @07V, :>;8 =01@O: ;>:0;V7CTBLAO 2 4V;O=FV O78:0, 3>;>A>2>W IV;8=8 01> 3>@B0=V, >A>1;82> C ?0FVT=BV2 7 EV@C@3VG=8<8 2B@CG0==O<8 =0 48E0;L=8E H;OE0E 2 0=0<=57V, <>65 @>728=CB8AO >1AB@C:FVO 48E0;L=8E H;OE2. >;8 T 70;CG5==O O78:0, 3>;>B:8 01> 3>@B0=V 4> ?@>F5AC B0 F5 <>65 A?@8G8=8B8 >1AB@C:FVN 48E0;L=8E H;OE2, A;V4 =5309=> @>7?>G0B8 2V4?>2V4=C B5@0?VN, O:0 <>65 2;;NG0B8 ?V4H:V@=5 22545==O @>7G8=C 04@5=0;V=C 1:1000 (0,3-0,5 <,) B0/01> 70E>48 4;O 70157?5G5==O ?@>EV4=>ABV 48E0;L=8E H;OE2.

?@54AB02=8:V2 =53@>W4=>W @0A8, O:V 70AB>A>2C20;8 V=3V1VB>@8 \$, G0ABVH5 28=8:02 0=3V>=52@>B8G=89 =01@O: ?>@V2=O=> 7 ?0FVT=B0<8 V=H8E @0A. 0FVT=B8 7 0=3V>=52@>B8G=8< =01@O:>< 2 0=0<=57V, O:89 =5 ?>2O7CNBL V7 70AB>AC20==O< V=3V1VB>@V2 \$, <>6CBL <0B8 ?V428I5=89 @878: 9>3> 28=8:5==O V ?@8 ;V:C20==V V=3V1VB>@> < \$ (482. B0:>6 @>74V; «@>B8?>:070==O»).

=0DV;0:B>W4=V @50:FVW ?V4 G0A ?@>2545==O 3V?>A5=A81V;V70FVW 0;5@35=> 7 >B@CB8 ?5@5B8=G0AB>:@8:8E.

@V4:0 C ?0FVT=BV2, O:V >B@8@8 \$?V4 G0A ?@>2545==O 3V?>A5=A81V;V70FVW 0;5@35=> 7 >B@CB8 ?5@5B8=G0AB>:@8:8E, @>72820;8AL 0=0DV;0:B>W4=V @50:FVW, I><>3;8 1CB8 703@>7;828<8 4;O 68BBO ?0FVT=BV2. >4V1=8E @50:FV9 <>6=0 C=8:=CB8, O:I> 4> ?>G0B:C 3V?>A5=A81V;V70FVW B82> ?@8?8=8B8 ?@89>< V=3V1VB>@C \$.

=0DV;0:B>W4=V @50:FVW ?@>BO3< 0D5@57C ;V?>?@>B5W4V2 =87L:>W IV;L=>ABV.

V4:> C ?0FVT=BV2, O:V ?@89<0;8 V=3V1VB>@8 \$?@>BO3< 0D5@57C ;V?>?@>B5W4V2 =87L:>W

IV;L=>ABV 7 45:AB@0=C AC;LD0B<, 28=8:0;8 0=0DV;0:B>W4=V @50:FVW, I> AB0=>28;8703@>7C 68BBN. "0:8E @50:FV9 <>6=> C=8:=CB8 H;OE>< B82>3> ?@8?8=5==O ?@89>@V2 \$?5@54 :>6=8< 0D5@57>

0FVT=B8, O:V ?5@51C20NBL =0 35<>4V0;V7V.

?0FVT=BV2, O:V ?5@51C20NBL =0 4V0;V7V V7 28:>@8AB0==O< <5<1@0= 28A>:>W ?@>?CA:=>W 740B=>ABV (=0?@8::04 AN 69®) V 70AB>A>2CNBL >4=>G0A=> V=3V1VB>@ \$, V=>4V @>72820;8AO 0=0DV;0:B>W4=V @50:FVW. ">5=4CTBLAO @>73;O=CB8 ?8B0==O ?@> 70AB>AC20==O 4V0;V7=8E <5<1@0= V=H>3> B8?C 01> 3V?>B5=782=>3> 70A>1C V=H>W 3@C?8. V?>3;V:5

0FVT=B0< V7 FC:@>28< 4V015B<, O:V ?@89<0NBL ?5@>@0;L=V 0=B84V015B8G=V ?@5?0@0B8 01> V=AC;V= B0 ?>G8=0NBL B5@0?VN V=3V1VB>@> \$, A;V4 @5:>5=4C20B8 @5B5;L=> ?5@52V@OB8 @V2=V FC:@C 2 :@>2V, >A>1;82> ?@>BO3< ?5@H8E :V;L:>E 3> 70AB>AC20==O (482. @>74V; «□70T<>4VO 7 V=H8<8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9»).

0H5;L.

>2V4><;O;>AO ?@> 28=8:=5==O :0H;N ?@8 ;V:C20==V V=3V1VB>@0<8 \$. 0728G09 :0H5;L =>A8BL =5?@>4C:B82=89 ABV9:89 E0@0:B5@ V ?@8?8=OTBLAO ?VA;O 2V4 ;V:C20==O V=3V1VB>@> \$ =5>1EV4=> 2@0E>2C20B8 ?@8 48D5@5=FV9=V9 4V03=>AB8FV :0H;N.

@>2545==O EV@C@3VG=8E >?5@0FV9/0=5AB57VO.

V4 G0A 25;8:8E EV@C@3VG=8E >?5@0FV9 01> ?@8 0=5AB57VW V7 70AB>AC20==O< ?@5?0@0BV2, O:V A?@8G8=ONBL 0@B5@V0;L=C 3V?>B5=7VN, 5=0;0?@8; 1;>:CT CB2>@5==O 0=3V>B5=78=C II 2B>@8==> 4> :>@=>3> 72V;L=5==O @5=V=C. /:I> ?@8 FL>72820TBLAO 0@B5@V0;L=0 3V?>B5=7VO, O:C <>6=0 ?>OA=8B8 F8<8 <5E0=V7<0<8 270T<>4VW, 2>=0 :>@83CTBLAO H;OE< 71V;LH5==O >1T

V?5@:0;VT.

@>BO3< ;V:C20==O V=3V1VB>@0<8 \$, 2::;NG0NG8 5=0;0?@8;, C 45O:8E ?0FVT=BV2 A?>AB5@V30;>AO ?V428I5==O @V2=O :0;VN 2 :@>2V. 878: 28=8:=5==O 3V?5@:0;VT2>N =54>AB0B=VABN, 7 ?>3V@H5=>N DC=:FVTN =8@>:, 2V:> > 70 @>:V2, V7 FC:@>28< 4V015B<, B@0=78B>@>8<8 AB0=0<8, 7>:@5<0 7=52>4=5==O<, 3>AB@>N A5@F52>N 45:>;VG=8< 0F84>7>< B0 AC?CB=V< ?@89><<< :0;V9715@V30NG8E 4VC@5B8:V2 (=0?@8::04 A?V@=>=>;0:B>=C, 5?;5@5=>=C, B@V0 0@84C); ?@8 28:>@8AB0==V E0@G>28E 4>102>: 01> A>;L>28E 70 6 C ?0FVT=BV2, O:V ?@89 <0NBL V=HV ?@5?0@0B8, I> <>6CBL A?@8G8=8B8 ?V428I5==O :0;VN 2 :@>2V (=0?@8::04 35?0@8=). >:@5<0, ?@89>< :0;V9715@V30NG8E 4VC@5B8:V2, E0@G>28E 4>102>: 01> A>;L>28E 70 AC?CB=V9 ?@89>< 5=0;0?@8;C B0 1C4L-O:>3> 7 28I573040=8E ?@5?0@0BV2 22060TBLAO =5>1EV4=8<, WE A;V4 70AB>A>2C20B8 7 >15@56=VABN, @53C;O@=> :>=B@>;NNG8 220BFV :@>2V (482. @>74V; « 70T<>4VO 7 V=H8<8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9»).

VBV9.

0728G09 :><1V=0FVO ;VBN B0 5=0;0?@8;C =5 @5:><5=4>20=0 (482. @>74V; «□70T<>4VO 7 V=H8 <8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9»).

!C?CB=O B5@0?VO V=3V1VB>@> \$ B0 0=B03>=VAB< @5F5?B>@V2 0=3V>B5=78=C. □>
<1V=C20==O V=3V1VB>@C \$ 7 0=B03>=VAB< @5F5?B>@V2 0=3V>B5=78=C II A;V4 >1<568B8 V=482V4C0;L=> 287=0G5=8<8 28?04:0<8, O:V AC?@>2>46CNBLAO @5B5;L=8< <=>VB>@8=3><< DC=:FVW =8@>:, @V2=V2 :0;VN B0 0@B5@V0;L=>3> B8A:C (482. @>74V; «□70T<>4VO 7 V=H8<8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9»).

=0DV;0:B>W4=V B0 <>6;82> ?>2O70=V @50:FVW.

A;V;L:8 V=3V1VB>@8 \$??:820NBL =0<5B01>;V7< 59:>70=>W4V2 B0 ?>;V?5?B84V2, 2 B>35==>3> 1@048:V=V=C, ?0FVT=B8, O:V ?@89<0NBL V=3V1VB>@8 \$ (2 B>7=8E.

0:B>70.

@5?0@0B 7C, B>78, 45DVF8B ;0:B078 0?0 01> ?>@CH5==O <0;L01A>@1FVW 3;N:>78-30;0:B>78, =5 ?>28==V ?@89<0B8 F59 ?@5?0@0B.

0AB>AC20==O C ?5@V>4 203VB=>ABV 01> 3>4C20==O 3@C44N.

03VB=VABL.

V:0@AL:89 70AV1 =5 ?>28=5= 70AB>A>2C20B8AO 203VB=8<8 01> 6V=:0<8, O:V ?;0=CNBL 70203VB=VB8. /:I> ?V4 G0A ;V:C20==O F8< 70A>1>< ?V4B25@46CTBLAO 203VB=VABL, 9>3> 70AB>AC20==O =5>1EV4=> =5309=> ?@8?8=8B8 V 70 >4C20==O 3@C44N.

1<565=V D0@<0>:V=5B8G=V 40=V A2V4G0BL ?@> 4C65 =87L:V :=F5=B@0FVW C 3@C4=>\$0@<0>:V=5B8:0»). %>G0 B0:V :=F5=B@0FVW V 22060NBLAO ;V=VG=> =57=0GCI8<8, 70AB>AC20==O ?@5?0@0BC =5 @5:><5=4CTBLAO C ?5@V>4 3>4C20==O 3@C44N =54=>H5=8E B0 =5<>2;OB C ?5@HV :V;L:0 B86=V2 ?VA;O =0@>465==O, >A:V;L:8 VA=CT 3V?>B5B8G=89 @878: 5D5:BV2 7 1>:C A5@F52>-AC48==>W A8AB5<8 B0 =8@>:, 0 B0:>6 G5@57 =54>AB0B=V9 4>A2V4 C FL>

40B=VABL 2?;820B8 =0 H284:VABL @50:FVW ?@8 :5@C20==V 02B>B@0=A?>@B< 01> V=H8<8 <5E0=V7<0<8. @8 :5@C20==V 02B>B@0=A?>@B< 01> @>1>BV 7 V=H8<8 <5E0=V7<0<8 A;V4 27OB8 4> C2038 <>6;8289 @>728B>: 70?0<>@>G5==O 01> 2B><8.

!?!>AV1 70AB>AC20==O B0 4>78.

@89>< W6V =5 2?;820T =0 2A<>:BC20==O B01;5B>: =07C20==O ?>B@V1=> 4>18@0B8 V=482V4C0;L=> 2V4?>2V4=> 4> AB0=C :>6=>3> ?0FVT=B0 (482. @>74V; «A>I;82>ABV 70AB>AC20==O») B0 @50:FVW 0@B5@V0;L=>3> B8A:C C 2V4?>2V4L. @B5@V0;L=0 3V?5@B5=7VO. >70 ?@5?0@0BC AB0=>28BL 2V4 ?>G0B:>2>W 5<3 4> <0:A8<0;L=>W 20 <3 70;56=> 2V4 ABC?5=O 0@B5@V0;L=>W 3V?5@B5=7VW B0 AB0=C ?0FVT=B0 (482. =86G5). =0< ?@89<0B8 1 @07 =0 45=L. @8 0@B5@V0;L=V9 3V?5@B5=7VW ;53:>3> ABC?5=O @5:><5=4>20=0 ?>G0B:>20 4>70 AB0=>28BL 5-10 <3.

?0FVT=BV2 V7 4C65 0:B82>20=>N @5=V=-0=3V>B5=78=-0;L4>AB5@=>2>N A8AB5<>N (=0?@8::;04 7 @5=>20A:C;O@=>N 3V?5@B5=7VTN, ?>@CH5==O< A>;L>2>3> B0/01> @V48==>3> 10;0=AC, 45:>W DC=:FVW 01> BO6:>N 0@B5@V0;L=>N 3V?5@B5=7VTN) <>6;825 =043> B8A:C ?VA;O ?@89> G0B:>2>W 4>78. "0:8< ?0FVT=B0< @5:><5=4CTBLAO ?>G0B:>20 4>70 5 <3 01> =86G5, 0 ?>G0B>: ;V:C20==O ?>28=5= ?@>E>48B8 ?V4 =03;O4< ;V:0@O.

>?5@54=T ;V:C20==O 28A>:8<8 4>70<8 4VC@5B8:V2 <>65 ?@8725AB8 4> 45DVF8BC @V48=8 B0 @878:C 28=8:=5==O 0@B5@V0;L=>W 3V?>B5=7VW =0 ?>G0B:C B5@0?VW 5=0;0?@8;><5=4CTBLAO ?>G0B:>20 4>70 5 <3 01> =86G5. # @07V <>6;82>ABV ;V:C20==O 4VC@5B8:0<8 A;V4 ?@8?8=8B8 70 2- 3 4=V 4> ?>G0B:C ;V:C20==O ?@5?0@0B< =0: B0 @V25=L :0;VN 2 A8@>20BFV :@>2V. 28G09=0 ?V4B@870 20 <3 1 @07 =0 4>1C. 0:A8<0;L=0 ?V4B@870 AB0=>28BL 40<3 =0 4>1C.

15@F520 =54>AB0B=VABL/157A8<=0 48ADC=:FVO ;V2>3> H;C=>G:0.

;O ;V:C20==O ;V=VG=> 28@065=>W A5@F52>W =54>AB0B=>ABV =0< 70AB>A>2C20B8 @07>< 7 4VC@5B8:0<8 B0, C @07V =5>1EV4=>ABV, ?@5?0@0B0<8 =0?5@ABO=:8 01> 15B0-1;:>0B>@0<8. >G0B:>20 4>70 4;O ?0FVT=BV2 V7 ;V=VG=> 28@065=>N A5@F52>N =54>AB0B=VABN 01> 157A8 <=>N 48ADC=:FVTN ;V2>3> H;C=>G:0 AB0=>28BL 2,5 <3, ?@8 FL>AC20==O ?@5?0@0BC =5>1EV4=> ?@>2>48B8 ?V4 @5B5;L=8< ;V:0@AL:8< :=B@>;5< 4;O B>3>, I>1 2AB0=>28B8 ?5@28==89 2?;82 ?@5?0@0BC =0 0@B5@V0;L=89 B8A:. # @07V 2V4ACB=>ABV 5D5:BC 01> ?VA;O 2V4?>2V4=>W :>@5:FVW A8<0B8G=>W 3V?>B5=7VW, I> 28=8;:0 =0 ?>G0B:C ;V:C20==O ?@5?0@0B< =0< A5@F52>W =54>AB0B=>ABV, 4>7C A;V4 ?>ABC?>2> ?V428IC20B8 4> 728G09=>W ?V4B@8W 4>78 20 <3, O:C ?@87=0G0B8 >4=>@07>2> 01> @>74V;OB8 =0 420 ?@89><8 70;56=> 2V4 B>3>, I> :@0I5 ?5@5=>A8BL ?0FVT=B. >1V@ 4>78 @5:><5=4>20=> 74V9A=N20B8 2?@>4>26 2-4 B86=V2. >4V1=89 B5@0?52B8G=89 @568< 5D5:B82=> 7<5=HCT ?>:07=8:8 ;5B0;L=>ABV ?0FVT=BV2 V7 ;V=VG=> 28@065=>N A5@F52>N =54>AB0B=VABN. 0:A8<0;L=0 4>70 AB0=>28BL 40 <3 =0 4>1C 70 420 ?@89><8. @>?>=>20=0 B8B@0FVO 4>78 ?@5?0@0BC =0< 4;O ?0FVT=BV2 V7 A5@F52>N =54>AB0B=VABN / 157A8<=>N 48ADC=:FVTN ;V2>3> H;C=>G:0

"8645=L	>70, <3/45=L
"8645=L 1	7 1 ?> 3 45=L: 2,5 <3/4>1C* 70 >48= ?@89>< 7 4 ?> 7 45=L: 5 <3/4>1C 70 2 ?@89><8
"8645=L 2	10 <3/4>1C 70 >48= 01> 420 ?@89><8
"8645=L 3 B0 4	20 <3/4>1C 70 >48= 01> 420 ?@89><8

* >15@56=VABN A;V4 70AB>A>2C20B8 ?@5?0@0B ?0FVT=B0< 7 ?>@CH5==O< DC=:FVW =8@>: 01> B8<, EB> ?@89<0T 4VC@5B8:8 (482. @>74V; «A>I;82>ABV 70AB>AC20==O»). /: 4>, B0: V ?VA;O ?>G0B:C ;V:C20==O ?@5?0@0B< =0< A;V4 74V9A=N20B8 @5B5;L=89 :=B@>;L 0@B5@V0;L=>3> B8A:C V DC=:FVW =8@>: (482. @>74V; «A>I;82>ABV 70AB>AC20==O»), >A:V;L:8 ?>2V4><;O;>AO ?@> 0@B5@V0;L=C 3V?>B5=7VN B0 (@V4H5) ?>40;LHC =8@>:2C =54>AB0B=VABL.

0FVT=B0<, O:V ?@89<0NBL 4VC@5B8:8, ?@8 <>6;82>ABV A;V4 7<5=H8B8 4>7C 4> ?>G0B:C
 ;V:C20==O ?@5?0@0B<< =0728B>: 0@B5@V0;L=>W 3V?>B5=7VW ?VA;O ?>G0B:>2>W 4>78
 ?@5?0@0BC =0< =5 >7=0G0T, I> 3V?>B5=7VO 715@V30B8<5BLAO ?@8 B@820;> =5>1EV4=VABL
 ?@8?8=5==O ?@89>6 :>=B@>;N20B8 220BFV :@>2V B0 DC=:FVN =8@>.:
 >7C20==O ?@8 =8@>: >2V9 =54>AB0B=>ABV.
 030;>< =5>1EV4=> 71V;LH8B8 V=B5@20;<0<8 5=0;0?@8;C B0/01> 7<5=H8B8 4>7C20==O ?@5?0@0BC.

!B0= =8@>:	;V@5=A :@50B8=V=C (CrCL), <:/E2	>G0B:>20 4>70, <3/45=L
57=0G=V ?>@CH5==O	30 < CrCL <80 <:/E2	510 <3
>@CH5==O	10< CrCL ≤30 <:/E2	2,5 <3
8@065=V ?>@CH5==O. 0728G09 B0:V E2>@V ?5@51C20NBL =0 35 <>4V0;V7V	CrCL ≤10 <:/E2	2,5 <3 C 4=V 4V0;V7C**

** 82. @>74V; «A>I;82>ABV 70AB>AC20==O»: 0FVT=B8, O:V ?5@51C20NBL =0 35<>4V0;V7V.
 =0;0?@8; 2840;OTBLAO H;OE<< 35<>4V0;V7C. >@5:FVN 4>7C20==O C 4=V, :>;8 35<>4V0;V7 =5
 ?@>2>48BLAO, =5>1EV4=> 74V9A=N20B8 70;56=> 2V4 @V2=O 0@B5@V0;L=>3> B8A:C.
 0FVT=B8 ;VB=L>3> 2V:C.
 >7C A;V4 :>@83C20B8 70;56=> 2V4 DC=:FVW =8@>: (482. @>74V; «A>I;82>ABV 70AB>AC20==O»
 VB8 7 0@B5@V0;L=>N 3V?5@B5=7VTN 2V:>< 2V4 6 @>:V2.
 >A2V4 ;:V=VG=>3> 70AB>AC20==O 5=0;0?@8;C 4VBO< 7 0@B5@V0;L=>N 3V?5@B5=7VTN >1
 <565=89 (482. @>74V;8 «A>I;82>ABV 70AB>AC20==O», «\$0@<0:>48=0
 VBO<, O:V <>6CBL :>2B0B8 B01;5B:8, 4>7C A;V4 ?@87=0G0B8 V=482V4C0;L=>, 2V4?>2V4=> 4>
 AB0=C ?0FVT=B0, @50:FVW 0@B5@V0;L=>3> B8A:C C 2V4?>2V4L =0 ;V:C20==O B0<0A8 BV;0
 ?0FVT=B0. 5:><5=4>20=0 ?>G0B:>20 4>70 AB0=>28BL 2,5 <3 4;O ?0FVT=V2 7 <0A>N BV;0 2V4 20 4>
 50 :3 B0 5 <3 4;O ?0FVT=V2 7 <0A>N BV;0 ≥ 50 :3. =0< ?@89<0B8 1 @07 =0 4>1C. >7C20==O A;V4
 :>@83C20B8 70;56=> 2V4 ?>B@51 4> <0:A8<0;L=>3> 20 <3 =0 4>1C 4;O ?0FVT=V2 7 <0A>N BV;0 2V4
 20 4> 50 :3 B0 40 <3 4;O ?0FVT=V2 7 <0A>N BV;0 ≥ 50 :3 (482. @>74V; «A>I;82>ABV 70AB>AC20==O»
 B0 «VB8»
 =0< =5 @5:><5=4>20=89 4;O =>2>=0@>465=8E B0 4VB59 7 @V2=5< 3;><5@C;O@=>W DV;LB@0FVW
 <30 <:/E2/1,73 <2 G5@57 2V4ACB=VABL 40=8E.

VB8.
 0AB>A>2C20B8 4VBO< 2V:>< 2V4 6 @>:V2. =0< =5 @5:><5=4>20=89 =>2>=0@>465=8< B0 4VBO< 7
 @V2=5< 3;><5@C;O@=>W DV;LB@0FVW <30 <:/E2/1,73 <2 G5@57 2V4ACB=VABL 40=8E.

5@54>7C20==O.
 A=CNBL >1<565=V 40=V I>4> ?5@54>7C20==O ?@5?0@0BC. A=>2=8<8 >7=0:0<8 ?5@54>7C20==O,
 73V4=> 7 =0O2=8<8 40=8<8, T 28@065=0 0@B5@V0;L=0 3V?>B5=7VO, O:0 @>?>G8=0TBLAO
 ?@81;87=> G5@57 6 3>48= ?VA;O ?@89>:04>N A8AB5<8 @5=V=-0=3V>B5=78=, V ABC?>@. !8<8,
 ?>2O70=V 7 ?5@54>7C20==O< V=3V1VB>@0<8 \$, <>6CBL 2;:NG0B8 F8@:C;OB>@=89 H>:,
 5;5:B@>;VB=89 48A10;0=A, =8@>:2C =54>AB0B=VABL, 3V?5@25=B8;OFVN ;535=V2, B0EV:0@4VN,
 ?@8A:>@5=5 A5@F518BBO, 1@048:0@4VN, 70?0<>@>G5==O, B@82>6=VABL B0 :0H5;L. V2=V
 5=0;0?@8;0BC C ?;072V, O:V ?5@528ICNBL C 100 V 200 @07V2<0:A8<0;L=V @V2=V, I>
 4>AO30NBLAO ?@8 ?@89>7, 70 ?>2V4><;5==O<8, @5TAB@C20;8AO ?VA;O ?@89>2V4=> 300 <3 V 440
 <3 5=0;0?@8;C.
 ;O ;V:C20==O ?5@54>7C20==O @5:><5=4CNBLAO 2=CB@VH=L>25==V V=DC7VW V7>B>=VG=>3>
 @>7G8=C. @8 ?>O2V 0@B5@V0;L=>W 3V?>B5=7VW ?0FVT=B0 A;V4 ?>:;0AB8 C 3>@87>=B0;L=5
 ?>;>65==O. >6=0 @>73;O=CB8 =5>1EV4=VABL V=DC7V9 0=3V>B5=78=C II B0/01>
 2=CB@VH=L>25=>3> 22545==O :0B5E>;0 ?@5?0@0B 1C2 ?@89=OB89 =5402=>, @5:><5=4CNBLAO
 70E>48 7 5;V «A>I;82>ABV 70AB>AC20==O»: 0FVT=B8, O:V ?5@51C20NBL =0 35<>4V0;V7V). @8
 1@048:0@4VW, I> @578AB5=B=0 4> B5@0?52B8G=8E 70A>1V2, ?>:070=0 B5@0?VO 70 4>?>>3>N
 :0@4V>AB8@0. !;V4 ?>ABV9=> :>=B@>;N20B8 206;82V ?>:07=8:8 68BBT4VO;L=>ABV,
 :>=F5=B@0FVW 5;5:B@>;V BV2 B0 @V25=L :@50B8=V=C 2 A8@>20BFV :@>2V.

>1VG=V @50:FVW.

>1VG=V 5D5:B8, I> <>6CBL 28=8:=CB8 ?V4 G0A ?@89>20=V 70 G0AB>B>N: 4C65 G0AB> (≥ 1/10), G0AB> (≥ 1/100 - < 1/10), =5G0AB> (≥ 1/1 000 - < 1/100), @V4:> (≥ 1/10 000 - < 1/1000), 4C65 @V4:> (< 1 /10000), =52V4><> (=5 <>6=0 287=0G8B8 70 =0O2=8<8 40=8<8).
@8 70AB>AC20==V 5=0;0?@8;C C 1V;LH>ABV 28?04:V2 ?>1VG=V 5D5:B8 1C;8 =57=0G=8<8, <0;8 B8 289 E0@0:B5@ V =5 28<030;8 2V4

I>:C :@>2>=>A=>W B0 ;VW A8AB5

5G0AB>: 0=5

V4:>: =59B@>?5=VO, 7=865==O 35<>3;>1V=C, 7=865==O 35<0B>:@8BC, B@><1>F8B>?5=VO, 03@0=C;>F8B>7, ?@83=VG5==O :VAB:>2>3> <>7:C, ?0=F8B>?5=VO, ;V?0BVO, 0CB>V@>18.
=4>:@8==V @>7;048.

52V4><>: A8=4@>× ?>@CH5==O A5:@5FVW 0=B84VC@5B8G=>3> 3>@<>=C.

5B0I>;VG=V ?>@CH5==O.

5G0AB>: 3V?>3;V:574V; «A>I;82>ABV 70AB>AC20==O»).

I>:C =5@2>2>W A8AB5<8 V?A8EV:8.

'0AB>: 45?@5AVO, 3>;>2=89 1V;L.

5G0AB>: A?;CB0=VABL A2V4><>ABV, A>;;82VABL, 157A>==O, =5@2>7=VABL, ?0@5AB57VW, 25@B83>.

V4:>: @>7;048 A=C, 0=><0;L=V A=>284V==O.

DB0;L<>;>3VG=V ?>@CH5==O.

C65 G0AB>: 70BC<0=5==O 7>@C.

I>:C A5@F52>-AC48==>W A8AB5<8.

C65 G0AB>: 70?0<>@>G5==O.

'0AB>: 3V?>B5=7VO (2::NG0NG8 >@B>AB0B8G=C 3V?>B5=7VN), A8=:>?5, 1V;L 70 3@C48=>N, ?>@CH5==O @8B:0@4VO, B0EV:0@4VO.

5G0AB>: >@B>AB0B8G=0 3V?>B5=7VO, ?@8A:>@5=5 A5@F518BBO, V=D0@:B:0@40 01> V=AC;LB, <>6;82>, 2=0A;V4:>: =043> 7=865==O B8A:C C ?0FVT=BV2 7 28A>:8< @878:>< (482. @>74V; « A>I;82>ABV 70AB>AC20==O»).

V4:>: D5=><5= 59=>.

I>:C A8AB5<8 48E0==O, 3@C4=>W ;:VB:8 B0 A5@54>ABV==O.

C65 G0AB>: :0H5;L.

'0AB>: 7048H:0.

5G0AB>: @8=>@50, 1V;L C 3>@;V B0 70E@8?;VABL, 1@>=E>A?07

V4:>: ;535=52V V=DV;LB@0B8, @8=VB, 0;5@3VG=89 0;L25>;VB/5>78=>DV;L=0 ?=52<>=VO.

I>:C H;C=:>2>-:8H:>2>3> B@0:BC.

C65 G0AB>: =C4>B0.

'0AB>: 4V0@50, 014>

5G0AB>: :8H:>20 =5?@>EV4=VABL, ?0=:@50B8B, 1;N20==O, 48A?5?AVO, 70?>@, 0=>@5:AVO, ?>4@07=5==O H;C=:0, ACEVABL C @>BV, ?5?B8G=V 28@07:8.

V4:>: AB><0B8B/0DB>7=V 28@07:8, 3;>A8B.

C65 @V4:>: 0=3V>=52@>B8G=89 =01@O: :8H5G=8:C.

I>:C ?5GV=:8 B0 6>2G>282V4=8E H;OEV2.

V4:>: ?5GV=:>20 =54>AB0B=VABL, 35?0B8B 35?0B>F5;N;O@=89 01> E>;5AB0B8G=89, 35?0B8B, 2::NG0NG8 =5:@>7, E>;5AB07 (2::NG0NG8 6>2BO=8FN).

I>:C H:V@8 B0 ?V4H:V@=8E B:0=8=.

'0AB>: 28A8?, 3V?5@GCB;82VABL/0=3V>=52@>B8G=89 =01@O: >1;8GGO, :V=V2>;, 3C1, 078:0, 3>;>A>2>W IV;8=8 B0/01> 3>@B0=V (482. @>74V; «A>I;82>ABV 70AB>AC20==O»).

5G0AB>: ?V428I5=5 ?>B>284V;5==O, A25@1V6, :@>?82O=:0, 0;>?5FVO.

V4:>: <=>68==0 5@8B5<0, A8=4@>× !BV25=A0-6>=A>=0, 5:AD>;V0B82=89 45@<0B8B, B>:A8G=89 5?V45@<0;L=89 =5:@>;V7, ?545@

>2V4><>O;>AO ?@> @>728B>: A:;04=>3> A8<>:> 2AV 7 B0:8E ?@>O2V2, O:: 30@OG:0, A5@>78B, 20A:C;VB, 78B, 0@B@0;3VO/0@B@8B, ?>78B82=89 B5AB =0 0=B8=C::;50@=V 0=B8BV;0, ?V428I5==O H284:>ABV >AV40==O 5@8B@>F8BV2 ((), 5>78=>DV;VO V ;59:>F8B>7. /: ?>1VG=V 5D5:B8<>6CBL B0:>6 28=8:0B8 28A8?8, D>B>A5=A81V;V70FVO B0 V=HV @50:FVW 7 I>:C H:V@8.

I>:C =8@>: B0 A5G>282V4=8E H;OEV2.

5G0AB>: ?>@CH5==O DC=:FVW =8@>:, =8@>:20 =54>AB0B=VABL, ?@>B5W=C@VO.

V4:>: >;V3C@VO.

1>:C AB0B52>W A8AB5<8 B0 <>;>G=8E 70;>7.

5G0AB>: VB5=FVO.

V4>: 3V=5:><0ABVO.

030;L=V ?>@CH5==O B0 ?>@CH5==O C<>2 22545==O.

C65 G0AB>: 0AB5=VO.

'0AB>: ?V428I5=0 2B><;N20=VABL.

5G0AB>: <O7>2V AC4<8, ?@8?;828, 472V= C 2CE0E, 2V4GCBBO 48A:>@BC, 30@OG:0.

@0B>@=8E ?>:07=8:V2.

'0AB>: 3V?5@:0;VT20BFV :@>2V.

5G0AB>: ?V428I5==O A5G>28=8 C :@>2V, 3V?>=0B@VT

V4>: ?V428I5==O D5@<5=BV2 ?5GV=:8, ?V428I5==O 1V;V@C1V=C 2 A8@>20BFV :@>2V.

"5@ABV.3 @>:8.

#<>28 715@V30==O. 15@V30B8 C =54>ABC?=>@83V=0;L=V9 C?0:>2FV ?@8 B5

#?0:>2:0. > 10 B01;5B>: C AB@8?V. > 2 AB@8?8 C ?0GFV.

0B53>@VO 2V4?CA:C. 0 @5F5?B>

8@>1=8:.. -@ 544VA 01>@0B>@VA B4, =4VO.

VAF57=0E>465==O 28@>1=8:0 B0 9>3> 04@5A0 20465==O 4VO;L=>ABV.V;L=8FO 42, 45, 46, A.
0GC?0;V, CB1C;0?C@ 0=40;, >:@C3 0=30 544V, =4@0 @045H, =4VO.