$Cs_{0.9}Lu_3F_{9.9}$	*hP*15	(187) *P*-6*m*2 – k^3jha

$Cs_{0.9}Lu_3F_{9.9}$ [1]
Structural features: LuF_7 pentagonal bipyramids share edges and vertices to form a 3D-framework; Cs in channels parallel to [001].

Marsh R.E. (1986) [1]
$Cs_{0.90}F_{10}Lu_3$
$a = 0.7943$, $c = 0.4227$ nm, $c/a = 0.532$, $V = 0.2310$ nm^3, $Z = 1$

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
F1	3*k*	*mm*2	0.165	0.835	$^1/_2$		
Lu2	3*k*	*mm*2	0.49136	0.50864	$^1/_2$		
F3	3*k*	*mm*2	0.7828	0.2172	$^1/_2$		non-colinear Lu_2
F4	3*j*	*mm*2	0.5139	0.4861	0		non-colinear Lu_2
F5	2*h*	3*m*.	$^1/_3$	$^2/_3$	0.381	0.5	
Cs6	1*a*	-6*m*2	0	0	0	0.9	trigonal prism F_6

Transformation from published data: origin shift 0 0 $^1/_2$
Experimental: single crystal, diffractometer, X-rays, R = 0.024

Remarks: Supersedes a refinement in space group (8) *Cm* in [2] (~$Cs_{0.75}Lu_3F_{9.75}$), which does not take into consideration all symmetry elements; refinement on the same diffraction data. Short interatomic distances for partly occupied site(s).

References: [1] Marsh R.E. (1986), J. Solid State Chem. 64, 119-121. [2] Metin J., Chatonier D., Avignant D., Chevalier R., Cousseins J.C. (1984), J. Solid State Chem. 55, 299-305.