Proposition 417. Let $\mathfrak{Z}$ be a complete lattice. Then $a^* \in \mathfrak{P}$.

Proof. $\mathfrak{F}$ is a complete lattice by 374. $(\mathfrak{F};\mathfrak{P})$ is a filtrator with join-closed core by corollary 363. $(\mathfrak{F};\mathfrak{P})$ is a filtrator with separable core by theorem 379. So we can apply theorem 331. □

Proposition 418. If $\mathfrak{Z}$ is a complete boolean lattice, then a^+ is dual pseudocomplement of a, that is

$$a^+ = \min\left\{ \frac{c \in \mathfrak{A}}{c \sqcup^{\mathfrak{F}} a = \top^{\mathfrak{F}}} \right\}$$

for every $a \in \mathfrak{F}$.

Proof. $(\mathfrak{F};\mathfrak{P})$ is filtered by the corollary 362. It is with co-separable core by theorem 340. $\mathfrak{F}$ is a complete lattice by corollary 374. So we can apply theorem 332. □

Proposition 419. For a primary filtrator over a complete boolean lattice both edge part and dual edge part are always defined.

Proof. Core part and dual core part are defined because the core is a complete lattice. Using the theorem 383. □

Proposition 420. If $\mathfrak{Z}$ is a complete lattice, then for every $a, b \in \mathfrak{F}$

$$\operatorname{Cor}(a \sqcap^{\mathfrak{F}} b) = \operatorname{Cor} a \sqcap^{\mathfrak{P}} \operatorname{Cor} b.$$

Proof. $(\mathfrak{F};\mathfrak{P})$ is with join-closed core by corollary 363. $\mathfrak{F}$ is a meet-semilattice by corollary 374. So we can apply theorem 335. Then apply proposition 367. □

Proposition 421. If $\mathfrak{Z}$ is a complete lattice, then for every $S \in \mathscr{P}\mathfrak{F}$

$$\operatorname{Cor} \bigsqcap^{\mathfrak{F}} S = \bigsqcap^{\mathfrak{P}} \langle \operatorname{Cor} \rangle^* S.$$

Proof. By theorem 336. □

Corollary 422. If $\mathfrak{Z}$ is a complete lattice, then for every $S \in \mathscr{P}\mathfrak{P}$

$$\operatorname{Cor} \bigsqcap^{\mathfrak{F}} S = \bigsqcap^{\mathfrak{P}} S.$$

Proposition 423. Let $\mathfrak{Z}$ be a complete atomistic lattice. Then for every $a, b \in \mathfrak{F}$

$$\operatorname{Cor}(a \sqcup^{\mathfrak{F}} b) = \operatorname{Cor} a \sqcup^{\mathfrak{P}} \operatorname{Cor} b.$$

Proof. $(\mathfrak{F};\mathfrak{P})$ is semifiltered by corollary 362. It is with finitely meet-close core by 364. $\mathfrak{F}$ is starrish by corollary 381. $\mathfrak{F}$ is complete by corollary 374. So we can apply theorem 338. Then apply proposition 367. □

Theorem 424. Let $\mathfrak{Z}$ be a complete boolean lattice. Then $(a \sqcap^{\mathfrak{F}} b)^* = a^* \sqcup^{\mathfrak{P}} b^*$ for every $a, b \in \mathfrak{F}$.

Proof. $(\mathfrak{F};\mathfrak{P})$ is a filtered (corollary 362) up-aligned complete lattice filtrator with finitely join-closed (theorem 292) co-separable core (theorem 340) which is a complete boolean lattice. Thus by the theorem 327

$$(a \sqcap^{\mathfrak{F}} b)^* = (a \sqcap^{\mathfrak{F}} b)^+ = \overline{\operatorname{Cor}(a \sqcap^{\mathfrak{F}} b)} = \overline{\operatorname{Cor} a \sqcap^{\mathfrak{P}} \operatorname{Cor} b} = \overline{\operatorname{Cor} a} \sqcup^{\mathfrak{F}} \overline{\operatorname{Cor} b} = a^+ \sqcup^{\mathfrak{P}} b^+ = a^* \sqcup^{\mathfrak{P}} b^*$$

(used propositions 416, 420). □

Theorem 425. Let $\mathfrak{Z}$ be a complete atomistic boolean lattice. Then $(a \sqcup^{\mathfrak{F}} b)^* = a^* \sqcap^{\mathfrak{P}} b^*$ for every $a, b \in \mathfrak{F}$.