	T311: 1	D 11	D 11	LUGE		MegaDepth		ATTOF	LUGE	A TOP	LUGE	Title 1	D 11	D 11	LT:OF	LUCE	ScanNet	LUGE.	LUGE	. rroF	ANGE	war
Pipeline	Filtered	Precision	Recall	$AUC_{@5}^{F}$	$AUC_{@10}^{F}$	$AUC_{\oplus 20}^F$	$\mathrm{AUC}_{\mathbb{Z}}^F$	$AUC_{@5}^{E}$	$AUC_{@10}^{E}$	$\mathrm{AUC}^E_{\otimes 20}$	AUC_{Z}^{E}	Filtered	Precision	Recall	AUC_{05}^F	$AUC_{@10}^{F}$	$AUC_{@20}^F$	$\mathrm{AUC}_{\mathscr{L}}^F$	AUC_{005}^{E}	$AUC_{@10}^{E}$	$AUC_{@20}^{E}$	AUC_{Z}^{E}
SIFT	0.00	53.92	99.99	0.11	0.19	0.75	0.35	46.30	63.50	76.97	62.26	0.00	24.83	99.19	0.00	0.10	0.48	0.19	8.83	19.70	32.52	20.35
+ACNe	47.62	92.54	90.85	12.73	28.08	47.64	29.48	46.58	65.19	78.99	63.59	67.86	55.02	70.85	3.15	10.94	24.98	13.02	12.49	26.10	40.82	26.47
+ACNe+MAGSAC _†	53.26	96.38	83.41	39.43	55.32	69.98	54.91	47.27	65.28	79.02	63.86	80.20	60.44	47.25	7.96	18.00	31.28	19.08	12.65	25.65	39.95	26.08
+ACNe+MAGSAC↓ +AdaLAM	56.21	96.80	78.33	39.86	55.72	70.42	55.34	43.82	63.61	78.16	61.87	82.44	60.41	41.59	8.27	18.92	32.35	19.84	12.29	24.96	39.50	25.58
+AdaLAM+MAGSAC+	82.56	93.44	27.42	7.64	14.75	27.12	16.50	37.77	54.58	68.59	53.65	92.54	53.27	15.01	1.02	2.77	6.11	3.30	6.40	13.73	22.79	14.31
+AdaLAM+MAGSAC ₁	83.62 84.22	92.29 92.53	26.13 25.25	33.41 33.39	47.09 46.84	60.63 60.62	47.05 46.95	36.06 35.33	53.19 52.27	66.99 66.81	52.08 51.47	94.09 94.54	46.65	12.11 11.21	4.69 5.10	10.27 10.95	17.84 18.37	10.93 11.47	5.40 6.58	12.31 13.67	21.38 22.63	13.03 14.29
+CC	45.92	92.55	89.48	13 99	24 45	37.80	25 42	44 34	62.09	75.45	60.63	40.75	51.34	80.93	1.83	4 66	9.77	5.42	8.70	18.89	30.77	19.45
+CC+MAGSAC+	53.76	96.23	80.73	37.74	52.70	66.78	52.41	44.34	62.36	76.12	60.91	81.65	58.58	40.46	5.25	11.67	20.40	12.44	8.74	18.59	30.77	19.45
+CC+MAGSAC	56.71	96.66	75.81	38.54	53.14	67.33	53.00	43.35	61.61	75.62	60.19	83.72	58.57	35.76	5.39	11.74	20.68	12.61	8.73	18.86	31.05	19.54
+CLNet	48.44	91.36	88.00	3.09	6.91	16.55	8.85	40.97	60.35	75.36	58.89	77.43	57.74	52.39	0.47	2.16	6.81	3.14	9.04	19.84	32.09	20.32
$+CLNet+MAGSAC_{\uparrow}$	55.27	96.13	79.18	27.94	42.25	58.04	42.74	38.46	58.02	73.88	56.79	83.73	60.98	39.26	4.32	10.17	19.92	11.47	8.43	19.07	31.89	19.80
$+CLNet+MAGSAC_{\downarrow}$	58.21	96.62	74.21	28.64	43.05	59.18	43.62	39.87	59.55	75.00	58.14	85.55	60.69	34.66	4.35	10.07	19.56	11.33	9.07	19.44	31.53	20.02
+ConvMatch	56.91	90.02	79.68	16.08	28.10	43.04	29.07	41.14	59.35	73.49	58.00	69.76	56.68	69.88	2.07	6.48	16.45	8.34	12.01	24.63	38.01	24.88
+ConvMatch+MAGSAC†	62.34	93.59	71.70	32.80	47.32	61.06	47.06	42.08	59.64	73.54	58.42	81.19	61.67	46.43	7.64	17.39	29.31	18.11	11.50	24.33	38.16	24.66
+ConvMatch+MAGSAC _↓ +DeMatch	64.73	93.97	67.25	33.49	47.40	61.27	47.39	41.63	59.77	73.91	58.44	83.33	61.60	41.06	7.78	17.46	29.39	18.21	11.07	23.95	37.89	24.31
	52.50 58.50	91.49 96.01	83.88 75.48	14.78 30.26	25.25 44.01	38.92	26.32 44.59	40.93 41.19	60.73 59.97	76.16 74.99	59.27 58.71	70.29 81.68	55.68 60.69	67.41 44.51	1.78 6.16	5.04	13.31	6.71 15.48	10.04	22.49 23.18	36.63 36.49	23.05
+DeMatch+MAGSAC	61.09	96.01	70.48	30.26	45.29	59.49 60.36	44.59	41.19	60.88	74.99	59.30	81.68	60.69	39 21	6.16	14.71 15.14	25.57 26.25	15.48	9.90	23.18	35.45	23.47
+FC-GNN	50.09	95.46	85.43	15.72	24.91	38.87	26.50	48.23	65.95	78.80	64.33	79.85	63.72	47.64	4.19	10.42	19.18	11.26	12.01	24.37	38.30	24.89
+FC-GNN+MAGSAC+	51.75	97.09	83.75	47.35	61.26	73.34	60.65	48.23	65.45	78.49	63.81	81.73	64.92	43.67	9.65	19.75	31.44	20.28	12.01	24.66	38.38	25.09
+FC-GNN+MAGSAC↓	52.51	97.20	82.43	47.12	61.38	73.28	60.59	47.16	65.20	78.43	63.60	82.55	64.99	41.70	9.60	19.54	31.12	20.28	12.04	25.31	38.86	25.40
+GMS	57.35	86.98	65.58	5.10	10.75	22.47	12.77	37.04	53.51	66.38	52.31	87.17	51.99	25.55	0.99	3.30	7.36	3.88	4.41	10.83	18.97	11.40
$+GMS+MAGSAC_{\uparrow}$	62.35	88.86	59.80	36.56	48.66	60.14	48.45	35.61	52.32	65.44	51.12	89.96	47.93	20.55	3.16	7.98	13.90	8.34	4.29	10.54	18.83	11.22
$+GMS+MAGSAC_{\downarrow}$	64.63	89.16	56.37	37.20	49.16	60.09	48.82	37.35	53.89	66.66	52.63	90.91	47.92	18.62	2.95	7.57	13.58	8.04	4.23	10.41	18.94	11.19
	50.73	93.13	85.12	33.02	45.96	57.85	45.61	45.23	64.51	78.42	62.72	78.54	55.20	46.06	5.93	14.28	24.77	14.99	10.77	22.27	35.12	22.72
+MAGSAC↓	54.16	93.72	79.31	35.07	48.12	60.06	47.75	46.29	64.74	77.96	63.00	81.20	55.13	40.06	6.31	14.33	24.88	15.17	10.91	22.33	34.66	22.63
+MS ² DG-Net	65.89	81.13	57.55	0.08	0.47	2.32	0.96	36.29	53.60	67.96	52.62	68.23	43.13	57.12	0.00	0.17	0.83	0.33	8.65	18.88	30.45	19.33
$+MS^2DG-Net+MAGSAC_{\uparrow}$ $+MS^2DG-Net+MAGSAC_{\perp}$	72.85	91.36	51.69	29.38	43.00	56.55	42.98	34.93	51.88	66.45	51.08	85.37	56.58	35.26	5.24	11.75	20.69	12.56	8.82	19.00	31.25	19.69
+MS*DG-Net+MAGSAC _↓ +NCC	74.45	91.80	48.72	29.92	43.16	56.64	43.24	35.12	52.73	67.78	51.88	86.90	56.47	31.24 100.29	5.47	11.61	20.13	12.40	8.34 10.18	18.03	29.66	18.68
+NCC+MAGSAC+	0.00 51.39	53.09 92.48	97.88 82.89	0.11	0.19 42.77	0.74 54.19	0.35 42.60	44.66 44.69	61.89 63.21	75.50 77.48	60.68 61.79	0.00 78.72	24.54 54.97	46.19	0.00 5.77	0.10	0.47 23.07	0.19	10.18	21.17 22.42	32.98 35.60	21.44 22.88
+NCC+MAGSAC _↓	54.41	93.13	77.91	31.92	44.06	55.41	43.80	43.18	62.07	76.78	60.68	81.20	55.11	40.19	5.87	13.29	23.54	14.24	10.64	21.91	34.47	22.25
+NCMNet	48.02	91.08	88.31	4.03	8.75	18.93	10.57	41.33	61.17	76.33	59.61	76.49	57.99	54.06	1.42	3.98	10.40	5.27	9.91	21.91	33.56	21.51
+NCMNet+MAGSAC†	55.02	95.86	79.26	30.59	44.43	58.42	44.48	39.97	59.57	75.11	58.22	82.91	61.02	40.65	4.29	11.15	20.90	12.11	9.43	20.77	33.69	21.30
$+NCMNet+MAGSAC_{\downarrow}$	57.95	96.28	74.26	30.86	44.88	59.48	45.07	40.25	59.47	74.90	58.21	84.77	60.88	36.13	4.78	11.15	21.21	12.38	8.85	19.43	32.38	20.22
+OANet	66.72	94.73	63.21	15.00	26.42	40.02	27.15	37.07	56.26	72.20	55.18	80.63	60.42	50.20	3.33	9.56	20.06	10.98	10.49	22.24	35.72	22.82
+OANet+MAGSAC↑	69.12	96.60	59.31	25.78	40.23	56.30	40.77	35.40	55.52	72.35	54.42	85.12	62.45	38.62	5.86	14.72	26.58	15.72	11.16	23.95	37.11	24.07
+OANet+MAGSAC↓	70.83	97.01	56.17	26.09	40.89	57.32	41.43	36.76	57.02	73.20	55.66	86.61	62.49	34.55	6.10	14.34	26.21	15.55	10.33	21.99	35.34	22.55
+MOP _{0.5K} +MiHo	40.99	86.84	94.39	1.60	4.22	10.55	5.46	50.22	67.35	79.88	65.81	62.61	46.07	70.76	0.15	0.67	3.04	1.29	11.77	24.67	38.26	24.90
+MOP _{0.5K} +MiHo+MAGSAC _↑	51.61	95.60	84.33	42.56	55.94	68.78	55.76	49.58	66.13	78.28	64.66	80.23	59.20	46.63	8.51	17.34	28.11	17.99	11.77	23.85	37.07	24.23
+MOP _{0.5K} +MiHo+MAGSAC _↓ +MOP _{0.5K} +MiHo+NCC	54.72	96.05	79.18	44.04	57.81	70.44	57.43	48.15	65.78	78.36	64.09	82.56	59.21	40.95	8.81	18.09	28.79	18.56	12.18	24.35	37.42	24.65
$+MOP_{0.5K}+MiHo+NCC$ $+MOP_{0.5K}+MiHo+NCC+MAGSAC_{\uparrow}$	40.99 51.03	85.87 95.40	93.44 84.84	1.43 41.19	4.02 54.90	10.09	5.18 54.48	47.26 47.80	64.20 65.12	77.69 78.30	63.05 63.74	62.61 79.50	45.76 59.10	71.09 48.24	0.22 8.45	0.69 17.91	3.14 28.64	1.35	11.66 11.85	24.26 23.86	37.15 37.48	24.36 24.39
+MOP _{0.5K} +MiHo+NCC+MAGSAC ₁ +MOP _{0.5K} +MiHo+NCC+MAGSAC ₁	53.07	95.40	84.84	41.19	54.90 55.53	68.05	54.48 55.08	47.80	65.12 65.09	78.30 78.20	63.74	79.50	59.10 58.98	48.24	8.45 8.05	17.91	28.64	18.34	11.85	23.86	37.48 37.42	24.39
+MOP _{1.0K} +MiHo	40.16	85.97	95.16	1.60	4.10	9.86	5.19	48.18	66.10	78.90	64.40	61.10	45.38	72.75	0.12	0.50	2.57	1.06	11.28	25.18	38.91	25.31
$+MOP_{1.0K}+MiHo+MAGSAC_{\uparrow}$	51.49	95.62	84.83	42.84	56.67	68.94	56.15	48.97	66.18	78.79	64.64	79.98	59.21	47.36	7.88	16.74	27.75	17.45	12.20	23.51	36.50	24.07
$+MOP_{1.0K}+MiHo+MAGSAC_{\downarrow}$	54.65	96.14	79.59	44.10	57.99	70.50	57.53	48.12	65.81	78.70	64.21	82.35	59.21	41.59	8.51	17.57	28.83	18.30	11.88	23.16	36.50	23.85
$+MOP_{1.0K}+MiHo+NCC$	40.16	85.09	94.29	1.47	3.89	9.35	4.91	48.62	66.73	79.53	64.96	61.10	45.13	73.14	0.20	0.59	2.57	1.12	12.07	25.03	38.51	25.21
$+MOP_{1.0K}+MiHo+NCC+MAGSAC_{\uparrow}$	50.83	95.62	85.64	41.38	54.93	67.84	54.72	47.31	64.74	78.47	63.50	79.26	59.22	48.92	7.97	17.75	29.08	18.27	11.90	24.04	37.38	24.44
+MOP _{1.0K} +MiHo+NCC+MAGSAC↓	52.90	95.97	82.06	43.48	56.85	69.22	56.52	46.85	64.72	77.86	63.14	81.13	59.47	44.49	8.36	17.85	29.17	18.46	12.26	24.45	37.66	24.79
+MOP _{1.5K} +MiHo	39.76	85.77	95.68	1.53	3.60	9.41	4.84	50.24	67.62	80.22	66.03	60.17	45.06	73.89	0.10	0.55	2.96	1.20	12.82	25.31	38.91	25.68
+MOP _{1.5K} +MiHo+MAGSAC _↑	51.47	95.75	85.12	40.99	55.15	68.18	54.77	49.63	67.24	79.94	65.60	79.86	59.66	47.81	8.81	18.87	30.22	19.30	12.89	25.99	39.04	25.97
$+MOP_{1.5K}+MiHo+MAGSAC_{\downarrow}$ $+MOP_{1.5K}+MiHo+NCC$	54.62	96.25	79.91	43.02	56.66	69.72	56.47	48.65	66.10	79.03	64.59	82.20	59.75	42.19	9.15	19.21	30.33	19.56	12.67	25.75	38.75	25.72
+MOP _{1.5K} +MiHo+NCC +MOP _{1.5K} +MiHo+NCC+MAGSAC _↑	39.76 50.80	84.94 95.65	94.84 85.93	1.42 39.75	3.28 53.09	8.85 65.72	4.52 52.85	47.85 48.09	65.88	79.52	64.42 64.58	60.17 79.11	44.79 59.23	74.20 49.10	0.12 8.03	0.48 17.95	2.84 29.48	1.14	12.09	24.25 24.58	37.58 37.85	24.64
+MOP _{1.5K} +MiHo+NCC+MAGSAC _↑ +MOP _{1.5K} +MiHo+NCC+MAGSAC _↓	52.84	96.07	85.93 82.40	40.92	54.37	67.05	54.11	48.09	65.24	79.37	63.66	79.11 81.00	59.23	44.47	8.03	17.74	29.48	18.49	11.76	24.58	37.85	24.73
+MOP _{2.0K} +MiHo	39.47	85.41	95.84	1.30	2.81	7.95	4.02	47.24 50.38	65.24 67.36	78.50	65.87	59.64	44.60	74.31	0.07	0.46	29.44	1.03	11.60	24.56	37.84	25.16
$+MOP_{2.0K}+MiHo+MAGSAC_{\uparrow}$	51.37	95.75	85.33	42.38	55.75	68.31	55.48	49.33	67.18	80.00	65.50	79.81	59.57	47.99	8.20	17.72	28.01	17.98	12.39	24.95	38.55	25.30
+MOP _{2.0K} +MiHo+MAGSAC↓	54.55	96.24	80.02	43.11	56.76	69.75	56.54	47.85	65.99	79.05	64.29	82.19	59.62	42.21	8.89	18.16	29.35	18.80	12.19	24.42	37.98	24.86
$+MOP_{2.0K}+MiHo+NCC$	39.47	84.57	94.97	1.15	2.55	7.35	3.69	48.94	67.06	80.60	65.53	59.64	44.45	74.87	0.07	0.43	2.55	1.02	13.08	25.33	39.05	25.82
$+MOP_{2.0K}+MiHo+NCC+MAGSAC_{\uparrow}$	50.72	95.64	86.06	40.76	54.01	66.70	53.82	47.56	65.56	79.02	64.05	79.00	59.25	49.46	8.02	17.42	28.31	17.92	12.47	25.08	38.32	25.29
$+MOP_{2.0K}+MiHo+NCC+MAGSAC_{\downarrow}$	52.78	96.02	82.51	42.72	55.71	67.79	55.41	48.33	66.16	79.47	64.65	80.92	59.27	44.63	8.20	17.53	28.79	18.17	11.47	23.80	37.40	24.23
+MOP _{0.5K}	44.87	89.73	90.19	4.16	9.43	19.06	10.88	45.11	62.78	75.65	61.18	72.05	51.19	58.43	0.65	2.21	6.24	3.04	10.56	22.59	35.30	22.82
+MOP _{0.5K} +MAGSAC _↑	52.43	94.47	81.52	41.95	55.78	68.36	55.36	46.79	64.67	77.24	62.90	82.05	57.09	41.38	7.75	16.08	25.84	16.56	10.54	21.37	34.11	22.01
$+MOP_{0.5K}+MAGSAC_{\downarrow}$ $+MOP_{0.5K}+NCC$	55.50	94.91	76.53	43.21	56.33	68.76	56.10	46.23	63.67	76.87	62.26	84.15	57.31	36.57	8.11	16.73	27.10	17.31	10.79	22.43	35.01	22.75
$+MOP_{0.5K}+NCC$ $+MOP_{0.5K}+NCC+MAGSAC_{\uparrow}$	44.87	88.78	89.44	3.17	7.96	17.47	9.53	43.50	61.60	75.08	60.06	72.05	50.76	58.26	0.63	1.84	5.49	2.65	11.62	23.04	35.38	23.35
$+MOP_{0.5K}+NCC+MAGSAC_{\uparrow}$ $+MOP_{0.5K}+NCC+MAGSAC_{\downarrow}$	51.85 53.76	94.36	82.28 79.05	40.00 41.35	54.42 55.25	67.46	53.96 54.93	45.99 45.14	63.45 62.62	76.18 75.72	61.87 61.16	81.27 82.85	57.14 57.17	43.09 39.29	7.30 7.95	16.61 16.87	26.31 26.78	16.74 17.20	10.63 11.22	22.16 22.61	34.98	22.59 22.71
	53.76 44.22	94.65	79.05	41.35	55.25 8.48	17.76	10.10	48.15	65.30	75.72	63.68	82.85 71.35	51.58	39.29 60.29	0.72	1.89	26.78 5.80	2.80	10.85	22.61	34.30	22.71
+MOP _{1.0K} +MAGSAC _†	52.13	94.90	91.54 82.60	43.05	56.46	69.14	56.21	48.15	65.02	77.60	63.48	71.35 81.80	57.92	42.56	8.27	17.02	27.41	17.57	11.53	23.34	36.11	23.66
+MOP _{1.0K} +MAGSAC _↓	55.26	95.30	77.47	42.54	56.23	69.30	56.02	45.99	64.04	77.37	62.47	83.90	58.03	37.59	8.97	17.02	28.21	18.34	11.33	23.18	36.08	23.52
+MOP _{1.0K} +NCC	44.22	88.78	90.75	3.35	7.28	16.21	8.95	44.93	63.10	76.51	61.52	71.35	51.13	60.09	0.76	1.81	5.68	2.75	11.81	23.55	35.86	23.74
$+MOP_{1.0K}+NCC+MAGSAC_{\uparrow}$	51.51	94.85	83.39	40.18	54.38	67.41	53.99	47.33	64.97	77.42	63.24	80.97	57.81	44.22	8.07	16.92	26.61	17.20	11.80	23.77	36.51	24.03
$+MOP_{1.0K}+NCC+MAGSAC_{\downarrow}$	53.47	95.14	80.06	40.42	54.84	68.08	54.44	45.32	63.15	76.81	61.76	82.60	57.91	40.35	8.36	16.91	27.14	17.47	11.81	23.56	36.15	23.84
$+MOP_{1.5K}$	43.99	89.85	92.21	4.32	8.91	18.00	10.41	46.85	64.12	77.12	62.70	71.14	52.13	61.15	0.75	2.63	6.79	3.39	11.53	23.57	36.51	23.87
$+MOP_{1.5K}+MAGSAC_{\uparrow}$	51.99	95.08	83.20	43.38	56.80	69.59	56.59	48.00	65.25	78.08	63.78	81.66	58.30	43.05	8.30	17.63	28.01	17.98	11.24	23.38	36.20	23.61
	55.09	95.53	78.10	43.53	56.99	70.38	56.97	47.33	64.58	77.59	63.17	83.80	58.38	38.00	8.46	18.12	28.67	18.42	11.47	23.08	35.89	23.48
$+MOP_{1.5K}+NCC$	43.99	89.00	91.47	4.12	8.15	16.68	9.65	45.83	63.99	77.25	62.36	71.14	51.71	60.94	0.64	2.31	6.67	3.20	11.13	23.35	35.85	23.44
+MOP _{1.5K} +NCC+MAGSAC _↑	51.33	95.07	84.06	41.05	55.41	68.53	55.00	46.32	64.24	77.27	62.61	80.83	58.39	44.96	8.17	17.33	28.13	17.88	12.69	24.75	37.55	25.00
+MOP _{1.5K} +NCC+MAGSAC _↓	53.34	95.38	80.66	42.24	56.36	69.23	55.94	46.68	64.92	78.01	63.20	82.52	58.58	40.93	8.29	17.59	28.11	18.00	11.85	24.04	36.58	24.16
+MOP _{2.0K}	43.80	89.72	92.58	3.97	8.56	18.00	10.18	45.72	63.98	77.30	62.33	70.90	52.18	61.58	0.61	2.10	6.34	3.02	10.77	23.27	36.92	23.66
+MOP _{2.0K} +MAGSAC _↑	51.91	95.12	83.51	43.61	56.56	69.40	56.52	48.32	66.30	78.80	64.47	81.58	58.64	43.36	8.36	17.47	27.44	17.76	11.46	23.89	36.49	23.95
	55.00	95.56	78.42	44.39	58.26	70.78	57.81	47.87	65.35	78.15	63.79	83.78	58.68	38.05	8.45	17.71	28.09	18.09	11.19	23.23	36.05	23.49
+MOP _{2.0K} +NCC	43.80	88.83	91.80	3.39	7.57	16.62	9.20	47.12	65.13	78.30	63.51	70.90	51.81	61.44	0.56	2.15	6.57	3.09	11.61	24.04	36.78	24.14
$+MOP_{2.0K}+NCC+MAGSAC_{\uparrow}$ $+MOP_{2.0K}+NCC+MAGSAC_{\downarrow}$	51.28	95.05	84.28	41.66	55.61	68.08	55.12	47.31	65.16	78.16	63.54	80.73	58.74	45.34	8.46	17.91	28.63	18.33	12.36	24.37	37.01	24.58 24.53
	53.27	95.35	80.84	41.58	55.76	68.54	55.29	45.31	64.01	77.83	62.39	82.43	58.79	41.20	9.33	18.62	29.11	19.02	11.94	24.34	37.33	