

# **4MOST**

# **SPV S6 New Approach**

**Vivek**

# Group 1:

- fields from eFEDS area observable during Jan - July, with 1600 targets selected as following
  1. Subset-1: 50% selected from SDSS-DESI with CLASS == QSO ( $r < 23.8$ ; 50% with  $1 < z < 2$ )
  2. Subset-2: 20% selected from eFEDs and SDSS-DESI with CLASS != QSO ( $r < 23.8$ ; 50% with  $1 < z < 2$ ; reject STARS)
  3. Subset-3: 30% with no spectroscopy in SDSS-DESI (use DECALS photometry)
    - 1.50% from eROSITA DR1 (Merloni et al. Messenger article)
    - 2.50% with  $r < 23$  and  $r-W2 > 5.9$  (Andonie et al.)

# Group 2:

Fields outside eFEDS area observable during Jan - July

1. Subset-1: 50% (out of 1600) selected from SDSS-DESI with CLASS == QSO ( $r < 23.8$ ; 50%;  $1 < z < 2$ )
2. Sunset-2: 30% selected from SDSS-DESI with CLASS != QSO ( $r < 23.8$ ; 50%;  $1 < z < 2$ ) but
  1. Satisfy eROSITA criteria mentioned above.
  2. Satisfy IR criteria mentioned above.
3. Subset-3: 30% with **no spectroscopy** in SDSS-DESI (use DECaLS photometry)
  1. 50% from eROSITA
  2. 50% with  $r < 23$  and  $r-W2 > 5.9$  (use unWISE)

Prioritise this whenever possible

eFEDS extragalactic catalog as per Andrea instructions

Set 1

50%

Master catalog of SDSS  
and DESI CLASS =  
QSO

With spectra

Set 2

20%

Master catalog of SDSS  
and DESI CLASS !  
=QSO + Set3 overlap

High z  
catalog  
Yang

Set 3

30%

R mag < 23.8  
50% 1 < z < 2

eRASS1 catalog  
X-ray selection

Andone et al  
catalog WISE  
selection

No spectra

Main Filters are : ZWARNING =0, DEC <10 and RA >30

With spectra

# Summary Table : Inside eFEDS

<b>ID</b>	<b>RA_center</b>	<b>DEC_center</b>	<b>sel1 total</b>	<b>sel1 common</b>	<b>sel1 noncommon</b>	<b>sel2 total</b>	<b>sel3 total</b>	<b>sel3 eRASS</b>	<b>sel3 unwise</b>	<b>grand total</b>
<b>eFEDS_1</b>	144.001535	3.027709	800	189	611	220	480	136	344	<b>1500</b>
<b>eFEDS_2</b>	141.501535	3.027709	800	181	619	287	480	134	346	<b>1567</b>
<b>eFEDS_3</b>	132.001535	1.427709	800	311	489	282	480	137	343	<b>1562</b>
<b>eFEDS_4</b>	139.201535	1.155000	800	390	410	310	480	133	347	<b>1590</b>
<b>eFEDS_5</b>	136.901535	-0.957229	800	137	663	320	480	125	355	<b>1600</b>
<b>eFEDS_6</b>	143.301535	0.609000	800	165	635	295	480	114	366	<b>1575</b>
<b>eFEDS_7</b>	129.530000	4.454000	800	102	698	299	480	133	347	<b>1579</b>
<b>eFEDS_8</b>	132.250000	3.859000	800	105	695	282	480	129	351	<b>1562</b>
<b>eFEDS_9</b>	135.850000	1.111000	800	185	615	291	480	122	358	<b>1571</b>
<b>eFEDS_10</b>	138.630000	3.852000	800	138	662	273	480	131	349	<b>1553</b>

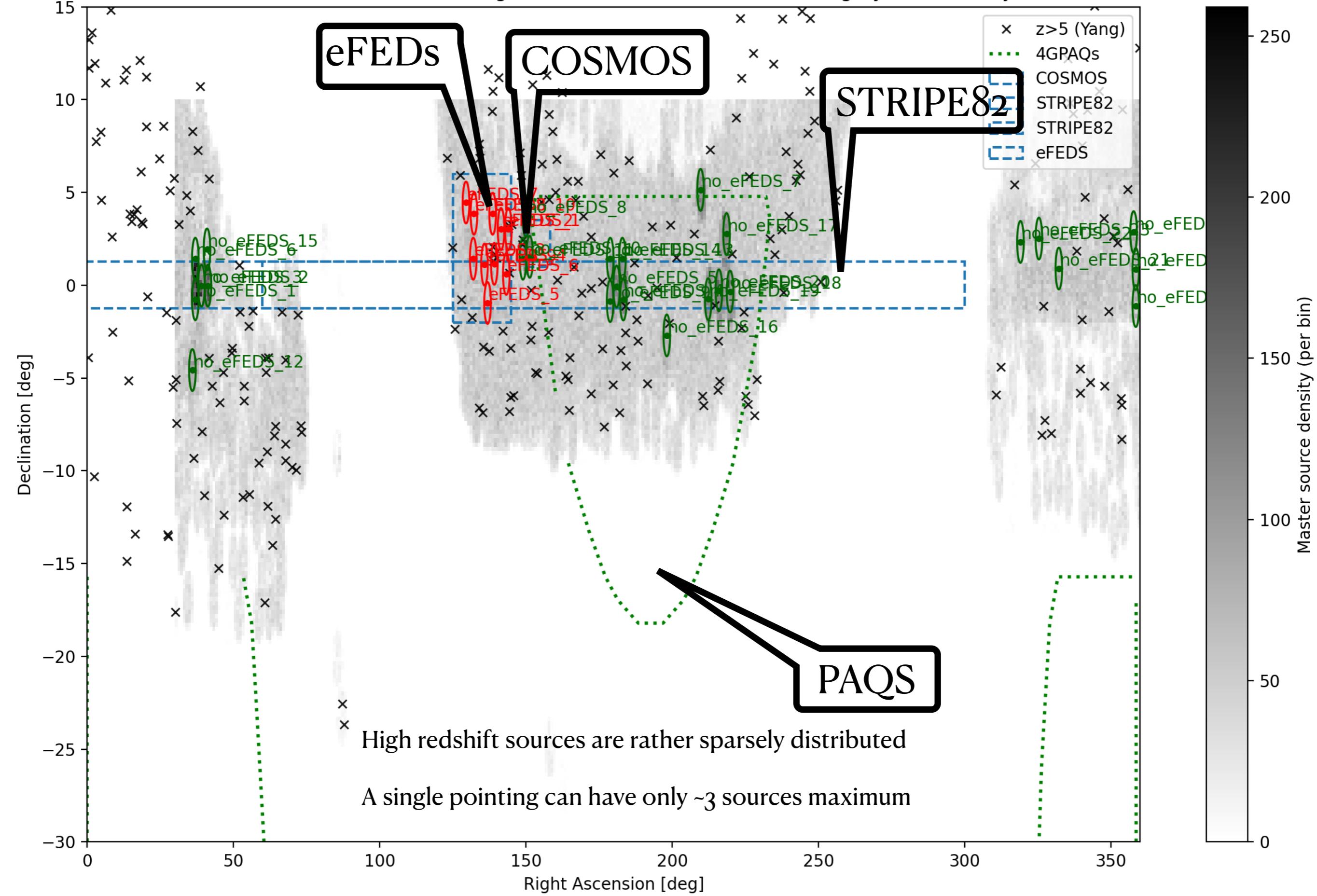
# Summary Table : Inside eFEDS

<b>ID</b>	<b>RA_center</b>	<b>DEC_center</b>	<b>set1_count</b>	<b>set1_%</b>	<b>set2_count</b>	<b>set2_%</b>	<b>set3_count</b>	<b>set3_%</b>	<b>total selected</b>	<b>target total</b>
<b>eFEDS_1</b>	144.001535	3.027709	800	53.3	220	14.7	480	32.0	<b>1500</b>	1600
<b>eFEDS_2</b>	141.501535	3.027709	800	51.1	287	18.3	480	30.6	<b>1567</b>	1600
<b>eFEDS_3</b>	132.001535	1.427709	800	51.2	282	18.1	480	30.7	<b>1562</b>	1600
<b>eFEDS_4</b>	139.201535	1.155000	800	50.3	310	19.5	480	30.2	<b>1590</b>	1600
<b>eFEDS_5</b>	136.901535	-0.957229	800	50.0	320	20.0	480	30.0	<b>1600</b>	1600
<b>eFEDS_6</b>	143.301535	0.609000	800	50.8	295	18.7	480	30.5	<b>1575</b>	1600
<b>eFEDS_7</b>	129.530000	4.454000	800	50.7	299	18.9	480	30.4	<b>1579</b>	1600
<b>eFEDS_8</b>	132.250000	3.859000	800	51.2	282	18.1	480	30.7	<b>1562</b>	1600
<b>eFEDS_9</b>	135.850000	1.111000	800	50.9	291	18.5	480	30.6	<b>1571</b>	1600
<b>eFEDS_10</b>	138.630000	3.852000	800	51.5	273	17.6	480	30.9	<b>1553</b>	1600

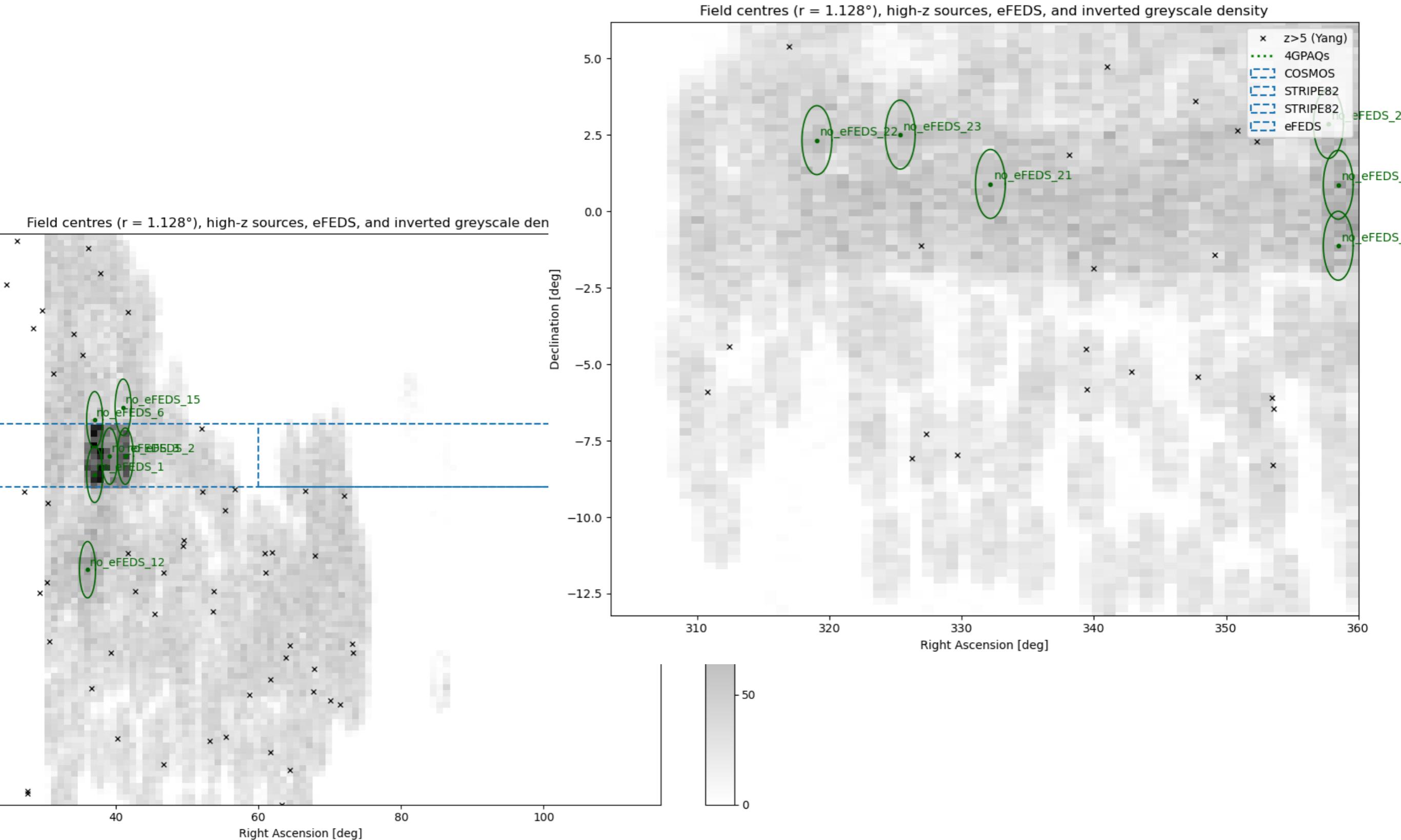
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no_eFEDS_2	41.301535	-0.027229	800	0	800	202	480	0	480	1482	
no_eFEDS_3	39.101535	-0.027229	800	0	800	234	480	0	480	1514	
no_eFEDS_4	183.301535	-0.772291	800	0	800	320	480	198	282	1600	PAQS/S82
no_eFEDS_5	181.001535	-0.072291	800	0	800	320	480	165	315	1600	PAQS/S82
no_eFEDS_6	37.001535	1.427709	800	0	800	236	480	0	480	1516	
no_eFEDS_7	209.701535	5.137709	800	0	800	320	480	186	294	1600	
no_eFEDS_8	150.001535	3.727709	800	0	800	292	480	106	374	1572	COSMOS
no_eFEDS_9	178.801535	-0.857229	800	0	800	320	480	156	324	1600	PAQS
no_eFEDS_10	151.301535	1.527709	800	0	800	320	480	130	350	1600	COSMOS
no_eFEDS_11	149.001535	1.427709	800	0	800	320	480	107	373	1600	COSMOS
no_eFEDS_12	36.001535	-4.572291	800	0	800	320	480	0	480	1600	
no_eFEDS_13	183.001535	1.427709	800	0	800	320	480	182	298	1600	PAQS
no_eFEDS_14	178.831535	1.427709	800	0	800	320	480	161	319	1600	
no_eFEDS_15	41.001535	1.927709	800	0	800	152	480	0	480	1432	
no_eFEDS_16	198.170000	-2.704170	800	0	800	288	480	186	294	1568	PAQS
no_eFEDS_17	218.603243	2.758373	800	0	800	320	480	206	274	1600	PAQS
no_eFEDS_18	219.790775	-0.341460	800	0	800	320	480	238	242	1600	PAQS/S82
no_eFEDS_19	212.314362	-0.749672	800	0	800	320	480	184	296	1600	PAQS/S82
no_eFEDS_20	215.985987	-0.277543	800	0	800	320	480	238	242	1600	PAQS/S82
no_eFEDS_21	332.180000	0.900000	800	0	800	226	480	0	480	1506	
no_eFEDS_22	319.060000	2.332000	800	0	800	259	480	0	480	1539	
no_eFEDS_23	325.360000	2.513000	800	0	800	256	480	0	480	1536	
no_eFEDS_24	358.480000	0.873000	800	0	800	194	480	0	480	1474	
no_eFEDS_25	358.480000	-1.122000	800	0	800	181	480	0	480	1461	
no_eFEDS_26	357.740000	2.861000	800	0	800	103	480	0	480	1383	

Field	RA_center	DEC_center	set1_#	set1_%	set2_#	set2_%	set3_#	set3_%	total_sel	target
no_eFEDS_1	37.001535	-0.757229	800	53.0	230	15.2	480	31.8	1510	1600
no_eFEDS_2	41.301535	-0.027229	800	54.0	202	13.6	480	32.4	1482	1600
no_eFEDS_3	39.101535	-0.027229	800	52.8	234	15.5	480	31.7	1514	1600
no_eFEDS_4	183.301535	-0.772291	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_5	181.001535	-0.072291	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_6	37.001535	1.427709	800	52.8	236	15.6	480	31.7	1516	1600
no_eFEDS_7	209.701535	5.137709	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_8	150.001535	3.727709	800	50.9	292	18.6	480	30.5	1572	1600
no_eFEDS_9	178.801535	-0.857229	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_10	151.301535	1.527709	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_11	149.001535	1.427709	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_12	36.001535	-4.572291	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_13	183.001535	1.427709	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_14	178.831535	1.427709	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_15	41.001535	1.927709	800	55.9	152	10.6	480	33.5	1432	1600
no_eFEDS_16	198.170000	-2.704170	800	51.0	288	18.4	480	30.6	1568	1600
no_eFEDS_17	218.603243	2.758373	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_18	219.790775	-0.341460	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_19	212.314362	-0.749672	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_20	215.985987	-0.277543	800	50.0	320	20.0	480	30.0	1600	1600
no_eFEDS_21	332.180000	0.900000	800	53.1	226	15.0	480	31.9	1506	1600
no_eFEDS_22	319.060000	2.332000	800	52.0	259	16.8	480	31.2	1539	1600
no_eFEDS_23	325.360000	2.513000	800	52.1	256	16.7	480	31.3	1536	1600
no_eFEDS_24	358.480000	0.873000	800	54.3	194	13.2	480	32.6	1474	1600
no_eFEDS_25	358.480000	-1.122000	800	54.8	181	12.4	480	32.9	1461	1600
no_eFEDS_26	357.740000	2.861000	800	57.8	103	7.4	480	34.7	1383	1600

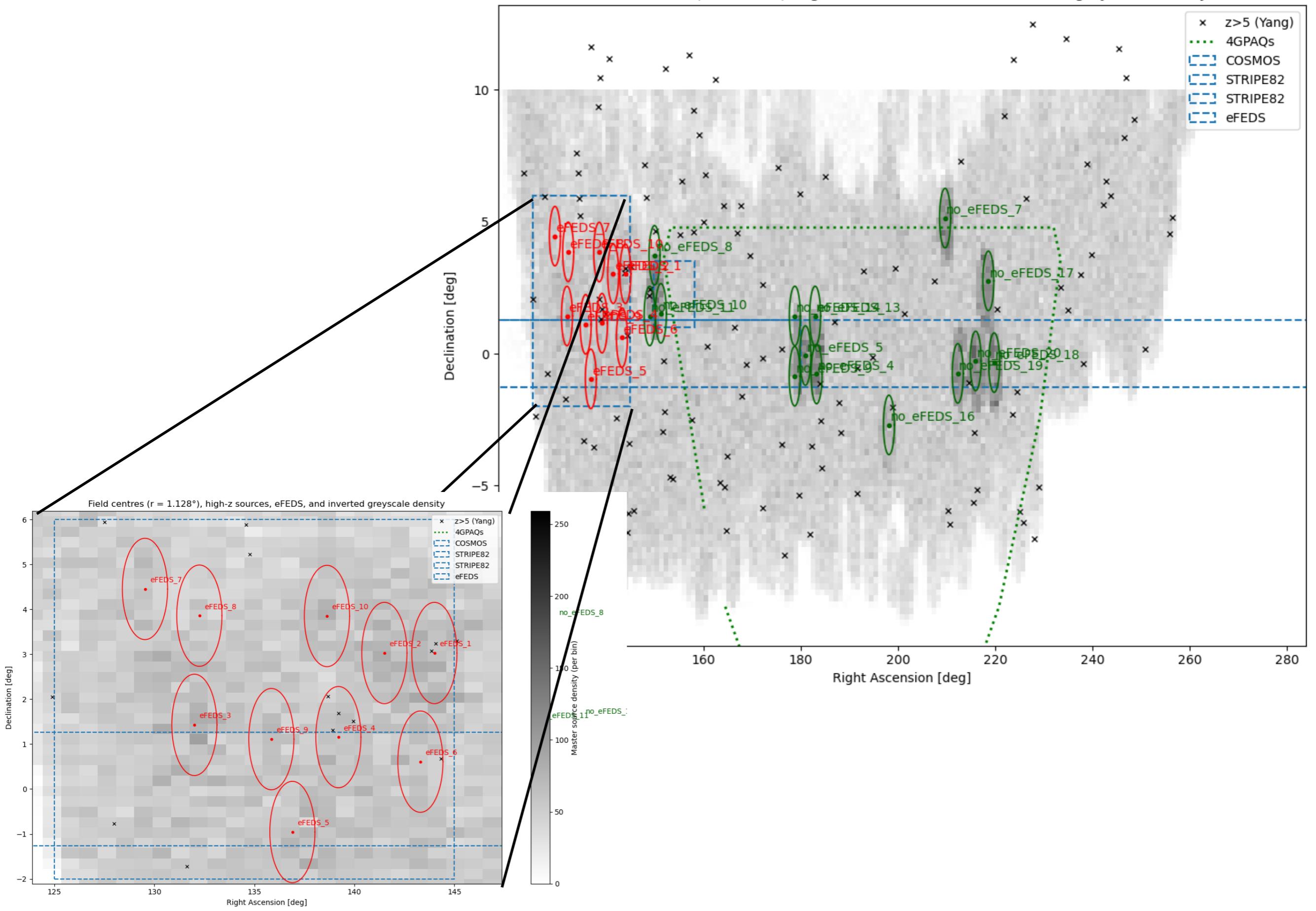
Field centres ( $r = 1.128^\circ$ ), high-z sources, eFEDS, and inverted greyscale density



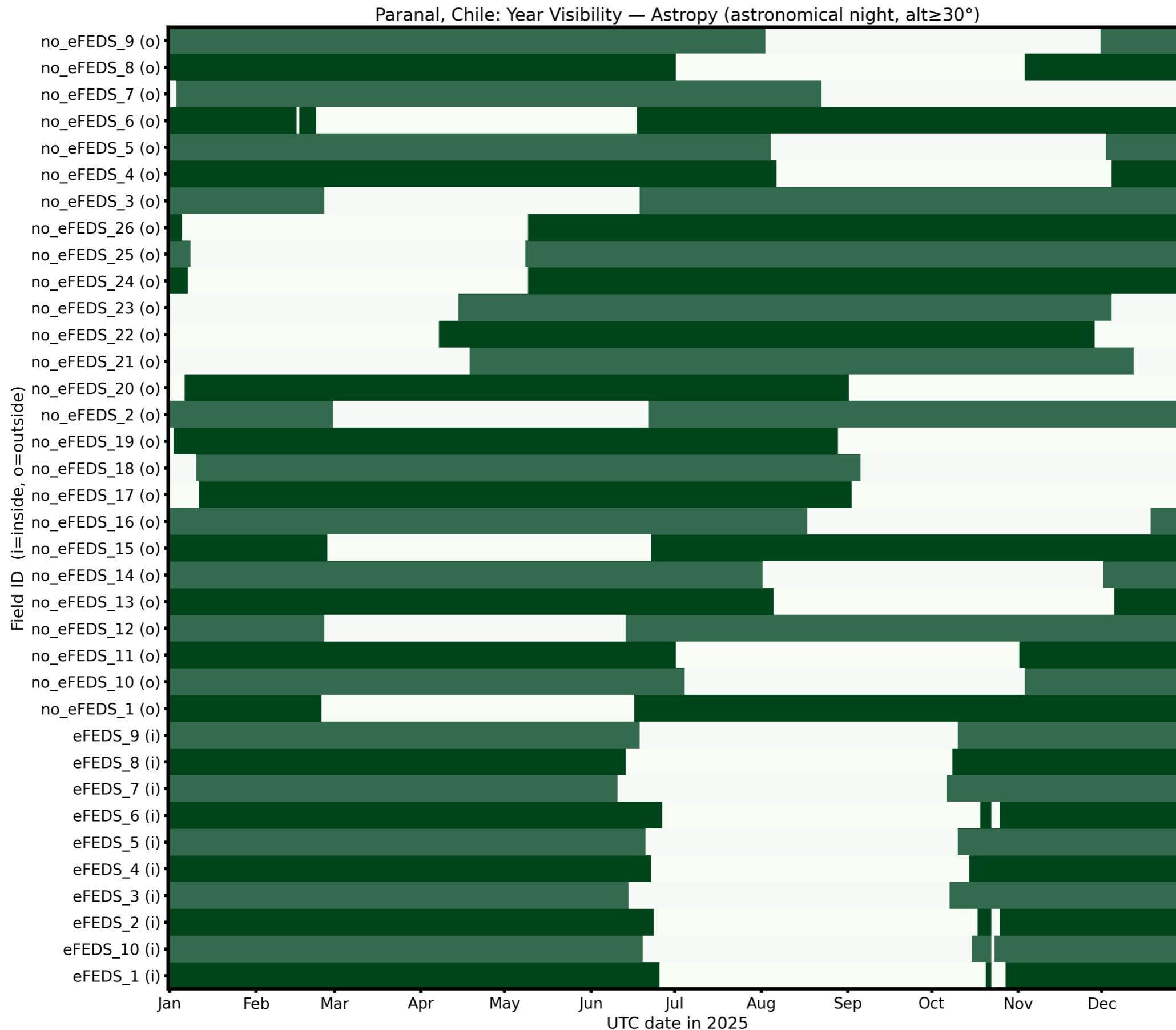
These 6 fields are to fill out the June July window incase SPV is extended

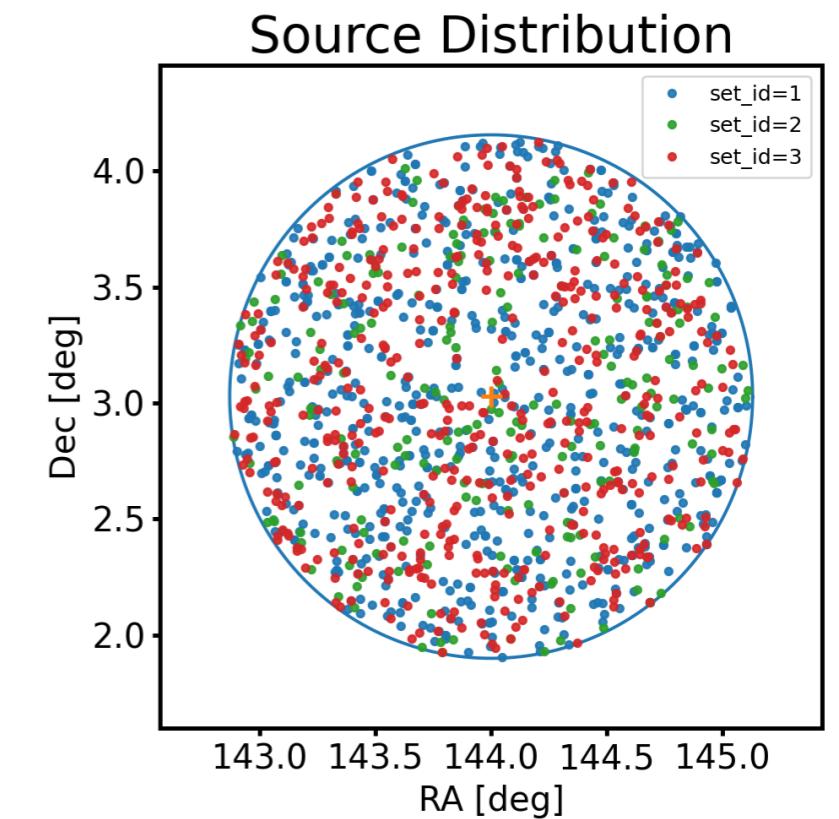
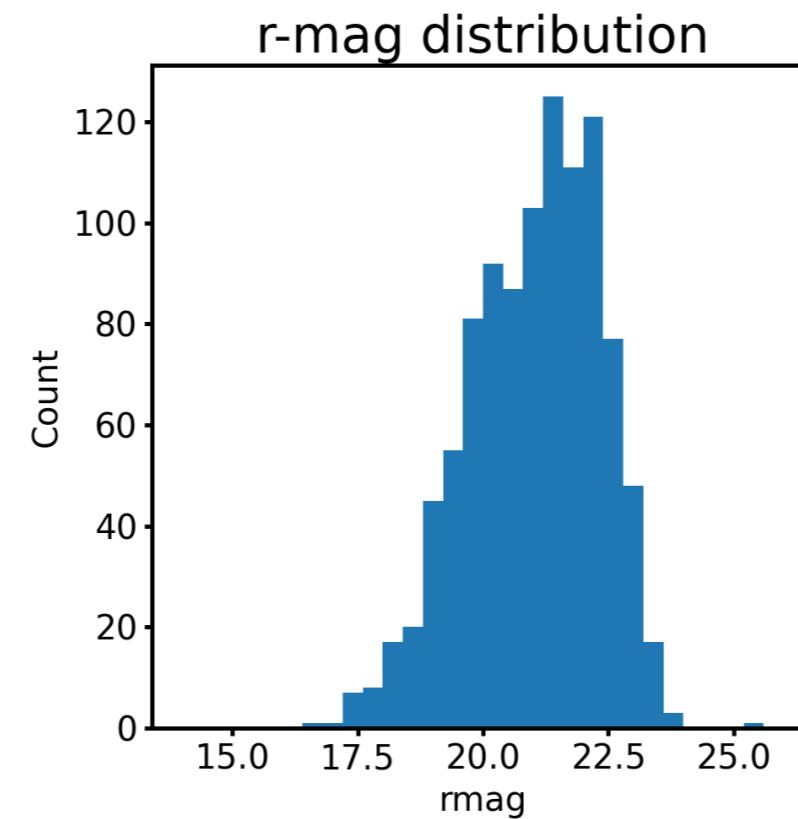
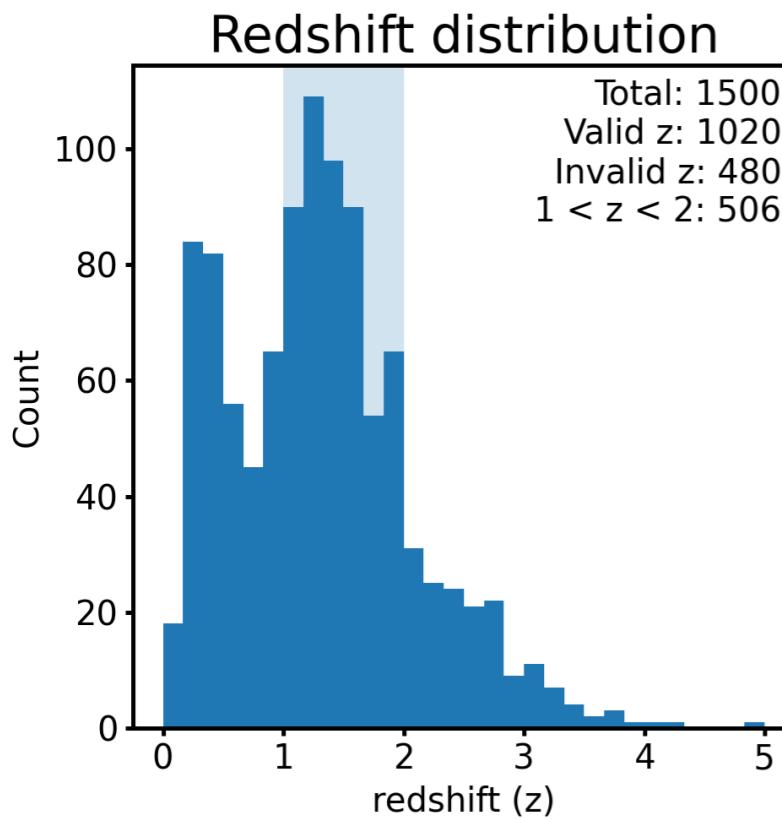
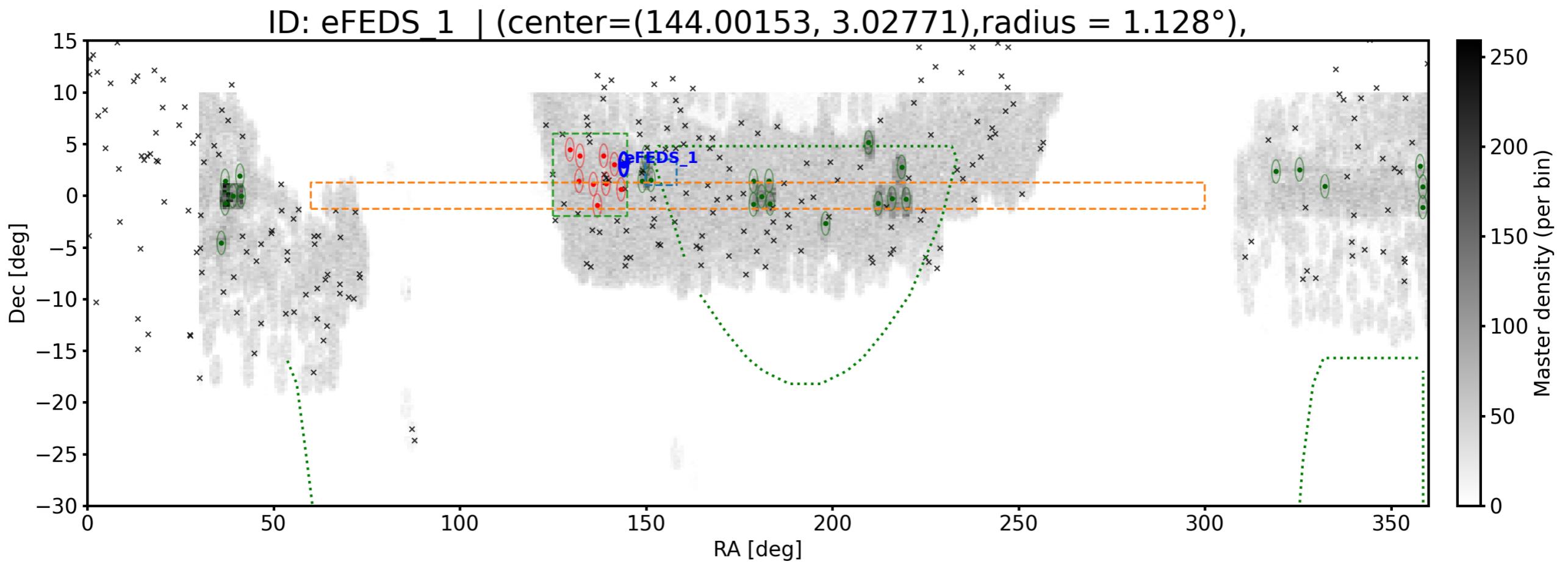


Field centres ( $r = 1.128^\circ$ ), high-z sources, eFEDS, and inverted greyscale density

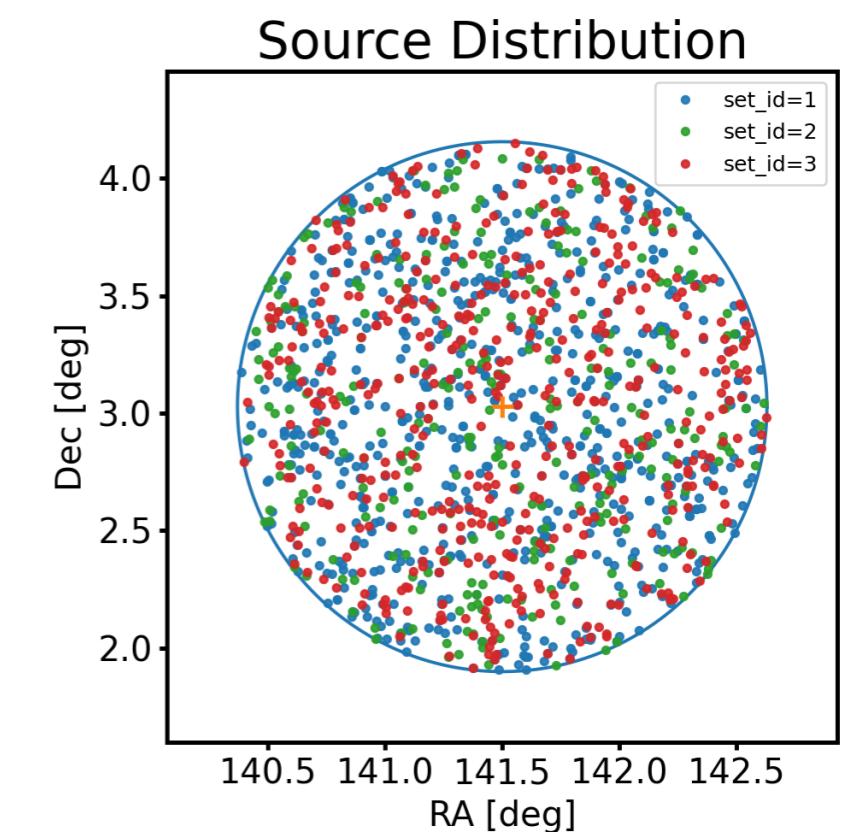
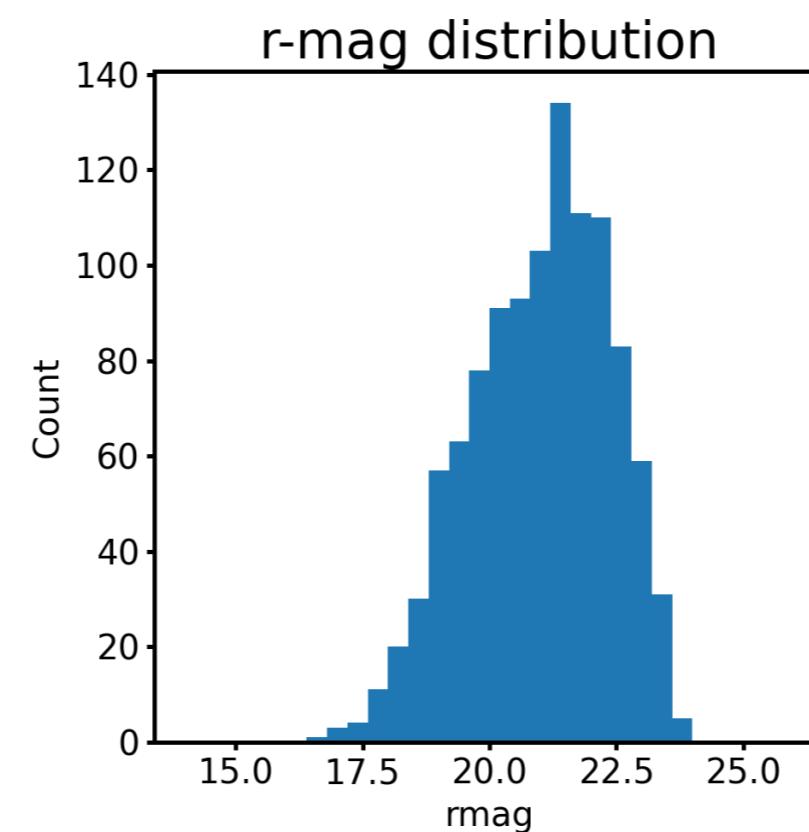
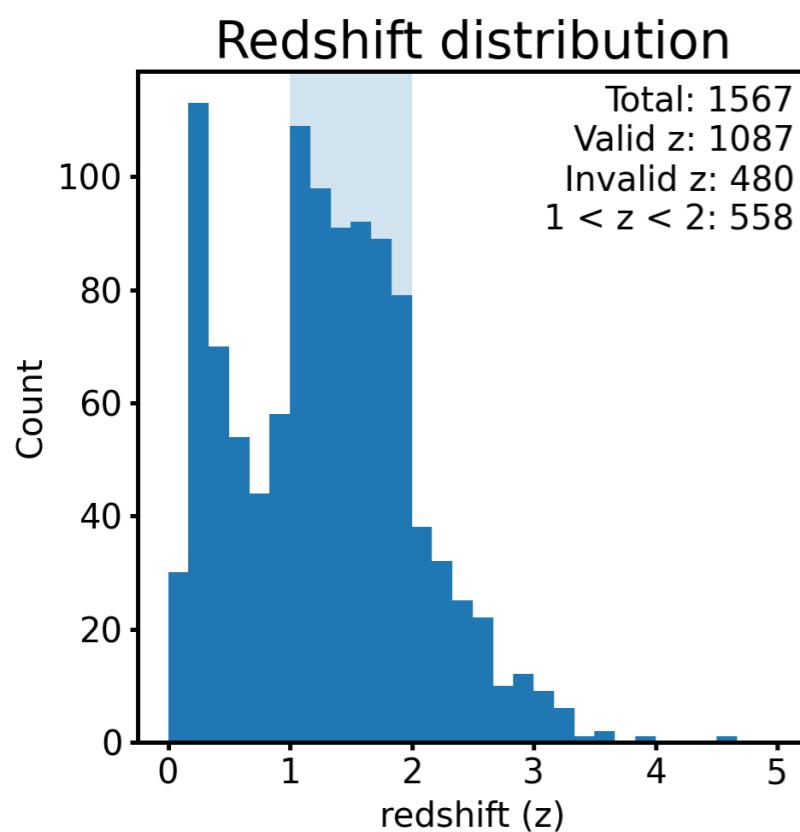
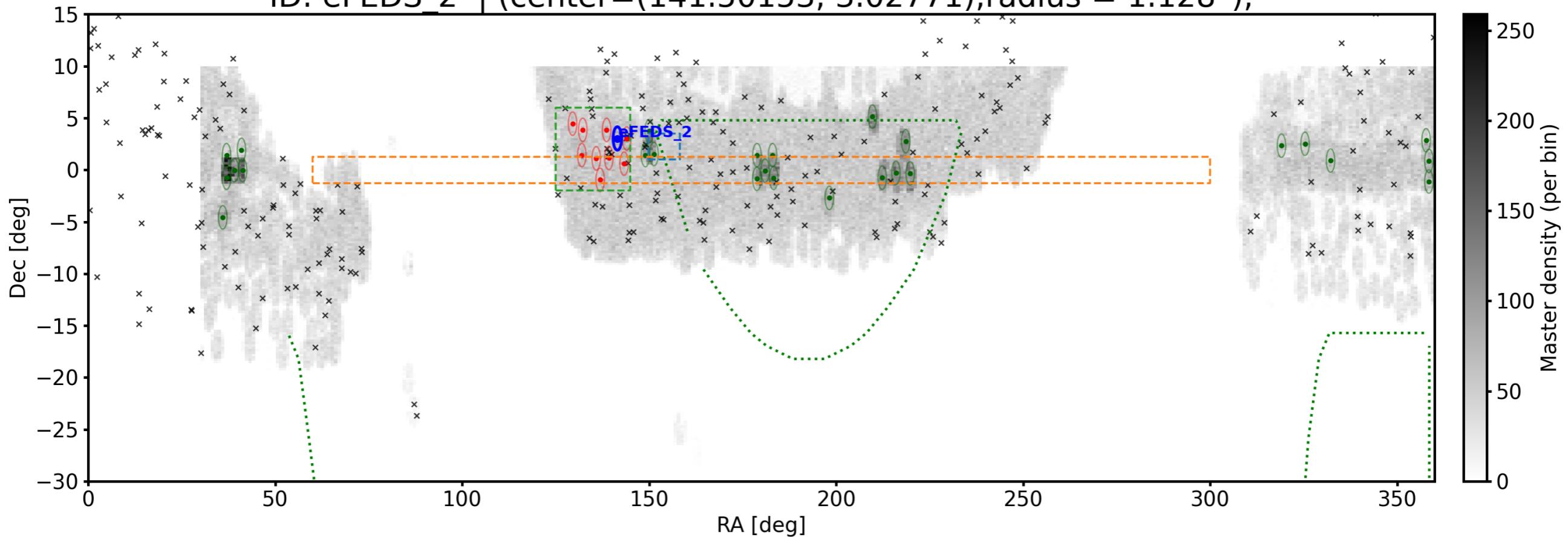


# Visibility at Paranal

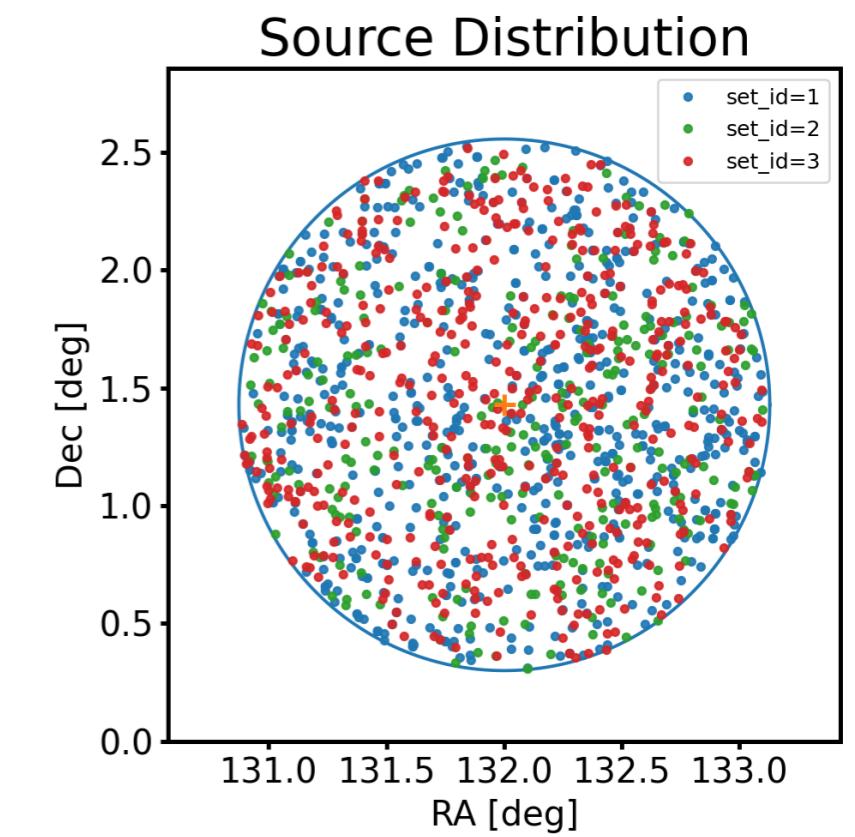
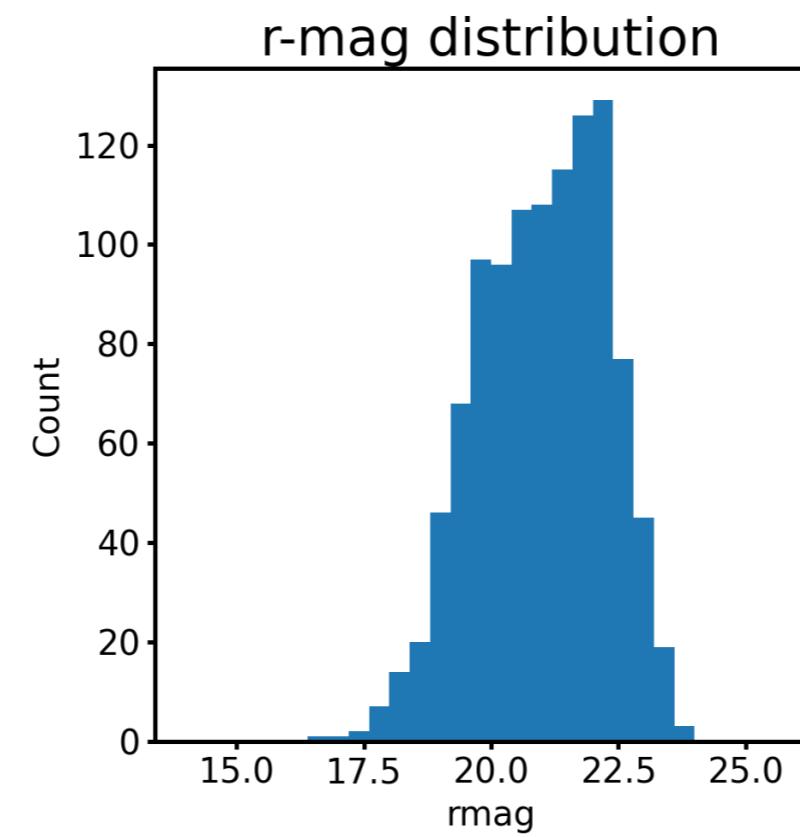
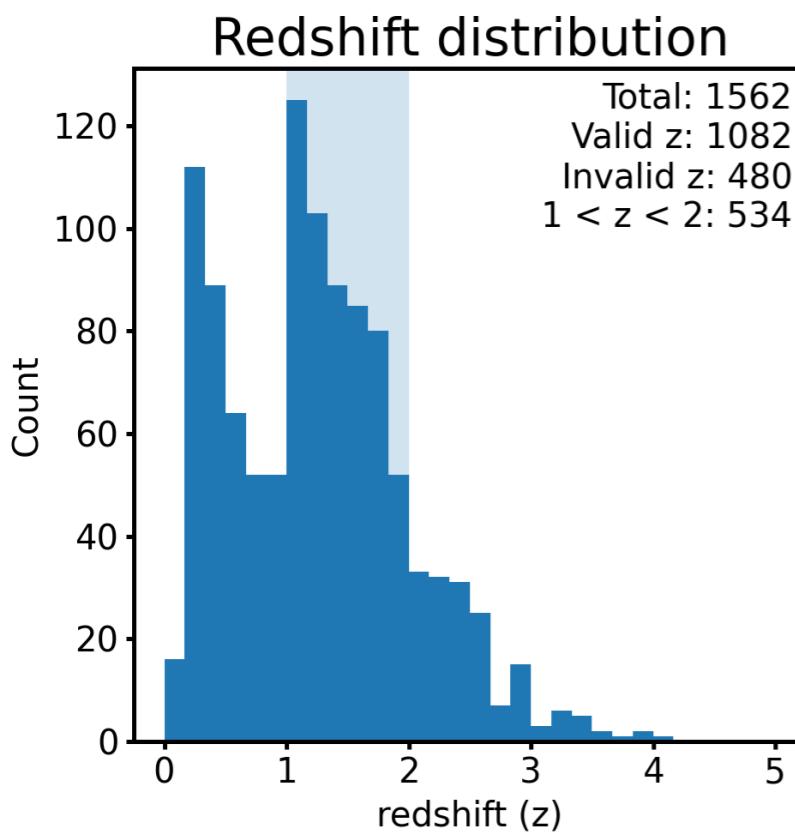
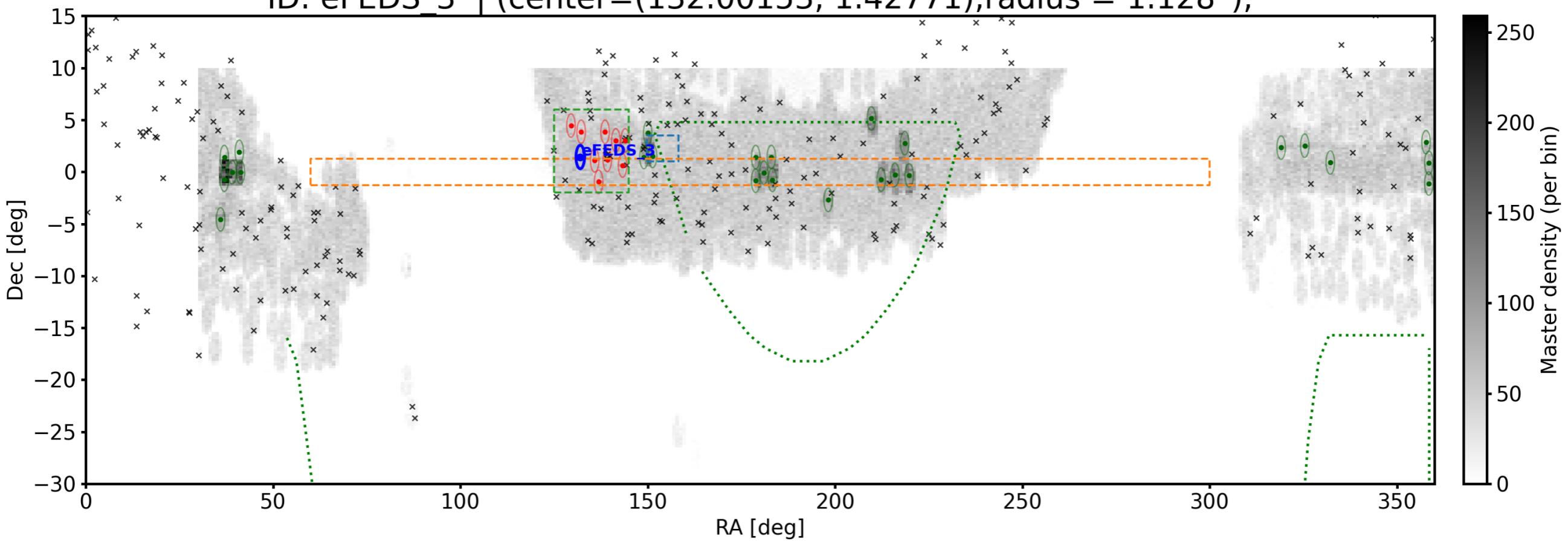




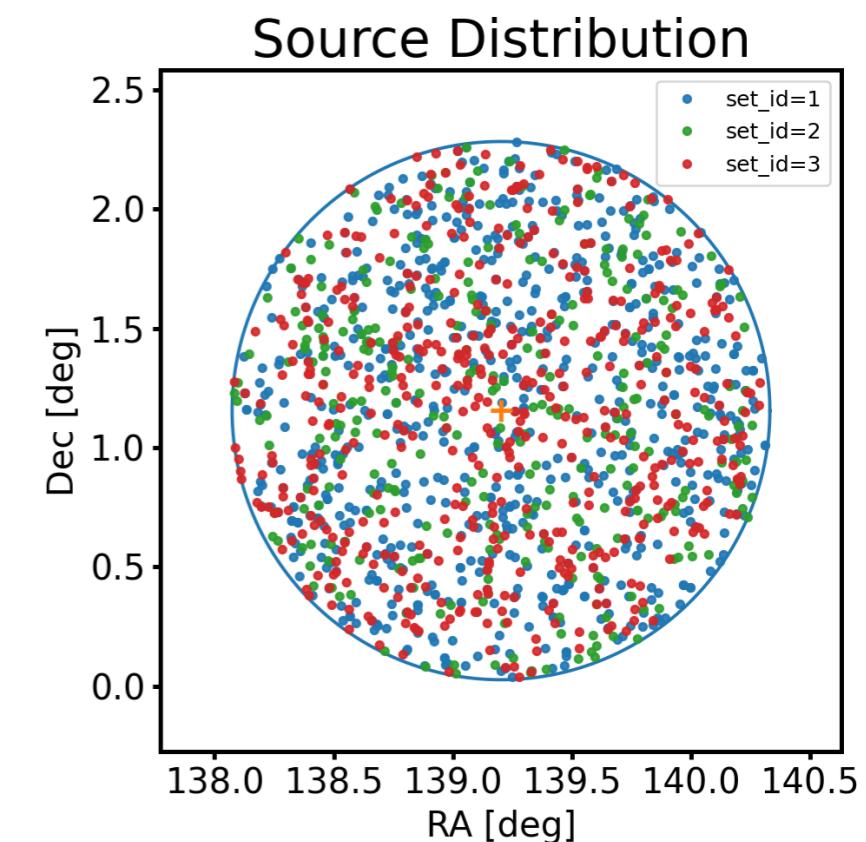
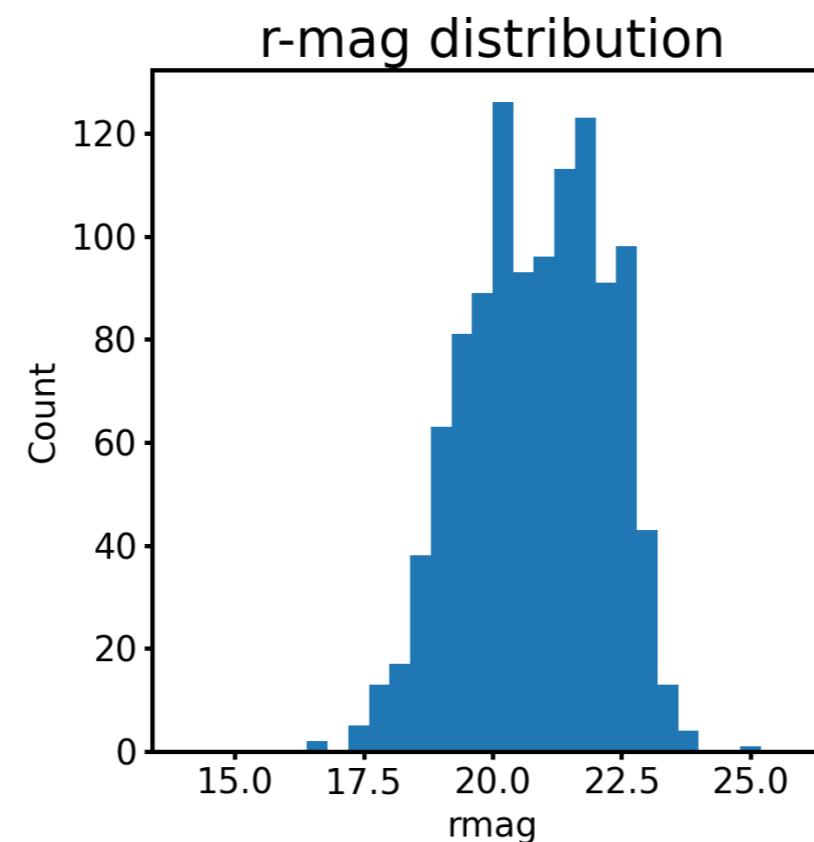
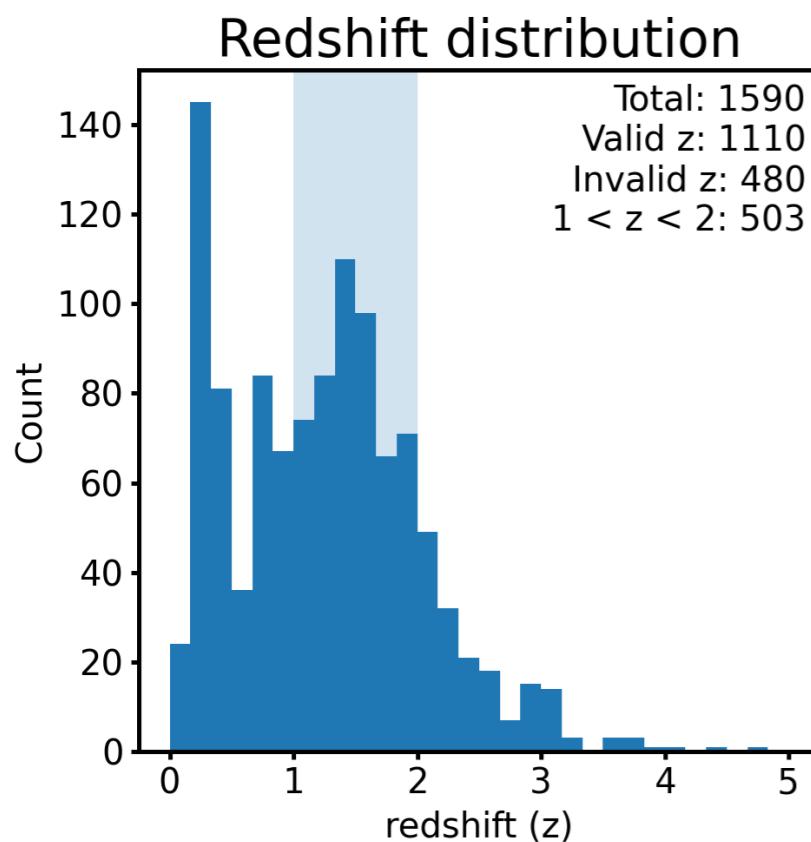
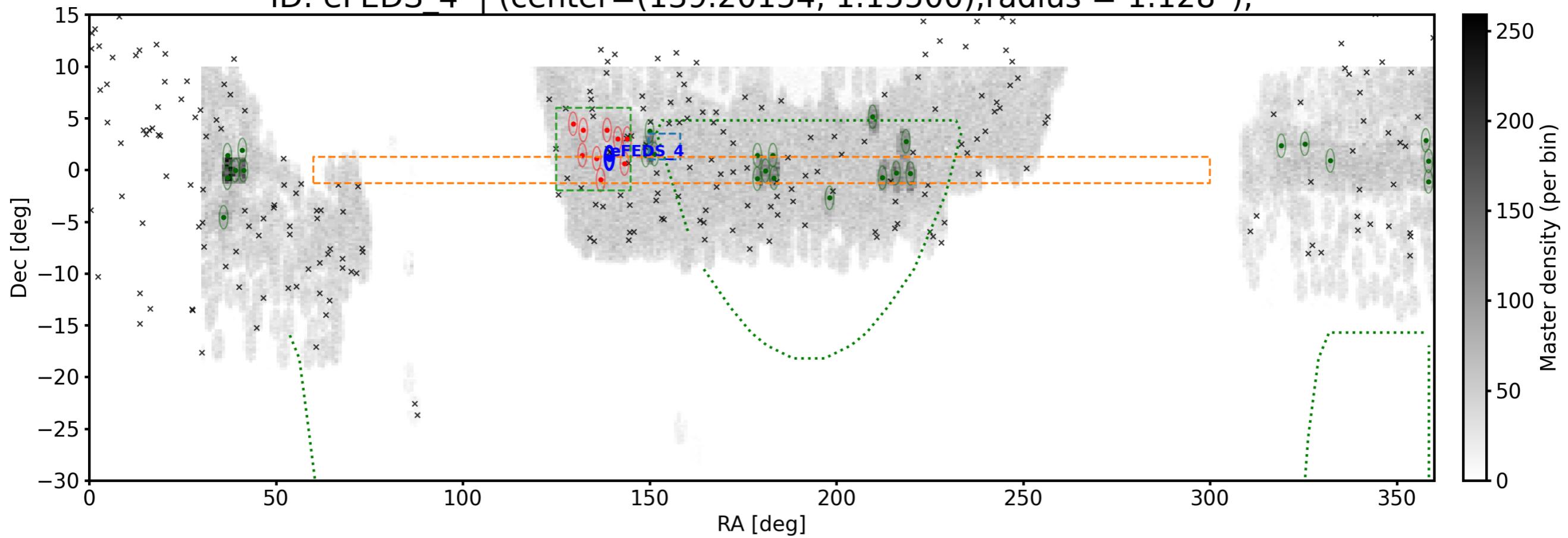
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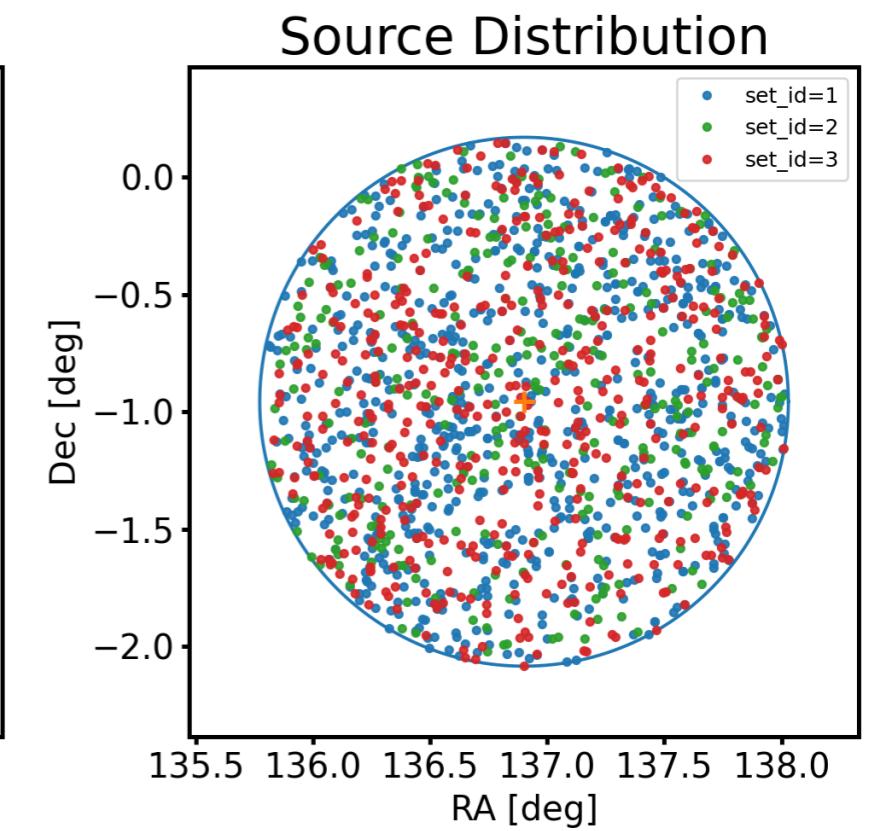
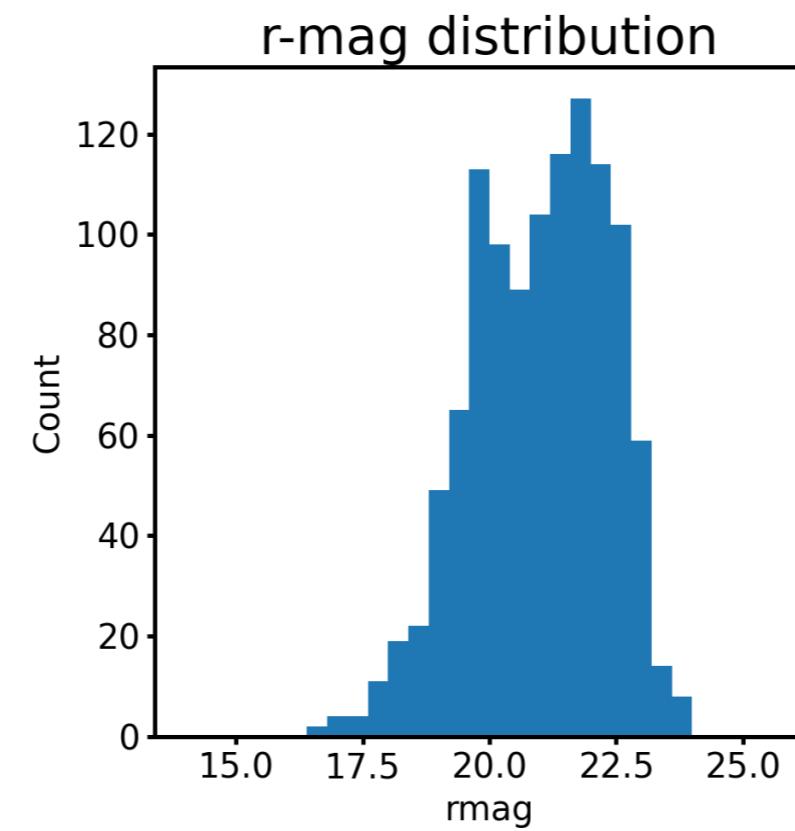
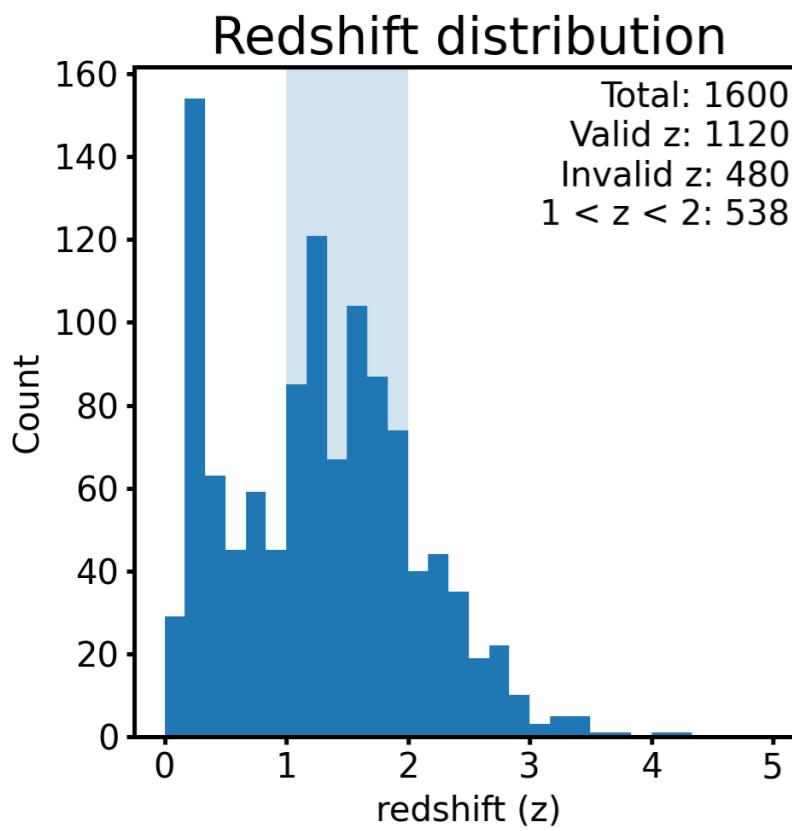
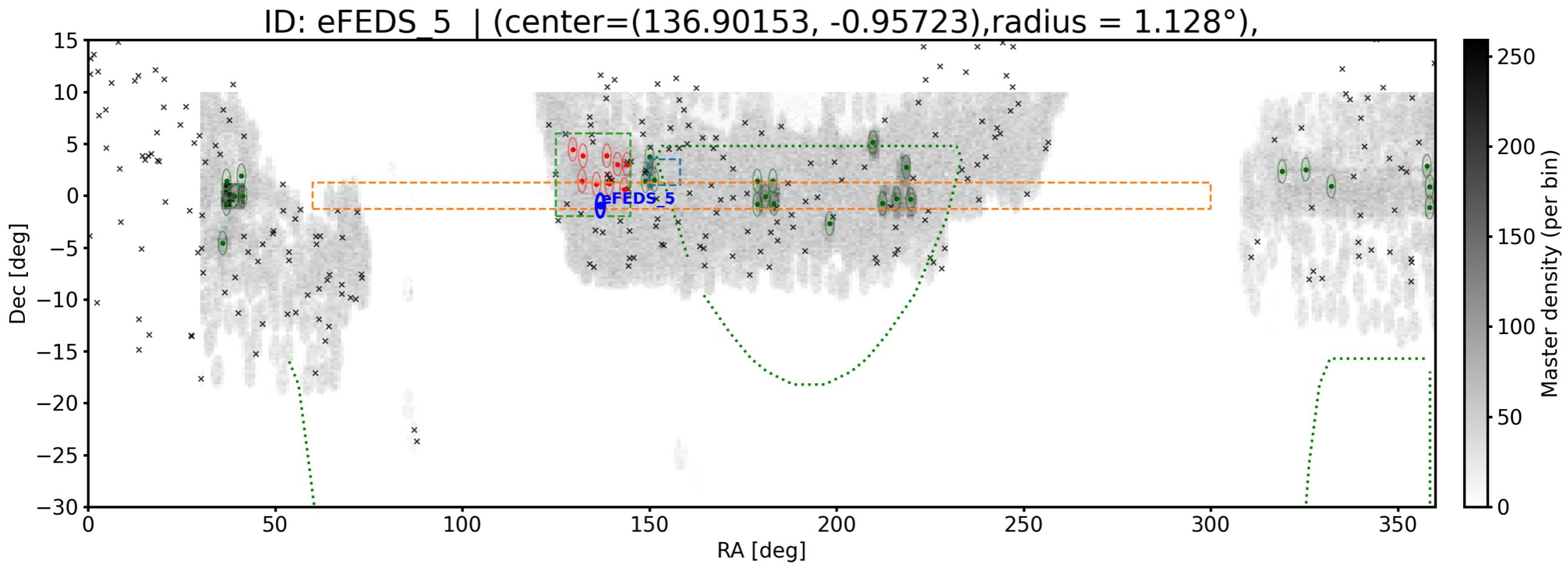


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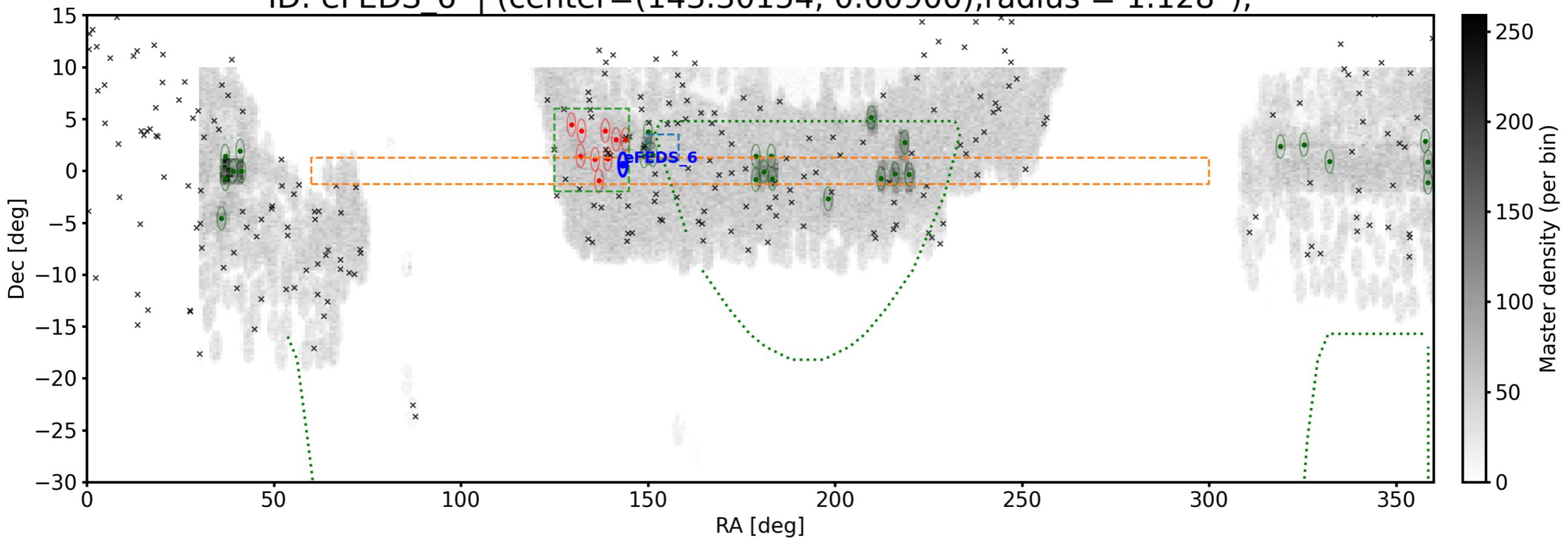


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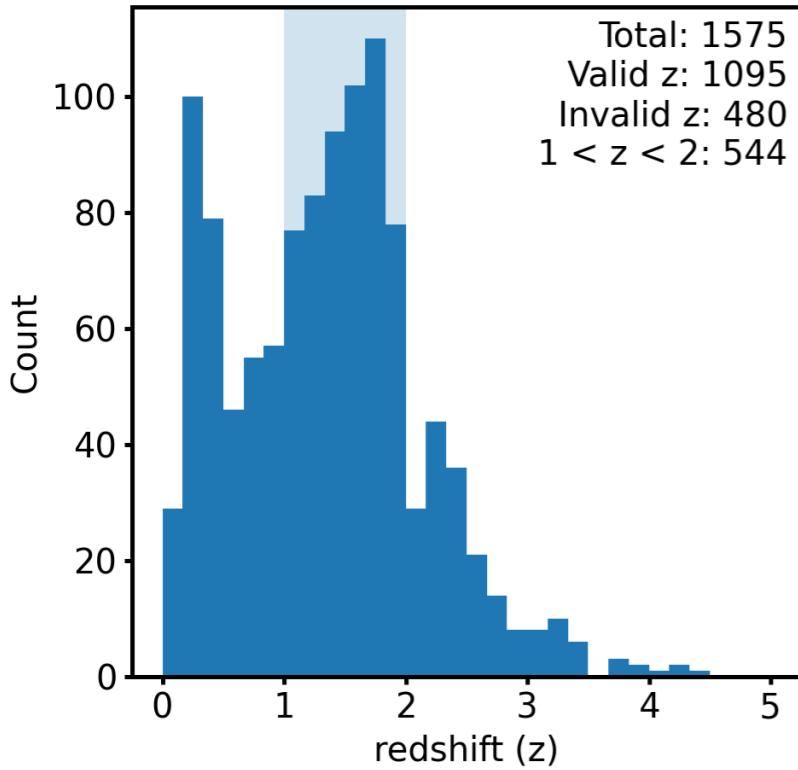




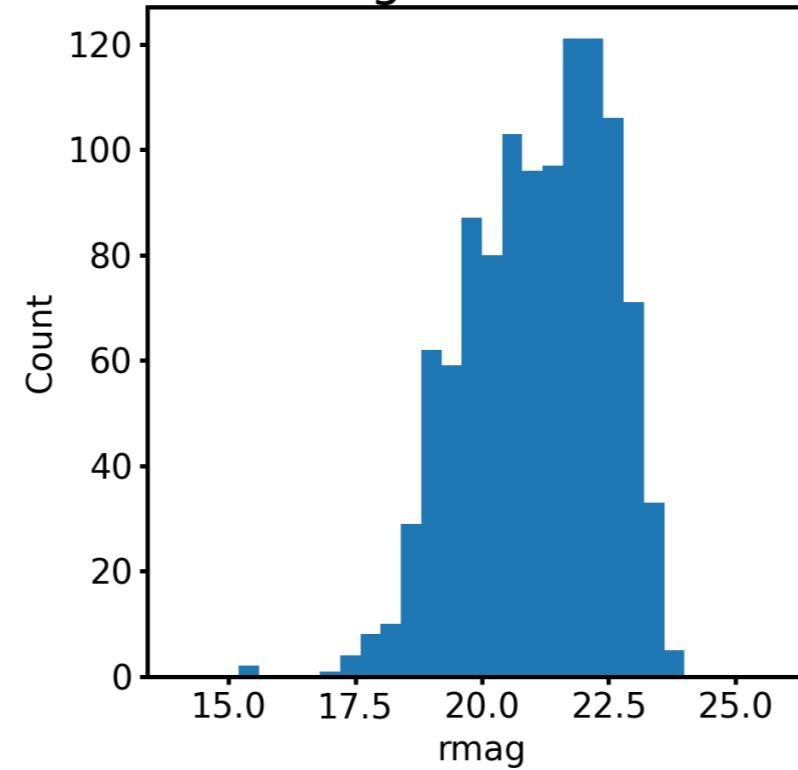
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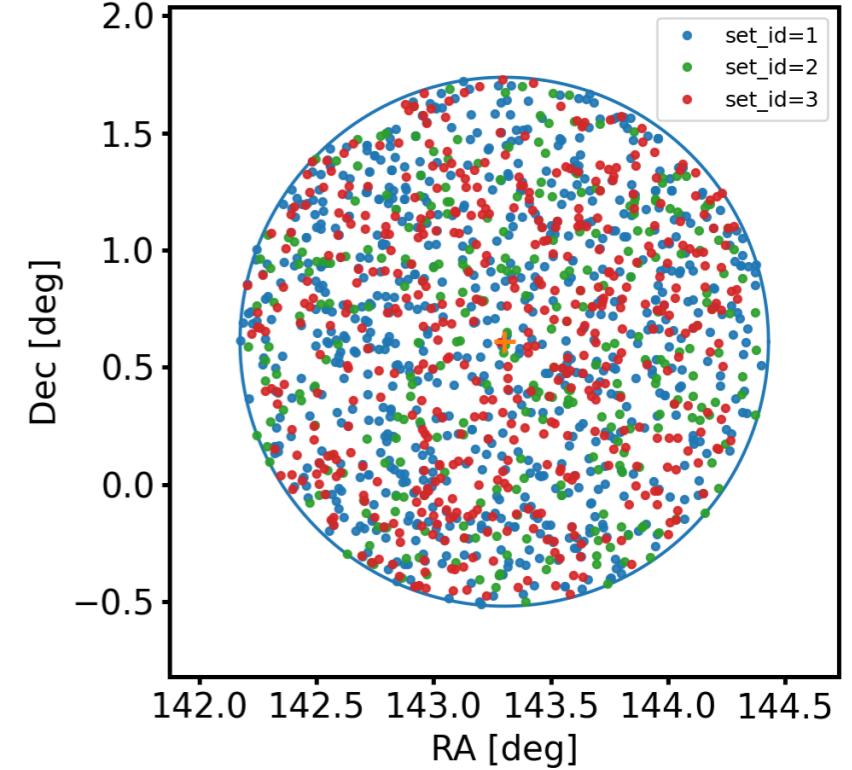
Redshift distribution

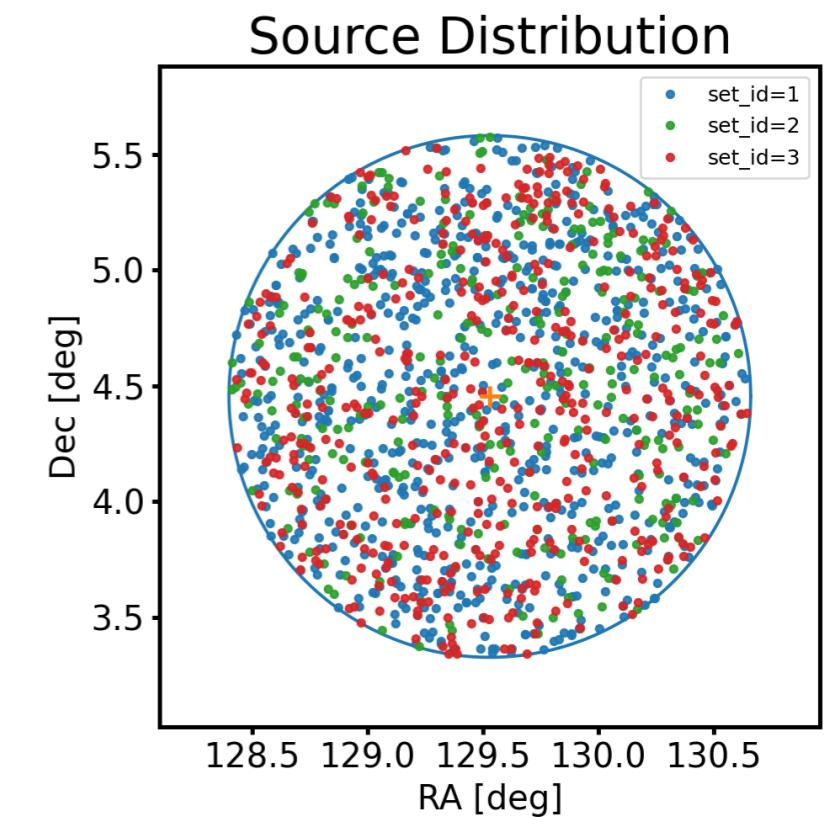
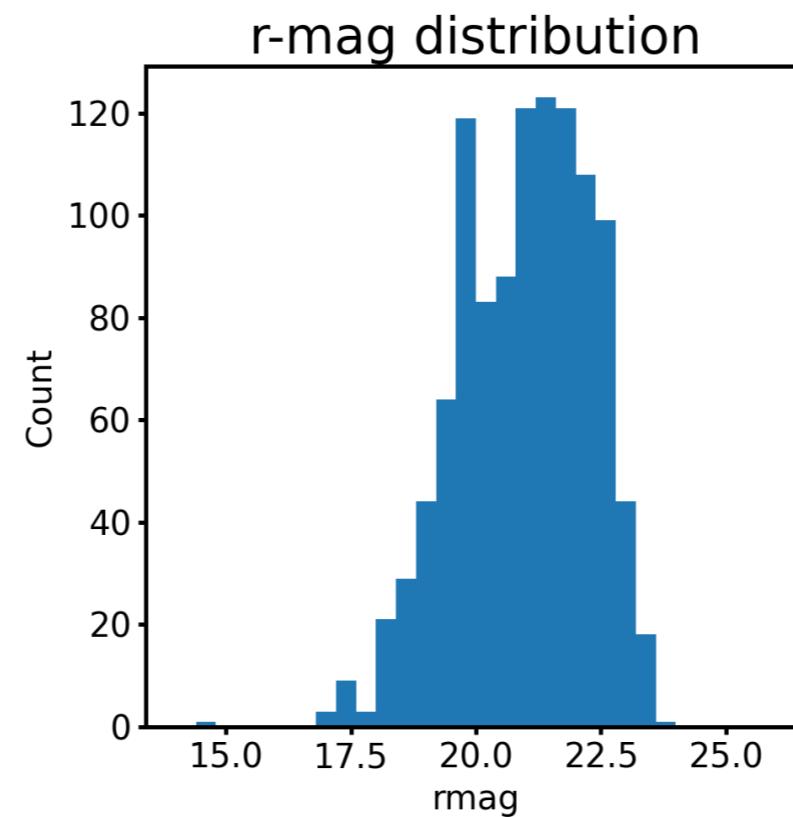
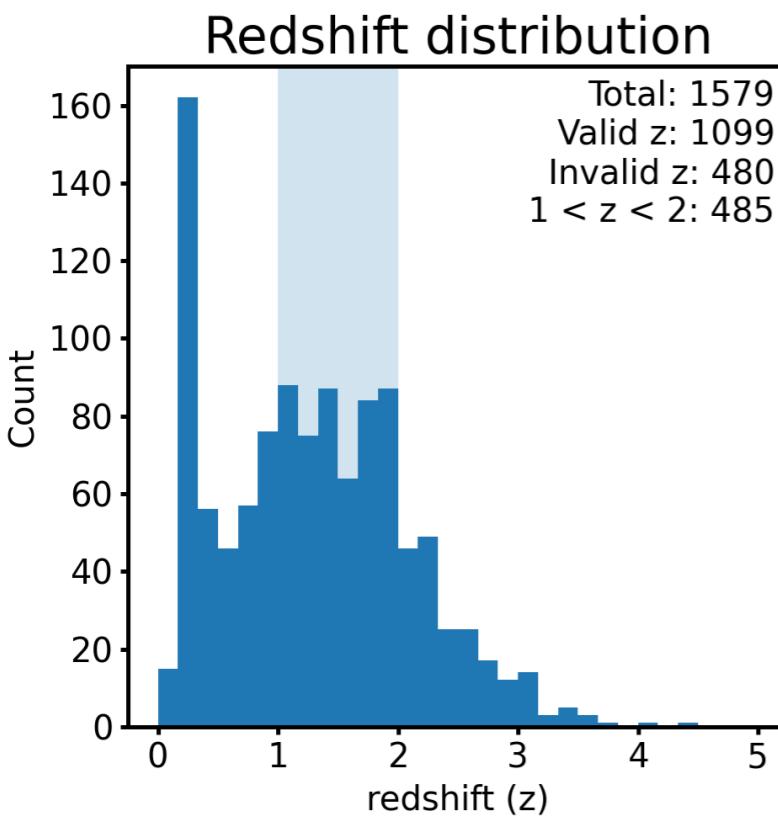
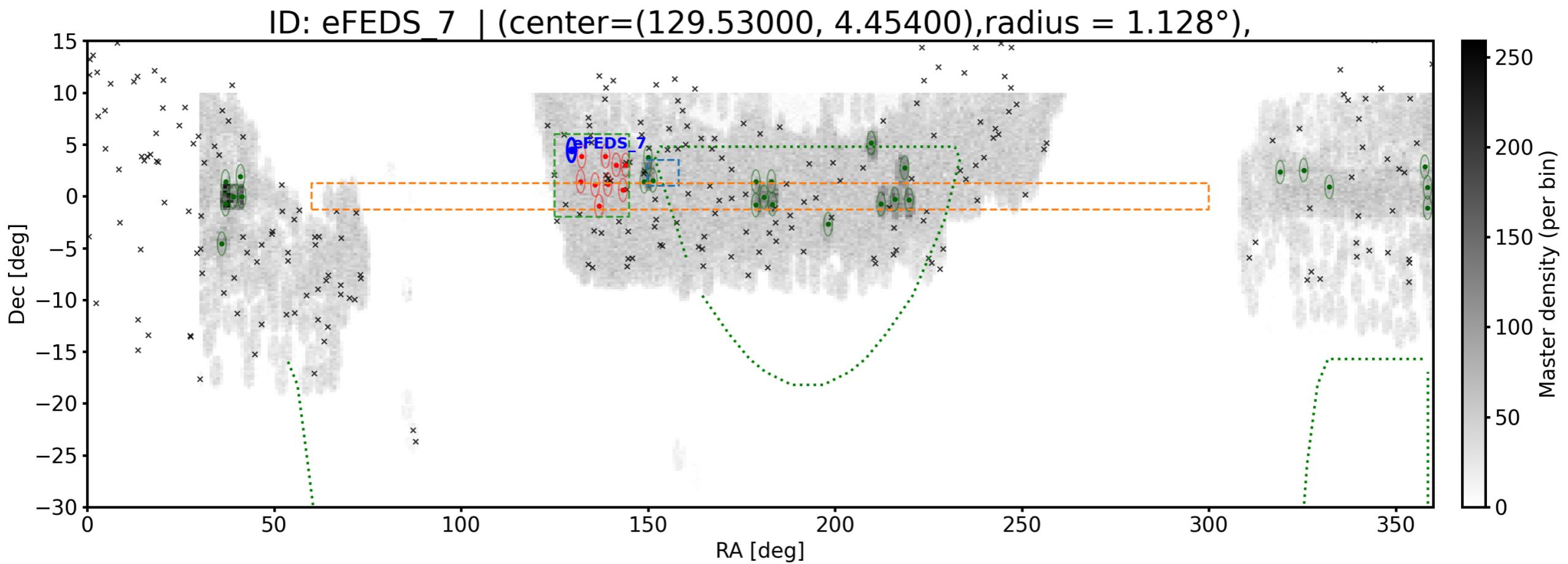


r-mag distribution

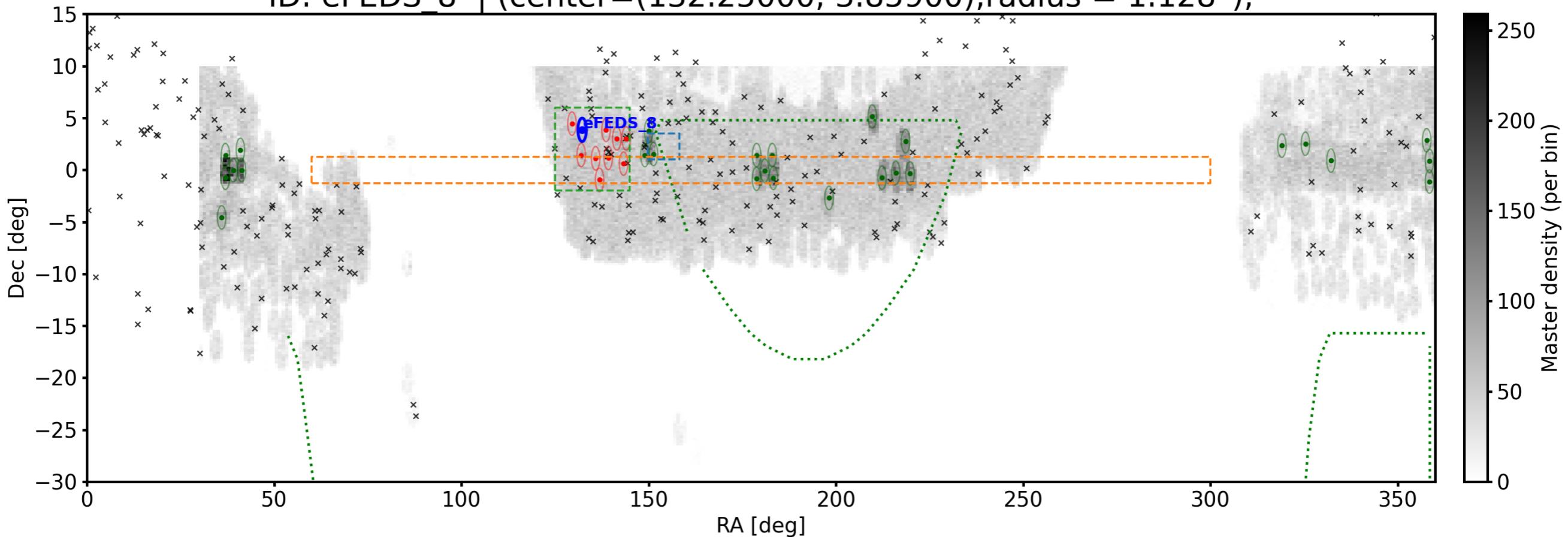


Source Distribution

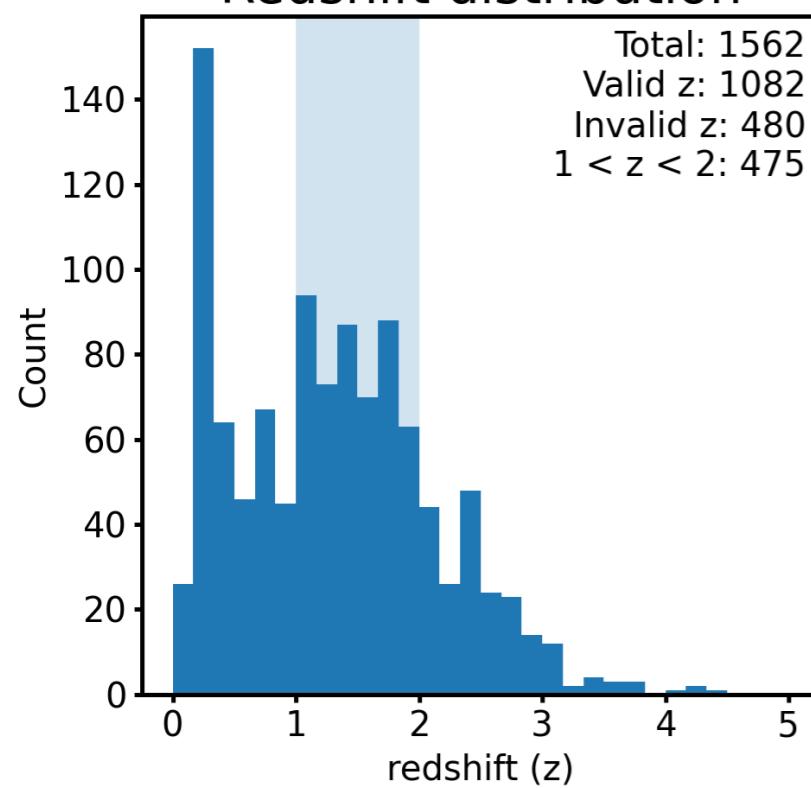




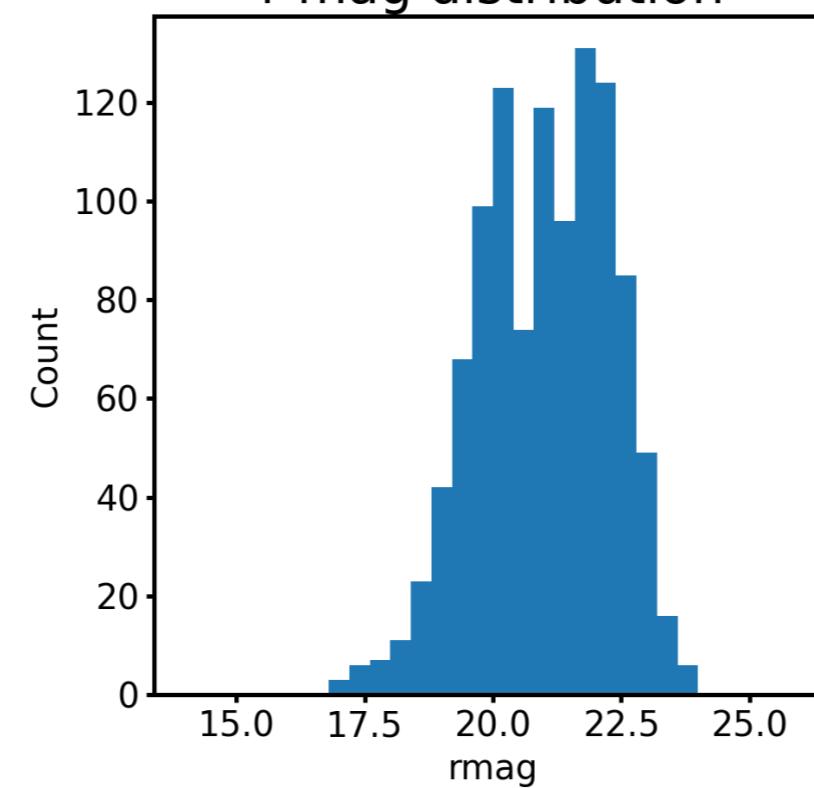
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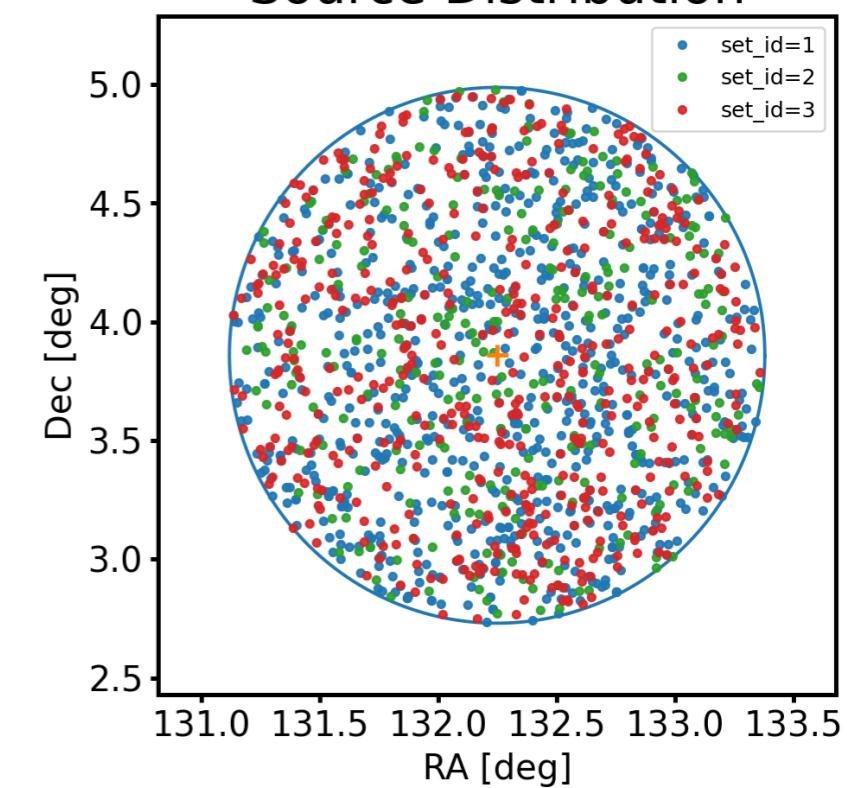
Redshift distribution



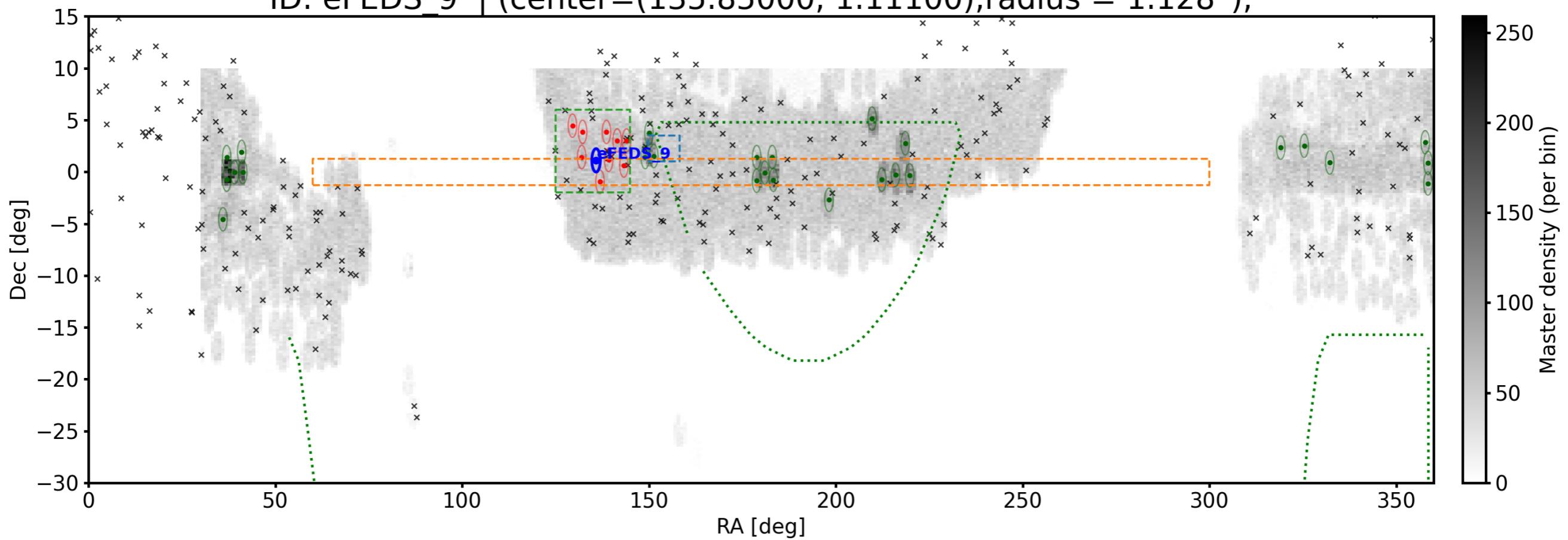
r-mag distribution



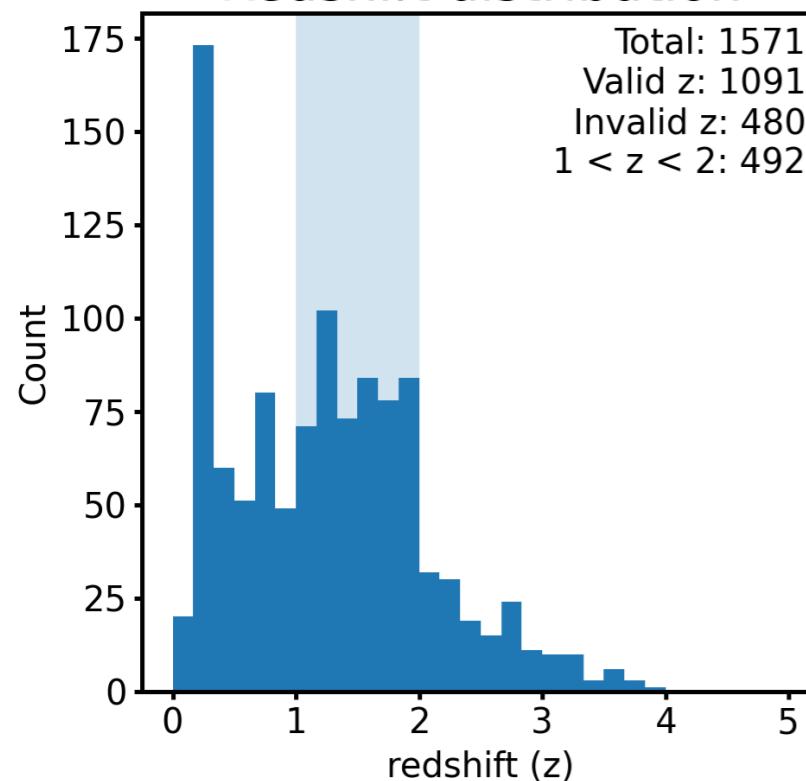
Source Distribution



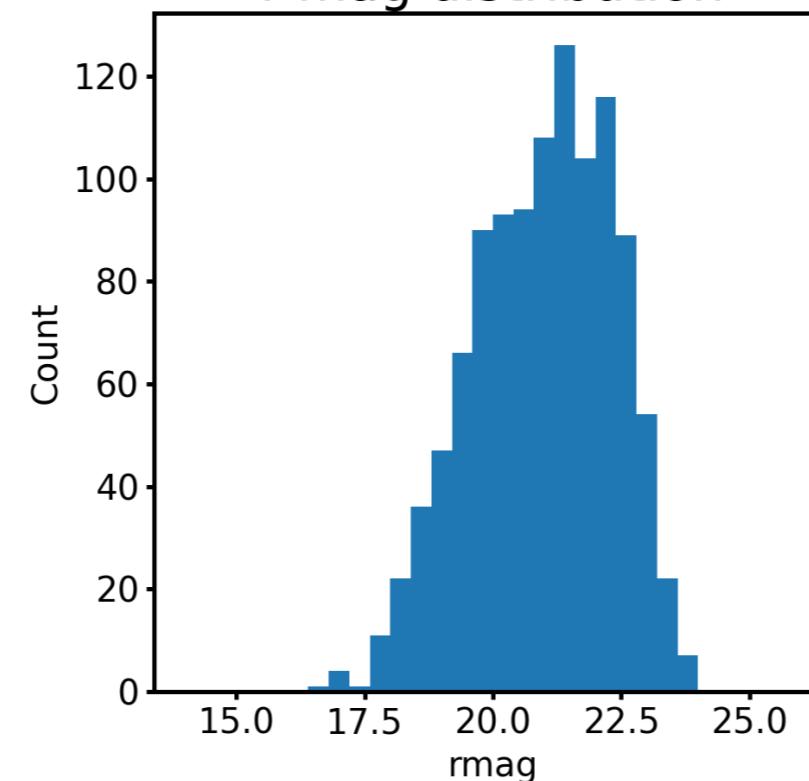
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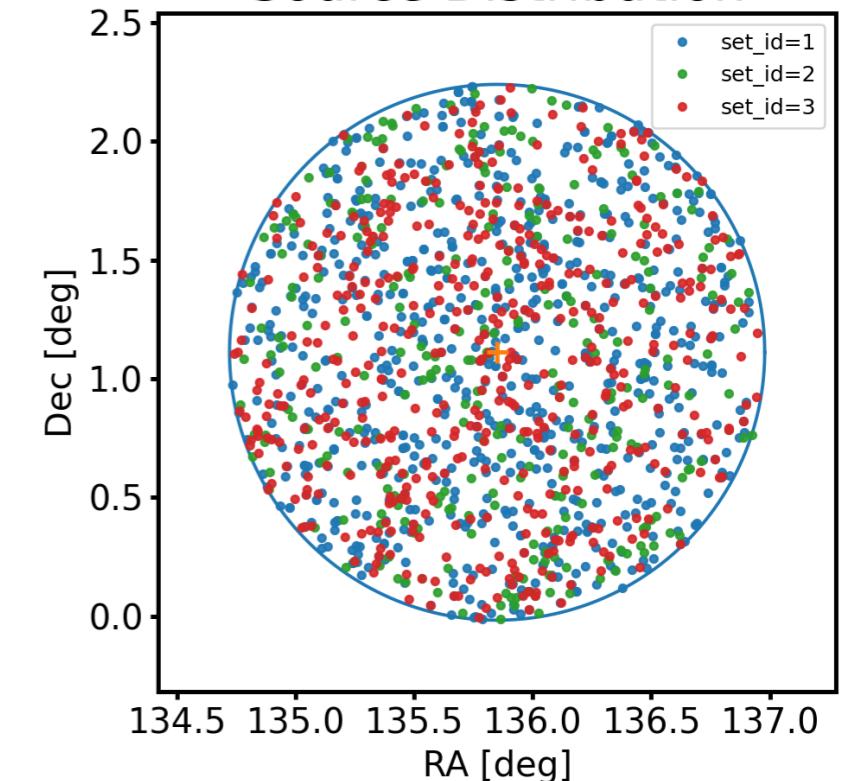
Redshift distribution

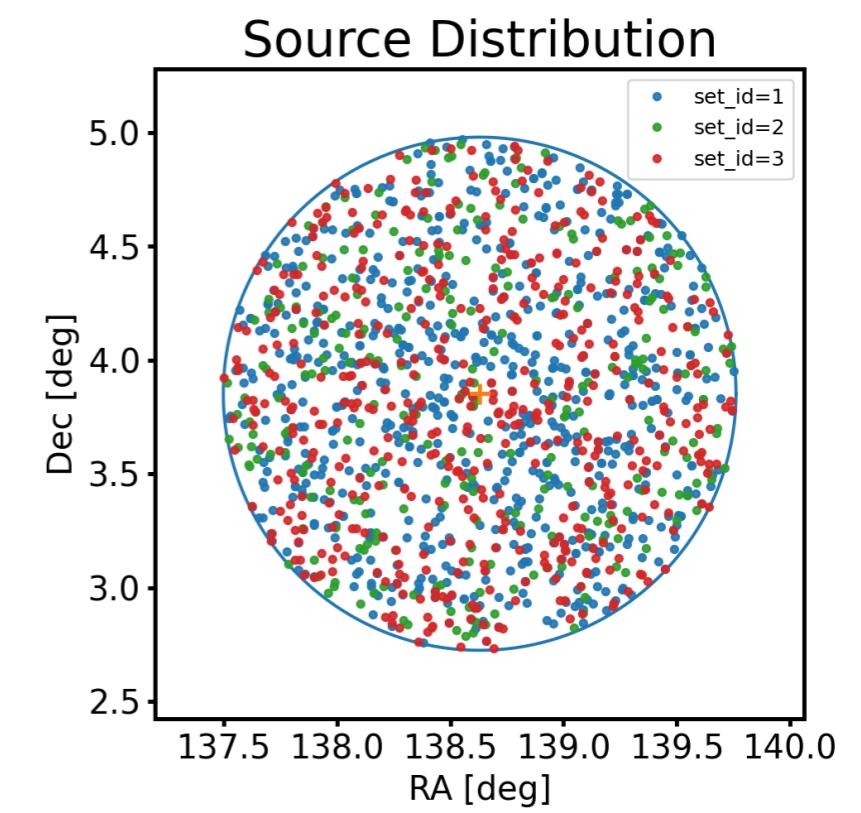
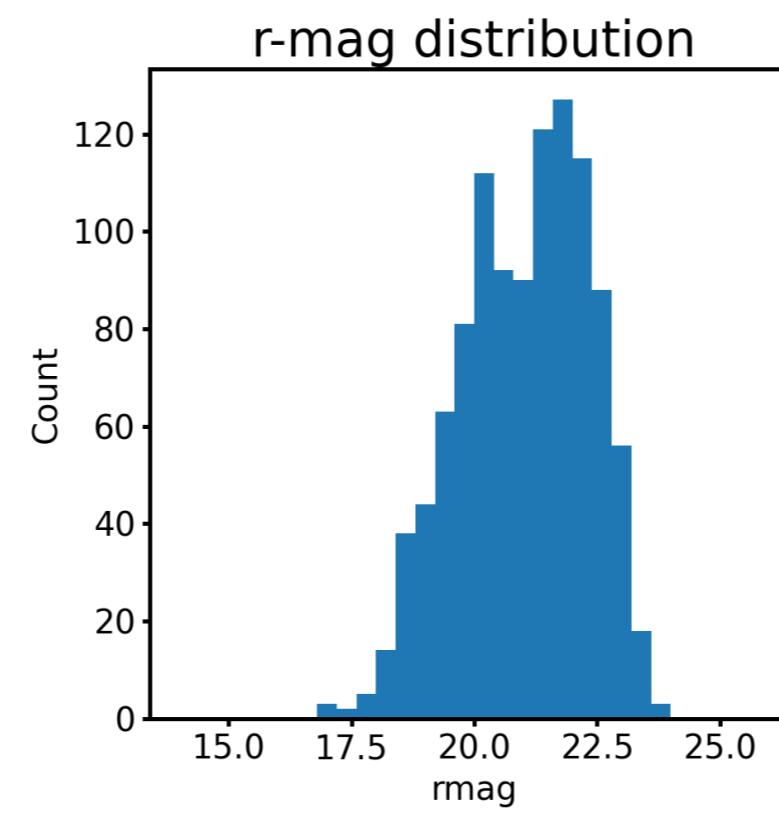
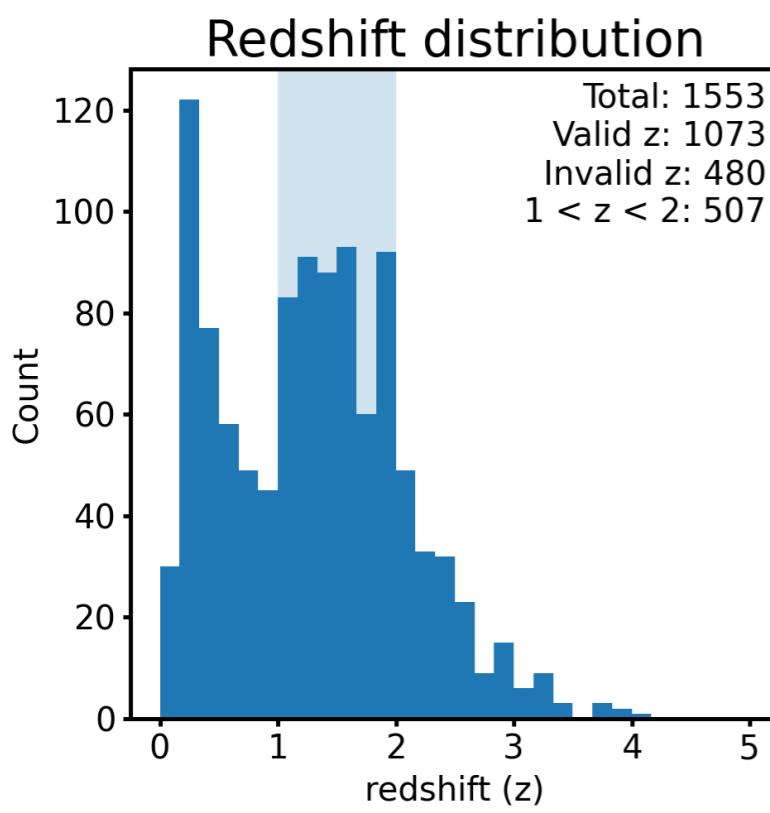
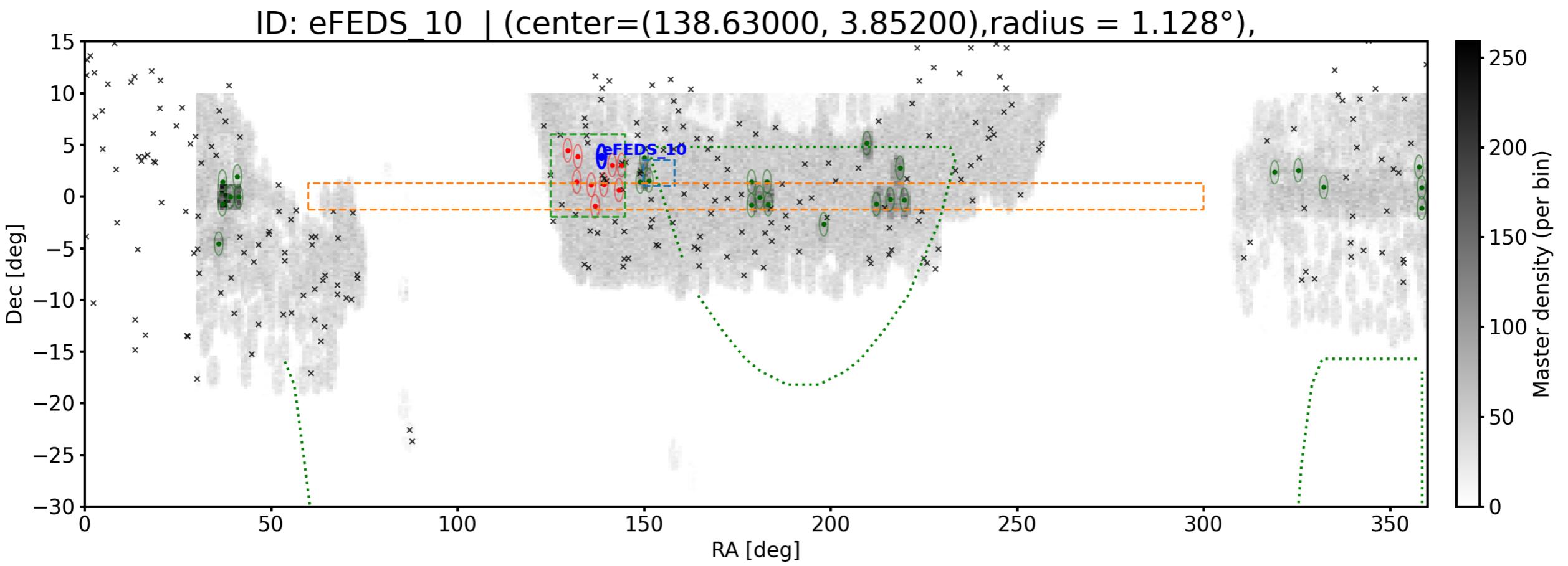


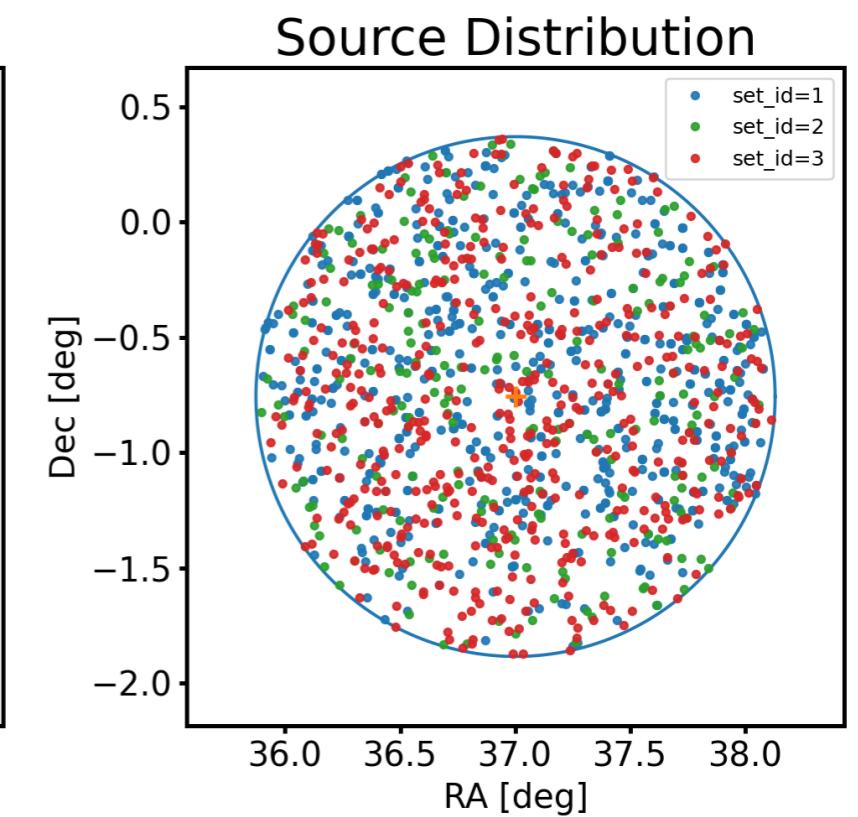
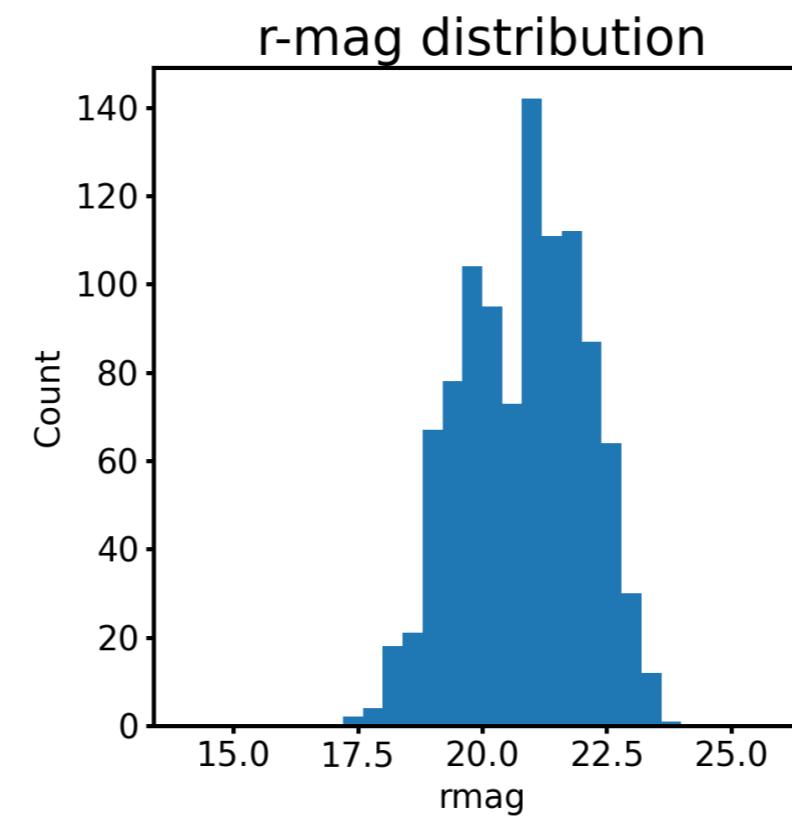
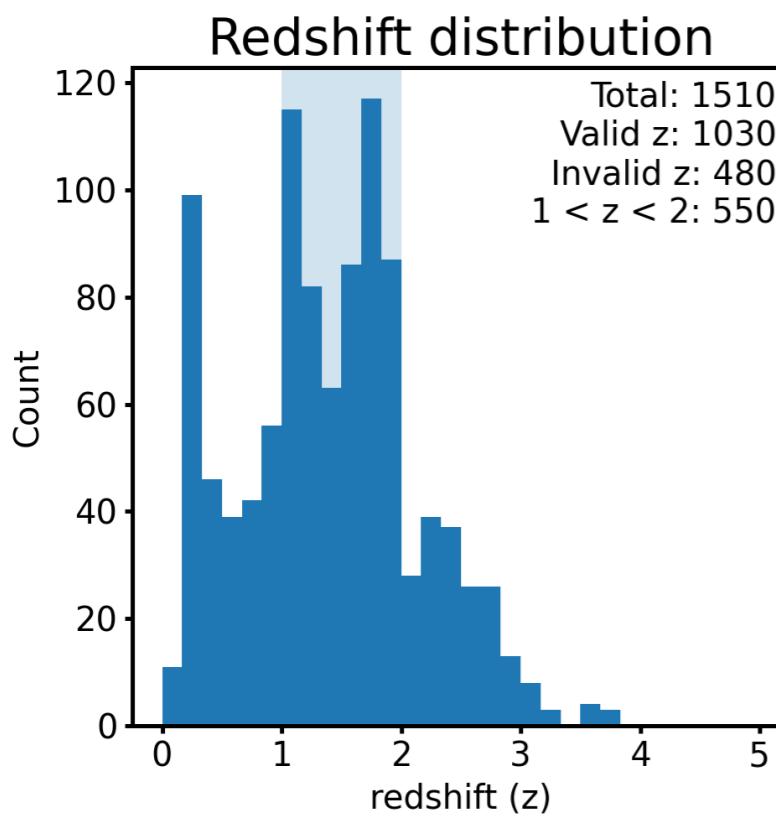
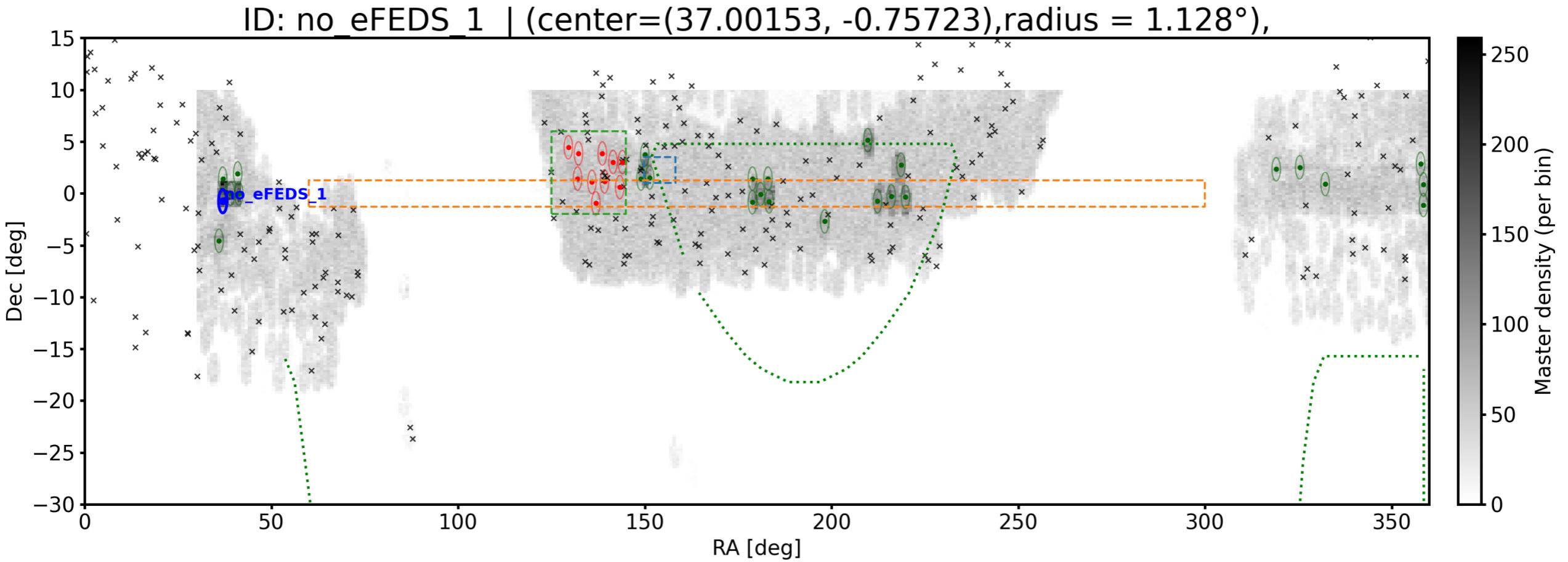
r-mag distribution

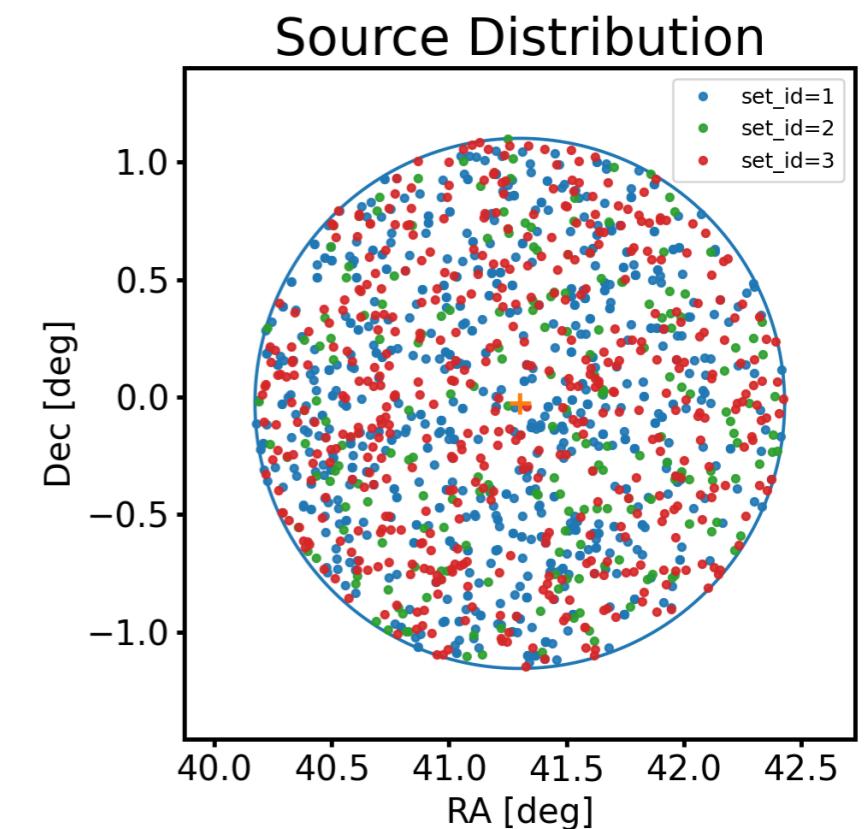
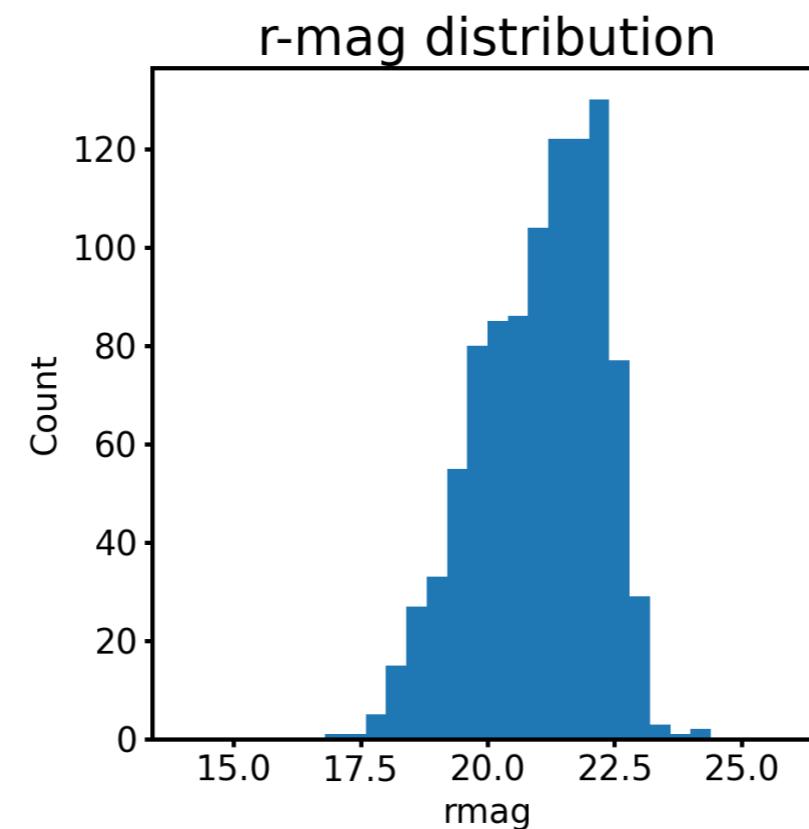
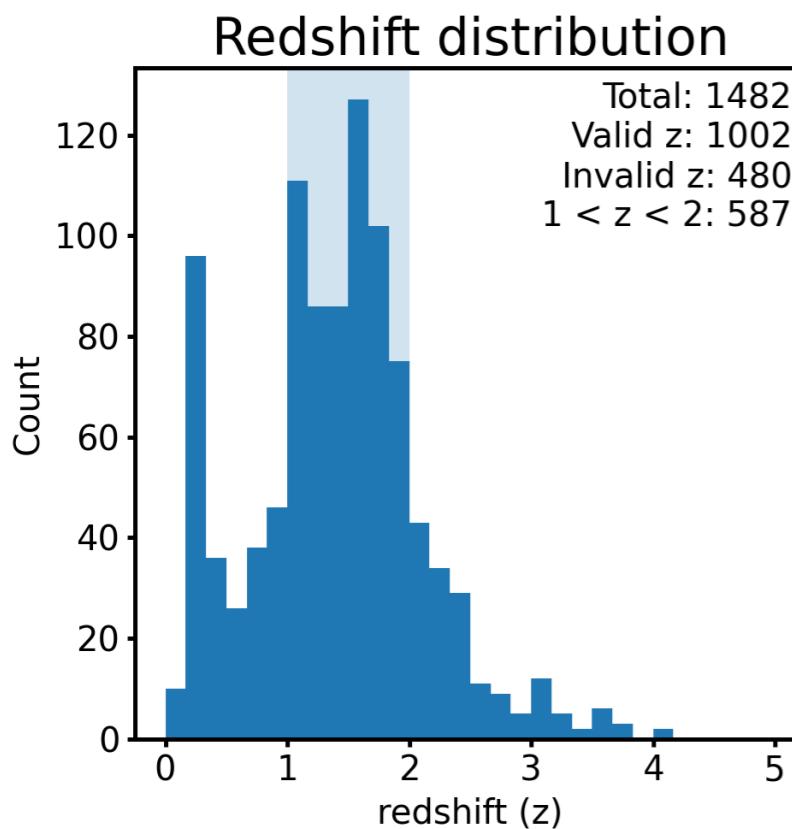
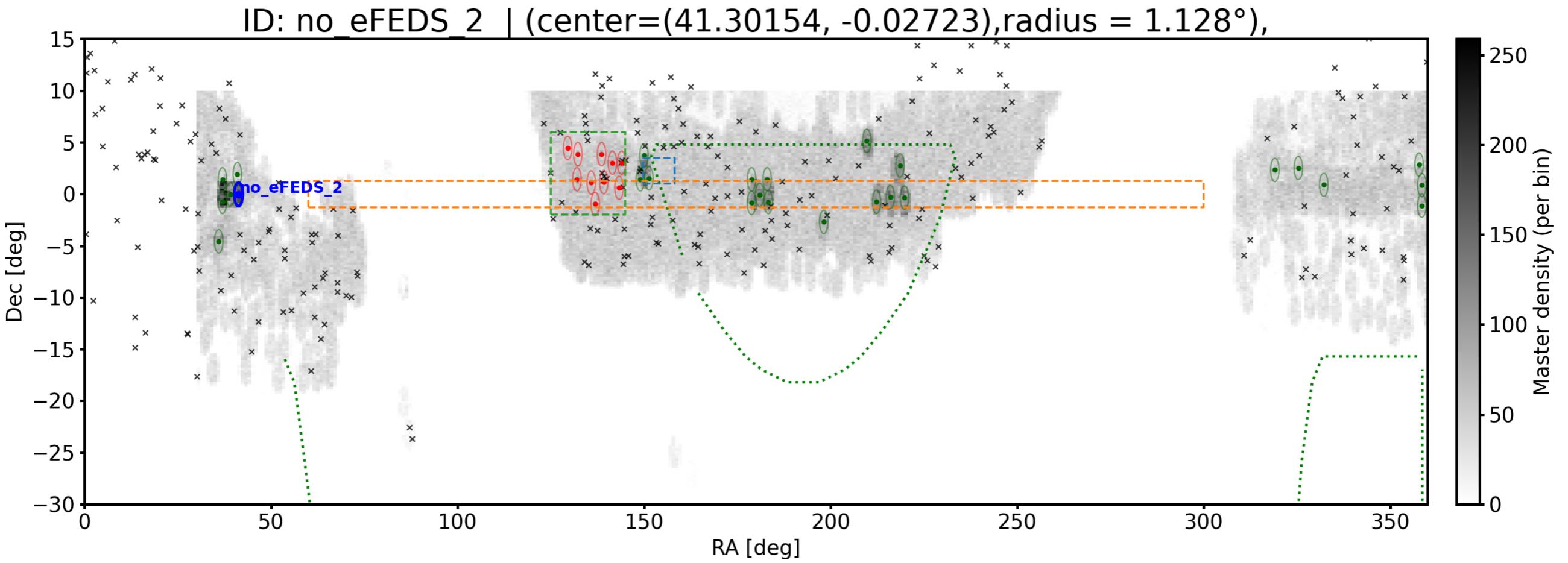


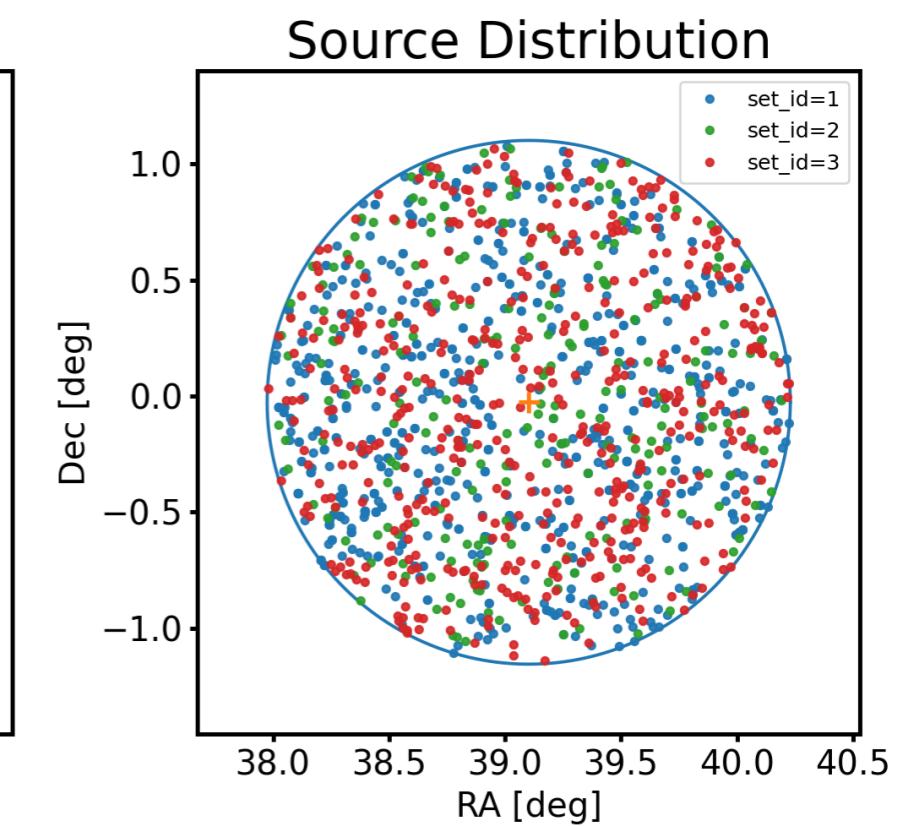
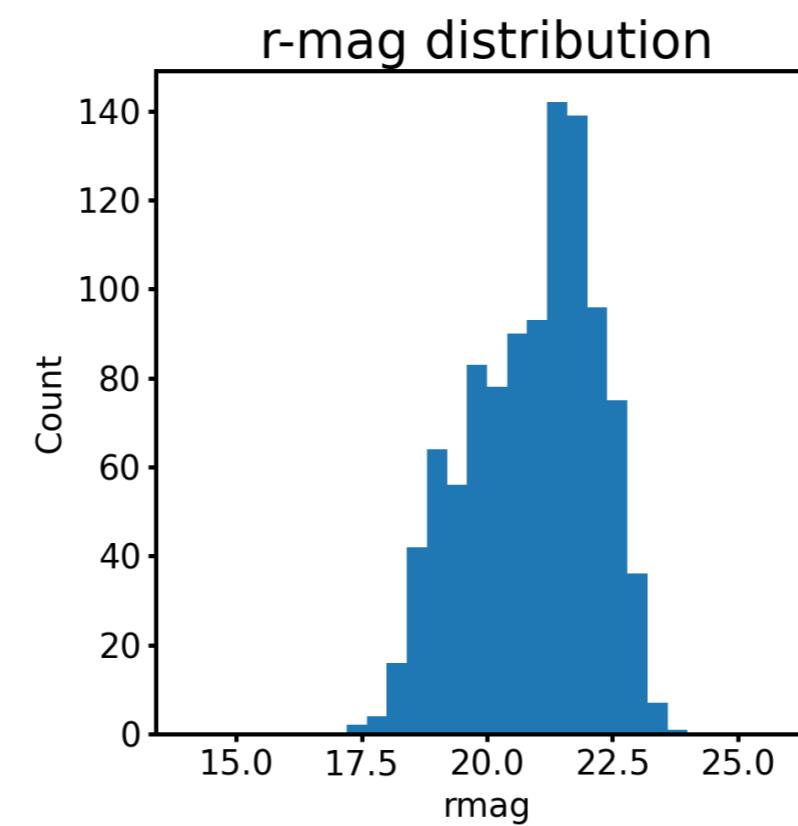
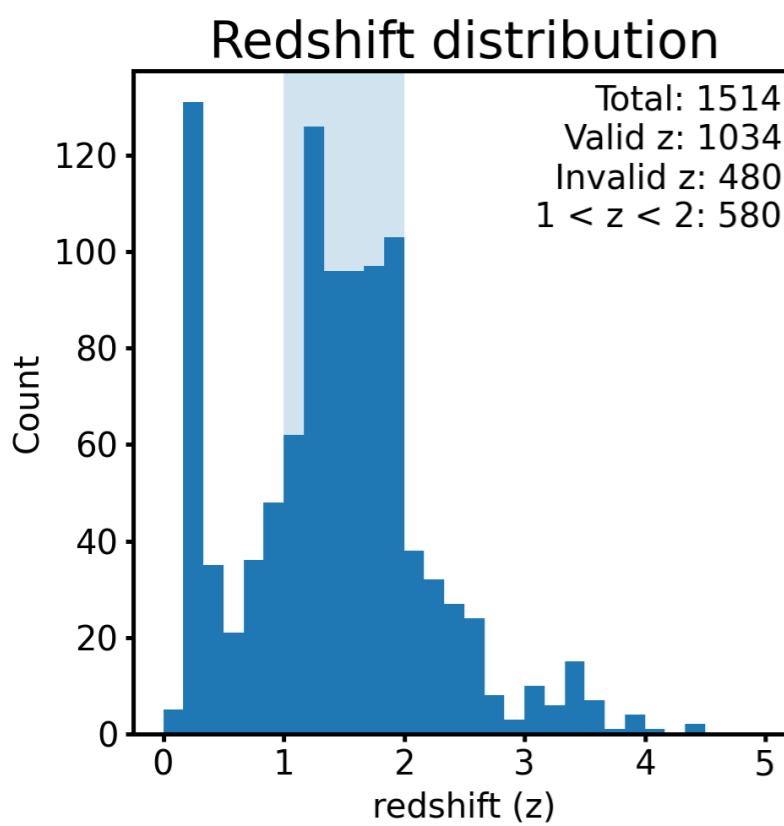
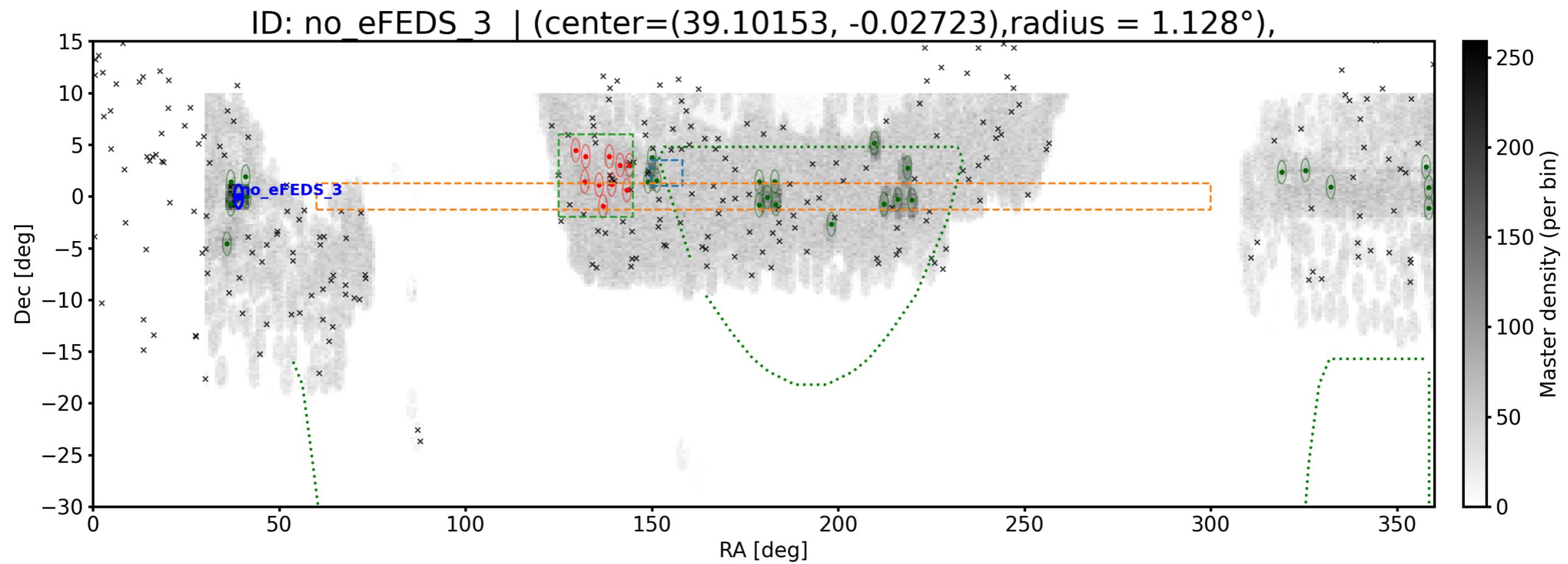
Source Distribution

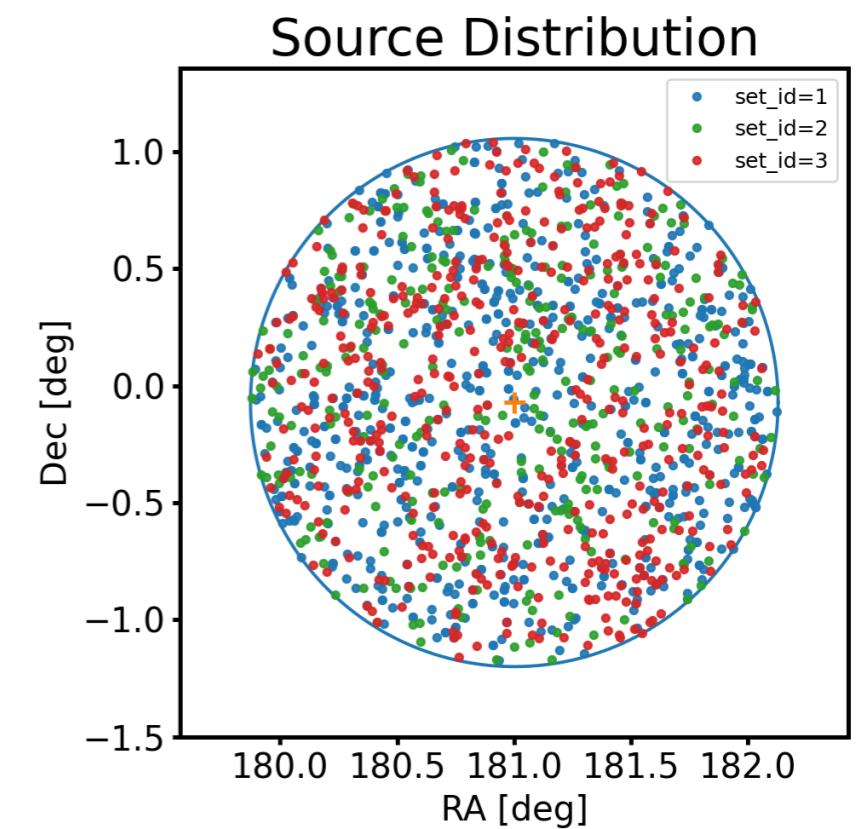
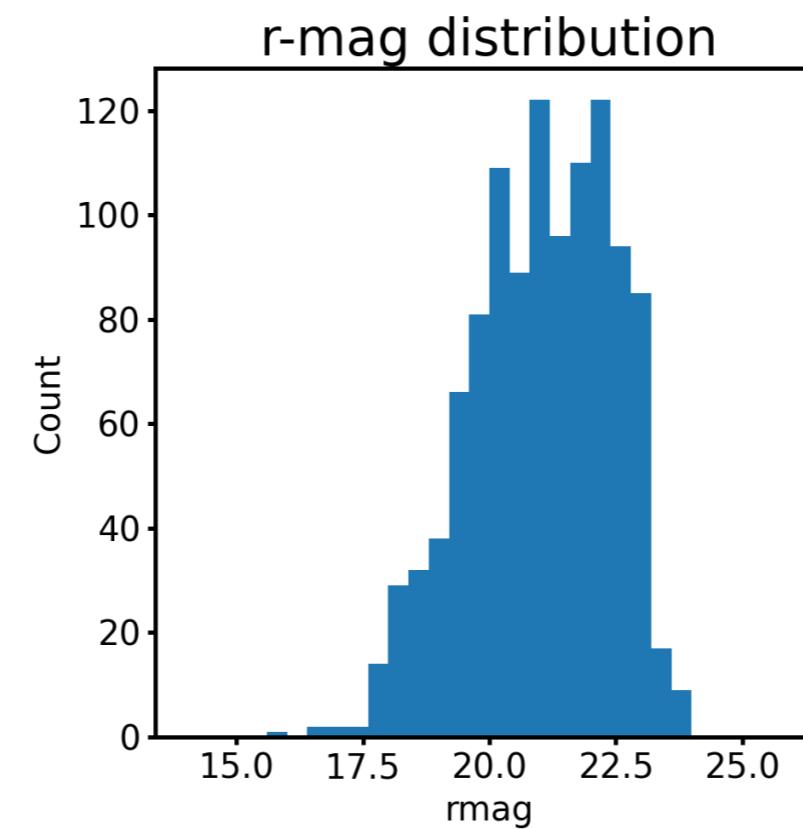
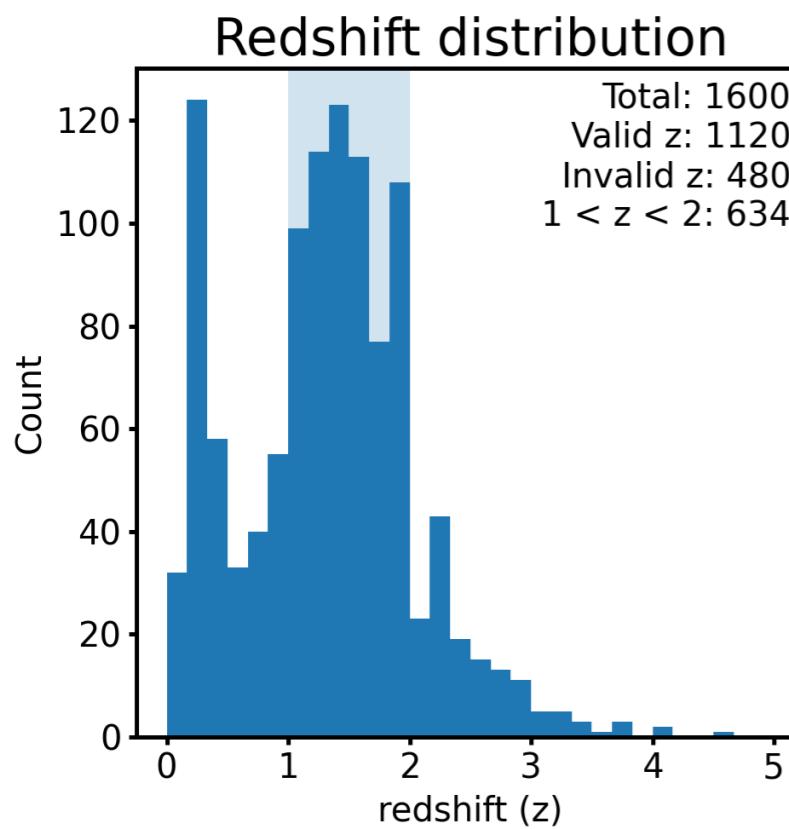
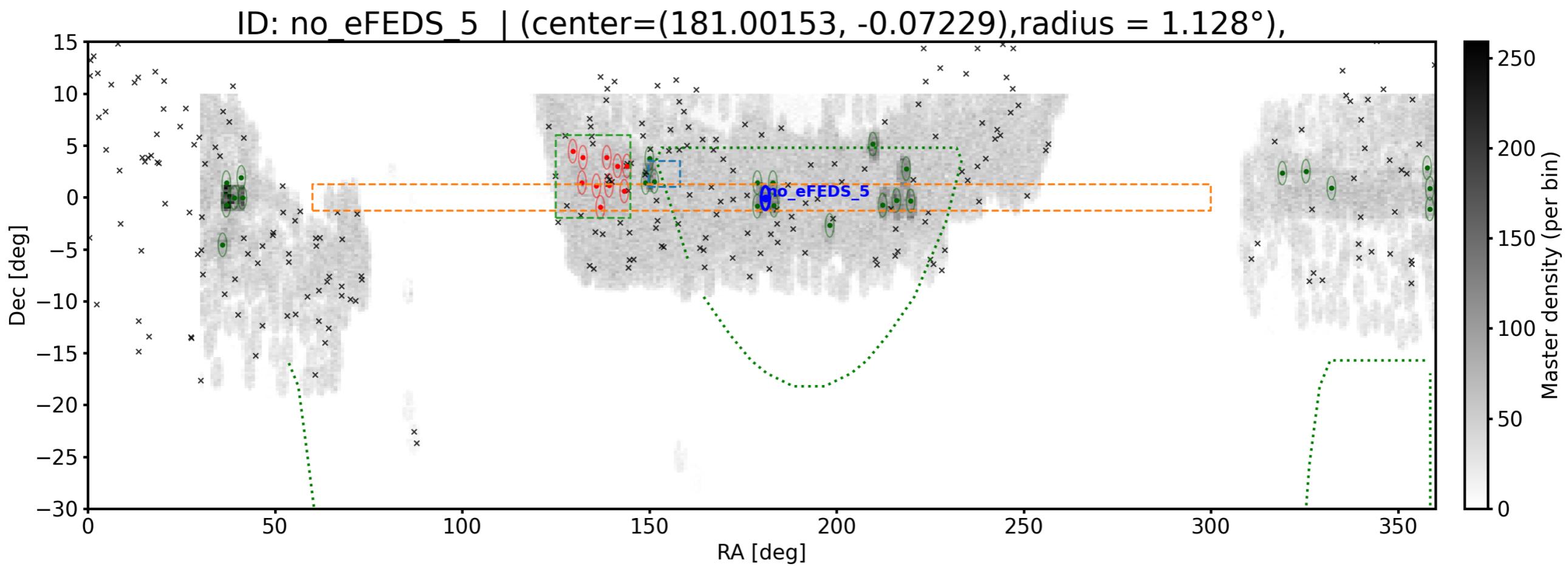


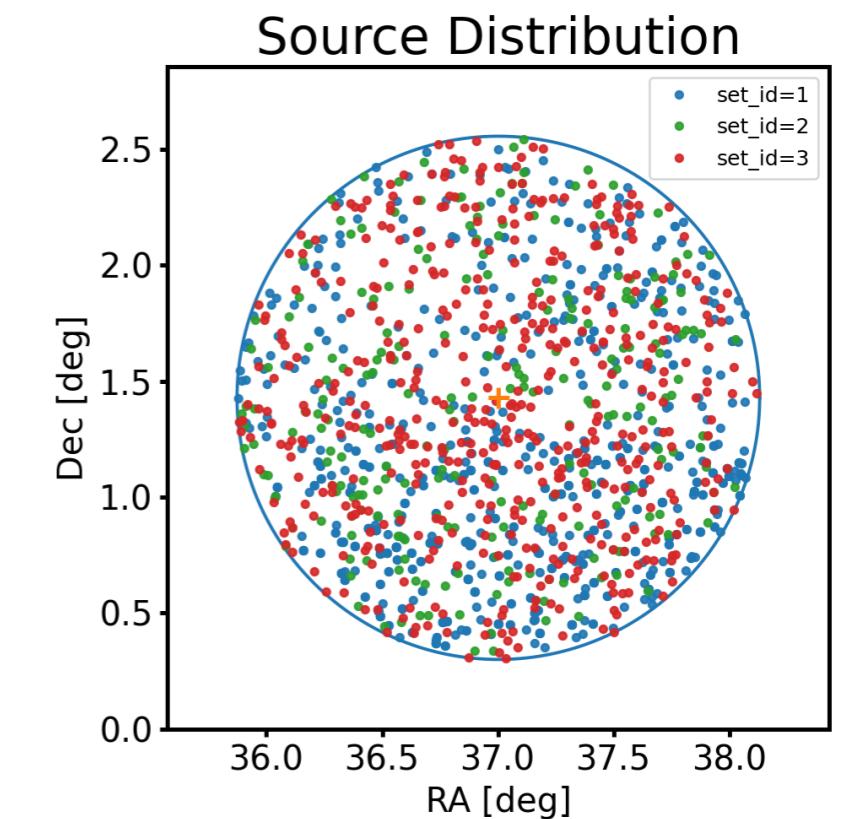
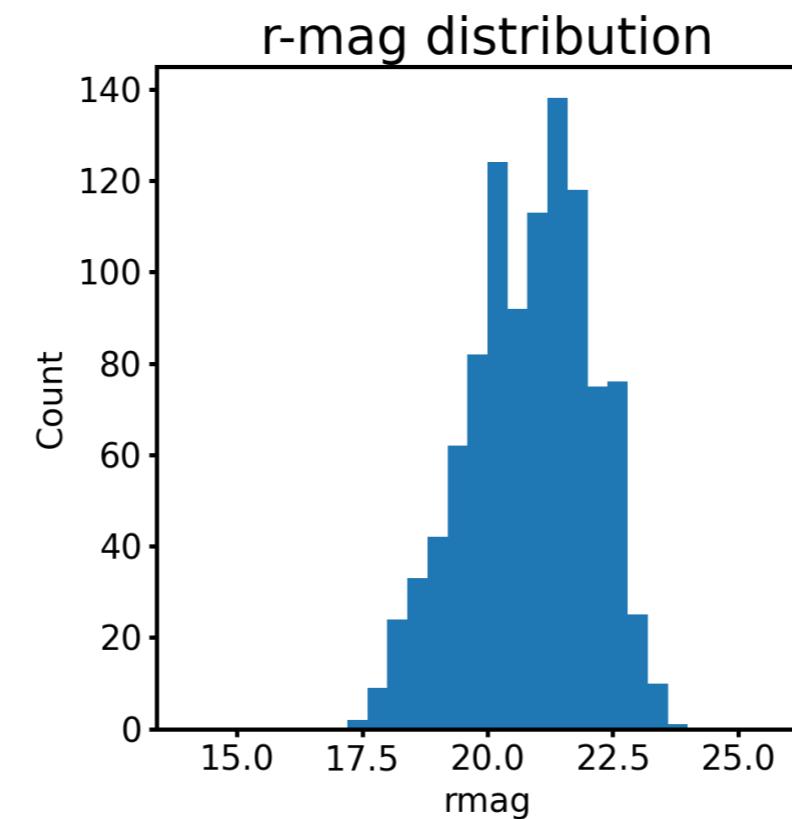
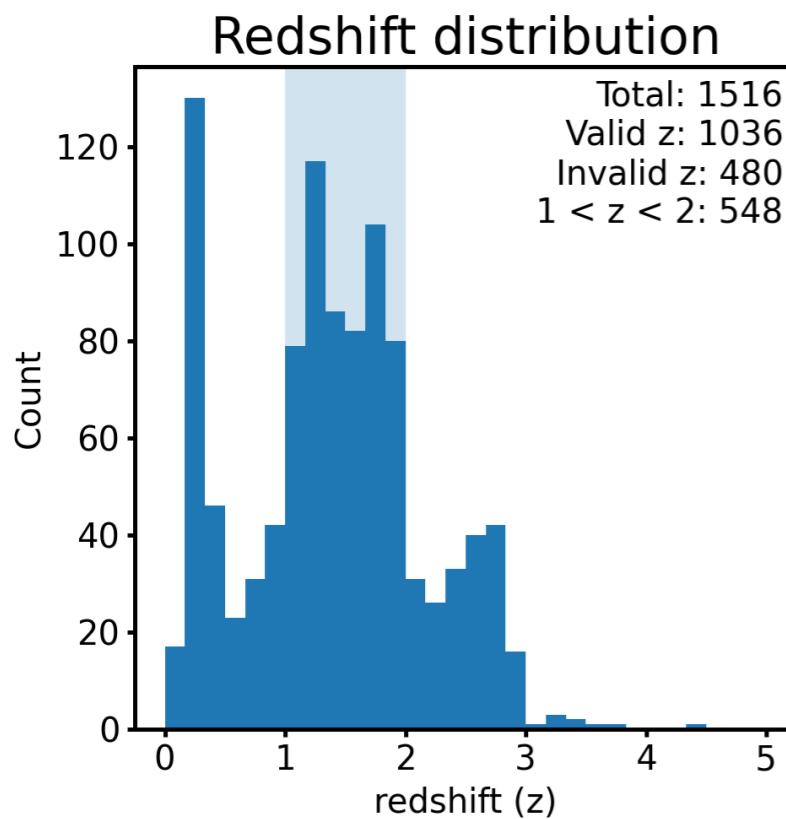
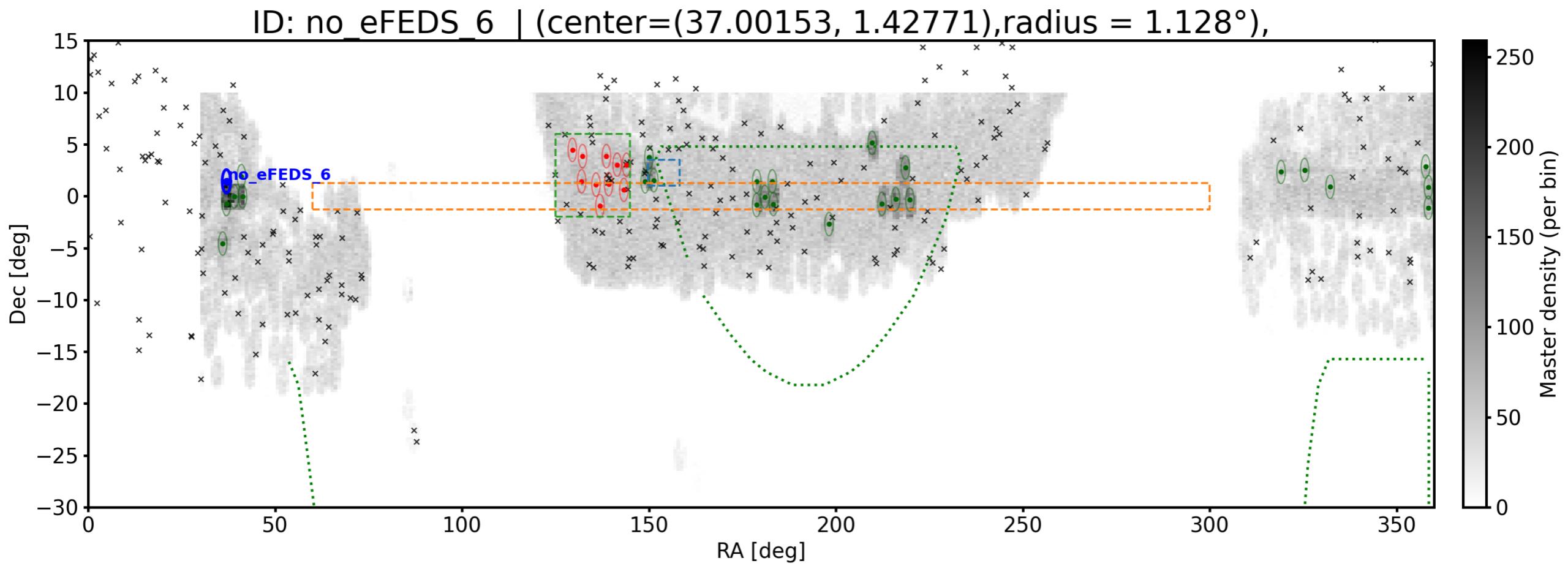




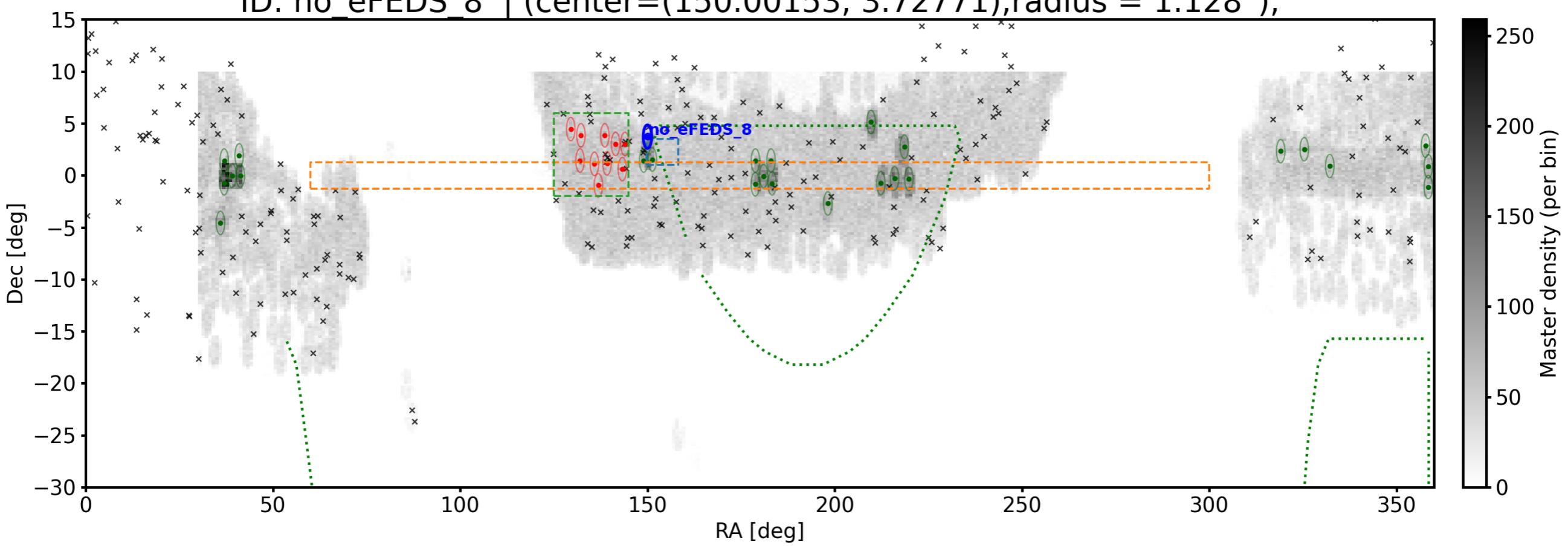




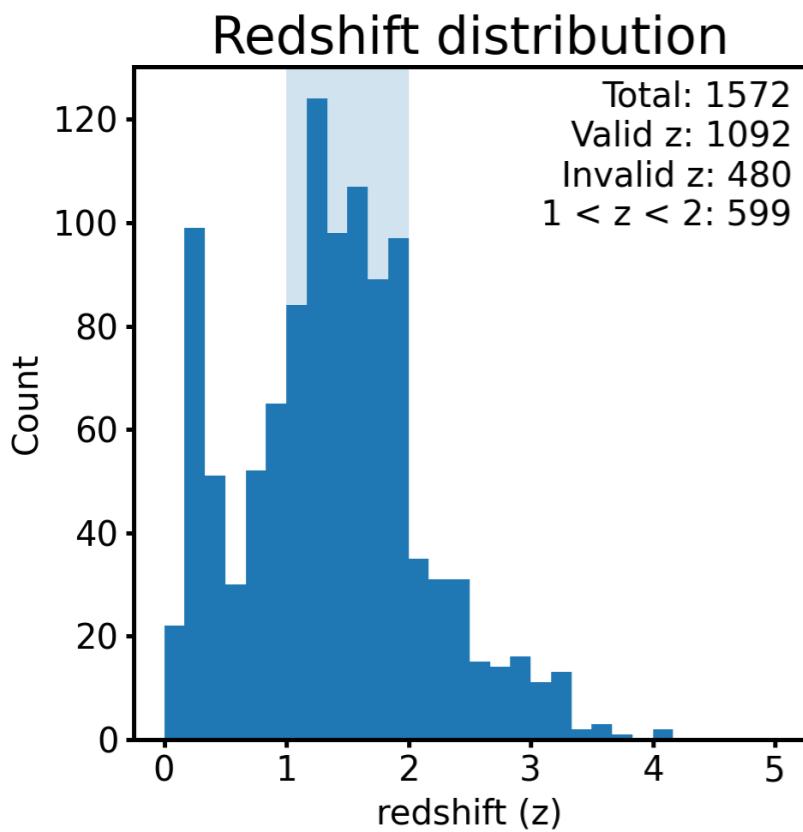




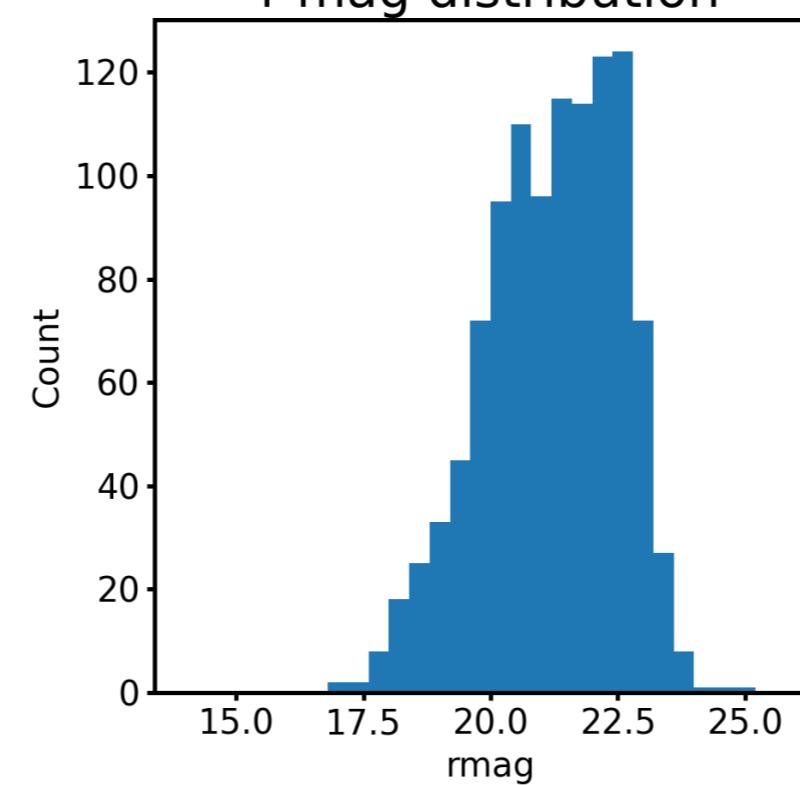
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Redshift distribution



r-mag distribution



Source Distribution

