

Summary of Azimuths and angles between 588 2nd Ave and 590 2nd Ave derived from drawings

Web site used to find Azimuth and Declination of Sun every minute of every day when sun is obstructed by screen

<https://www.esrl.noaa.gov/gmd/grad/solcalc/azel.html>

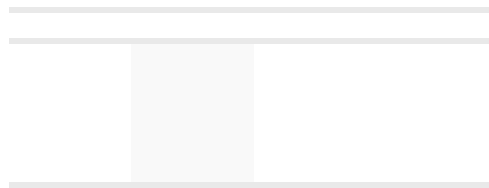
Azimuths based on 2nd avenue bearing 170d	Azimuth	minimum elevation
SE corner of 41' roof to SE corner of lightwell		126
SE corner of E building to NW corner of garden		132
SE corner of 41' roof and NE corner of 41' roof at lightwell		134
SE corner of E building and NE corner of 41' roof of 590 2nd Ave		140
SE corner of 41' roof and NE corner of kitchen deck		140
SE corner of lightwell (41' h) to SW corner of garden		156
NS building line		170
SW corner of lightwell (41'h) to E edge of sunroom (21' h)		215
SW corner of lightwell (41'h) to SE corner of lightwell (12' h)		245

morning sun across 12' high deck east end of 590 2nd Avd not affected by any screens	140-170	25
morning sun across 41' high roof east of lightwell not affected by any screens	140-170	59
morning sun on deck off family room without screen	110-170	60
morning sun on deck off family room with screen	110-170	63
afternoon sun on deck off family room without screen	160-215	60
afternoon sun on deck off family room with screen	160-215	63
afternoon sun across lightwell on garden without screen	175-230	54
afternoon sun across lightwell on garden with screen	175-230	58
morning sun on 3rd flr deck (21') without screen across lightwell	126-170	35-50
morning sun on 3rd flr deck (21') with screen across lightwell	139-170	40-55

Date	time	Azimuth	Elevation	140-170	az 128-245	
1/1/2020	8	124	5	no		
	9	134	14	no		
	10	147	22	no		
	11	161	27	no		
	12	176	29	no		
	13	192	28			
	14	206	24			
	15	220	18			
	16	231	9			
	17	240	0			
	2/1/2020	8	118	7		
		9	129	17		
		10	142	26		
		11	156	32	no sun	
		12	173	35		
		13	191	35		
		14	207	31		

when the sun is 160 to 180 , the east screen is between the sun and a point 25' north of property line and 9 feet west of property line
 the angle between the roof and north edge of our backyard is 59 degrees, will increase to 62 degrees with screen
[the angle between roof at lightwell setback and north edge of 588 is 52d](#)
 the angle between the roof at lightwell and floor of lightwell at east end is about 45d
 the angle between sun and north edge of our yard is 45%, azimuth between 128 and 187

	15	221	24	
	16	233	15	
	17	244	5	
3/1/2020	8	111	14	
	9	122	25	
	10	136	34	loose sun on upper deck with screen
	11	153	41	
	12	172	45	
	13	193	44	
	14	212	40	
	15	228	32	
	16	241	22	
	17	252	12	
	18	261	0	
4/1/2020	7	93	12	
	8	103	24	
	9	114	35	
	10	129	45	
	11	149	53	
	12	174	57	Garden will lose afternoon sun with screen
	13	201	56	Garden will lose afternoon sun with screen
	14	223	49	
	15	240	40	
	16	252	29	
	17	263	18	
	18	272	6	
5/1/2020	7	86	20	
	8	95	32	
	9	106	43	
	10	120	54	
	11	142	63	sun
	12	176	68	
	13	211	65	
	14	236	56	
	15	252	46	
	16	263	34	
	17	273	22	
	18	281	11	
6/1/2020	7	79	23	
	8	88	35	
	9	98	47	
	10	110	56	
	11	132	69	



	12	173	74
	13	220	71
	14	245	61
	15	260	50
	16	270	38
	17	279	26
	18	287	15
7/1/2020	7	78	23
	8	86	34
	9	95	46
	10	108	58
	11	128	68 sun
	12	168	75
	13	217	72
	14	245	63
	15	260	52
	16	270	40
	17	279	28
	18	287	16

FAMILY ROOM DECK SHADING Calculations

Shading of 588 2nd Ave Family room decks and back yard by the cell antennas on 590

all times are PST, no adjustmet for daylight savings time

Double the calculated times to include time between summer solstice and Dec 31

January 1 to **June 20 (summer solstice)**

Radio screen between family room deck and sun from azimuth (compas direction) 110-215 (90 is east and 180 is south)

From east to west sextant measurements at various locations on deck range from 63-52 at 4 feet above deck.

Based on my drawing of a north-south elevation section, I estimate the screen will raise these angles aout 5 degrees.

Results below show shadowing between April 17 and August 15, for a total of 128 days, the screen will shade the family room deck between 10:30am and 1pm

During that time frame the sun shines an average 67 minutes a day dring that time, ranging from 20 minutes when sun is low to 149 minutes when the sun is higher

The screen will eliminate sun on 34 days when the sun is lower

The shodowing will decrease sunlight from 143 hours to 86 hours, a reduction of 40%

date	LAN Elev bet 12:05		minutes between		Az 110-215		start time El 63	Az reach 68	Az back down to 68	end time El 63 or Az215	time shaded by screen El 63-68	Time bet		% REDUCT ION	
	Elev at Az 110	and Elev at Az 215	time at Az 110	time at AZ215	Az 110-215	Az El 63						Az 110-215 not shaded by screen	Total time it would have shined		
4/11/2020	37.0	60.9	8:53	13:25	272	does not	does not	does not	does not	12:40	#VALUE!	0	#VALUE!	0%	
4/12/2020	37.4	61.3	8:54	13:24	270	does not	does not	does not	does not	12:49	#VALUE!	0	#VALUE!	0%	
4/13/2020	37.9	61.7	8:55	13:23	268	does not	does not	does not	does not	12:54	#VALUE!	0	#VALUE!	0%	
4/14/2020	38.6	62.0	8:57	13:22	265	does not	does not	does not	does not	12:58	#VALUE!	0	#VALUE!	0%	
4/15/2020	38.8	62.4	58.1	8:57	13:21	264	does not	does not	does not	13:02	#VALUE!	0	#VALUE!	0%	
4/16/2020	39.5	62.7		8:59	13:20	261	does not	does not	does not	13:05	#VALUE!	0	#VALUE!	0%	
4/17/2020	40.1	63.1	58.8	9:01	13:19	258	175	11:59	does not	does not	12:19	20	0	20	100%
4/18/2020	40.6	63.4		9:02	13:18	256	168	11:47	does not	does not	12:31	44	0	44	100%
4/19/2020	41.2	63.8		9:04	13:18	254	164	11:40	does not	does not	12:38	58	0	58	100%
4/20/2020	41.8	64.1	59.9	9:06	13:17	251	161	11:34	does not	does not	12:43	69	0	69	100%
4/21/2020	42.3	64.5	60.3	9:07	13:16	249		11:30	does not	does not	12:47	77	0	77	100%
4/22/2020	42.7	64.8		9:08	13:15	247		11:26	does not	does not	12:50	84	0	84	100%
4/23/2020	43.4	65.1		9:10	13:14	244		11:21	does not	does not	12:54	93	0	93	100%
4/24/2020	43.8	65.5		9:11	13:13	242		11:17	does not	does not	12:57	100	0	100	100%
4/25/2020	44.2	65.8	61.9	9:12	13:12	240	150	11:14	does not	does not	13:01	107	0	107	100%
4/26/2020	44.8	66.1		9:14	13:11	237		11:11	does not	does not	13:02	111	0	111	100%

4/27/2020	45.2	66.4		9:15	13:11	236		11:08	does not	does not	13:03	115	0	115	100%
4/28/2020	45.6	66.7		9:16	13:10	234	146	11:06	does not	does not	13:04	118	0	118	100%
4/29/2020	46.2	67.0		9:18	13:09	231		11:03	does not	does not	13:05	122	0	122	100%
4/30/2020	46.6	67.3		9:19	13:08	229		11:00	does not	does not	13:06	126	0	126	100%
5/1/2020	47.2	67.6	63.9	9:21	13:08	227	141	10:58	does not	does not	13:07	129	0	129	100%
5/2/2020	47.6	67.9		9:22	13:07	225	140	10:56	does not	does not	13:06	130	0	130	100%
5/3/2020	48.0	68.2		9:23	13:06	223		10:54	11:52	12:21	13:06	103	29	132	78%
5/4/2020	48.6	68.5		9:25	13:05	220		10:52	11:46	12:27	13:05	92	41	133	69%
5/5/2020	49.1	68.8		9:27	13:04	217	136	10:50	11:40	12:33	13:04	81	53	134	60%
5/6/2020	49.5	69.1		9:28	13:04	216		10:49	11:37	12:36	13:04	76	59	135	56%
5/7/2020	49.9	69.3		9:29	13:03	214		10:47	11:33	12:39	13:03	70	66	136	51%
5/8/2020	50.3	69.6		9:30	13:02	212		10:46	11:29	12:43	13:02	62	74	136	46%
5/9/2020	50.8	69.9		9:32	13:02	210	133	10:44	11:26	12:46	13:02	58	80	138	42%
5/10/2020	51.2	70.1	66.8	9:33	13:01	208	132	10:43	11:23	12:49	13:01	52	86	138	38%
5/11/2020	51.5	70.4		9:34	13:00	206		10:42	11:20	12:52	13:00	46	92	138	33%
5/12/2020	52.0	70.6		9:36	13:00	204		10:41	11:18	12:54	13:00	43	96	139	31%
5/13/2020	52.4	70.9		9:37	12:59	202		10:40	11:16	12:56	12:59	39	100	139	28%
5/14/2020	52.7	71.1		9:38	12:59	201		10:39	11:14	12:58	12:59	36	104	140	26%
5/15/2020	53.0			9:39	12:58	199		10:38	11:12	12:58	13:00	36	106	142	25%
5/16/2020	53.5			9:41	12:58	197		10:37	11:11	12:58	12:58	34	107	141	24%
5/17/2020	53.9	71.8		9:42	12:57	195		10:36	11:09	12:57	12:57	33	108	141	23%
5/18/2020	54.2			9:43	12:57	194		10:35	11:08	12:57	12:57	33	109	142	23%
5/19/2020	54.5			9:44	12:56	192		10:34	11:07	12:56	12:56	33	109	142	23%
5/20/2020	54.8	72.4	69.4	9:45	12:56	191	124	10:32	11:06	12:56	12:56	34	110	144	24%
5/21/2020	55.1			9:46	12:56	190	123	10:31	11:04	12:56	12:56	33	112	145	23%
5/22/2020	55.2			9:46	12:55	189		10:30	11:03	12:55	12:55	33	112	145	23%
5/23/2020	55.8			9:49	12:55	186		10:30	11:02	12:55	12:55	32	113	145	22%
5/24/2020	56.1			9:50	12:54	184		10:29	11:01	12:54	12:54	32	113	145	22%
5/25/2020	56.4	73.4		9:51	12:54	183	121	10:28	11:00	12:54	12:54	32	114	146	22%
5/26/2020	56.6			9:52	12:54	182		10:28	11:00	12:54	12:54	32	114	146	22%
5/27/2020	56.9			9:53	12:54	181		10:27	10:59	12:54	12:54	32	115	147	22%
5/28/2020	57.2			9:54	12:54	180		10:27	10:59	12:54	12:54	32	115	147	22%
5/29/2020	57.4			9:55	12:53	178		10:26	10:58	12:53	12:53	32	115	147	22%

5/30/2020	57.7	74.2		9:56	12:53	177		10:26	10:57	12:53	12:53	31	116	147	21%
5/31/2020	57.9			9:57	12:53	176	118	10:25	10:56	12:53	12:53	31	117	148	21%
6/1/2020	58.1		71.6	9:58	12:53	175		10:25	10:56	12:53	12:53	31	117	148	21%
6/2/2020	58.4			9:59	12:53	174		10:25	10:55	12:53	12:53	30	118	148	20%
6/3/2020	58.6			10:00	12:53	173		10:25	10:55	12:53	12:53	30	118	148	20%
6/4/2020				10:01	12:53	172		10:24	10:55	12:53	12:53	31	118	149	21%
6/5/2020				10:02	12:52	170		10:24	10:54	12:52	12:52	30	118	148	20%
6/6/2020				10:02	12:52	170		10:24	10:54	12:52	12:52	30	118	148	20%
6/7/2020				10:03	12:52	169		10:24	10:54	12:52	12:52	30	118	148	20%
6/8/2020				10:04	12:52	168		10:23	10:53	12:52	12:52	30	119	149	20%
6/9/2020				10:04	12:52	168		10:23	10:53	12:52	12:52	30	119	149	20%
6/10/2020	59.7	75.3	72.7	10:05	12:52	167	115	10:23	10:53	12:52	12:52	30	119	149	20%
6/11/2020				10:05	12:52	167		10:23	10:53	12:52	12:52	30	119	149	20%
6/12/2020				10:06	12:52	166		10:23	10:53	12:52	12:52	30	119	149	20%
6/13/2020				10:07	12:52	165		10:23	10:53	12:52	12:52	30	119	149	20%
6/14/2020				10:07	12:52	165		10:23	10:53	12:52	12:52	30	119	149	20%
6/15/2020	60.2		72.9	10:08	12:52	164		10:24	10:53	12:52	12:52	29	119	148	20%
6/16/2020				10:08	12:53	165		10:24	10:53	12:53	12:53	29	120	149	19%
6/17/2020				10:08	12:53	165		10:24	10:53	12:53	12:53	29	120	149	19%
6/18/2020				10:09	12:53	164		10:24	10:53	12:53	12:53	29	120	149	19%
6/19/2020				10:09	12:53	164		10:24	10:53	12:53	12:53	29	120	149	19%
6/20/2020	60.4	75.7	73.1	10:10	12:53	163		10:24	10:53	12:53	12:53	29	120	149	19%
												3412	5162	8574	
												57	86	143	40%

UPPER DECK calculations when sun over south building stairwell

The screen will affect the upper deck between azimuth 140 and 215 AFTER WHICH TIME IT PASSES BEHIND OUR HOUSE
 I used my sextant to measure the angle between 4' above the deck (eye while sitting) to roof line in that direction
 Depending on location on the deck, Angle to roof in direction of screen ranges from 29-42 earlier in the day and 27-40 later in the day
 Decided to use an average of 35 degrees for calculations
 Based on my drawing of a north-south elevation section, I estimate the screen will raise these angles about 5 degrees.
 Based on the following calculations, between 2/1/20 and 3/8/20, 38 days,
 The screen will obstruct the sun for 60 out of 123 hours, an average of 94 minutes (49%) during that time
 This will be duplicated approximately between October 1 and November 10

date	LAN Elev bet		Elev at Az 215	time at Az		minutes between Az 140-215	Az at El 35 El 35 does not reach Az 35	start time El 35	later of AZ140 or El 35	Az reach El 40	Az back down to 40	end time El 35 or Az215	time shaded by screen El 35-40	Time bet Az 140-215 not shaded by screen	Total time it would have shined	% REDUCTION	
	Elev at Az 140	12:20 and 215		140	215												
1/31/2020																	
2/1/2020	25.0		27.7	9:53	14:31	278	171	11:53	11:53	does not	does not	12:41	48	0	48	100%	
2/2/2020							171	11:52	11:52	does not	does not	12:55	63	0	63		
2/3/2020								11:45	11:45	does not	does not	13:02	77	0	77		
2/4/2020	25.8			9:55	14:30		167	11:38	11:38	does not	does not	13:09	91	0	91		
2/5/2020										does not	does not		101	0	101		
2/6/2020										does not	does not		111	0	111		
2/7/2020										does not	does not		121	0	121		
2/8/2020										does not	does not		131	0	131		
2/9/2020										does not	does not		141	0	141		
2/10/2020				10:00	14:27			11:09	11:09	does not	does not	13:40	151	0	151		
2/11/2020										does not	does not		158	0	158		
2/12/2020										does not	does not		165	0	165		
2/13/2020										does not	does not		173	0	173		
2/14/2020										does not	does not		180	0	180		
2/15/2020										does not	does not		188	0	188		
2/16/2020	30.3			10:05	14:22	257	150	10:46	10:46	does not	does not	14:01	195	0	195	100%	
2/17/2020				10:06	14:21	255	149	10:43	10:43		12:01	12:47	14:04	155	46	201	77%
2/18/2020				10:07	14:20	253	148	10:40	10:40	11:50	12:57	14:07	140	67	207	68%	
2/19/2020				10:08	14:19	251	147	10:37	10:37	11:41	13:05	14:10	129	84	213	61%	
2/20/2020				10:09	14:18	249	147	10:34	10:34	11:35	13:12	14:13	122	97	219	56%	
2/21/2020				10:09	14:17	248	146	10:32	10:32	11:28	13:19	14:16	113	111	224	50%	
2/22/2020				10:10	14:16	246	145	10:28	10:28	11:21	13:24	14:18	107	123	230	47%	
2/23/2020				10:11	14:15	244	144	10:25	10:25	11:18	13:29	14:16	100	131	231	43%	
2/24/2020				10:12	14:14	242	143	10:23	10:23	11:13	13:34	14:15	91	141	232	39%	
2/25/2020	34.2	43.2	36.5	10:13	14:14	241	142	10:20	10:20	11:09	13:39	14:14	84	150	234	36%	
2/26/2020	34.6			10:13	14:13	240	142	10:16	10:16	11:04	13:41	14:13	80	157	237	34%	
2/27/2020	35.0	33.9	37.3	10:14	14:12	238	141	10:14	10:14	10:59	13:45	14:12	72	166	238	30%	
2/28/2020	35.5		37.8	10:15	14:11	236	139	10:11	10:15	10:55	13:49	14:11	62	174	236	26%	
2/29/2020	35.9			10:15	14:10	235	138	10:08	10:15	10:51	13:52	14:10	54	181	235	23%	
3/1/2020	36.3	45.1	38.6	10:16	14:09	233	137	10:06	10:16	10:48	13:56	14:09	45	188	233	19%	
3/2/2020				10:16	14:08	232	136	10:04	10:16	10:45	13:59	14:08	38	194	232	16%	
3/3/2020				10:17	14:07	230	135	10:01	10:17	10:41	14:02	14:07	29	201	230	13%	
3/4/2020				10:18	14:06	228	134	9:58	10:18	10:38	14:05	14:06	21	207	228	9%	
3/5/2020				10:18	14:05	227	133	9:58	10:18	10:37	14:07	14:05	19	210	229	8%	
3/6/2020	38.6	47	40.8	10:20	14:04	224	133	9:54	10:20	10:32	14:10	14:04	12	218	230	5%	
3/7/2020				10:20	14:03	223	132	9:51	10:20	10:28	14:13	14:03	8	225	233	3%	
3/8/2020				10:21	14:02	221	132	9:49	10:21	10:25	14:16	14:02	4	231	235	2%	
3/9/2020				10:20	14:01	221	131	9:47	10:20	10:22	14:19	14:01	2	237	239	1%	
3/10/2020	40.0	48.6	42.5	10:19	14:00	221	130	9:44	10:19	10:19	14:21	14:00	0	242	242	0%	
													3581	3781	7362	49%	
													60	63	123	minutes hours	

GARDEN SHADING

afternoon sun across lightwell on garden without screen, starting at north edge of garden
 afternoon sun across lightwell on garden with screen
 At far NE corner of yard elevation per elevation drawing from yard to roof at screen is 24d rising to 28d with screen
 At NW corner of yard elevation per elevation drawing from yard to roof at screen is 44 d rising to 48d with screen

Azimuth
 175-230
 175-230

these times are when the screen will completely obstruct sun from the garden, but without screen the garden has some sun, amount increasing as elevation increases
 For 69 days before and after the winter solstice the screen will shade the garden for a total of 138 days in the winter
 At the solstice, when the sun is over or behind the screen, the direct sun is reduced by 50% from 2 hours to one hour a day
 The amount of reduction gradually decreases to 0 over the 69 days.
 A total of 45 hours lost or 25% of the total hours the sun is shining during this time now
 this is at the back of the garden.
 The closer to the house the greater the effect of the screen

date	Elev at Az 175	Elev at Az 230	minutes between Az 175-230	time at Az 175	Time El < 44 and Az > 175	time El < 48 > Az > 175	Time El > 48 back to El 44 > Az > 175	Time El lowers back to < 48 and < Az > Az < 230 230	Time above El 44 and below El 28	Time above El 24 and below El 28	Total time	REDUCTI ON	Az at El 24 down to 24	Az back later of Az 230 or El 24	time shaded by screen El 24 or Az 230 35-40	Time bet Az 140-215 not shaded by screen	Total time it would have shined	% REDUCTION
12/20/2019	29.0	9.8	240	11:49	0:00	0:00	11:49	12:51	13:53	15:49	62	62	124	50%				
12/21/2019				11:49			11:49	12:51	13:53	15:49	62	62	124	50%				
12/22/2019				11:50			11:50	12:52	13:54	15:49	62	62	124	50%				
12/23/2019				11:50			11:50	12:53	13:55	15:49	63	62	125	50%				
12/24/2019				11:51			11:51	12:54	13:56	15:49	63	62	125	50%				
12/25/2019				11:51			11:51	12:55	13:56	15:49	64	61	125	49%				
12/26/2019				11:52			11:52	12:56	13:57	15:52	64	61	125	49%				
12/27/2019				11:52			11:52	12:58	13:57	15:52	66	59	125	47%				
12/28/2019				11:52			11:52	12:59	13:59	15:53	67	60	127	47%				
12/29/2019				11:53			11:53	13:01	14:00	15:53	68	59	127	46%				
12/30/2019				11:53			11:53	13:04	14:01	15:53	71	57	128	45%				
12/31/2019				11:54			11:54	13:05	14:02	15:53	71	57	128	45%				
1/1/2020	29.1			11:54	0	0	11:54	13:06	14:03	15:53	72	57	129	44%				
1/2/2020				11:55			11:55	13:08	14:05	15:53	73	57	130	44%				
1/3/2020				11:55			11:55	13:10	14:06	15:53	75	56	131	43%				
1/4/2020				11:56			11:56	13:12	14:07	15:53	76	55	131	42%				
1/5/2020				11:56			11:56	13:15	14:09	15:53	79	54	133	41%				
1/6/2020				11:57			11:57	13:18	14:11	15:53	81	53	134	40%				
1/7/2020				11:57			11:57	13:19	14:12	15:53	82	53	135	39%				
1/8/2020				11:58			11:58	13:23	14:14	15:53	85	51	136	38%				
1/9/2020				11:58			11:58	13:26	14:15	15:53	88	49	137	36%				
1/10/2020				11:58	0	0	11:58	13:29	14:17	15:53	91	48	139	35%				
1/11/2020				11:59	0	0	11:59	13:32	14:19	15:53	93	47	140	34%				
1/12/2020				11:59	0	0	11:59	13:36	14:21	15:53	97	45	142	32%				
1/13/2020				12:00	0	0	12:00	13:38	14:23	15:52	98	45	143	31%				
1/14/2020				12:00	0	0	12:00	13:40	14:24	15:52	100	44	144	31%				
1/15/2020				12:01	0	0	12:01	13:42	14:26	15:52	101	44	145	30%				
1/16/2020				12:01	0	0	12:01	13:45	14:29	15:51	104	44	148	30%				
1/17/2020				12:02	0	0	12:02	13:48	14:31	15:51	106	43	149	29%				
1/18/2020				12:02	0	0	12:02	13:52	14:33	15:50	110	41	151	27%				
1/19/2020				12:02	0	0	12:02	13:54	14:36	15:50	112	42	154	27%				
1/20/2020				12:03	0	0	12:03	13:57	14:37	15:49	114	40	154	26%				
1/21/2020				12:03	0	0	12:03	13:59	14:38	15:49	116	39	155	25%				
1/22/2020				12:03	0	0	12:03	14:04	14:40	15:49	121	36	157	23%				
1/23/2020				12:04	0	0	12:04	14:04	14:42	15:48	120	38	158	24%				
1/24/2020				12:04	0	0	12:04	14:04	14:44	15:47	120	40	160	25%				
1/25/2020				12:04	0	0	12:04	14:08	14:46	15:47	124	38	162	23%				
1/26/2020				12:05	0	0	12:05	14:11	14:48	15:46	126	37	163	23%				
1/27/2020				12:05	0	0	12:05	14:14	14:50	15:46	129	36	165	22%				
1/28/2020				12:05	0	0	12:05	14:17	14:52	15:45	132	35	167	21%				
1/29/2020				12:05	0	0	12:05	14:19	14:54	15:44	134	35	169	21%				
1/30/2020				12:06	0	0	12:06	14:22	14:56	15:43	136	34	170	20%				
1/31/2020				12:06	0	0	12:06	14:24	14:58	15:43	138	34	172	20%				
2/1/2020				12:06	0	0	12:06	14:27	14:59	15:42	141	32	173	18%				
2/2/2020				12:06			12:06	14:29	15:02	15:41	143	33	176	19%				
2/3/2020				12:07			12:07	14:31	15:04	15:40	144	33	177	19%				
2/4/2020				12:07			12:07	14:33	15:05	15:39	146	32	178	18%				
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2/18/2020				12:08			12:08	15:05	15:24	15:24	177	19	196	10%				
2/19/2020				12:08			12:08	15:07	15:23	15:22	179	16	195	8%				
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2/21/2020				12:08			12:08	15:11	15:20	15:20	183	9	192	5%				
2/22/2020				12:08			12:08	15:12	15:19	15:19	184	7	191	4%				
2/23/2020				12:08			12:08	15:14	15:18	15:19	186	4	190	2%				
2/24/2020				12:08			12:08	15:16	15:16	15:16	188	0	188	0%				
											8149	2688	10837					
											136	45	181	25%	over 69 days			
											181	total hours over 69 days						
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3/25/2020	12.04	12.04	12.04	12.04	13:53	14:23	14:33	109	30	139	22%
3/26/2020	12.04	12.04	12.04	12.04	13:56	14:25	14:31	112	29	141	21%
3/27/2020	12.03	12.03	12.03	12.03	13:58	14:27	14:30	115	29	144	20%
3/28/2020	12.03	12.03	12.03	12.03	14:00	14:29	14:28	117	29	146	20%
3/29/2020	12.03	12.03	12.03	12.03	14:03	14:27	14:27	120	24	144	17%
3/29/2020	12.03	12.03	12.03	12.03	14:04	14:26	14:26	121	22	143	15%
3/30/2020	12.03	12.03	12.03	12.03	14:05	14:25	14:25	122	20	142	14%
3/31/2020	12.03	12.03	12.03	12.03	14:07	14:24	14:24	124	17	141	12%
4/1/2020	12.02	12.02	12.02	12.02	14:09	14:23	14:23	127	14	141	10%
4/2/2020	12.02	12.02	12.02	12.02	14:11	14:21	14:21	129	10	139	7%
4/3/2020	12.02	12.02	12.02	12.02	14:12	14:20	14:20	130	8	138	6%
4/4/2020	12.02	12.02	12.02	12.02	14:14	14:18	14:18	132	4	136	3%
4/5/2020	12.02	12.02	12.02	12.02	14:16	14:17	14:17	134	1	135	1%
4/6/2020	12.01	12.01	12.01	12.01	12:01	12:01	14:15	0	0	0	NDIV/0!
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								47	26	73	35%

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