

SAP WorkSheet: New extension to existing dwelling

(66)m=

347.27	347.27	347.27	347.27	347.27	347.27	347.27	347.27	347.27	347.27	347.27	347.27
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 (66)

Lighting gains (calculated in Appendix L, equation L9 or L9a), also see Table 5

(67)m=

449.38	399.13	324.6	245.74	183.69	155.08	167.57	217.82	292.35	371.21	433.25	461.87
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 (67)

Appliances gains (calculated in Appendix L, equation L13 or L13a), also see Table 5

(68)m=

2407.47	2432.45	2369.5	2235.48	2066.3	1907.3	1801.07	1776.09	1839.05	1973.07	2142.24	2301.25
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 (68)

Cooking gains (calculated in Appendix L, equation L15 or L15a), also see Table 5

(69)m=

75.51	75.51	75.51	75.51	75.51	75.51	75.51	75.51	75.51	75.51	75.51	75.51
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 (69)

Pumps and fans gains (Table 5a)

(70)m=

10	10	10	10	10	10	10	10	10	10	10	10
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 (70)

Losses e.g. evaporation (negative values) (Table 5)

(71)m=

-231.51	-231.51	-231.51	-231.51	-231.51	-231.51	-231.51	-231.51	-231.51	-231.51	-231.51	-231.51
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 (71)

Water heating gains (Table 5)

(72)m=

256.36	252.4	244.16	232.97	225.7	215.47	206.77	217.91	221.87	233.46	246.54	252.41
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 (72)

Total internal gains = (66)m + (67)m + (68)m + (69)m + (70)m + (71)m + (72)m

(73)m=

3314.48	3285.26	3139.53	2915.46	2676.97	2479.12	2376.68	2413.09	2554.54	2779.01	3023.31	3216.8
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 (73)

6. Solar gains:

Solar gains are calculated using solar flux from Table 6a and associated equations to convert to the applicable orientation.

Orientation:	Access Factor Table 6d			Area m ²		Flux Table 6a		g_ Table 6b		FF Table 6c		Gains (W)	
North	0.9x	0.77	x	122	x	10.63	x	0.68	x	0.7	=	427.93	(74)
North	0.9x	0.77	x	122	x	20.32	x	0.68	x	0.7	=	817.79	(74)
North	0.9x	0.77	x	122	x	34.53	x	0.68	x	0.7	=	1389.63	(74)
North	0.9x	0.77	x	122	x	55.46	x	0.68	x	0.7	=	2232.11	(74)
North	0.9x	0.77	x	122	x	74.72	x	0.68	x	0.7	=	3006.85	(74)
North	0.9x	0.77	x	122	x	79.99	x	0.68	x	0.7	=	3218.92	(74)
North	0.9x	0.77	x	122	x	74.68	x	0.68	x	0.7	=	3005.28	(74)
North	0.9x	0.77	x	122	x	59.25	x	0.68	x	0.7	=	2384.3	(74)
North	0.9x	0.77	x	122	x	41.52	x	0.68	x	0.7	=	1670.79	(74)
North	0.9x	0.77	x	122	x	24.19	x	0.68	x	0.7	=	973.48	(74)
North	0.9x	0.77	x	122	x	13.12	x	0.68	x	0.7	=	527.91	(74)
North	0.9x	0.77	x	122	x	8.86	x	0.68	x	0.7	=	356.74	(74)
East	0.9x	1	x	64	x	19.64	x	0.68	x	0.7	=	414.64	(76)
East	0.9x	1	x	30	x	19.64	x	0.68	x	0.7	=	194.36	(76)
East	0.9x	1	x	64	x	38.42	x	0.68	x	0.7	=	811.12	(76)
East	0.9x	1	x	30	x	38.42	x	0.68	x	0.7	=	380.21	(76)
East	0.9x	1	x	64	x	63.27	x	0.68	x	0.7	=	1335.79	(76)
East	0.9x	1	x	30	x	63.27	x	0.68	x	0.7	=	626.15	(76)
East	0.9x	1	x	64	x	92.28	x	0.68	x	0.7	=	1948.18	(76)
East	0.9x	1	x	30	x	92.28	x	0.68	x	0.7	=	913.21	(76)
East	0.9x	1	x	64	x	113.09	x	0.68	x	0.7	=	2387.56	(76)

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East	0.9x	1	x	30	x	113.09	x	0.68	x	0.7	=	1119.17	(76)
East	0.9x	1	x	64	x	115.77	x	0.68	x	0.7	=	2444.1	(76)
East	0.9x	1	x	30	x	115.77	x	0.68	x	0.7	=	1145.67	(76)
East	0.9x	1	x	64	x	110.22	x	0.68	x	0.7	=	2326.88	(76)
East	0.9x	1	x	30	x	110.22	x	0.68	x	0.7	=	1090.72	(76)
East	0.9x	1	x	64	x	94.68	x	0.68	x	0.7	=	1998.75	(76)
East	0.9x	1	x	30	x	94.68	x	0.68	x	0.7	=	936.92	(76)
East	0.9x	1	x	64	x	73.59	x	0.68	x	0.7	=	1553.58	(76)
East	0.9x	1	x	30	x	73.59	x	0.68	x	0.7	=	728.24	(76)
East	0.9x	1	x	64	x	45.59	x	0.68	x	0.7	=	962.46	(76)
East	0.9x	1	x	30	x	45.59	x	0.68	x	0.7	=	451.15	(76)
East	0.9x	1	x	64	x	24.49	x	0.68	x	0.7	=	517	(76)
East	0.9x	1	x	30	x	24.49	x	0.68	x	0.7	=	242.35	(76)
East	0.9x	1	x	64	x	16.15	x	0.68	x	0.7	=	340.98	(76)
East	0.9x	1	x	30	x	16.15	x	0.68	x	0.7	=	159.83	(76)
South	0.9x	0.77	x	90	x	46.75	x	0.68	x	0.7	=	1387.98	(78)
South	0.9x	0.77	x	90	x	76.57	x	0.68	x	0.7	=	2273.16	(78)
South	0.9x	0.77	x	90	x	97.53	x	0.68	x	0.7	=	2895.6	(78)
South	0.9x	0.77	x	90	x	110.23	x	0.68	x	0.7	=	3272.65	(78)
South	0.9x	0.77	x	90	x	114.87	x	0.68	x	0.7	=	3410.31	(78)
South	0.9x	0.77	x	90	x	110.55	x	0.68	x	0.7	=	3281.96	(78)
South	0.9x	0.77	x	90	x	108.01	x	0.68	x	0.7	=	3206.67	(78)
South	0.9x	0.77	x	90	x	104.89	x	0.68	x	0.7	=	3114.12	(78)
South	0.9x	0.77	x	90	x	101.89	x	0.68	x	0.7	=	3024.79	(78)
South	0.9x	0.77	x	90	x	82.59	x	0.68	x	0.7	=	2451.81	(78)
South	0.9x	0.77	x	90	x	55.42	x	0.68	x	0.7	=	1645.23	(78)
South	0.9x	0.77	x	90	x	40.4	x	0.68	x	0.7	=	1199.34	(78)
West	0.9x	0.77	x	105	x	19.64	x	0.68	x	0.7	=	680.26	(80)
West	0.9x	0.77	x	130	x	19.64	x	0.68	x	0.7	=	842.23	(80)
West	0.9x	0.77	x	105	x	38.42	x	0.68	x	0.7	=	1330.74	(80)
West	0.9x	0.77	x	130	x	38.42	x	0.68	x	0.7	=	1647.58	(80)
West	0.9x	0.77	x	105	x	63.27	x	0.68	x	0.7	=	2191.54	(80)
West	0.9x	0.77	x	130	x	63.27	x	0.68	x	0.7	=	2713.33	(80)
West	0.9x	0.77	x	105	x	92.28	x	0.68	x	0.7	=	3196.23	(80)
West	0.9x	0.77	x	130	x	92.28	x	0.68	x	0.7	=	3957.23	(80)
West	0.9x	0.77	x	105	x	113.09	x	0.68	x	0.7	=	3917.1	(80)
West	0.9x	0.77	x	130	x	113.09	x	0.68	x	0.7	=	4849.74	(80)
West	0.9x	0.77	x	105	x	115.77	x	0.68	x	0.7	=	4009.84	(80)
West	0.9x	0.77	x	130	x	115.77	x	0.68	x	0.7	=	4964.57	(80)
West	0.9x	0.77	x	105	x	110.22	x	0.68	x	0.7	=	3817.54	(80)
West	0.9x	0.77	x	130	x	110.22	x	0.68	x	0.7	=	4726.47	(80)

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West	0.9x	0.77	x	105	x	94.68	x	0.68	x	0.7	=	3279.21	(80)
West	0.9x	0.77	x	130	x	94.68	x	0.68	x	0.7	=	4059.97	(80)
West	0.9x	0.77	x	105	x	73.59	x	0.68	x	0.7	=	2548.85	(80)
West	0.9x	0.77	x	130	x	73.59	x	0.68	x	0.7	=	3155.72	(80)
West	0.9x	0.77	x	105	x	45.59	x	0.68	x	0.7	=	1579.03	(80)
West	0.9x	0.77	x	130	x	45.59	x	0.68	x	0.7	=	1954.99	(80)
West	0.9x	0.77	x	105	x	24.49	x	0.68	x	0.7	=	848.21	(80)
West	0.9x	0.77	x	130	x	24.49	x	0.68	x	0.7	=	1050.16	(80)
West	0.9x	0.77	x	105	x	16.15	x	0.68	x	0.7	=	559.42	(80)
West	0.9x	0.77	x	130	x	16.15	x	0.68	x	0.7	=	692.61	(80)
Rooflights	0.9x	1	x	27	x	26	x	0.76	x	0.8	=	384.13	(82)
Rooflights	0.9x	1	x	25	x	26	x	0.76	x	0.8	=	355.68	(82)
Rooflights	0.9x	1	x	5.4	x	26	x	0.76	x	0.8	=	76.83	(82)
Rooflights	0.9x	1	x	8.7	x	26	x	0.76	x	0.8	=	123.78	(82)
Rooflights	0.9x	1	x	27	x	54	x	0.76	x	0.8	=	797.82	(82)
Rooflights	0.9x	1	x	25	x	54	x	0.76	x	0.8	=	738.72	(82)
Rooflights	0.9x	1	x	5.4	x	54	x	0.76	x	0.8	=	159.56	(82)
Rooflights	0.9x	1	x	8.7	x	54	x	0.76	x	0.8	=	257.07	(82)
Rooflights	0.9x	1	x	27	x	96	x	0.76	x	0.8	=	1418.34	(82)
Rooflights	0.9x	1	x	25	x	96	x	0.76	x	0.8	=	1313.28	(82)
Rooflights	0.9x	1	x	5.4	x	96	x	0.76	x	0.8	=	283.67	(82)
Rooflights	0.9x	1	x	8.7	x	96	x	0.76	x	0.8	=	457.02	(82)
Rooflights	0.9x	1	x	27	x	150	x	0.76	x	0.8	=	2216.16	(82)
Rooflights	0.9x	1	x	25	x	150	x	0.76	x	0.8	=	2052	(82)
Rooflights	0.9x	1	x	5.4	x	150	x	0.76	x	0.8	=	443.23	(82)
Rooflights	0.9x	1	x	8.7	x	150	x	0.76	x	0.8	=	714.1	(82)
Rooflights	0.9x	1	x	27	x	192	x	0.76	x	0.8	=	2836.68	(82)
Rooflights	0.9x	1	x	25	x	192	x	0.76	x	0.8	=	2626.56	(82)
Rooflights	0.9x	1	x	5.4	x	192	x	0.76	x	0.8	=	567.34	(82)
Rooflights	0.9x	1	x	8.7	x	192	x	0.76	x	0.8	=	914.04	(82)
Rooflights	0.9x	1	x	27	x	200	x	0.76	x	0.8	=	2954.88	(82)
Rooflights	0.9x	1	x	25	x	200	x	0.76	x	0.8	=	2736	(82)
Rooflights	0.9x	1	x	5.4	x	200	x	0.76	x	0.8	=	590.98	(82)
Rooflights	0.9x	1	x	8.7	x	200	x	0.76	x	0.8	=	952.13	(82)
Rooflights	0.9x	1	x	27	x	189	x	0.76	x	0.8	=	2792.36	(82)
Rooflights	0.9x	1	x	25	x	189	x	0.76	x	0.8	=	2585.52	(82)
Rooflights	0.9x	1	x	5.4	x	189	x	0.76	x	0.8	=	558.47	(82)
Rooflights	0.9x	1	x	8.7	x	189	x	0.76	x	0.8	=	899.76	(82)
Rooflights	0.9x	1	x	27	x	157	x	0.76	x	0.8	=	2319.58	(82)
Rooflights	0.9x	1	x	25	x	157	x	0.76	x	0.8	=	2147.76	(82)
Rooflights	0.9x	1	x	5.4	x	157	x	0.76	x	0.8	=	463.92	(82)