Rebate Derating Charts

Percent of Optimal Production if East of South	Percent of Rebate
80%	100%
79%	98%
78%	96%
77%	94%
76%	92%
75%	90%
74%	88%
73%	86%
72%	84%
71%	82%
70%	80%
69%	78%
68%	76%
67%	74%
66%	72%
65%	70%
64% or less	0%

Percent of Optimal Production if West of South	Percent of Rebate
70%	100%
69%	98%
68%	96%
67%	94%
66%	92%
65%	90%
64%	88%
63%	86%
62%	84%
61%	82%
60%	80%
59%	78%
58%	76%
57%	74%
56%	72%
55%	70%
54% or less	0%

Chart Reference:
Massachusetts Commonwealth Solar II Program, Attachment D.
Modified by NHPUC to reduce derating for production from west of south orientation. NH and New England peak demand occurs mainly on summer afternoons between 1 and 6 pm. Energy capacity charges and transmission charges to utilities are based on peak demand. Energy costs are also typically higher in the afternoon then in the morning and thus the value of PV output is significantly greater in the afternoon than the morning. Solar thermal production from a southwestern oriented panel is also likely to be greater, and thus more valuable, than a southeastern oriented panel, all other things being equal, due to warmer ambient temperaturs and less morning fog.

Percent of Optimal Production is based on shading loss, Azimuth, and Tilt angle of the installed system.
Please use the below chart to advise your optimal production loss based upon installed azimuth and tilt angles and then factor in shading:

		Azimuth Angle (degrees east or west of due south)																
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Tilt angle (degrees from the horizontal plane)	90	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6
	85	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6
	80	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
	75	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7
	70	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
	65	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7
	60	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8
	55	0.95	0.95	0.95	0.95	0.95	0.95	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
	50	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8
	45	1	1	1	1	1	1	0.95	0.95	0.95	0.95	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	40	1	1	1	1	1	1	1	0.95	0.95	0.95	0.95	0.95	0.9	0.9	0.9	0.9	0.9
	35	1	1	1	1	1	1	1	1	1	0.95	0.95	0.95	0.95	0.9	0.9	0.9	0.9
	30	1	1	1	1	1	1	1	1	1	0.95	0.95	0.95	0.95	0.9	0.9	0.9	0.9
	25	1	1	1	1	1	1	1	1	1	0.95	0.95	0.95	0.95	0.95	0.9	0.9	0.9
	20	1	1	1	1	1	1	1	1	1	0.95	0.95	0.95	0.95	0.95	0.9	0.9	0.9
	15	1	1	1	1	1	1	1	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9	0.9
	10	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9	0.9
	5	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9	0.9
	0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Table Reference:
NREL Surface Orientation Factor charts from *Effects of Tilt and Azimuth Angle on Annual Incident Solar Radiation for United States Locations,* 2001