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I modeled the role of at the edge by the sample GariLynn gave me as

d_phi(r) = A * 0.013 * ((r - (radius - offset)) * 0.027 / offset)^4

When r = sqrt(x^2 + y^2) < radius - offset, no role off,
when r > radius - offset, it roles off as (r - (radius-offset)) ^ 4
d_phi = 0 at r = radius - offset
d_phi = A * 7 nm

The data tends to show role off at 2.7cm from the edge, and the
effect is prominent in r > radius - 0.7cm.
critical = 0.7 * offset/2.7cm
maxDown = d_phi(at radius)

It looks that the roll off effect is not crucial, at least for 00 mode.

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 roleoff.xls

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Filename: roleoff.xls from Hiro - 9/15/2006

offset cm	critical cm	max down nm	loss (TEM00) ppm
2.7	0.7	7	0.43
2.7	0.7	14	0.46
2.7	0.7	21	0.53
5.4	1.4	7	0.45
5.4	1.4	14	0.58
5.4	1.4	21	0.78
8.1	2.1	7	0.48
8.1	2.1	14	0.69
8.1	2.1	21	1.1
10.8	2.8	7	0.52
10.8	2.8	14	0.75
10.8	2.8	21	1.2

Actual data from LIGO 1 optics, compiled by Billingsley. See next page for example. Total drop height must be extrapolated,

	Distance from the edge of the optich where height reaches the average surface height			
	X radius (mm)	X roll (nm)	Y radius (mm)	Y roll(nm)
2ITM01	20	4		
2ITM02	0	0	6	3
2ITM03	10	6	12	7
2ITM04	8	5	8	5
4ITM01	0	0	7	2.4
4ITM02	6.5	3	9.3	2.8
4ITM03	9.5	5.6	8	7.2
4ITM04	0	0	0	0
4ITM05	11	4.5	16	4
4ITM06	7	5	9	7
4ITM07	10	3	15	5
4ITM08	0	0	22	3
ETM01	8	3	15	4
ETM02	2	1.1	10	1.7
ETM03	11	4	14	3
ETM04	6.5	5	17	8
FM01	10	5	10	4
FM02	11	5	8	2
FM03	8	17	7	10
FM04	8	2	6	2
AVERAGE	7.3	3.9	10.5	4.3

For instance: FM01 X profile. Total data account for only 240 mm, so there are three mm (plus bevel) unaccounted for. I add three mm to the radius number shown in the plot, but have no way of extrapolating the continued roll off. I have taken the "worst" side of each profile X and Y to put a bound on the type of roll off that we may see. I record FM01 as 10, 5.