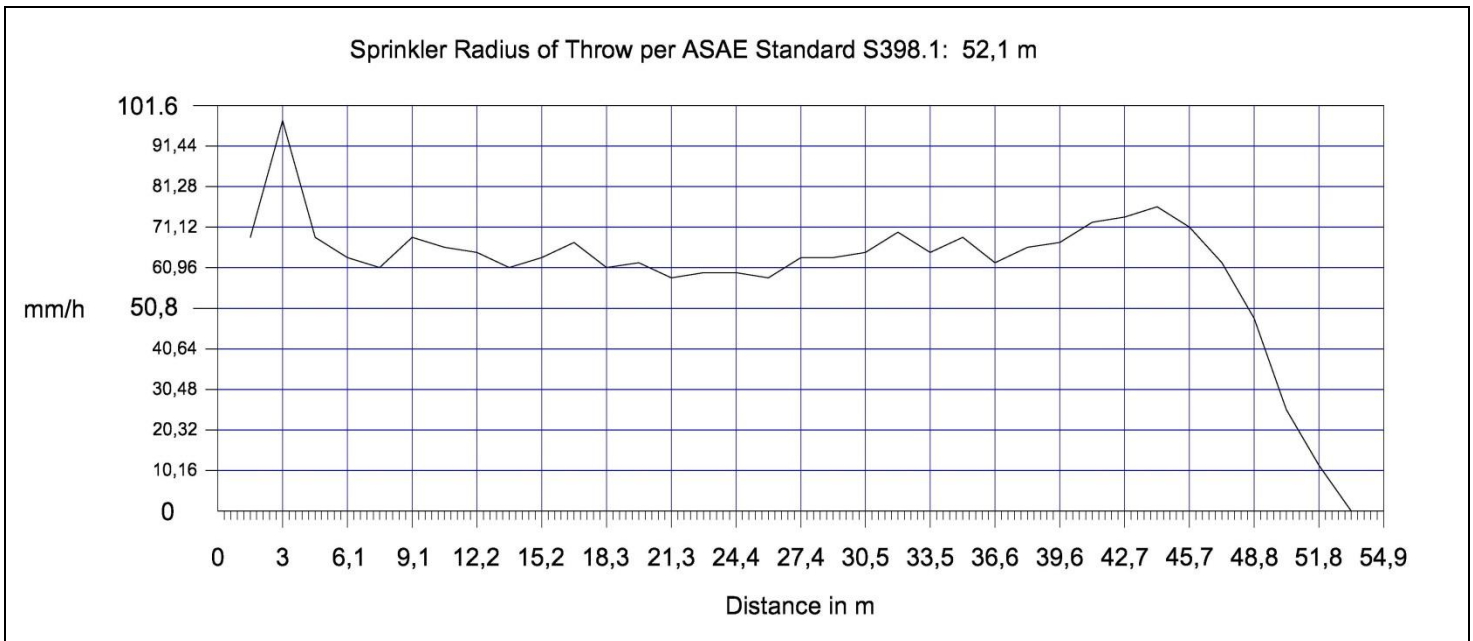




Water distribution diagram with S.I. (International System) measurement units drawn up at the Center for Irrigation Technology (C.I.T. Fresno)

Sprinkler Name	<b>Nodolini</b>			
Sprinkler Model	<b>S60</b>			
Date/Time of Test	<b>12/17/2013 10:55</b>			
Nozzle Size	24 mm	<b>0,945 in</b>		
Flow Rate	0.01495 m <sup>3</sup> /s	<b>53,83 m<sup>3</sup>/h</b>	<b>897.14 l/min</b>	<b>237 gpm</b>
Base Pressure	0,608 MPa	<b>6,08 bar</b>	<b>6 atm</b>	<b>88,2 psi</b>
Riser Height	0,61 m	<b>24 in</b>		
Set Screw Setting	3,5 mm	<b>0,138 in</b>		
Degree of Arc	0,698 rad	<b>40°</b>		



1,5 = 68,58	15,2 = 63,50	29 = 63,50	42,7 = 73,66
3 = 97,79	16,8 = 67,31	30,5 = 64,77	44,2 = 76,20
4,6 = 68,58	18,3 = 60,96	32 = 69,85	45,7 = 71,12
6,1 = 63,50	19,8 = 62,23	33,5 = 64,77	47,2 = 62,23
7,6 = 60,96	21,3 = 58,42	35 = 68,58	48,8 = 48,26
9,1 = 68,58	22,9 = 59,69	36,6 = 62,23	50,3 = 25,40
10,7 = 66,04	24,4 = 59,69	38,1 = 66,04	51,8 = 11,43
12,2 = 64,77	25,9 = 58,42	39,6 = 67,31	
13,7 = 60,96	27,4 = 63,50	41,1 = 72,39	

### Christiansen Uniformity Coefficient ( $C_u$ )

$$C_u = 100 \cdot \left( 1 - \frac{\sum_{i=1}^n |h_i - h_m|}{n \cdot h_m} \right)$$

$$C_u = 100 \cdot \left( 1 - \frac{225,64}{34 \cdot 62,98} \right) = 88\%$$

Christiansen Uniformity Value ( $C_u$ )	
> 87%	= excellent
> 83%	= very good
> 79%	= good
> 75%	= satisfactory
> 70%	= poor

### Distribution Uniformity Coefficient ( $D_u$ )

$$D_u = 100 \cdot \left( \frac{h_{lq}}{h_m} \right)$$

$$D_u = 100 \cdot \left( \frac{53,53}{62,98} \right) = 85\%$$

Distribution Uniformity Value ( $D_u$ )	
> 85%	= excellent
> 80%	= very good
> 75%	= good
> 70%	= satisfactory
> 65%	= poor

### Efficiency index of the sprinkler ( $E_i$ )

$$E_i = \frac{G}{H}$$

$$E_i = \frac{52,1}{61,18} = 0,85$$

Rating	Efficiency Index	Note
A-1	1,1 ÷ 1	Very thick spray
A-2	1 ÷ 0,91	Thick spray
B-1	0,88 ÷ 0,78	Medium thick spray
B-2	0,75 ÷ 0,66	Thin spray
C	< 0,63	Very thin spray

Efficiency Index	> 0,9	0,7 ÷ 0,9	< 0,7
Thickness of the rain	Heavy	Regular	Thin

### Pulverization index ( $P_i$ )

$$P_i = \frac{H}{d}$$

$$P_i = \frac{61,18}{24} = 2,55$$

Rating	Pulverization Index	Note
A-1	1,02 ÷ 1,41	Very thick spray
A-2	1,54 ÷ 1,96	Thick spray
B-1	2,13 ÷ 2,56	Medium thick spray
B-2	2,70 ÷ 3,23	Thin spray
C	> 3,33	Very thin spray