

Light Measurement Report

Print date: 2024-02-29
Measurement date and time: 2024-02-29 9:04:10 PM – Measurement no. TR-0065-240229
Operator: NC
Product SKU: DFLX-O24VD1212-4095-140-10M



Laboratory and Equipment

Laboratory Owner and Location	Moss LED, Toronto, Ontario, Canada
Goniospectrometer System and Type	BaseSpion – Type C, horizontal
Sensor Name, Calibr. Date and Serial No.	BaseSensor – 2023-06-27 – 2807073281
Spectrometer Manufacturer and Model	Ibsen Photonics, Denmark – Freedom VIS (Custom Viso)

Measurement Conditions

Number of C-planes and Resolution	12 planes – 30°
γ (gamma)-Resolution	5°
Test Distance	4.50 m
Input Power per 1 meter	20.4 W
Input RMS Voltage and Current per 1 meter	24.0 V – 0.850 A
Frequency of Input Power	0 Hz

Tested Light Source

Product Name (-type of measurement if applicable)	DFLX-O24VD1212-4095-140-10M
Manufacturer	MossLED Inc.
Description and colour tested	24V, 140 leds/m, 4000K without housing

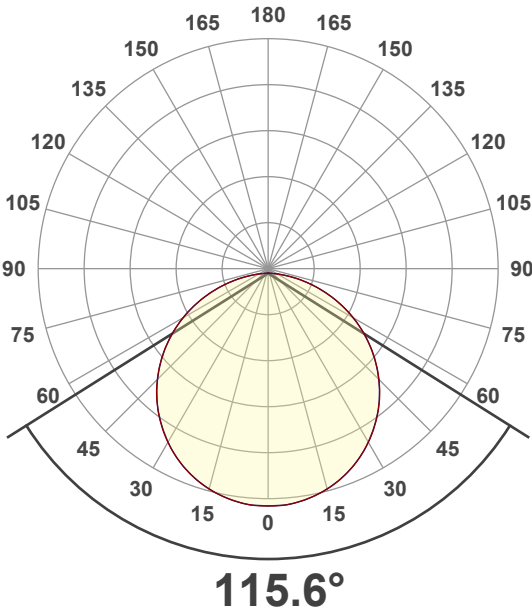
Main Light Measurement Results

Total Lumen Output per 1 meter	2590 lm
Efficiency (tested at 1 meter)	127 lm/W
Peak Intensity and Beam Angle	869 cd – 115.6°
Correlated Color Temperature, Target/Measured	CCT = 4000 K / 4062 K
Color Rendering Index	CRI 98.0
Color Rendering TM30-18	R _f 93.8 – R _g 100.1
Color Shift, CIE duv and MacAdam Steps	Duv 0.0019 – SDCM 1.9
Flicker	SVM n/a – PstLM n/a

Product picture



50% Beam angle (absolute values)



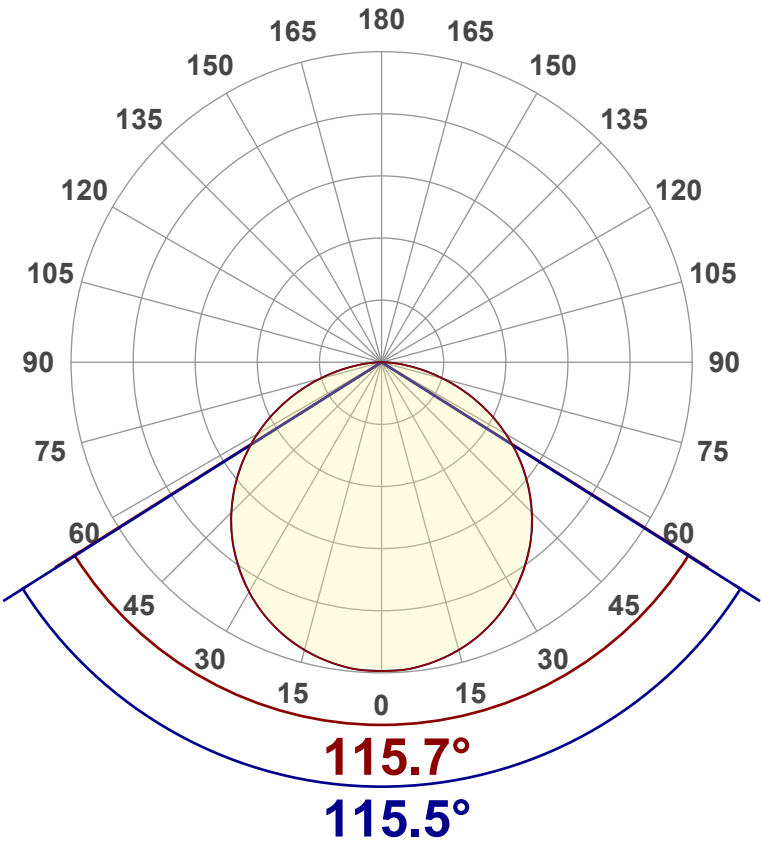
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Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

Output/m (total Lumen)	2590 lm
Lumen Up% / Down%	0.69% / 99.31%
Peak Intensity	869 cd
Beam Angle (50%)	115.6°
Beam Angle (90%)	115.5°
Beam Angle (10%)	115.7°

Cut-off Angle

Average 2,5%	175°
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Field Angle

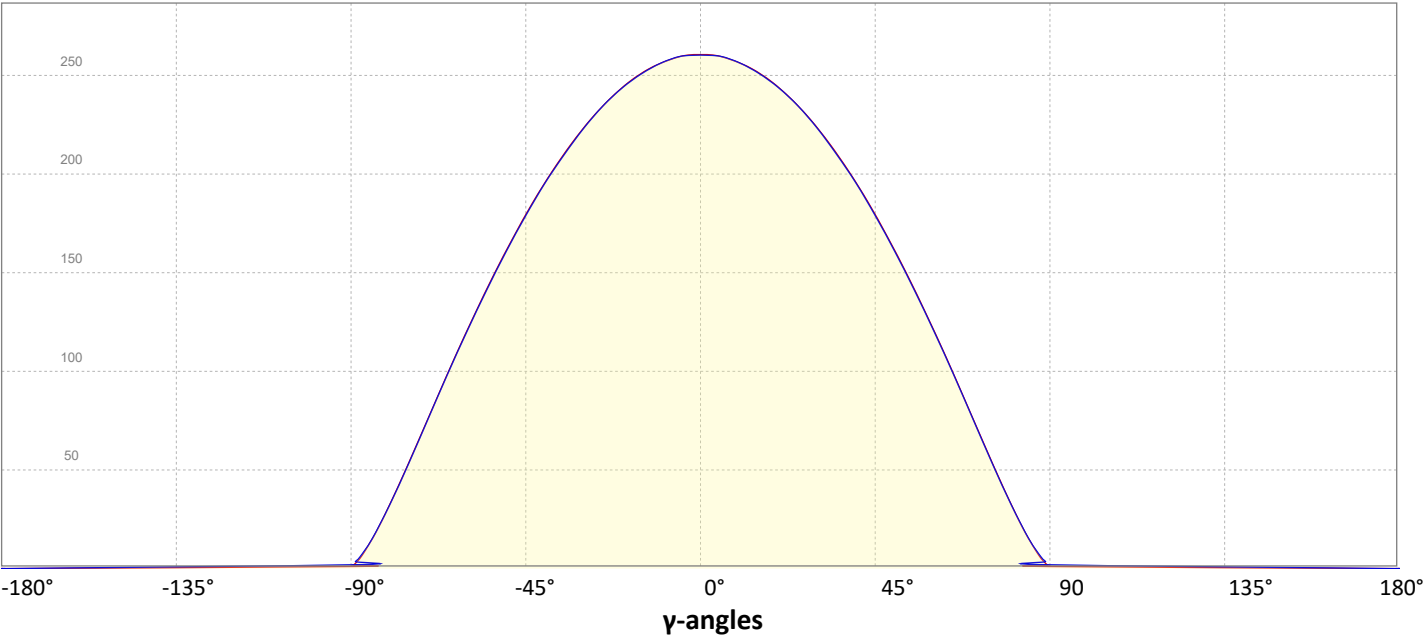
Average 10%	163.4°
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Intensity Ratio

In 120° cone	77.3%
In 90° cone	52.1%

C000-C180
C090-C270

Linear distribution diagram - Intensity (candela) vs γ-angle



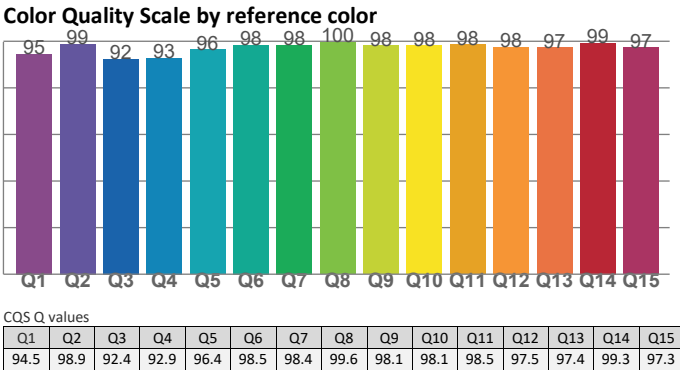
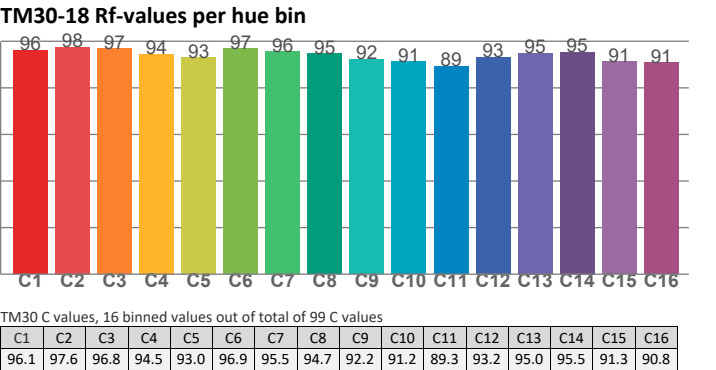
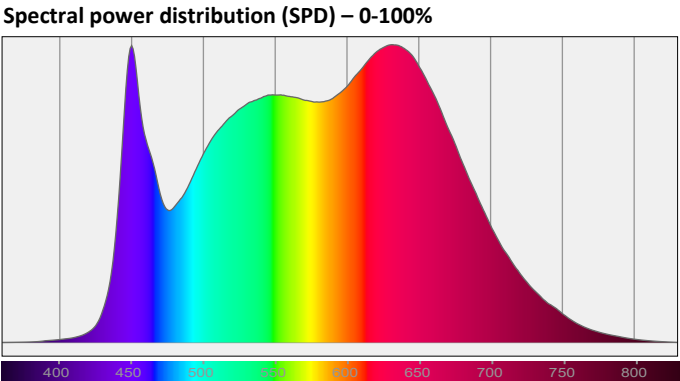
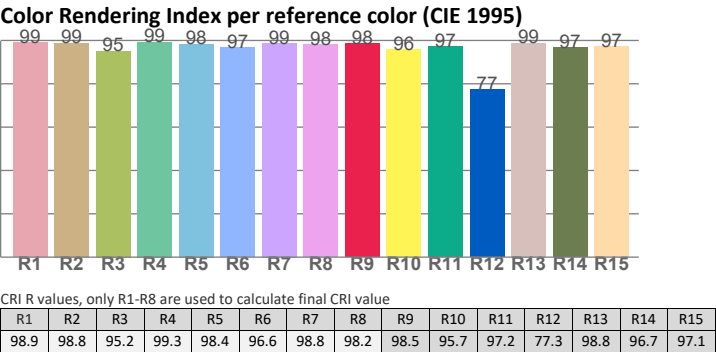
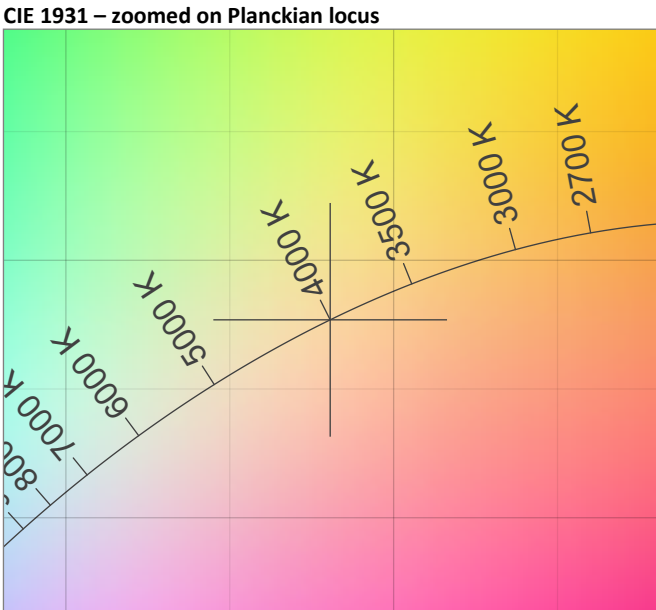
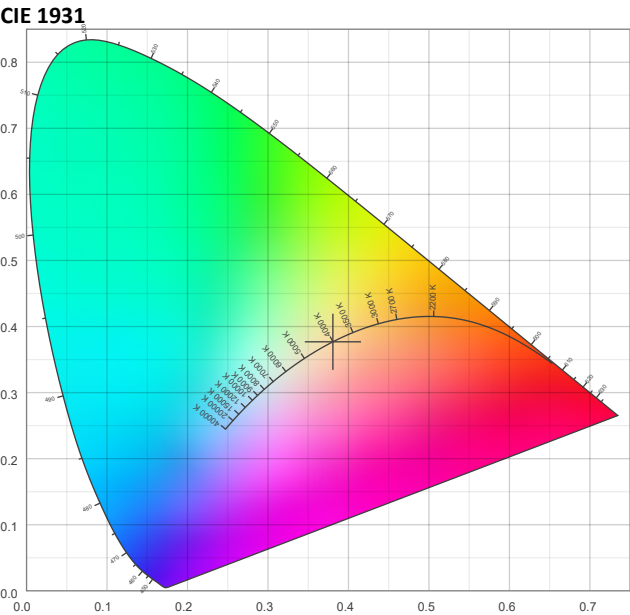
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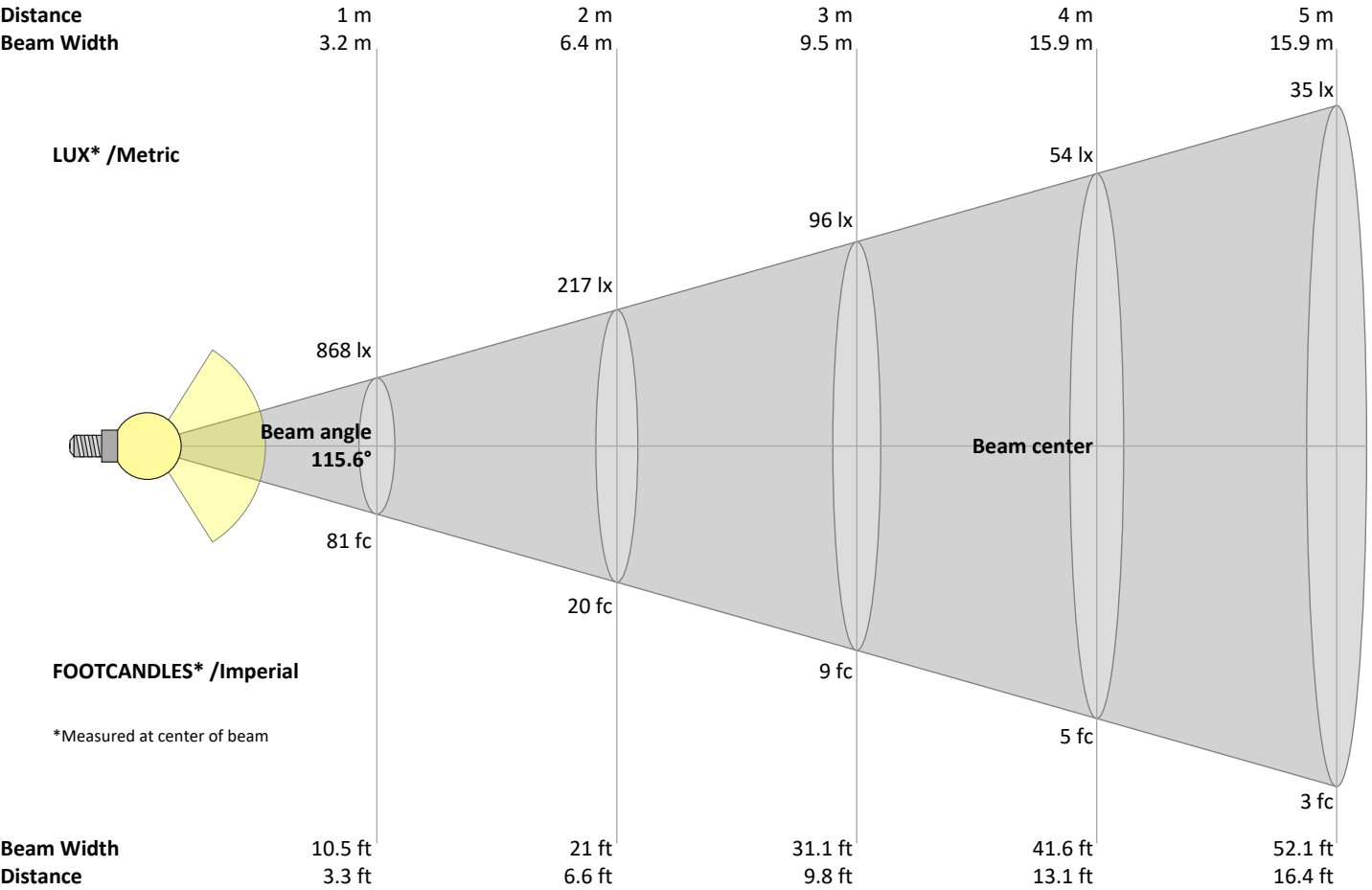
Color details

Correlated Color Temperature, Target	CCT = 4000 K	MacAdam Steps	SDCM = 1.9
Correlated Color Temperature, Measured	CCT = 4062 K	Color coordinates CIE 1931	(x;y) = (0.381;0.377)
Color Rendering Index	CRI 98.0	Color coordinate CIEs 1960	(u;v) = (0.225;0.334)
Color Rendering Index, R9 (red component)	R9 = 98.5	Color deviation from BBL	Duv = 0.0019
Color Rendering TM30-18	Rf 93.8 – Rg 100.1	Color coordinate CIEs 1976 (CIELUV)	(u';v') = (0.225;0.502)
Color Quality Scale	CQS = 96.5		



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Beam intensities from 1 – 20 m

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	m
3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6	ft
868	217	96	54	35	24	18	14	11	9	7	6	5	4	4	3	3	3	2	2	lux
80.7	20.2	9	5	3.2	2.2	1.6	1.3	1	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	fc

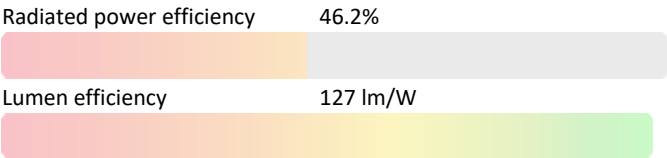
Power Details

Input Power

RMS Input voltage feed, V_{RMS}
RMS Input current feed, I_{RMS}
Power feed to light source
Frequency of input power
Power factor of AC current feed

24.0 V
0.850 A
20.4 W
0 Hz
1.0

Efficiency



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Light Planning – UGR table

Uncorrected, comprehensive UGR table according to 117-1995

Reflectances											
	ρ Ceiling	70	70	50	50	30	70	70	50	50	30
	ρ Walls	50	30	50	30	30	50	30	50	30	30
	ρ Floor	20	20	20	20	20	20	20	20	20	20
Room size											
H = mounting height above eye level											
X	Y	Viewed Crosswise					Viewed Endwise				
		(Viewing direction orthogonal to lamp length axis)					(Viewing direction parallel to lamp length axis)				
2H	2H	24.0	25.2	24.2	25.5	25.7	25.9	27.1	26.1	27.4	27.6
	3H	25.0	26.3	25.4	26.5	26.7	27.4	28.7	27.8	28.9	29.1
	4H	25.3	26.6	25.8	26.9	27.1	28.0	29.2	28.4	29.5	29.8
	6H	25.6	26.7	25.9	27.0	27.4	28.5	29.6	28.9	29.9	30.3
	8H	25.6	26.7	26.0	27.0	27.4	28.7	29.7	29.0	30.0	30.4
	12H	25.6	26.6	26.0	27.0	27.4	28.8	29.8	29.1	30.1	30.6
4H	2H	24.6	25.8	25.0	26.1	26.3	26.1	27.3	26.5	27.6	27.9
	3H	25.9	26.9	26.2	27.2	27.7	27.9	28.9	28.2	29.2	29.7
	4H	26.2	27.2	26.7	27.6	28.1	28.5	29.4	29.0	29.9	30.4
	6H	26.5	27.4	27.0	27.8	28.2	29.1	30.0	29.6	30.3	30.7
	8H	26.6	27.4	27.1	27.8	28.2	29.2	30.1	29.7	30.4	30.8
	12H	26.6	27.3	27.1	27.7	28.2	29.3	30.0	29.8	30.5	30.9
8H	4H	26.5	27.3	27.0	27.7	28.1	28.6	29.4	29.1	29.8	30.2
	6H	26.9	27.5	27.4	28.0	28.5	29.2	29.8	29.7	30.3	30.8
	8H	27.0	27.5	27.5	28.1	28.7	29.5	30.0	30.0	30.5	31.2
	12H	27.0	27.5	27.6	28.0	28.6	29.6	30.1	30.2	30.6	31.2
12H	4H	26.5	27.2	27.0	27.6	28.1	28.6	29.2	29.1	29.7	30.1
	6H	26.9	27.5	27.4	28.0	28.6	29.2	29.8	29.7	30.3	30.9
	8H	27.1	27.5	27.6	28.0	28.6	29.5	29.9	30.0	30.4	31.0
Variations with the observer position for the luminaire spacings, S:											
S = 1.0H		0.1 / -0.2					0.1 / -0.2				
S = 1.5H		0.3 / -0.5					0.5 / -0.6				
S = 2.0H		0.7 / -1.0					1.1 / -1.2				

Coefficients of Utilization

Ceiling reflectance	80			70			50			30			10			0		
Wall reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio)																	
	Room Values are expressed as percentage of Lumen delivered to the task surface																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	76	72	78	74	71	68
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61	68	64	60	57
4	82	70	61	54	79	68	60	53	66	58	53	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	49	43	39	37
7	64	51	42	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	32	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23