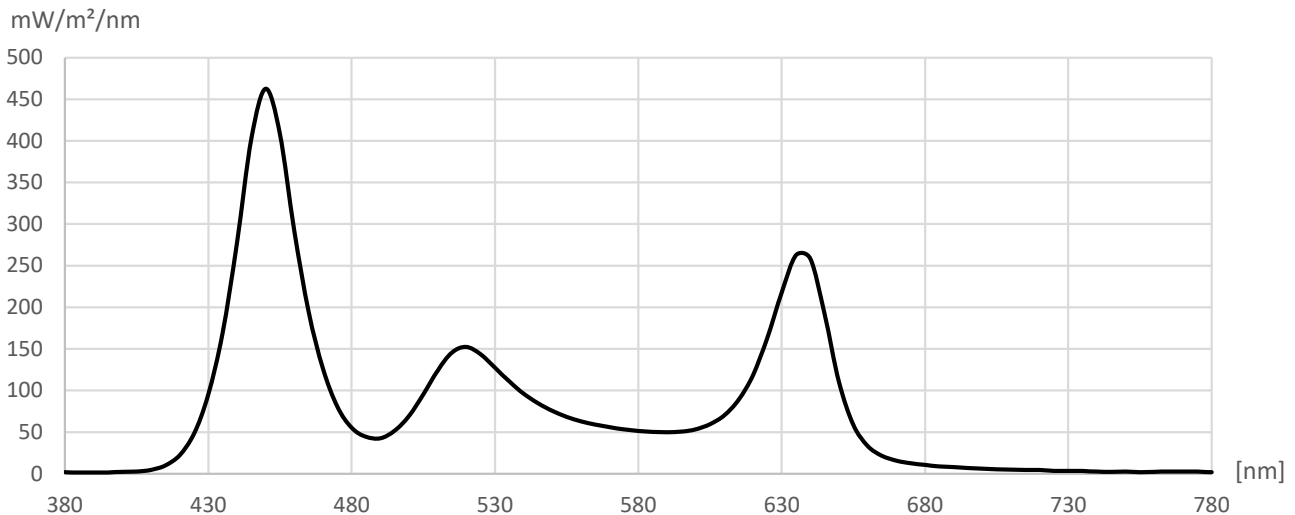


# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 1m / all / wide

Measurement file: 451128\_1m\_all\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:40:31



R1 = -	Ra = 65,4	Illuminance	6654,34 lx	CIE1931
R2 = -	Re = 50,0	Ee	31,773 W/m <sup>2</sup>	x = 0,2716
R3 = -	GAI = 165,2	LER	209,4 lm/W	y = 0,2209
R4 = -				
R5 = -		correlated color temperature (CCT)	> 50000 K	CIE1976
R6 = -		Duv	-	u' = 0,2127
R7 = -				v' = 0,3892
R8 = -		Saturation	35,4 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	421 nm	u = 0,2127
R11 = -		Peak wavelength	449 nm	v = 0,2595
R12 = -				
R13 = -		Flicker frequency	8,2 Hz	TM30
R14 = -		Percent Flicker	1 %	Rf = -
R15 = -		Flicker index	0,002	Rg = -

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	1,67	440	276,96	500	69,61	560	63,06	620	118,64	680	10,55	740	2,56
385	1,60	445	402,71	505	95,48	565	59,22	625	162,82	685	8,78	745	2,19
390	1,46	450	462,81	510	124,06	570	55,99	630	217,36	690	7,97	750	2,50
395	1,61	455	408,90	515	145,61	575	53,31	635	262,43	695	6,88	755	1,86
400	2,37	460	292,44	520	152,31	580	51,58	640	258,37	700	6,03	760	2,32
405	2,75	465	194,78	525	143,56	585	50,38	645	191,17	705	5,44	765	2,73
410	4,73	470	126,19	530	127,22	590	49,90	650	110,91	710	4,97	770	2,62
415	9,96	475	80,59	535	110,81	595	50,63	655	58,95	715	4,58	775	2,44
420	22,37	480	55,10	540	96,33	600	53,22	660	33,47	720	4,37	780	1,92
425	48,29	485	44,46	545	84,72	605	59,53	665	21,59	725	3,56		
430	94,85	490	42,63	550	75,63	610	70,27	670	15,75	730	3,54		
435	168,90	495	51,63	555	68,36	615	88,87	675	12,63	735	3,35		

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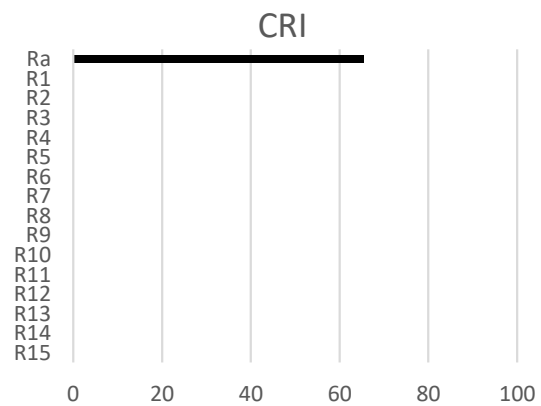
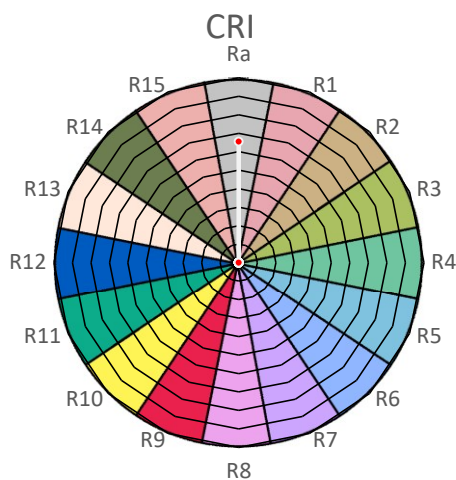
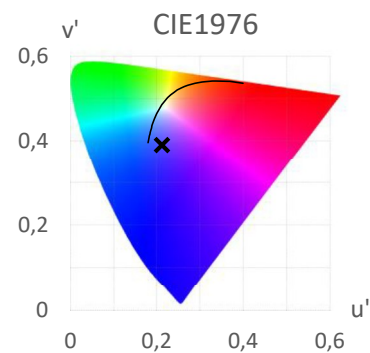
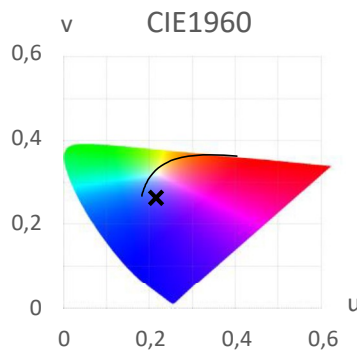
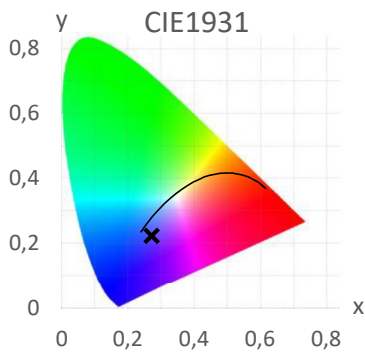
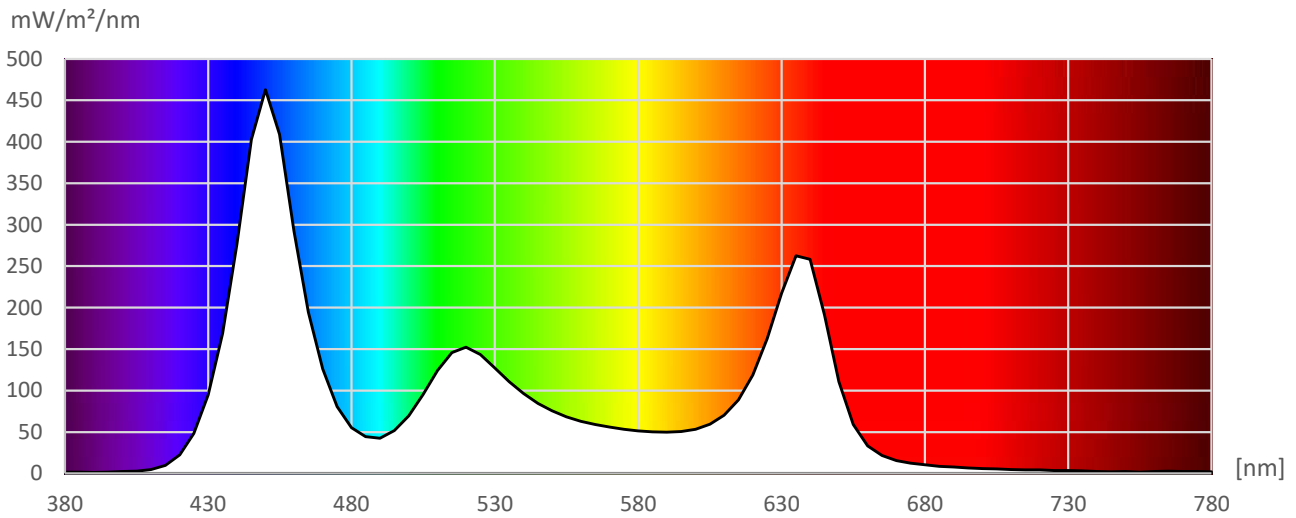
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 1m / all / wide

Measurement file: 451128\_1m\_all\_w.  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:40:31



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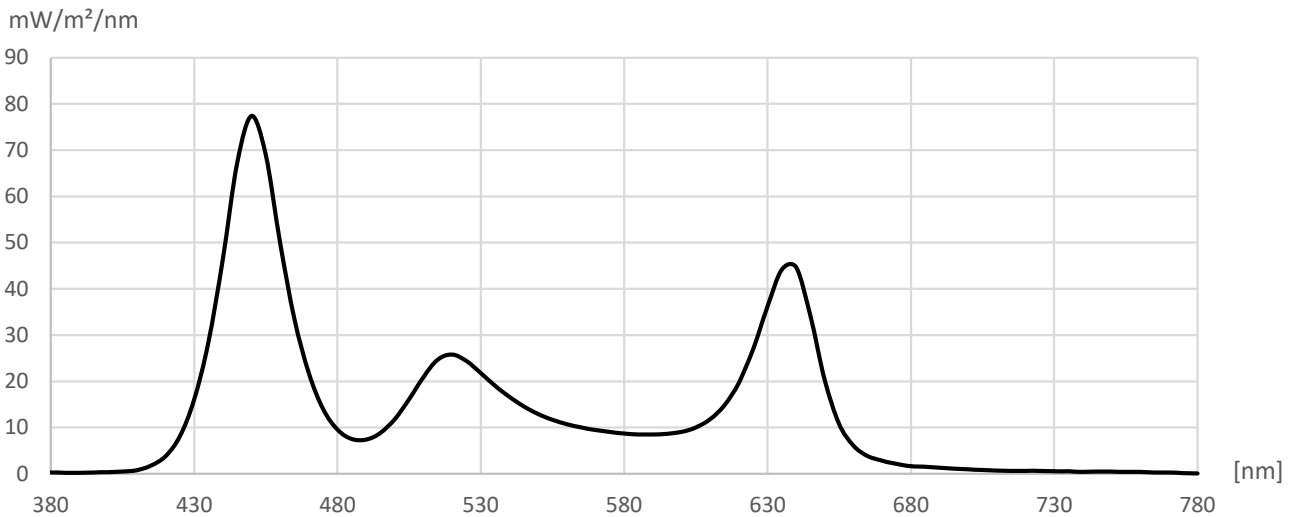
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / all / wide

Measurement file: 451128\_3m\_all\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:40:40



R1 = -	Ra = 65,7	Illuminance	1130,8 lx	CIE1931
R2 = -	Re = 50,3	Ee	5,389 W/m <sup>2</sup>	x = 0,2717
R3 = -	GAI = 164,9	LER	209,9 lm/W	y = 0,2219
R4 = -				
R5 = -		correlated color temperature (CCT)	> 50000 K	CIE1976
R6 = -		Duv	-	u' = 0,2123
R7 = -				v' = 0,3901
R8 = -		Saturation	35,1 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	424 nm	u = 0,2123
R11 = -		Peak wavelength	449 nm	v = 0,2601
R12 = -				
R13 = -		Flicker frequency	% < 1.0 Hz	TM30
R14 = -		Percent Flicker	< 1.0 %	Rf = -
R15 = -		Flicker index	% < 1.0	Rg = -

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,25	440	46,34	500	11,83	560	10,72	620	19,72	680	1,64	740	0,40
385	0,23	445	67,25	505	16,16	565	10,03	625	26,88	685	1,52	745	0,48
390	0,20	450	77,36	510	20,96	570	9,46	630	36,10	690	1,28	750	0,45
395	0,29	455	69,12	515	24,67	575	9,03	635	44,17	695	1,11	755	0,40
400	0,37	460	50,00	520	25,79	580	8,67	640	44,63	700	0,96	760	0,41
405	0,47	465	33,45	525	24,37	585	8,51	645	33,97	705	0,80	765	0,27
410	0,78	470	21,76	530	21,76	590	8,48	650	20,29	710	0,68	770	0,28
415	1,76	475	13,94	535	18,96	595	8,64	655	10,80	715	0,60	775	0,15
420	3,78	480	9,51	540	16,63	600	9,03	660	6,05	720	0,61	780	0,08
425	8,12	485	7,50	545	14,58	605	10,02	665	3,82	725	0,63		
430	15,94	490	7,36	550	12,93	610	11,79	670	2,79	730	0,52		
435	28,44	495	8,82	555	11,68	615	14,84	675	2,13	735	0,51		

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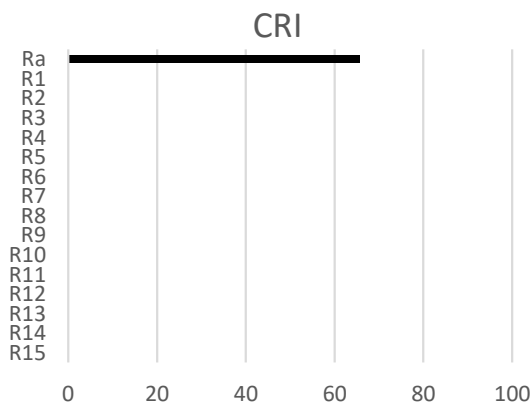
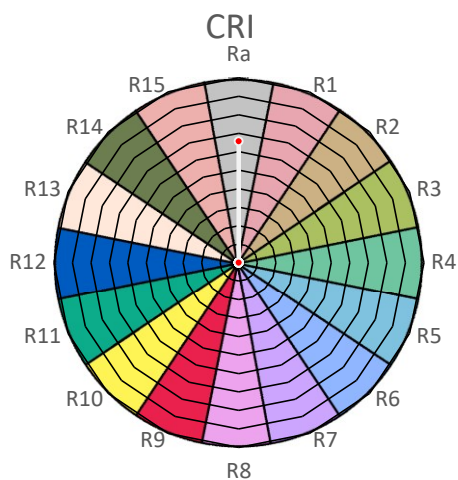
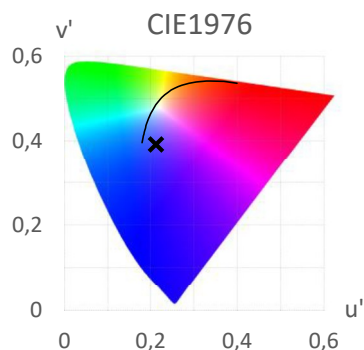
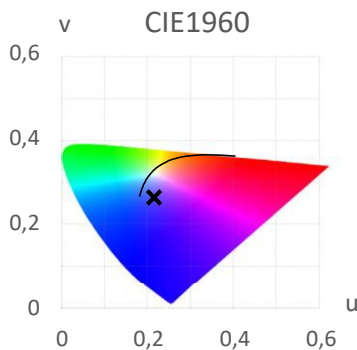
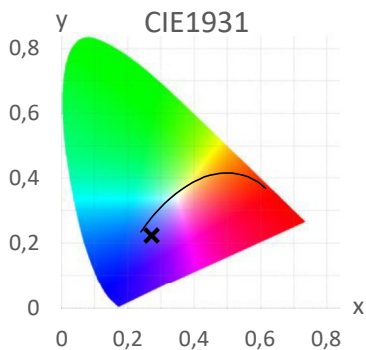
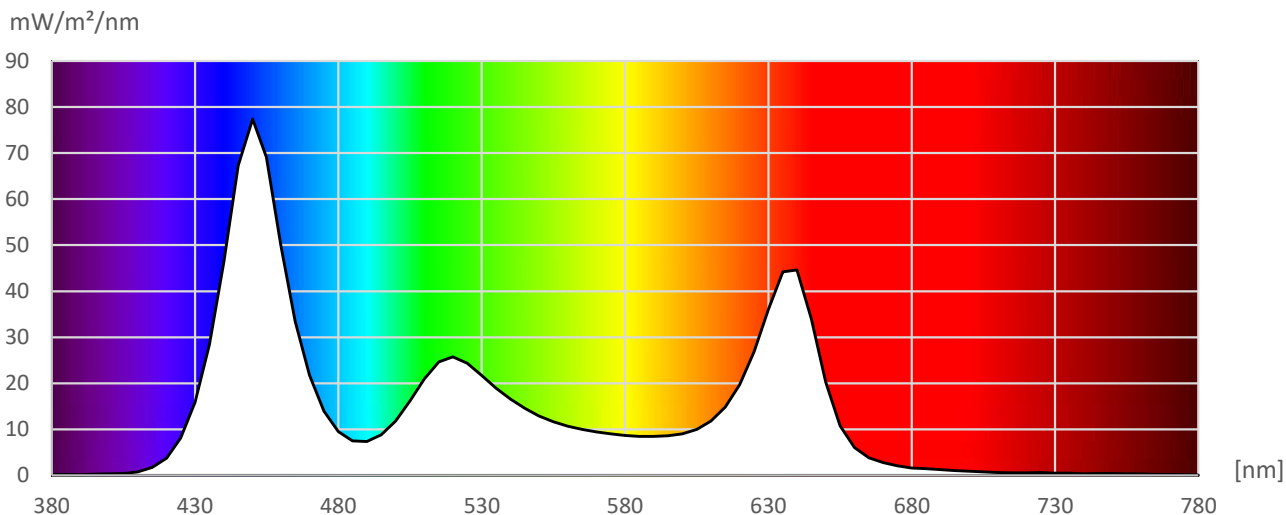
First, last name of inspector

# Measurement protocol

th•mann

Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / all / wide

Measurement file: 451128\_3m\_all\_w.  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:40:40



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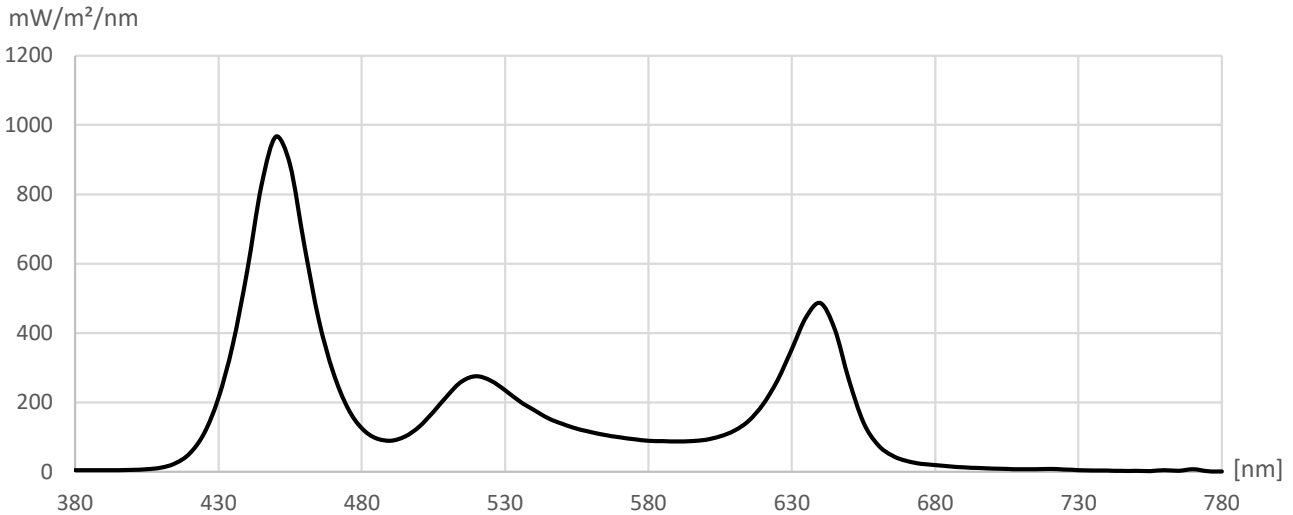
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / all / narrow

Measurement file: 451128\_3m\_all\_n.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:43:38



R1 = -	Ra = -	Illuminance	12108,86 lx	CIE1931
R2 = -	Re = -	Ee	62,481 W/m <sup>2</sup>	x = 0,2568
R3 = -	GAI = -	LER	193,8 lm/W	y = 0,2007
R4 = -				
R5 = -		correlated color temperature (CCT)	> 50000 K	CIE1976
R6 = -		Duv	-	u' = 0,2098
R7 = -				v' = 0,3691
R8 = -		Saturation	42,3 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	436 nm	u = 0,2098
R11 = -		Peak wavelength	451 nm	v = 0,2460
R12 = -				
R13 = -		Flicker frequency	% < 1.0 Hz	TM30
R14 = -		Percent Flicker	< 1.0 %	Rf = -
R15 = -		Flicker index	% < 1.0	Rg = -

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	4,03	440	577,64	500	129,64	560	114,26	620	194,78	680	19,50	740	3,14
385	4,59	445	826,44	505	173,33	565	105,43	625	262,68	685	15,14	745	2,21
390	4,09	450	966,17	510	220,84	570	99,21	630	353,18	690	12,66	750	2,33
395	4,87	455	886,01	515	260,94	575	93,42	635	445,63	695	10,64	755	2,13
400	5,00	460	653,12	520	275,31	580	88,88	640	486,00	700	9,42	760	4,58
405	7,39	465	438,64	525	262,66	585	87,82	645	409,51	705	8,07	765	2,99
410	12,18	470	286,91	530	234,64	590	87,03	650	263,89	710	7,00	770	7,06
415	24,42	475	184,72	535	203,04	595	88,32	655	142,66	715	7,49	775	1,23
420	52,81	480	124,77	540	178,78	600	92,13	660	77,79	720	7,86	780	0,36
425	111,73	485	96,56	545	154,53	605	101,69	665	46,42	725	6,73		
430	212,21	490	89,57	550	137,84	610	118,67	670	31,41	730	4,79		
435	365,85	495	100,98	555	123,85	615	147,27	675	23,13	735	3,52		

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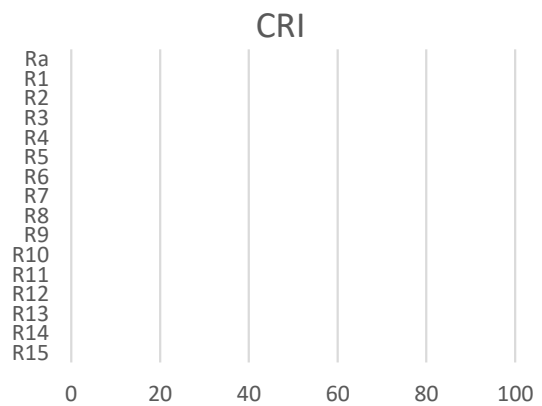
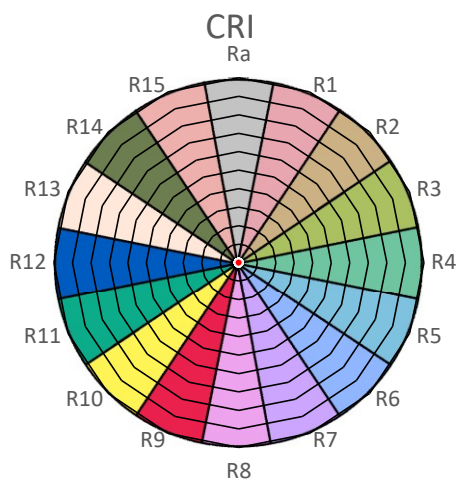
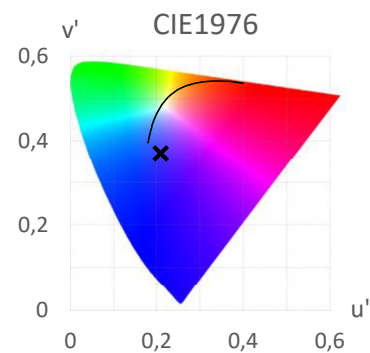
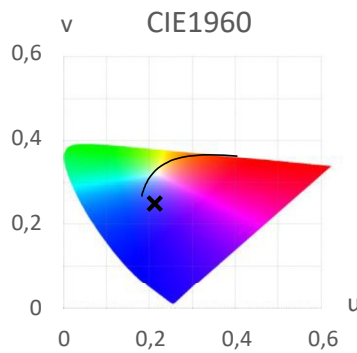
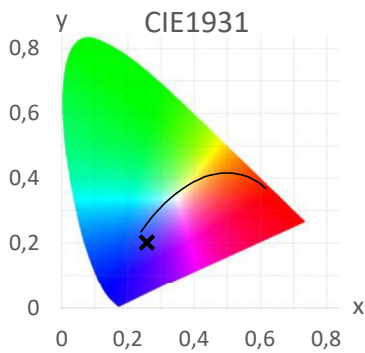
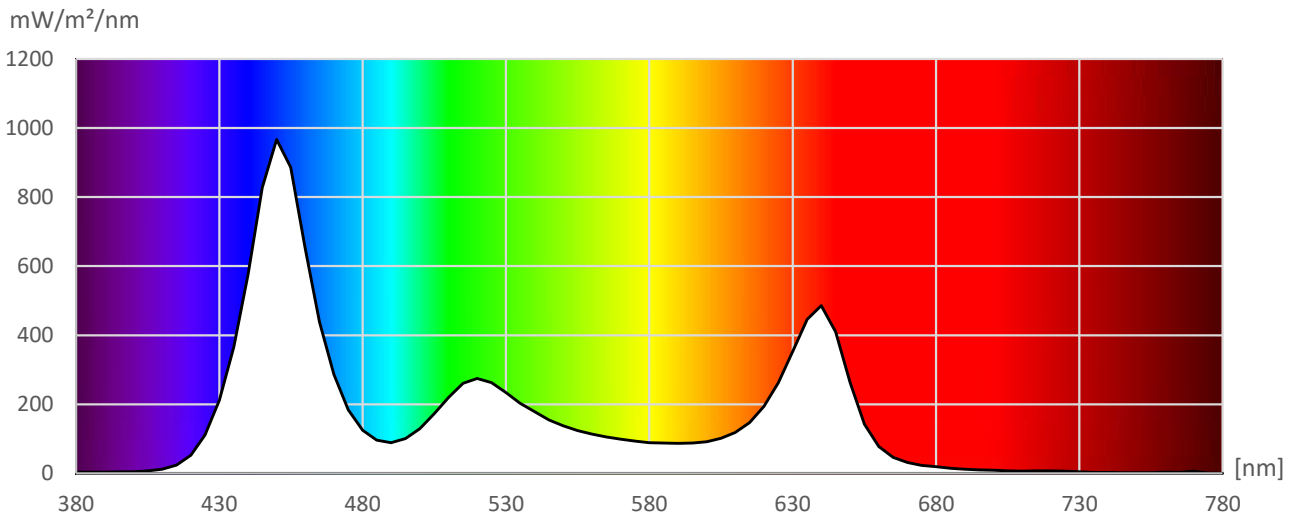
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / all / narrow

Measurement file: 451128\_3m\_all\_n.  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:43:38



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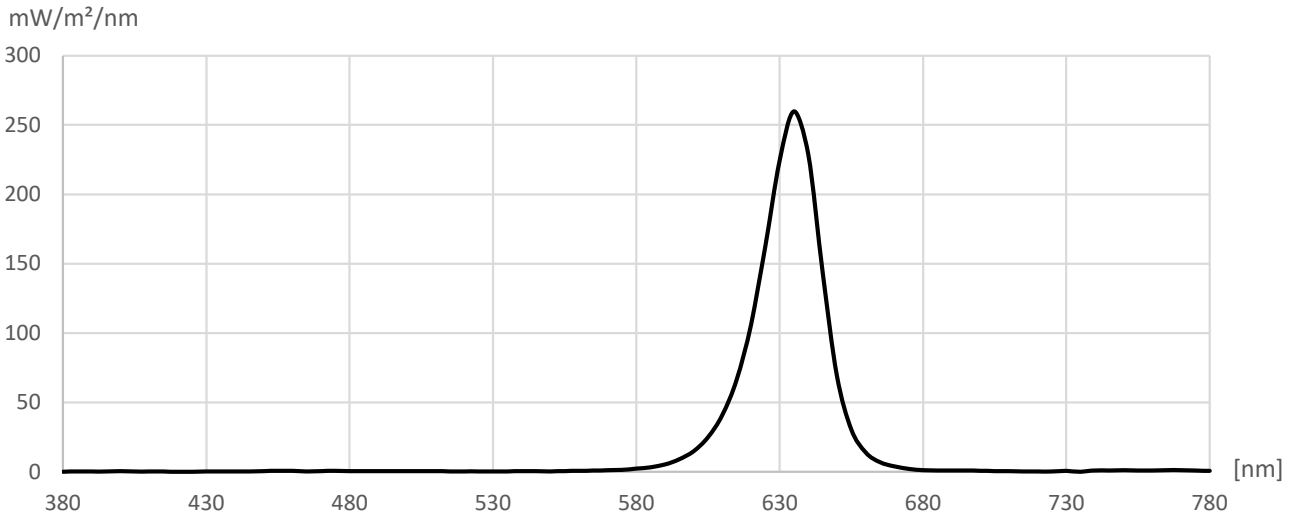
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 1m / red / wide

Measurement file: 451128\_1m\_r\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:41:33



R1 = -	Ra = -	Illuminance	1284,64 lx	CIE1931
R2 = -	Re = -	Ee	7,235 W/m <sup>2</sup>	x = 0,6901
R3 = -	GAI = -	LER	177,6 lm/W	y = 0,3039
R4 = -				
R5 = -		correlated color temperature (CCT)	< 1600 K	CIE1976
R6 = -		Duv	-	u' = 0,5242
R7 = -				v' = 0,5193
R8 = -		Saturation	98,2 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	628 nm	u = 0,5242
R11 = -		Peak wavelength	634 nm	v = 0,3462
R12 = -				
R13 = -		Flicker frequency	127,8 Hz	TM30
R14 = -		Percent Flicker	1,1 %	Rf = -
R15 = -		Flicker index	0,002	Rg = -

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,03	440	0,16	500	0,34	560	0,70	620	106,22	680	1,09	740	0,98
385	0,19	445	0,18	505	0,34	565	0,80	625	161,89	685	0,96	745	0,93
390	0,12	450	0,50	510	0,45	570	1,09	630	224,18	690	0,80	750	1,01
395	0,10	455	0,66	515	0,30	575	1,43	635	259,84	695	0,80	755	0,93
400	0,32	460	0,64	520	0,28	580	2,20	640	228,52	700	0,75	760	0,88
405	0,09	465	0,19	525	0,30	585	3,30	645	143,20	705	0,52	765	1,20
410	0,21	470	0,50	530	0,16	590	5,35	650	69,64	710	0,36	770	1,15
415	0,10	475	0,57	535	0,28	595	8,92	655	30,54	715	0,26	775	0,84
420	0,00	480	0,44	540	0,43	600	14,79	660	13,91	720	0,14	780	0,67
425	0,00	485	0,48	545	0,39	605	24,77	665	6,85	725	0,14		
430	0,16	490	0,36	550	0,29	610	40,89	670	3,88	730	0,55		
435	0,20	495	0,44	555	0,53	615	66,43	675	2,05	735	0,00		

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Burgebrach, 25.03.2021

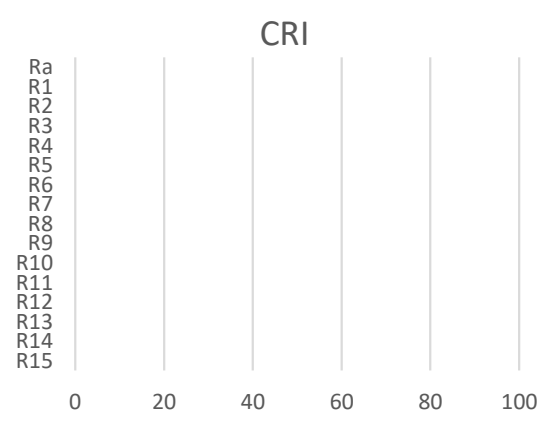
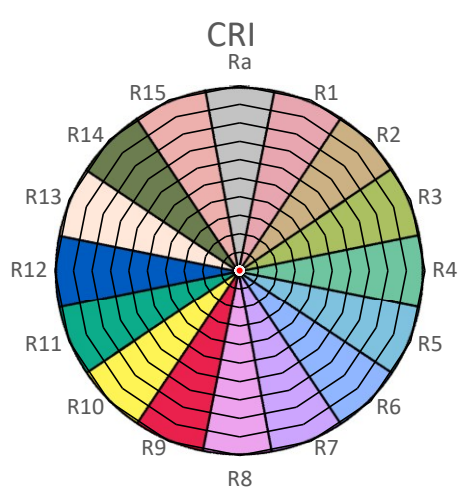
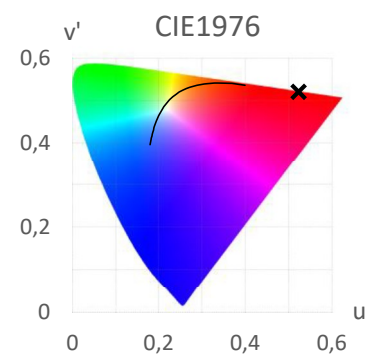
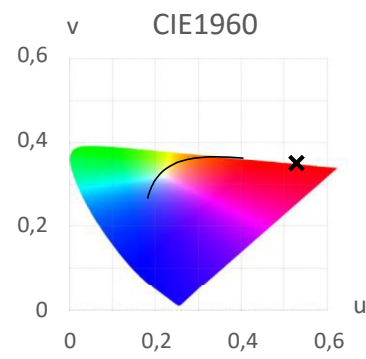
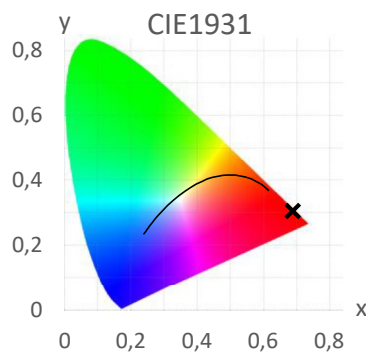
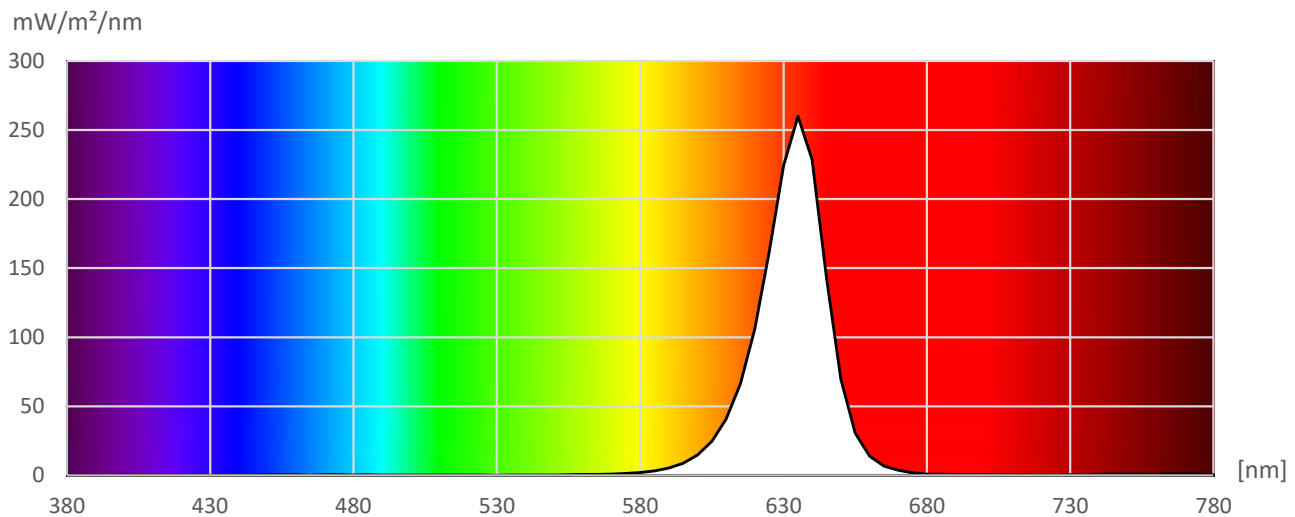
First, last name of inspector

# Measurement protocol

th•mann

Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 1m / red / wide

Measurement file: 451128\_1m\_r\_w.C  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:41:33



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 Burgebrach, 25.03.2021

Sebastian Laske  
 First, last name of inspector

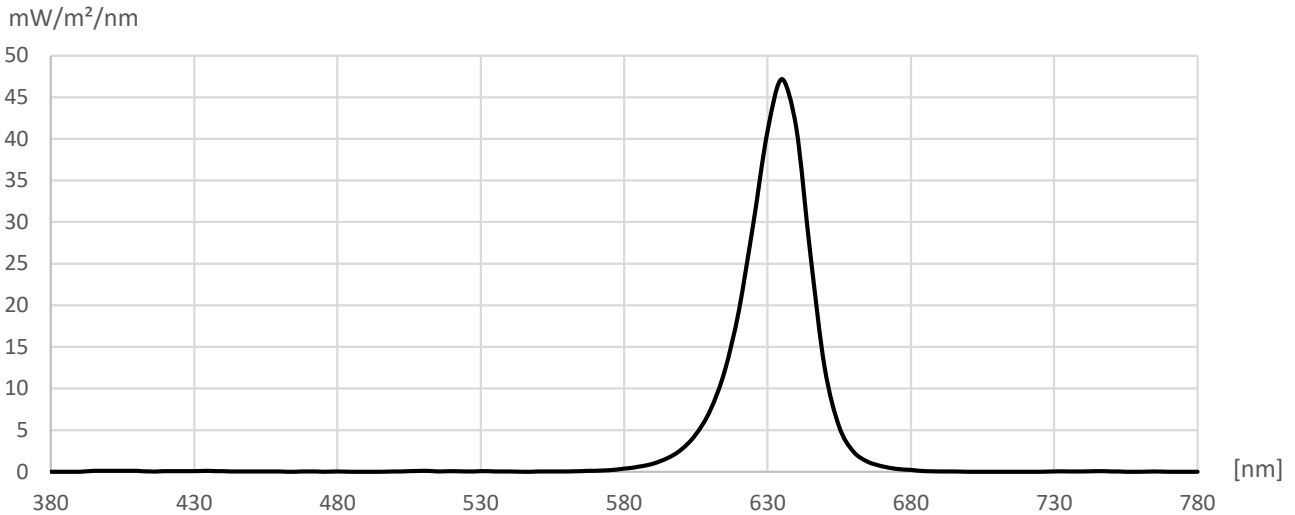


# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / red / wide

Measurement file: 451128\_3m\_r\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:41:41



R1 = -	Ra = -	Illuminance	231,04 lx	CIE1931
R2 = -	Re = -	Ee	1,298 W/m <sup>2</sup>	x = 0,6928
R3 = -	GAI = -	LER	178,0 lm/W	y = 0,3030
R4 = -				
R5 = -		correlated color temperature (CCT)	< 1600 K	CIE1976
R6 = -		Duv	-	u' = 0,5279
R7 = -				v' = 0,5194
R8 = -		Saturation	98,6 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	629 nm	u = 0,5279
R11 = -		Peak wavelength	634 nm	v = 0,3462
R12 = -				
R13 = -		Flicker frequency	% < 1.0 Hz	TM30
R14 = -		Percent Flicker	< 1.0 %	Rf = -
R15 = -		Flicker index	% < 1.0	Rg = -

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,00	440	0,06	500	0,03	560	0,03	620	19,37	680	0,21	740	0,04
385	0,00	445	0,04	505	0,05	565	0,08	625	29,61	685	0,07	745	0,05
390	0,00	450	0,04	510	0,10	570	0,11	630	40,85	690	0,05	750	0,05
395	0,11	455	0,04	515	0,05	575	0,20	635	47,16	695	0,03	755	0,01
400	0,11	460	0,02	520	0,05	580	0,36	640	41,40	700	0,01	760	0,00
405	0,11	465	0,01	525	0,05	585	0,60	645	25,90	705	0,01	765	0,02
410	0,09	470	0,04	530	0,05	590	0,96	650	12,52	710	0,00	770	0,00
415	0,01	475	0,01	535	0,05	595	1,61	655	5,45	715	0,00	775	0,00
420	0,08	480	0,02	540	0,03	600	2,66	660	2,41	720	0,00	780	0,00
425	0,07	485	0,00	545	0,00	605	4,47	665	1,20	725	0,00		
430	0,08	490	0,00	550	0,02	610	7,36	670	0,66	730	0,05		
435	0,09	495	0,00	555	0,03	615	12,06	675	0,34	735	0,04		

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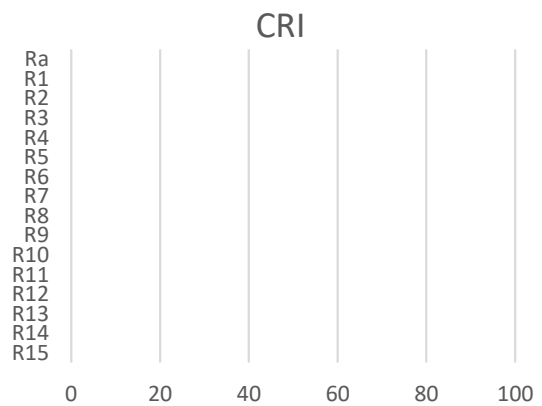
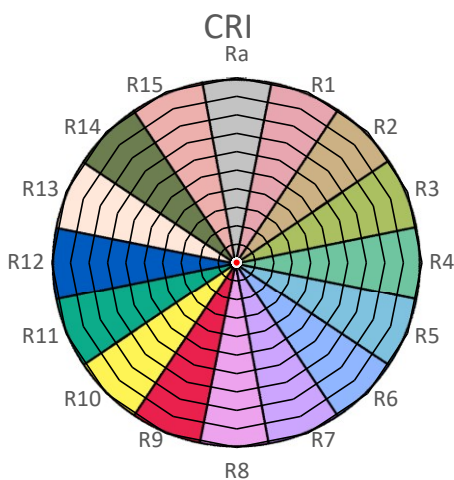
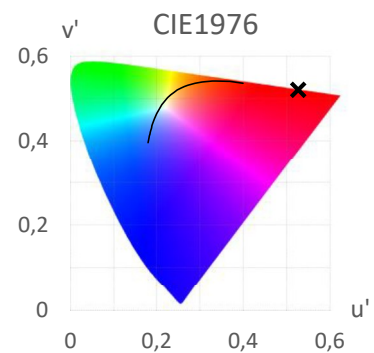
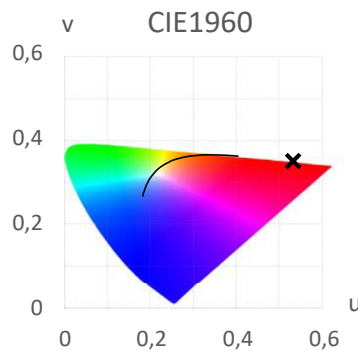
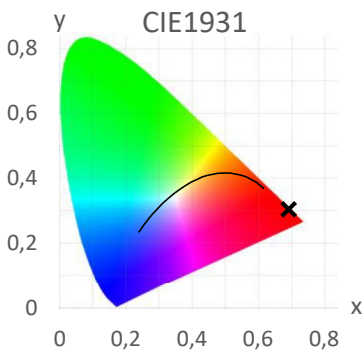
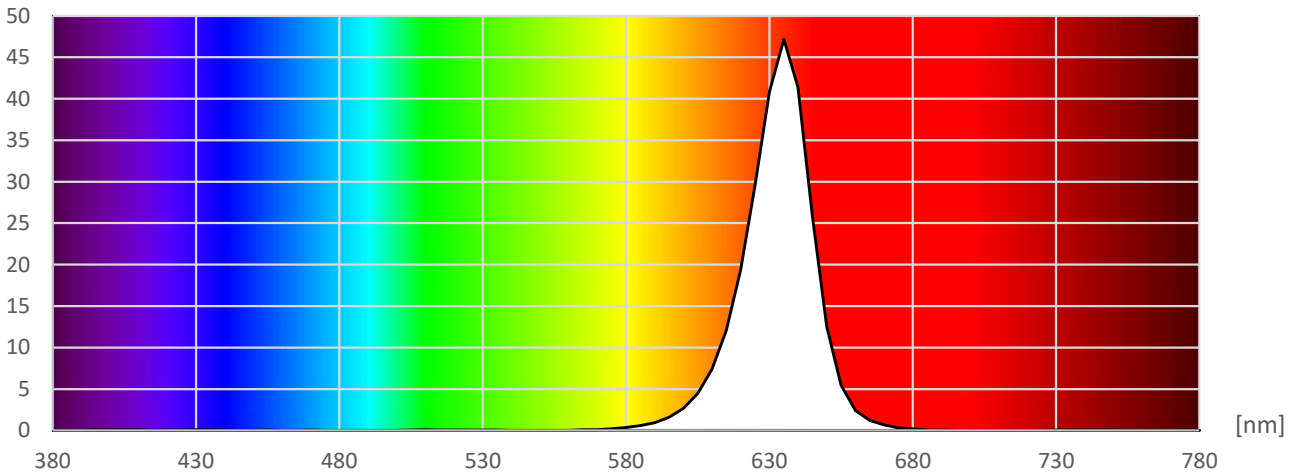
# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / red / wide

Measurement file: 451128\_3m\_r\_w.C  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:41:41

mW/m<sup>2</sup>/nm



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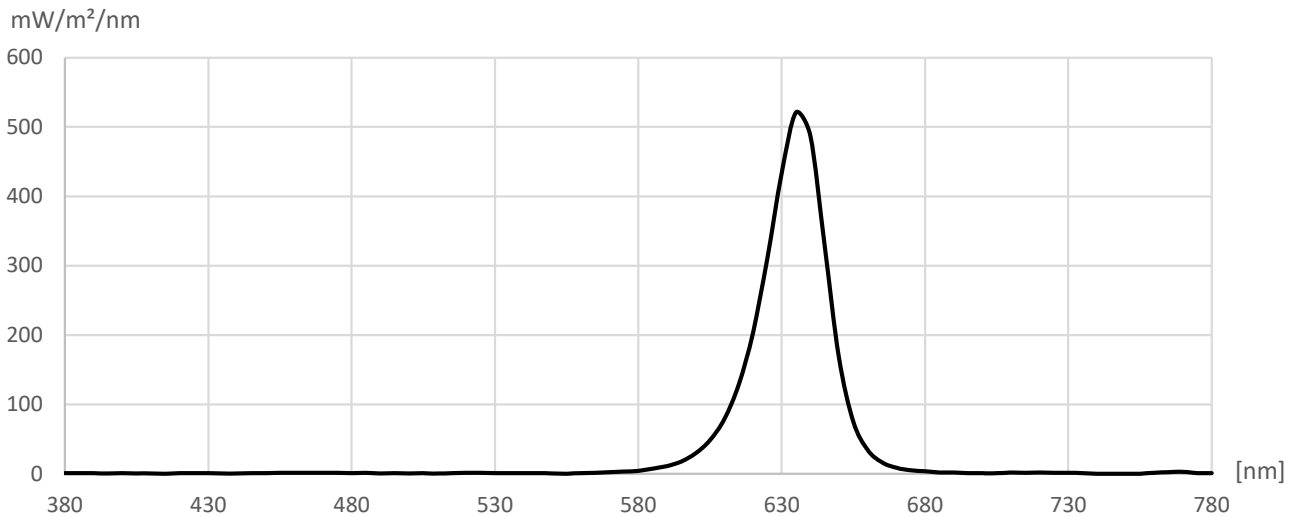
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / red / narrow

Measurement file: 451128\_3m\_r\_n.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:43:55



R1 = -	Ra = -	Illuminance	2570,95 lx	CIE1931
R2 = -	Re = -	Ee	14,878 W/m <sup>2</sup>	x = 0,6898
R3 = -	GAI = -	LER	172,8 lm/W	y = 0,3029
R4 = -				
R5 = -		correlated color temperature (CCT)	< 1600 K	CIE1976
R6 = -		Duv	-	u' = 0,5251
R7 = -				v' = 0,5187
R8 = -		Saturation	97,8 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	629 nm	u = 0,5251
R11 = -		Peak wavelength	636 nm	v = 0,3458
R12 = -				
R13 = -		Flicker frequency	153,9 Hz	TM30
R14 = -		Percent Flicker	1 %	Rf = -
R15 = -		Flicker index	0,002	Rg = -

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,92	440	0,17	500	0,53	560	0,86	620	203,72	680	3,44	740	0,00
385	0,95	445	0,84	505	0,64	565	1,31	625	309,21	685	1,87	745	0,15
390	0,65	450	0,75	510	0,16	570	2,25	630	432,76	690	1,57	750	0,00
395	0,28	455	1,30	515	0,78	575	2,94	635	521,13	695	1,02	755	0,00
400	0,99	460	1,30	520	1,31	580	4,30	640	487,41	700	0,67	760	1,51
405	0,51	465	1,20	525	1,29	585	7,29	645	327,73	705	0,66	765	2,37
410	0,59	470	1,12	530	0,93	590	11,20	650	168,49	710	1,55	770	2,81
415	0,14	475	1,28	535	0,98	595	17,55	655	75,35	715	1,11	775	0,98
420	0,69	480	0,85	540	0,78	600	29,39	660	34,24	720	1,58	780	0,63
425	0,69	485	1,28	545	0,86	605	48,29	665	16,29	725	1,17		
430	0,69	490	0,41	550	0,52	610	78,75	670	8,46	730	1,49		
435	0,29	495	0,76	555	0,15	615	128,46	675	4,93	735	1,03		

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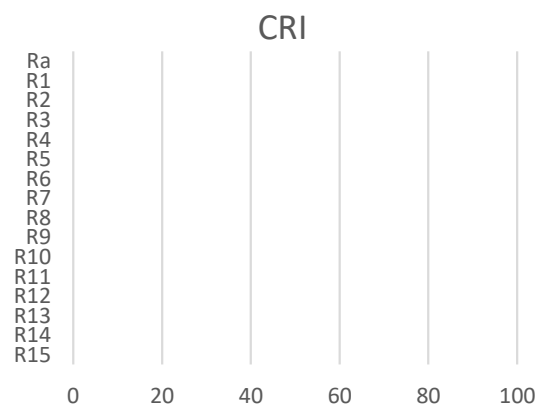
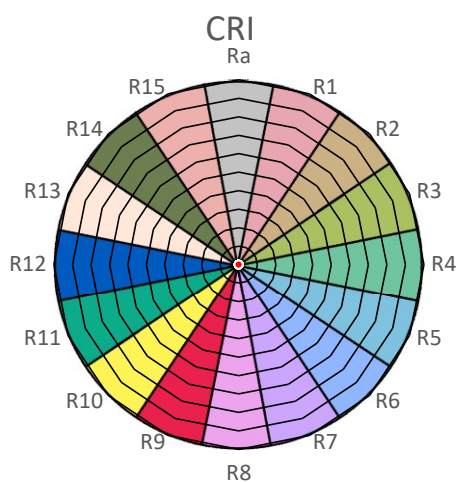
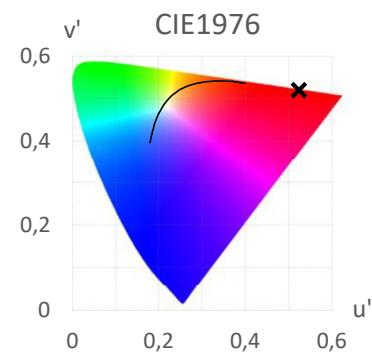
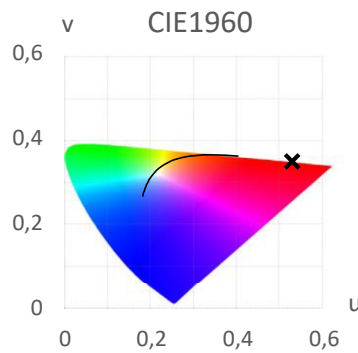
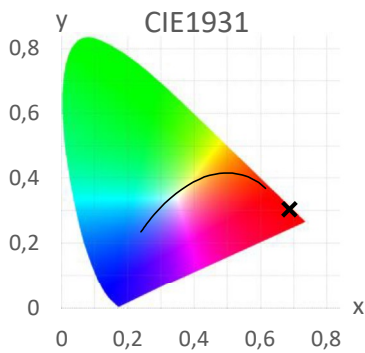
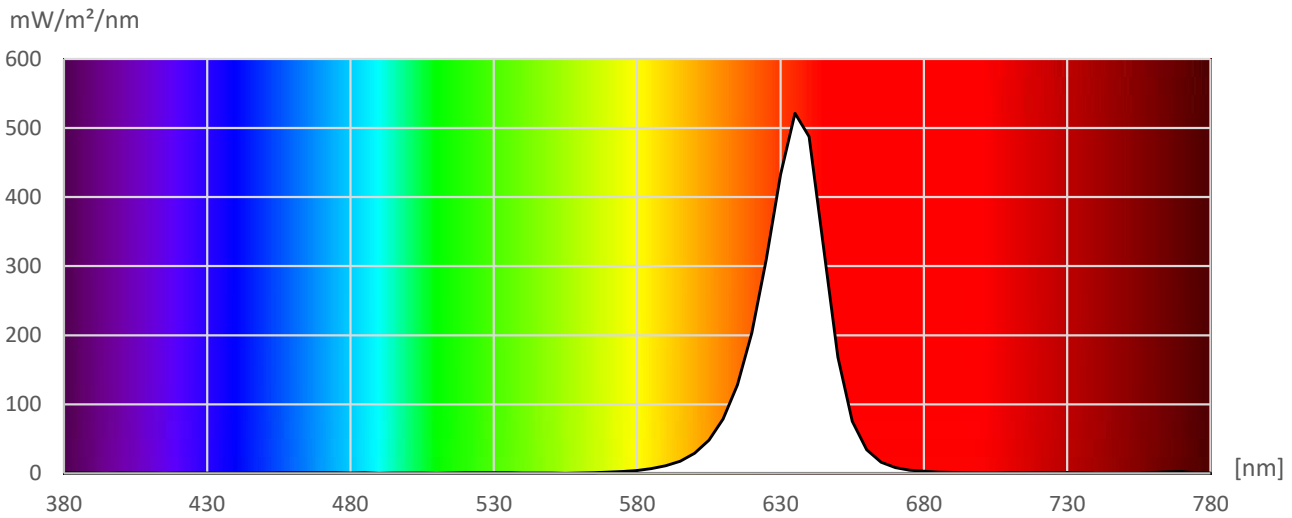
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / red / narrow

Measurement file: 451128\_3m\_r\_n.C  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:43:55



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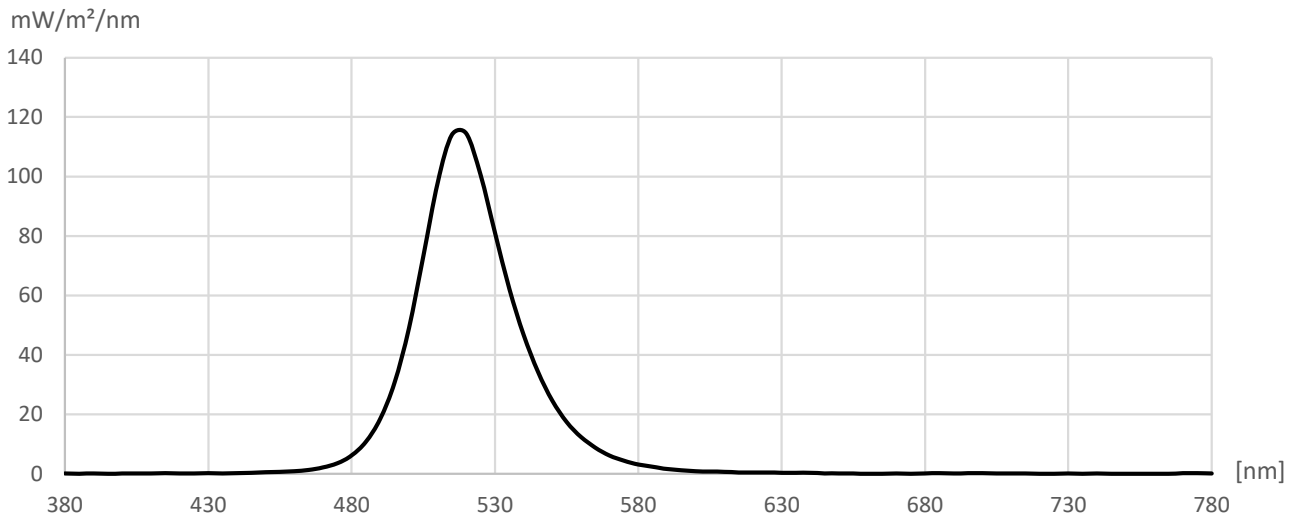
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 1m / green / wide

Measurement file: 451128\_1m\_g\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:41:58



R1 = -34,8	Ra = -20,8	Illuminance	2148,21 lx	CIE1931
R2 = -5,0	Re = -51,2	Ee	4,693 W/m <sup>2</sup>	x = 0,1517
R3 = -15,5	GAI = 1,0	LER	457,8 lm/W	y = 0,7089
R4 = -59,6				
R5 = -8,6		correlated color temperature (CCT)	8225 K	CIE1976
R6 = -13,4		Duv	0,1612	u' = 0,0542
R7 = -1,1		Saturation	73,9 %	v' = 0,5695
R8 = -28,5				
R9 = #####				CIE1960
R10 = -98,6		Dominant wavelength	519 nm	u = 0,0542
R11 = -87,4		Peak wavelength	517 nm	v = 0,3797
R12 = -26,9				
R13 = -40,3		Flicker frequency	% < 1.0 Hz	TM30
R14 = 42,4		Percent Flicker	< 1.0 %	Rf = 1,0
R15 = -37,0		Flicker index	% < 1.0	Rg = 9,9

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,07	440	0,21	500	49,05	560	12,34	620	0,46	680	0,12	740	0,06
385	0,03	445	0,31	505	73,32	565	8,80	625	0,44	685	0,22	745	0,00
390	0,13	450	0,51	510	98,01	570	6,12	630	0,35	690	0,10	750	0,00
395	0,01	455	0,65	515	114,00	575	4,40	635	0,35	695	0,15	755	0,00
400	0,05	460	0,80	520	114,43	580	3,13	640	0,33	700	0,16	760	0,00
405	0,12	465	1,24	525	100,46	585	2,37	645	0,14	705	0,07	765	0,00
410	0,10	470	2,08	530	81,03	590	1,56	650	0,14	710	0,10	770	0,14
415	0,17	475	3,53	535	62,15	595	1,21	655	0,05	715	0,05	775	0,15
420	0,12	480	6,16	540	46,87	600	0,85	660	0,00	720	0,02	780	0,11
425	0,11	485	10,68	545	34,36	605	0,72	665	0,00	725	0,00		
430	0,23	490	18,43	550	24,62	610	0,65	670	0,07	730	0,04		
435	0,09	495	30,68	555	17,37	615	0,46	675	0,01	735	0,00		

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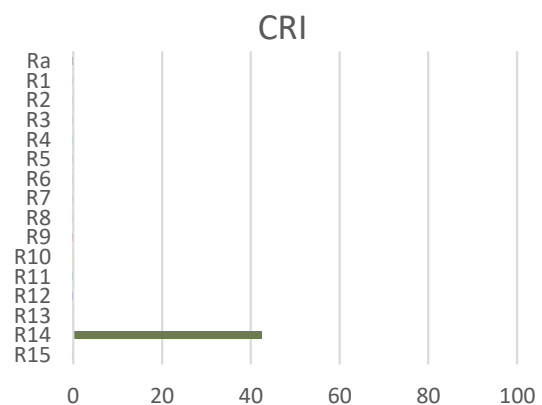
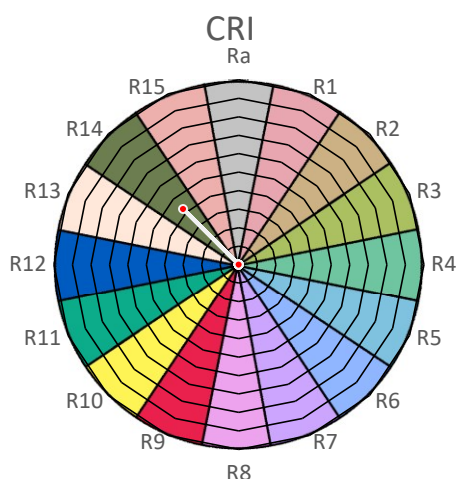
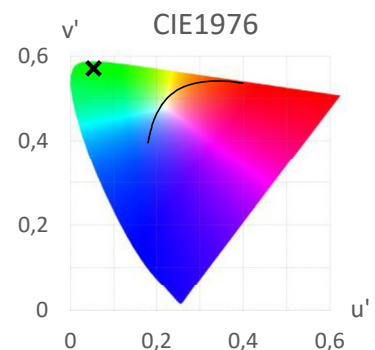
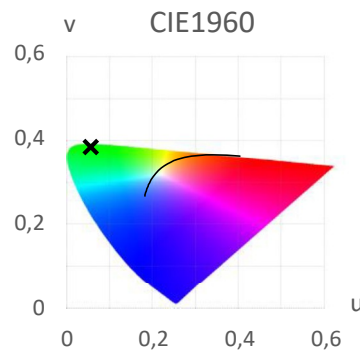
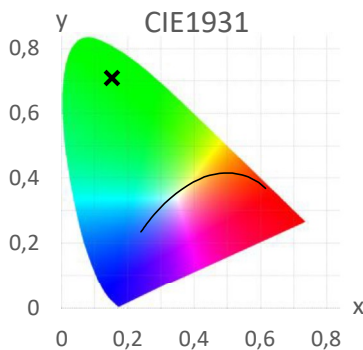
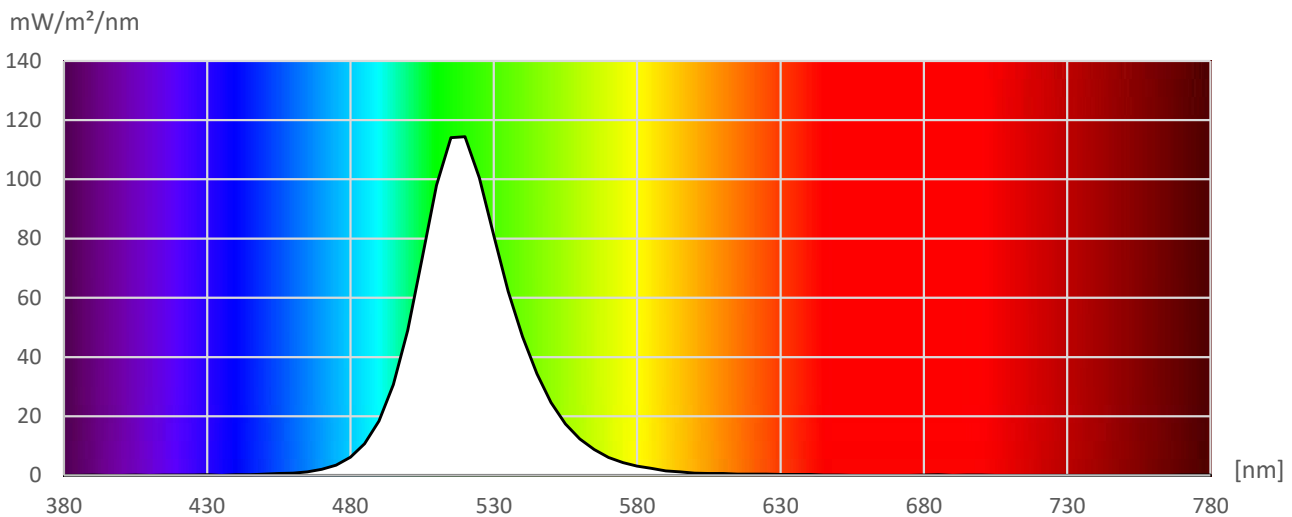
First, last name of inspector

# Measurement protocol

th•mann

Test object: Stairville  
Z120M Par 64 LED RGBW  
451128 / 1m / green / wide

Measurement file: 451128\_1m\_g\_w.C  
Date of measurement: 25.03.2021  
Time of measurement: 15:41:58



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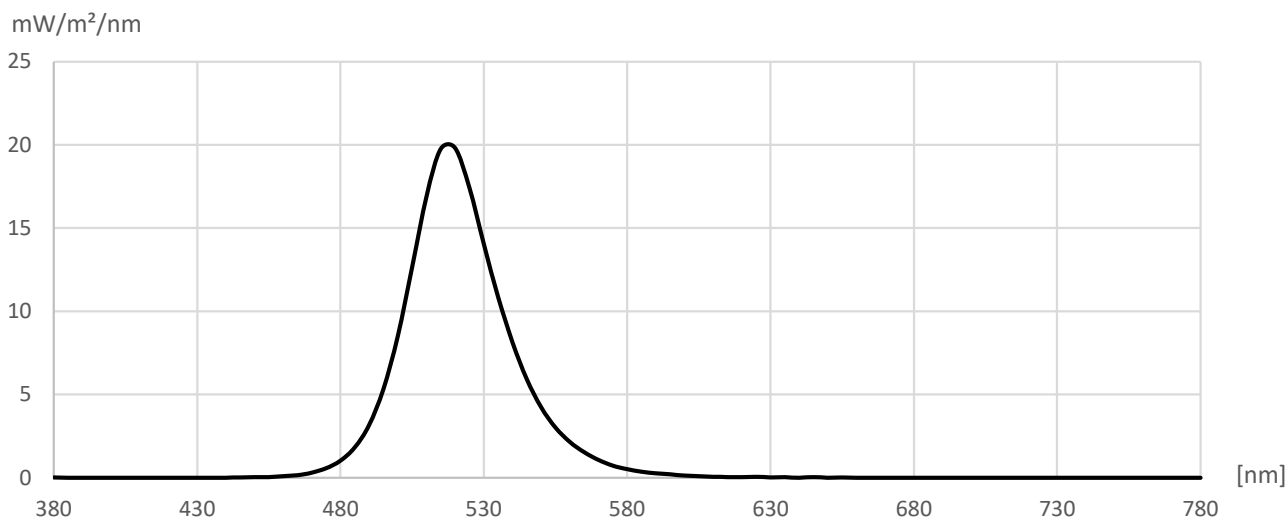
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / green / wide

Measurement file: 451128\_3m\_g\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:42:09



R1 = -36,1	Ra = -23,7	Illuminance	371,31 lx	CIE1931
R2 = -7,3	Re = -54,2	Ee	0,806 W/m <sup>2</sup>	x = 0,1498
R3 = -19,9	GAI = 0,7	LER	460,7 lm/W	y = 0,7147
R4 = -63,8				
R5 = -9,6		correlated color temperature (CCT)	8222 K	CIE1976
R6 = -15,5		Duv	0,1624	u' = 0,0531
R7 = -6,0		Saturation	75 %	v' = 0,5704
R8 = -31,8				
R9 = #####				CIE1960
R10 = #####		Dominant wavelength	519 nm	u = 0,0531
R11 = -91,8		Peak wavelength	517 nm	v = 0,3803
R12 = -28,9				
R13 = -41,8		Flicker frequency	% < 1.0 Hz	TM30
R14 = 40,4		Percent Flicker	< 1.0 %	Rf = 0,7
R15 = -38,3		Flicker index	% < 1.0	Rg = 8,0

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,02	440	0,00	500	8,53	560	2,15	620	0,03	680	0,00	740	0,00
385	0,00	445	0,02	505	12,69	565	1,53	625	0,05	685	0,00	745	0,00
390	0,00	450	0,03	510	16,92	570	1,07	630	0,02	690	0,00	750	0,00
395	0,00	455	0,04	515	19,76	575	0,72	635	0,03	695	0,00	755	0,00
400	0,00	460	0,09	520	19,81	580	0,51	640	0,01	700	0,00	760	0,00
405	0,00	465	0,16	525	17,41	585	0,36	645	0,03	705	0,00	765	0,00
410	0,00	470	0,30	530	14,03	590	0,26	650	0,00	710	0,00	770	0,00
415	0,00	475	0,57	535	10,82	595	0,20	655	0,01	715	0,00	775	0,00
420	0,00	480	1,03	540	8,15	600	0,14	660	0,00	720	0,00	780	0,00
425	0,00	485	1,82	545	5,94	605	0,09	665	0,00	725	0,00		
430	0,00	490	3,16	550	4,23	610	0,06	670	0,00	730	0,00		
435	0,00	495	5,34	555	3,01	615	0,04	675	0,00	735	0,00		

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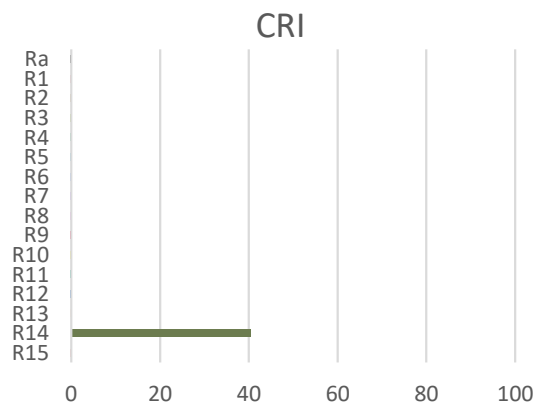
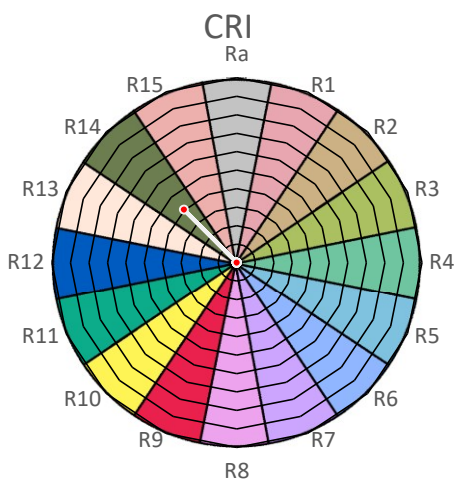
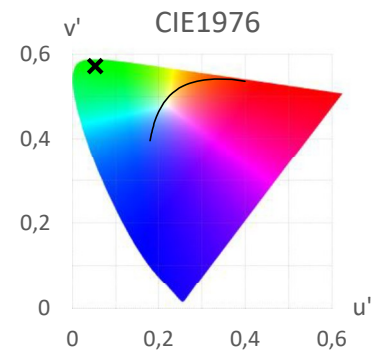
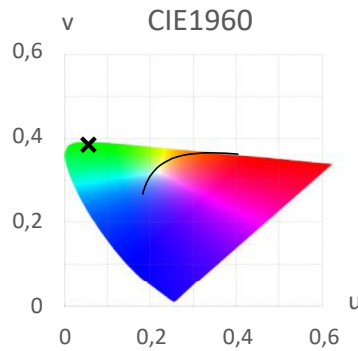
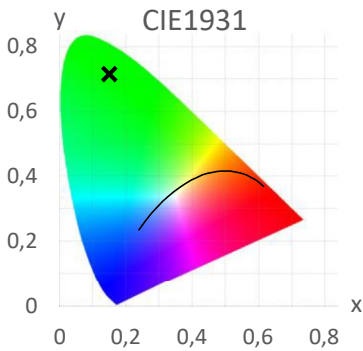
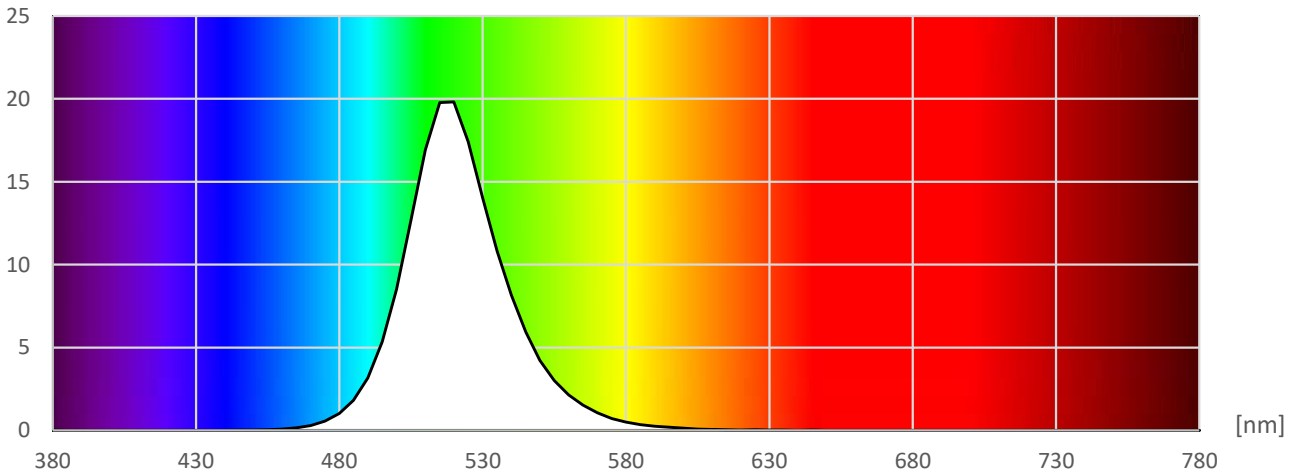
# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / green / wide

Measurement file: 451128\_3m\_g\_w.C  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:42:09

mW/m<sup>2</sup>/nm



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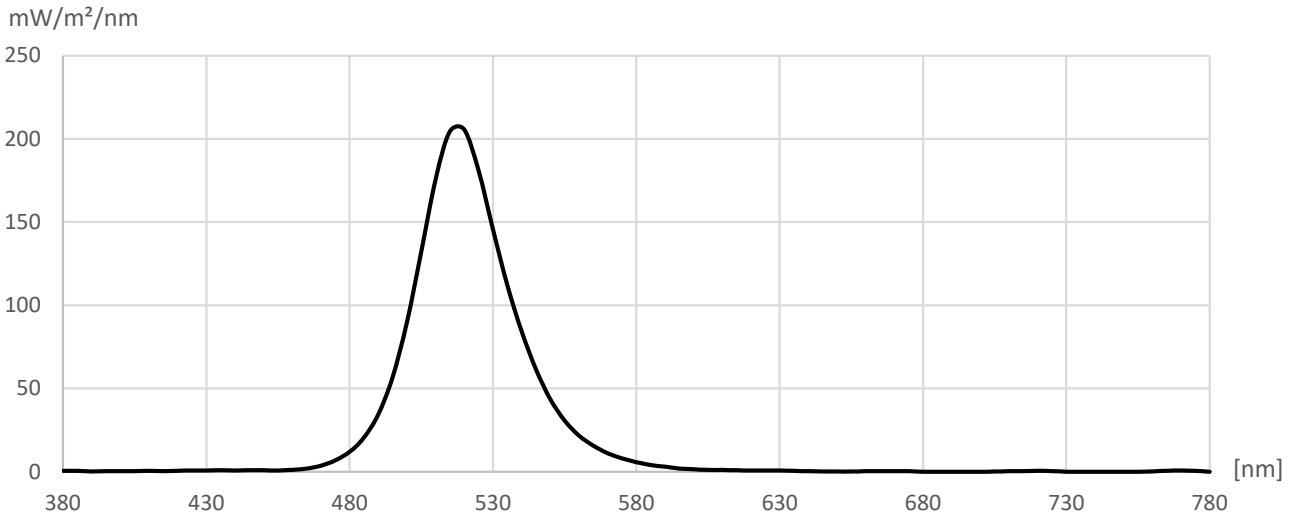


# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / green / narrow

Measurement file: 451128\_3m\_g\_n.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:44:12



R1 = -34,9	Ra = -20,0	Illuminance	3862,27 lx	CIE1931
R2 = -4,4	Re = -50,5	Ee	8,491 W/m <sup>2</sup>	x = 0,1509
R3 = -14,0	GAI = 1,0	LER	454,9 lm/W	y = 0,7067
R4 = -58,5				
R5 = -8,6		correlated color temperature (CCT)	8254 K	CIE1976
R6 = -13,1		Duv	0,1611	u' = 0,0540
R7 = 0,8		Saturation	73,6 %	v' = 0,5690
R8 = -27,5				
R9 = #####				CIE1960
R10 = -97,2		Dominant wavelength	519 nm	u = 0,0540
R11 = -86,4		Peak wavelength	517 nm	v = 0,3793
R12 = -27,2				
R13 = -40,2		Flicker frequency	% < 1.0 Hz	TM30
R14 = 43,2		Percent Flicker	< 1.0 %	Rf = 1,1
R15 = -36,8		Flicker index	% < 1.0	Rg = 10,3

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,55	440	0,73	500	89,93	560	21,71	620	0,81	680	0,05	740	0,00
385	0,52	445	0,86	505	132,63	565	15,65	625	0,79	685	0,05	745	0,00
390	0,20	450	0,84	510	176,04	570	11,19	630	0,76	690	0,00	750	0,00
395	0,30	455	0,81	515	204,48	575	8,08	635	0,50	695	0,00	755	0,00
400	0,32	460	1,15	520	205,54	580	5,75	640	0,32	700	0,00	760	0,19
405	0,29	465	1,90	525	180,83	585	4,07	645	0,20	705	0,07	765	0,58
410	0,50	470	3,67	530	145,53	590	2,95	650	0,11	710	0,27	770	0,72
415	0,40	475	6,81	535	111,89	595	1,94	655	0,07	715	0,35	775	0,50
420	0,60	480	11,97	540	84,57	600	1,50	660	0,29	720	0,47	780	0,03
425	0,66	485	20,47	545	61,62	605	1,05	665	0,37	725	0,42		
430	0,68	490	34,43	550	43,63	610	1,04	670	0,38	730	0,03		
435	0,85	495	56,87	555	30,75	615	0,84	675	0,29	735	0,00		

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Burgebrach, 25.03.2021

First, last name of inspector

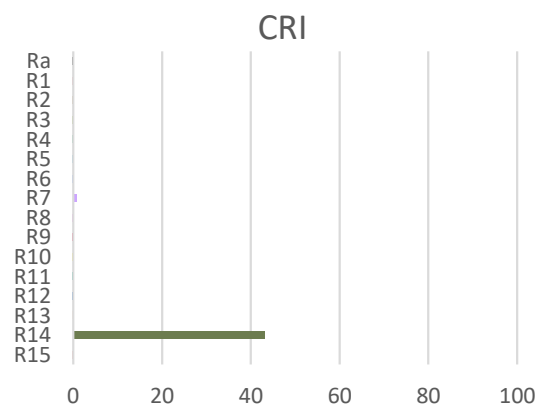
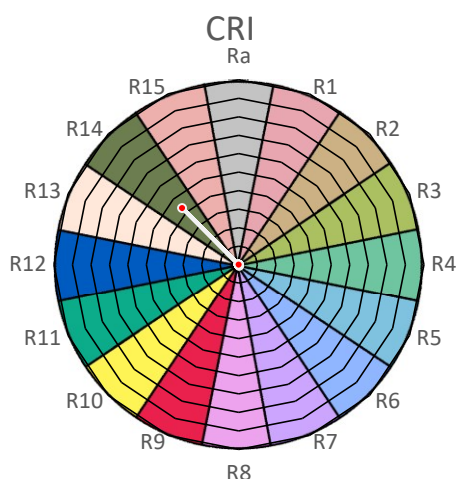
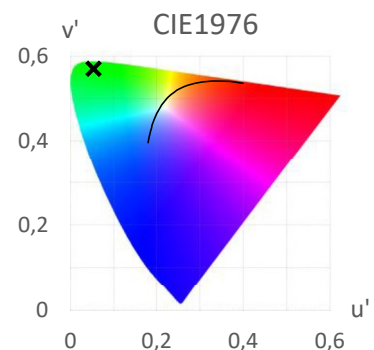
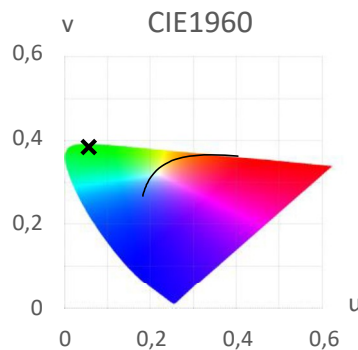
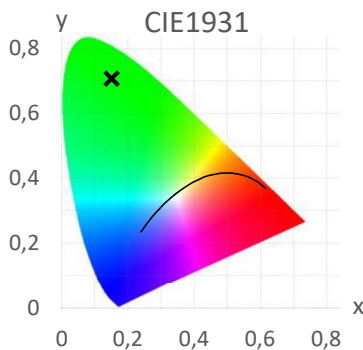
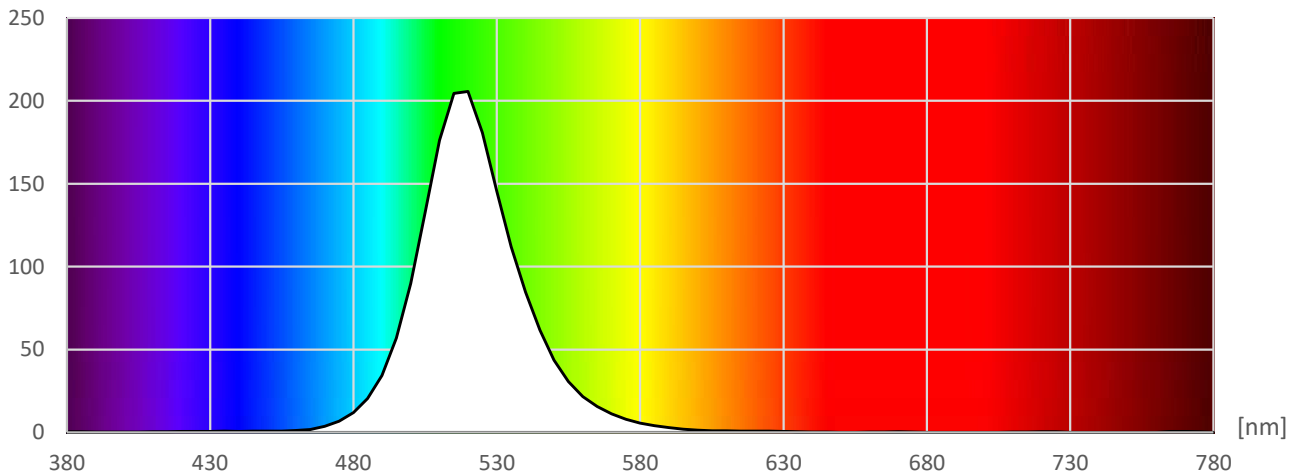
# Measurement protocol

th•mann

Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / green / narrow

Measurement file: 451128\_3m\_g\_n.C  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:44:12

mW/m<sup>2</sup>/nm



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Burgebrach, 25.03.2021

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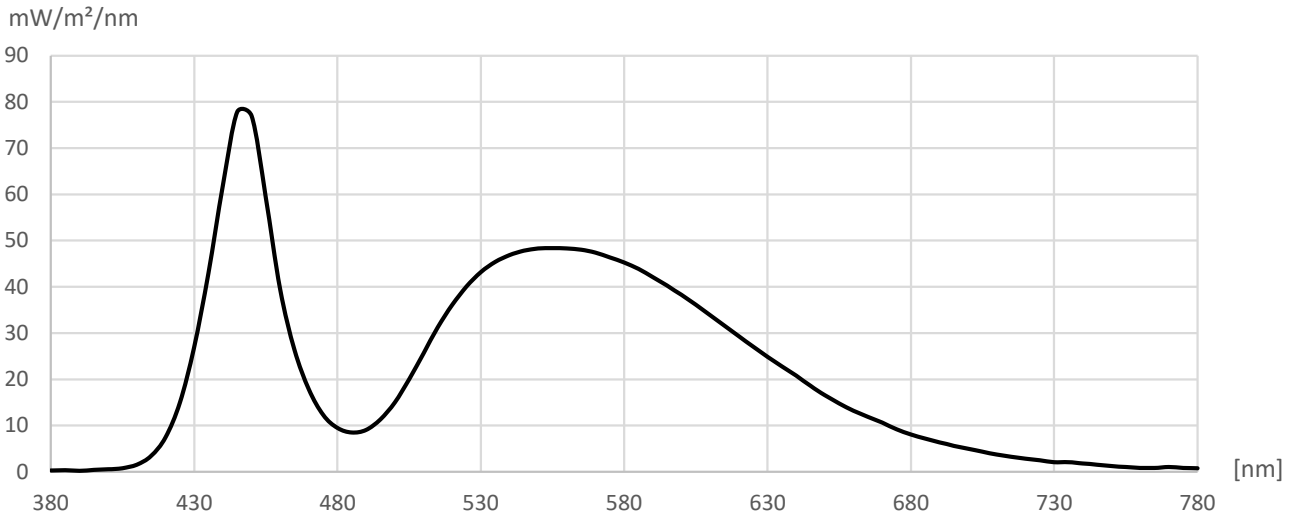
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 1m / white / wide

Measurement file: 451128\_1m\_cw\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:42:54



R1 = 69,1	Ra = 70,7	Illuminance	2845,72 lx	CIE1931
R2 = 74,3	Re = 60,3	Ee	8,708 W/m <sup>2</sup>	x = 0,3280
R3 = 76,1	GAI = 84,0	LER	326,8 lm/W	y = 0,3409
R4 = 72,0				
R5 = 69,8		correlated color temperature (CCT)	5696 K	CIE1976
R6 = 64,4		Duv	0,0019	u' = 0,2039
R7 = 79,7				v' = 0,4768
R8 = 60,1		Saturation	1,7 %	
R9 = -26,0				CIE1960
R10 = 37,2		Dominant wavelength	509 nm	u = 0,2039
R11 = 68,4		Peak wavelength	447 nm	v = 0,3179
R12 = 40,3				
R13 = 69,2		Flicker frequency	74,3 Hz	TM30
R14 = 86,3		Percent Flicker	1 %	Rf = 67,4
R15 = 64,3		Flicker index	0,002	Rg = 94,5

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,26	440	61,83	500	14,99	560	48,28	620	29,32	680	8,09	740	1,78
385	0,31	445	77,82	505	20,05	565	48,03	625	27,07	685	7,16	745	1,53
390	0,21	450	76,98	510	25,63	570	47,38	630	24,90	690	6,37	750	1,21
395	0,41	455	59,50	515	31,20	575	46,34	635	22,82	695	5,61	755	1,02
400	0,51	460	39,56	520	36,06	580	45,28	640	20,76	700	4,97	760	0,84
405	0,75	465	26,39	525	40,05	585	43,86	645	18,55	705	4,34	765	0,82
410	1,52	470	17,80	530	43,18	590	42,08	650	16,56	710	3,71	770	1,03
415	3,41	475	12,27	535	45,38	595	40,25	655	14,80	715	3,26	775	0,84
420	7,43	480	9,44	540	46,86	600	38,25	660	13,16	720	2,82	780	0,76
425	14,97	485	8,48	545	47,78	605	36,12	665	11,90	725	2,47		
430	26,82	490	9,07	550	48,28	610	33,88	670	10,60	730	2,05		
435	42,93	495	11,34	555	48,38	615	31,56	675	9,18	735	2,08		

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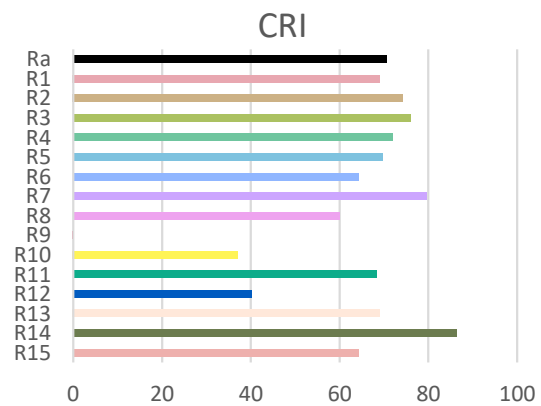
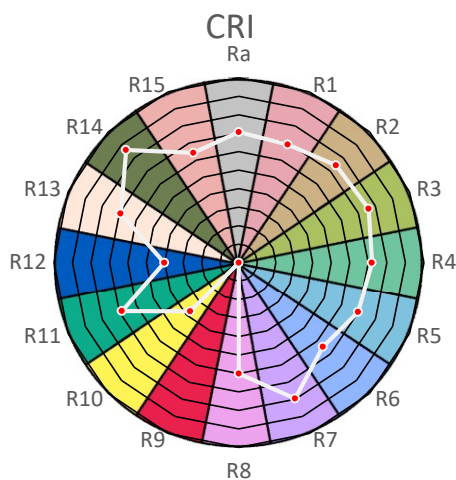
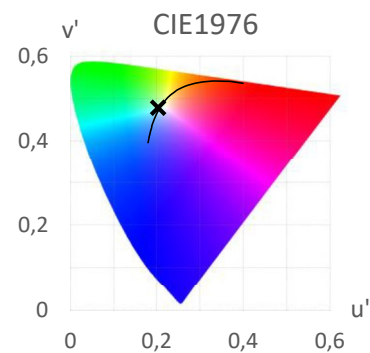
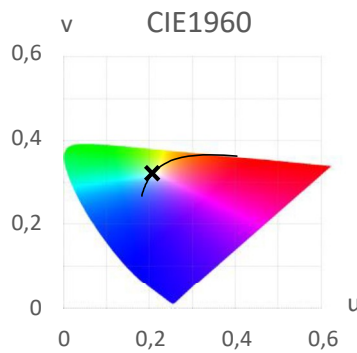
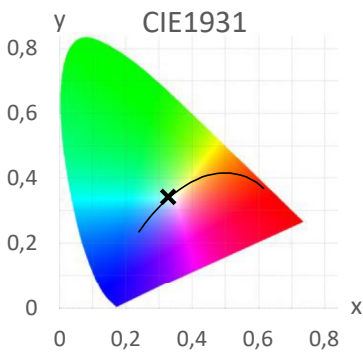
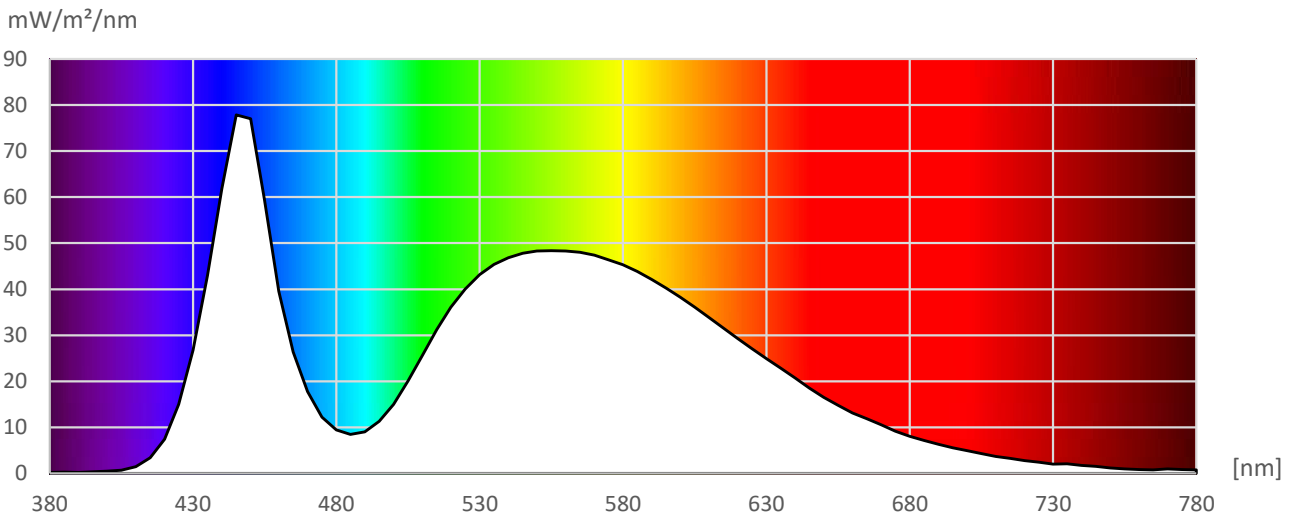
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 1m / white / wide

Measurement file: 451128\_1m\_cw\_w  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:42:54



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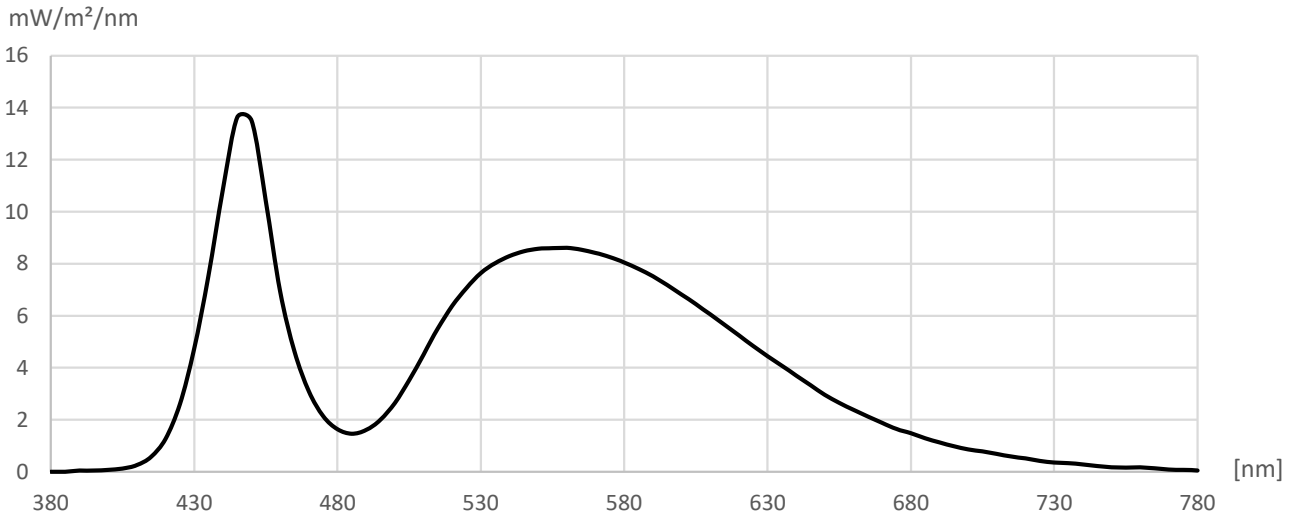
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / white / wide

Measurement file: 451128\_3m\_cw\_w.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:43:08



R1 = 68,9	Ra = 70,6	Illuminance	505,27 lx	CIE1931
R2 = 74,3	Re = 60,2	Ee	1,538 W/m <sup>2</sup>	x = 0,3296
R3 = 76,2	GAI = 83,6	LER	328,5 lm/W	y = 0,3424
R4 = 71,8				
R5 = 69,6		correlated color temperature (CCT)	5626 K	CIE1976
R6 = 64,3		Duv	0,002	u' = 0,2044
R7 = 79,6				v' = 0,4778
R8 = 59,7		Saturation	1,8 %	
R9 = -26,5				CIE1960
R10 = 37,2		Dominant wavelength	524 nm	u = 0,2044
R11 = 68,1		Peak wavelength	447 nm	v = 0,3185
R12 = 40,1				
R13 = 69,0		Flicker frequency	73,2 Hz	TM30
R14 = 86,3		Percent Flicker	1 %	Rf = 67,3
R15 = 64,0		Flicker index	0,002	Rg = 94,5

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,00	440	10,84	500	2,64	560	8,60	620	5,24	680	1,48	740	0,28
385	0,00	445	13,63	505	3,52	565	8,54	625	4,84	685	1,29	745	0,22
390	0,04	450	13,50	510	4,51	570	8,42	630	4,45	690	1,12	750	0,18
395	0,04	455	10,45	515	5,50	575	8,25	635	4,07	695	0,98	755	0,16
400	0,07	460	6,95	520	6,37	580	8,05	640	3,70	700	0,86	760	0,16
405	0,12	465	4,63	525	7,07	585	7,80	645	3,32	705	0,78	765	0,13
410	0,25	470	3,10	530	7,64	590	7,51	650	2,96	710	0,69	770	0,08
415	0,57	475	2,14	535	8,02	595	7,18	655	2,65	715	0,58	775	0,07
420	1,27	480	1,63	540	8,29	600	6,82	660	2,39	720	0,51	780	0,05
425	2,61	485	1,46	545	8,47	605	6,45	665	2,13	725	0,41		
430	4,70	490	1,60	550	8,58	610	6,05	670	1,87	730	0,36		
435	7,53	495	1,99	555	8,59	615	5,65	675	1,64	735	0,33		

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Burgebrach, 25.03.2021

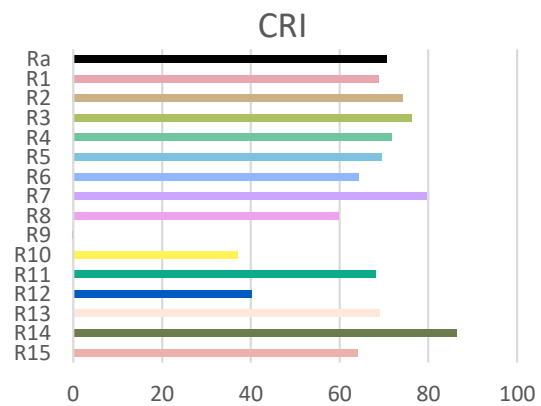
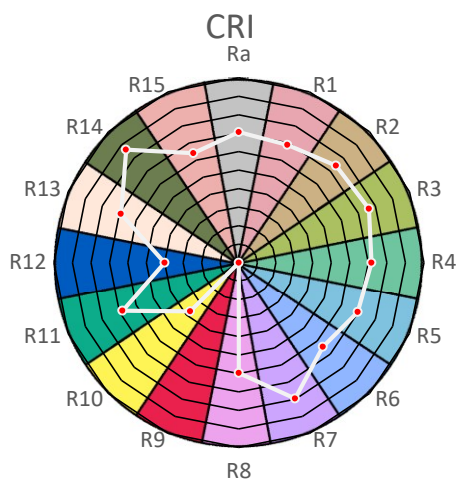
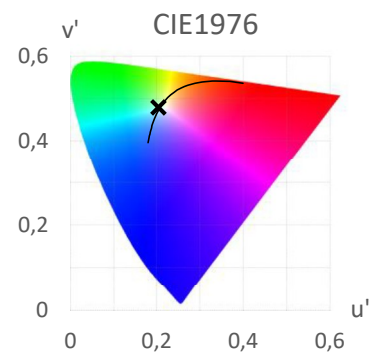
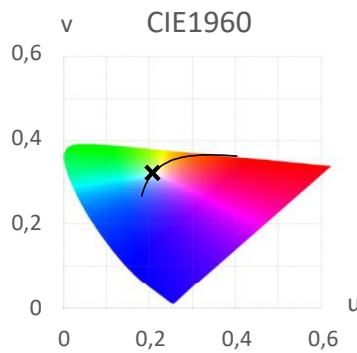
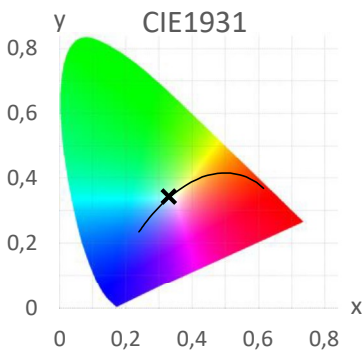
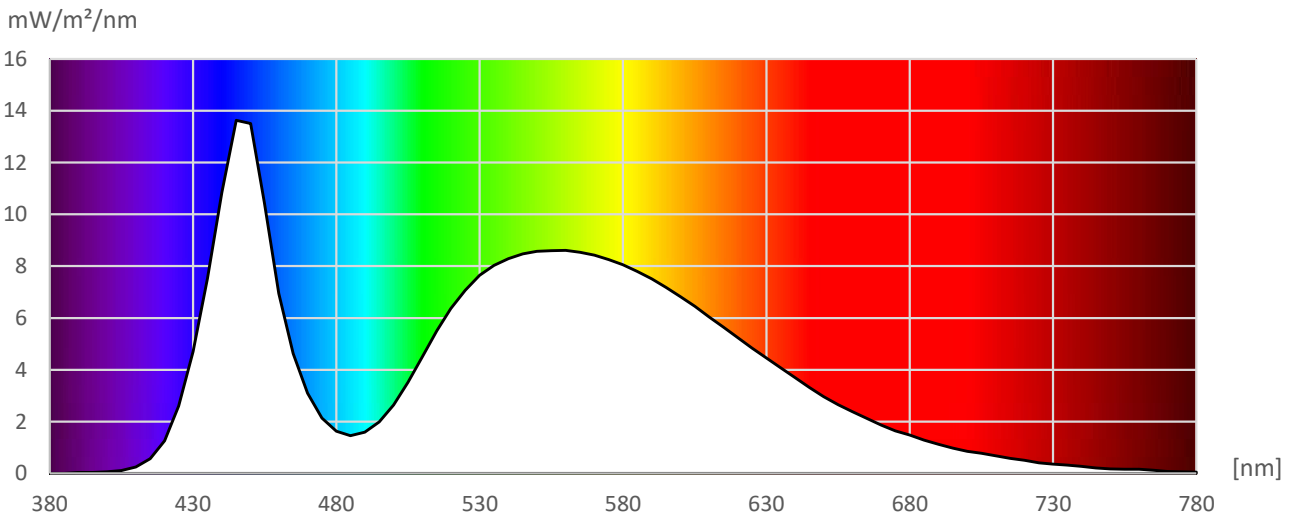
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / white / wide

Measurement file: 451128\_3m\_cw\_w  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:43:08



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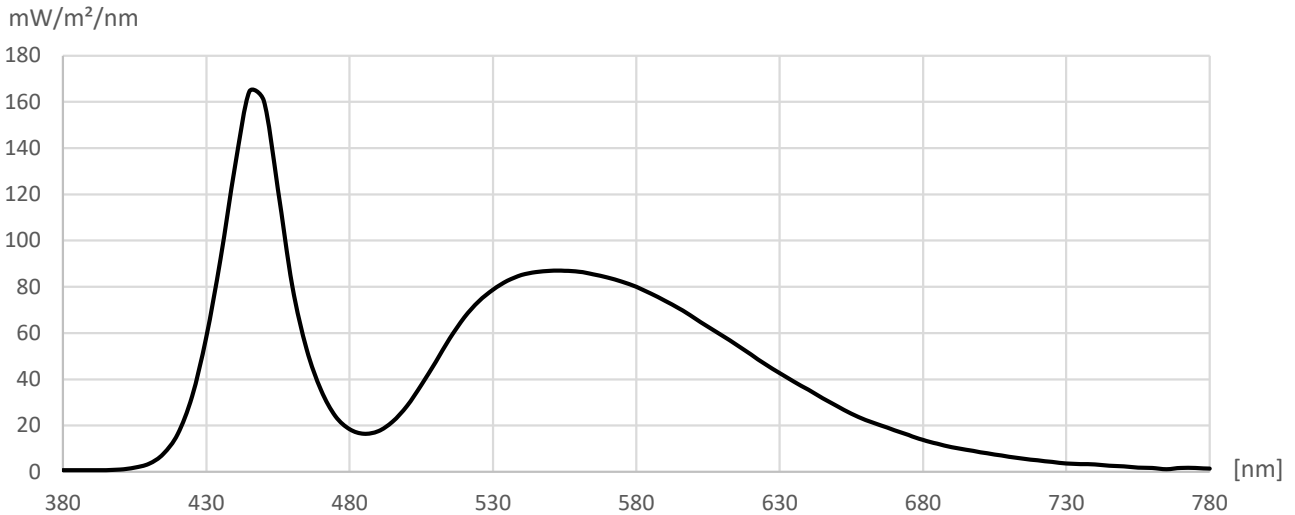
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / white / narrow

Measurement file: 451128\_3m\_cw\_n.CSV  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:44:51



R1 = 71,8	Ra = 71,8	Illuminance	5110,32 lx	CIE1931
R2 = 74,6	Re = 62,1	Ee	16,237 W/m <sup>2</sup>	x = 0,3147
R3 = 73,3	GAI = 89,2	LER	314,7 lm/W	y = 0,3225
R4 = 74,1				
R5 = 72,4		correlated color temperature (CCT)	6443 K	CIE1976
R6 = 64,7		Duv	-0,0012	u' = 0,2017
R7 = 79,6				v' = 0,4651
R8 = 64,2		Saturation	7,3 %	
R9 = -17,0				CIE1960
R10 = 36,6		Dominant wavelength	481 nm	u = 0,2017
R11 = 71,6		Peak wavelength	447 nm	v = 0,3101
R12 = 41,6				
R13 = 71,2		Flicker frequency	% < 1.0 Hz	TM30
R14 = 84,6		Percent Flicker	< 1.0 %	Rf = 66,9
R15 = 68,2		Flicker index	% < 1.0	Rg = 95,3

[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm	[nm]	mW/m <sup>2</sup> /nm
380	0,69	440	131,91	500	28,47	560	86,57	620	50,74	680	13,74	740	3,16
385	0,73	445	164,43	505	37,59	565	85,44	625	46,49	685	12,09	745	2,64
390	0,73	450	160,53	510	47,51	570	84,04	630	42,68	690	10,65	750	2,30
395	0,72	455	122,50	515	57,70	575	82,23	635	38,97	695	9,54	755	1,80
400	0,94	460	80,50	520	66,67	580	79,95	640	35,46	700	8,43	760	1,67
405	1,75	465	53,11	525	73,69	585	77,12	645	31,82	705	7,47	765	1,15
410	3,41	470	35,40	530	78,80	590	73,91	650	28,41	710	6,51	770	1,66
415	7,72	475	24,06	535	82,57	595	70,65	655	25,15	715	5,60	775	1,61
420	16,34	480	18,34	540	85,11	600	66,73	660	22,39	720	4,91	780	1,38
425	32,64	485	16,43	545	86,39	605	62,72	665	20,21	725	4,21		
430	58,03	490	17,55	550	86,94	610	58,89	670	18,00	730	3,61		
435	92,21	495	21,70	555	86,96	615	54,87	675	15,80	735	3,32		

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Burgebrach, 25.03.2021

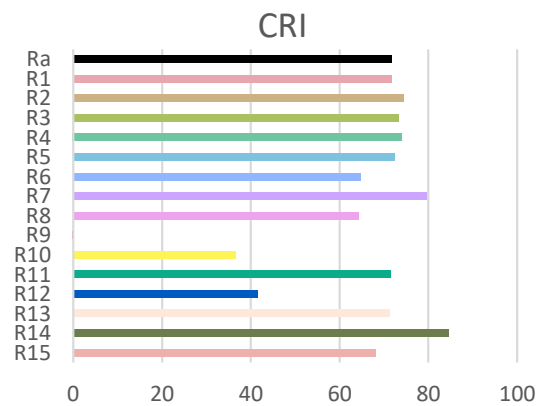
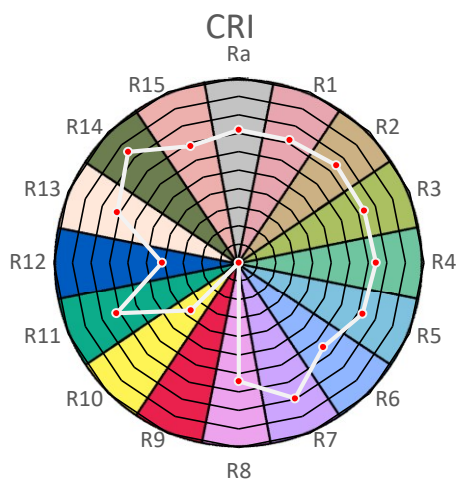
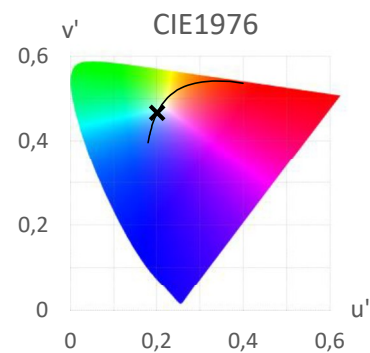
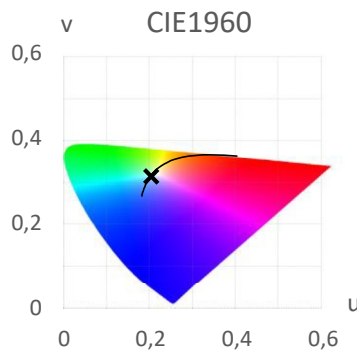
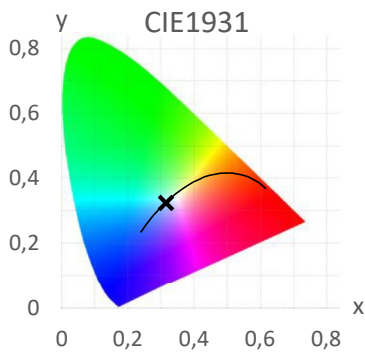
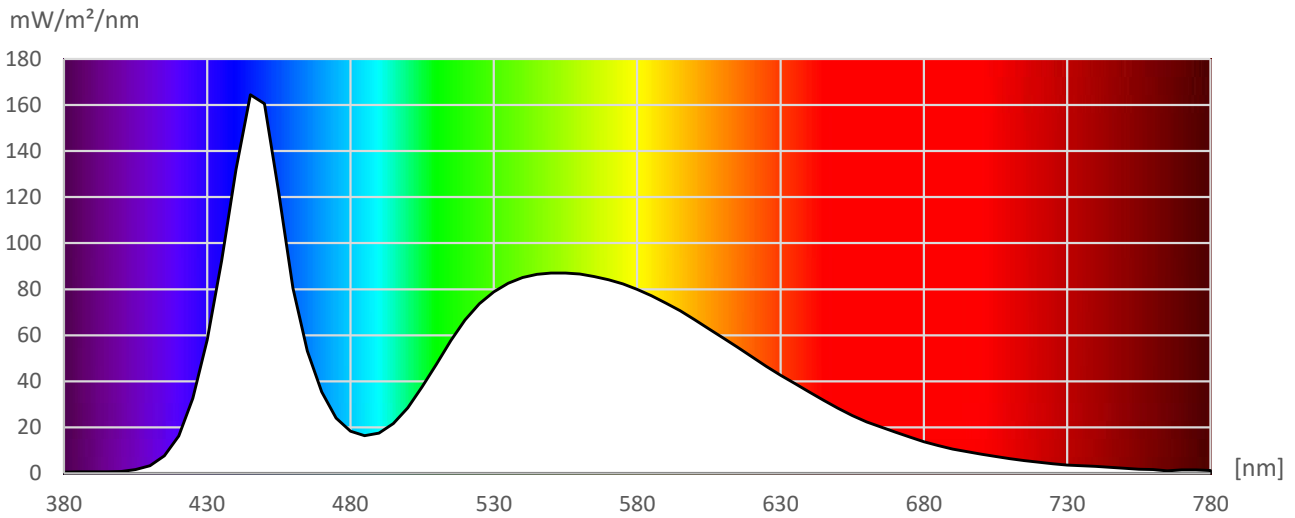
First, last name of inspector

# Measurement protocol



Test object: Stairville  
 Z120M Par 64 LED RGBW  
 451128 / 3m / white / narrow

Measurement file: 451128\_3m\_cw\_n.  
 Date of measurement: 25.03.2021  
 Time of measurement: 15:44:51



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