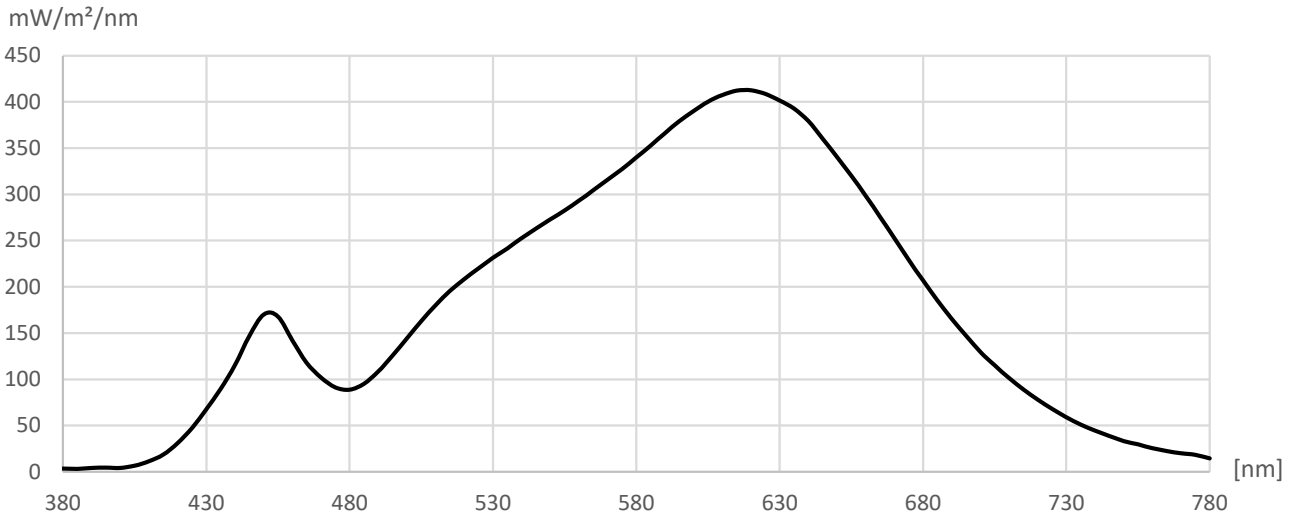


Measurement protocol



Test object: Stairville
 Z100M Par 64 LED 3000K 100W
 443912 / 1m / white / wide

Measurement file: 443912_1m_w.CSV
 Date of measurement: 25.03.2021
 Time of measurement: 15:35:42



R1 = 90,0	Ra = 90,3	Illuminance	21068,86 lx	CIE1931
R2 = 94,0	Re = 86,9	Ee	72,111 W/m ²	x = 0,4369
R3 = 96,5	GAI = 57,1	LER	292,2 lm/W	y = 0,4034
R4 = 90,1				
R5 = 89,5		correlated color temperature (CCT)	2982 K	CIE1976
R6 = 92,5		Duv	-0,0003	u' = 0,2509
R7 = 91,0				v' = 0,5211
R8 = 78,5		Saturation	52,1 %	
R9 = 50,9				CIE1960
R10 = 85,1		Dominant wavelength	582 nm	u = 0,2509
R11 = 90,2		Peak wavelength	617 nm	v = 0,3474
R12 = 81,4				
R13 = 90,9		Flicker frequency	% < 1.0 Hz	TM30
R14 = 97,5		Percent Flicker	< 1.0 %	Rf = 89,2
R15 = 86,0		Flicker index	% < 1.0	Rg = 99,6

[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm
380	3,37	440	115,29	500	144,45	560	293,21	620	412,58	680	207,13	740	44,53
385	3,11	445	146,85	505	163,20	565	304,48	625	408,60	685	185,64	745	38,75
390	4,10	450	170,12	510	180,19	570	315,75	630	401,64	690	165,61	750	33,26
395	4,37	455	168,04	515	195,51	575	327,32	635	392,71	695	147,14	755	29,50
400	4,20	460	142,45	520	208,30	580	339,82	640	379,19	700	129,68	760	25,50
405	6,50	465	117,85	525	220,03	585	352,66	645	360,08	705	115,27	765	22,35
410	11,39	470	101,94	530	231,30	590	366,39	650	340,53	710	101,48	770	19,86
415	18,56	475	91,29	535	241,64	595	379,19	655	320,27	715	89,15	775	18,25
420	31,11	480	88,72	540	252,60	600	389,93	660	298,58	720	78,00	780	14,37
425	47,46	485	95,11	545	262,88	605	400,16	665	275,86	725	67,96		
430	67,48	490	108,33	550	272,89	610	407,48	670	252,62	730	58,94		
435	89,52	495	125,72	555	282,62	615	412,10	675	229,11	735	50,99		

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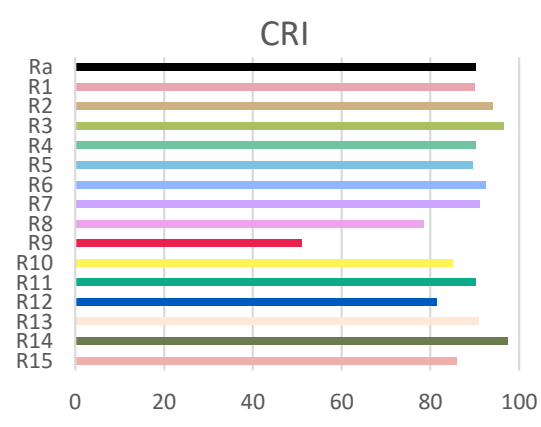
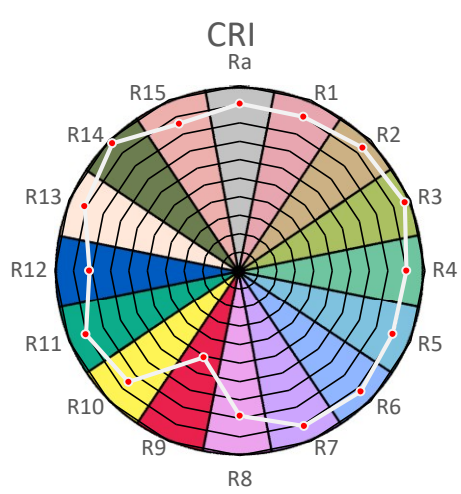
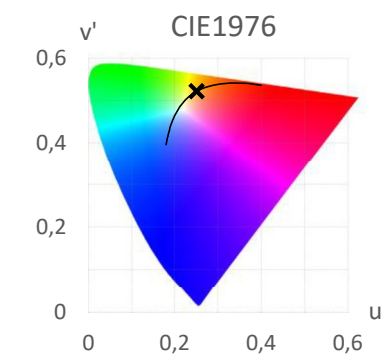
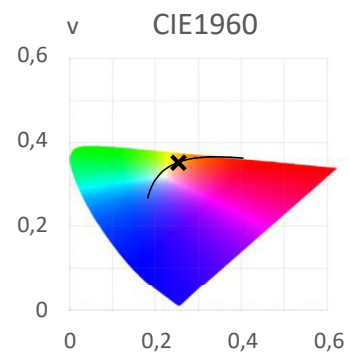
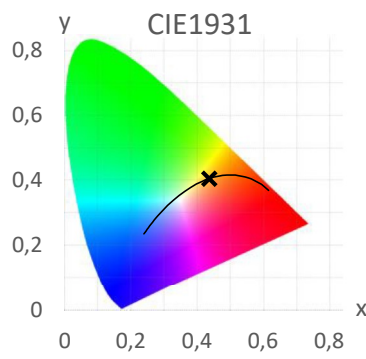
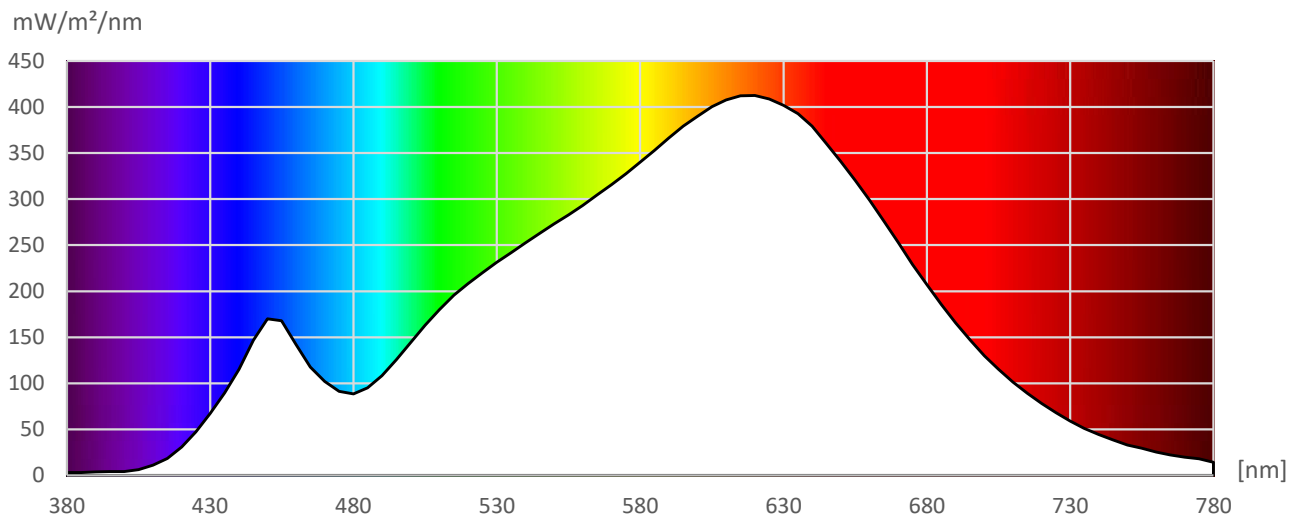
First, last name of inspector

Measurement protocol



Test object: Stairville
 Z100M Par 64 LED 3000K 100W
 443912 / 1m / white / wide

Measurement file: 443912_1m_w.CSV
 Date of measurement: 25.03.2021
 Time of measurement: 15:35:42



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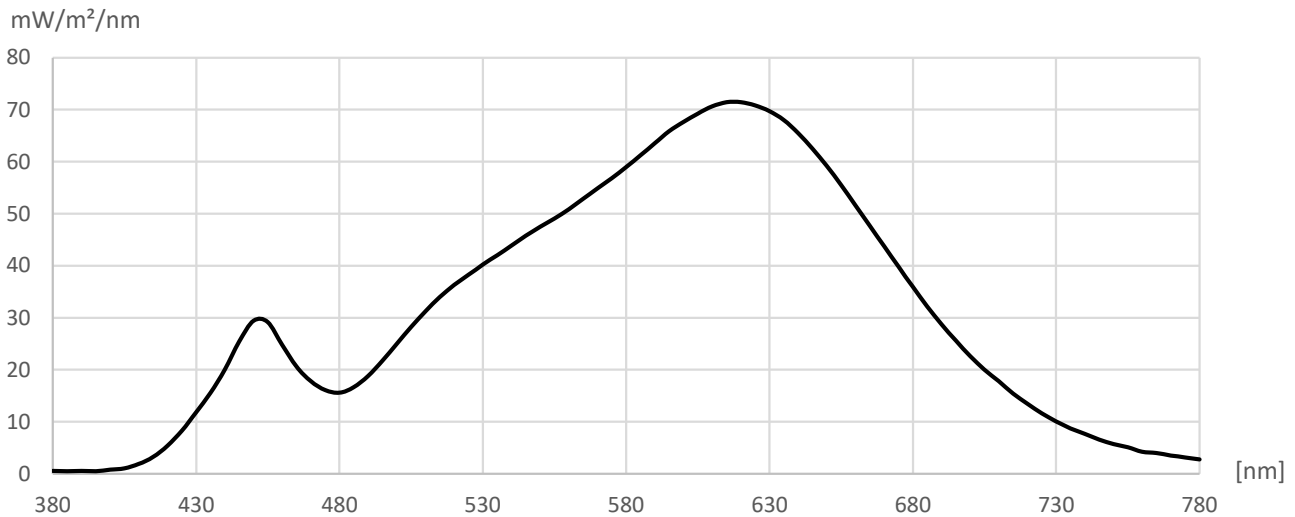
Sebastian Laske
 First, last name of inspector

Measurement protocol



Test object: Stairville
 Z100M Par 64 LED 3000K 100W
 443912 / 3m / white / wide

Measurement file: 443912_3m_w.CSV
 Date of measurement: 25.03.2021
 Time of measurement: 15:36:00



R1 = 90,0	Ra = 90,2	Illuminance	3657,15 lx	CIE1931
R2 = 94,0	Re = 86,9	Ee	12,507 W/m ²	x = 0,4366
R3 = 96,5	GAI = 57,1	LER	292,4 lm/W	y = 0,4034
R4 = 90,1				
R5 = 89,5		correlated color temperature (CCT)	2986 K	CIE1976
R6 = 92,4		Duv	-0,0002	u' = 0,2507
R7 = 91,0				v' = 0,5211
R8 = 78,5		Saturation	52 %	
R9 = 50,8				CIE1960
R10 = 85,0		Dominant wavelength	582 nm	u = 0,2507
R11 = 90,1		Peak wavelength	617 nm	v = 0,3474
R12 = 81,3				
R13 = 90,9		Flicker frequency	% < 1.0 Hz	TM30
R14 = 97,5		Percent Flicker	< 1.0 %	Rf = 89,2
R15 = 85,9		Flicker index	% < 1.0	Rg = 99,6

[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm
380	0,52	440	20,01	500	25,00	560	50,87	620	71,43	680	35,97	740	7,65		
385	0,50	445	25,40	505	28,26	565	52,87	625	70,81	685	32,20	745	6,57		
390	0,53	450	29,43	510	31,25	570	54,84	630	69,72	690	28,73	750	5,67		
395	0,50	455	29,16	515	33,95	575	56,81	635	68,01	695	25,58	755	5,09		
400	0,78	460	24,81	520	36,27	580	58,97	640	65,50	700	22,59	760	4,21		
405	1,03	465	20,60	525	38,25	585	61,21	645	62,44	705	20,00	765	3,96		
410	1,87	470	17,78	530	40,20	590	63,57	650	59,20	710	17,78	770	3,52		
415	3,23	475	16,08	535	42,04	595	65,83	655	55,52	715	15,43	775	3,15		
420	5,40	480	15,59	540	43,86	600	67,62	660	51,61	720	13,44	780	2,73		
425	8,28	485	16,65	545	45,74	605	69,25	665	47,65	725	11,61				
430	11,80	490	18,79	550	47,47	610	70,63	670	43,72	730	10,09				
435	15,53	495	21,73	555	49,08	615	71,41	675	39,78	735	8,73				

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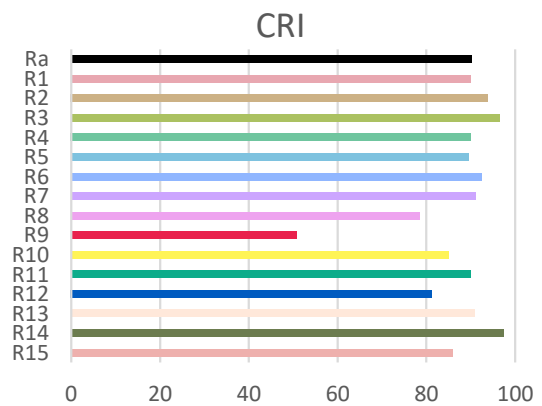
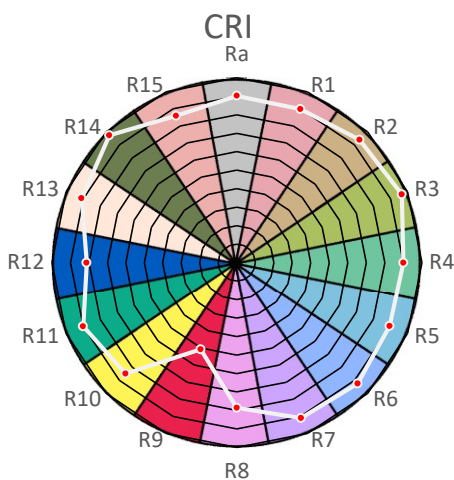
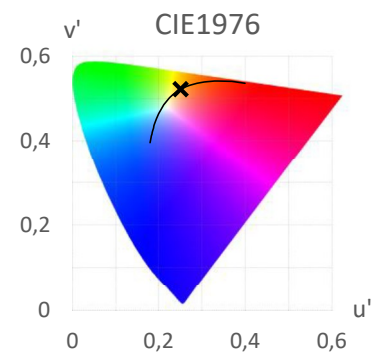
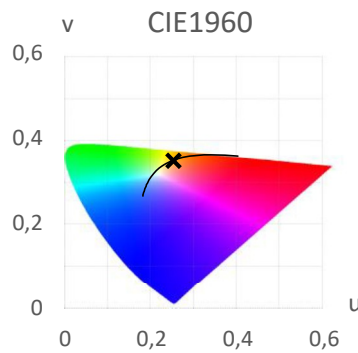
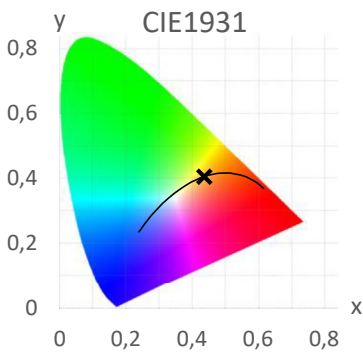
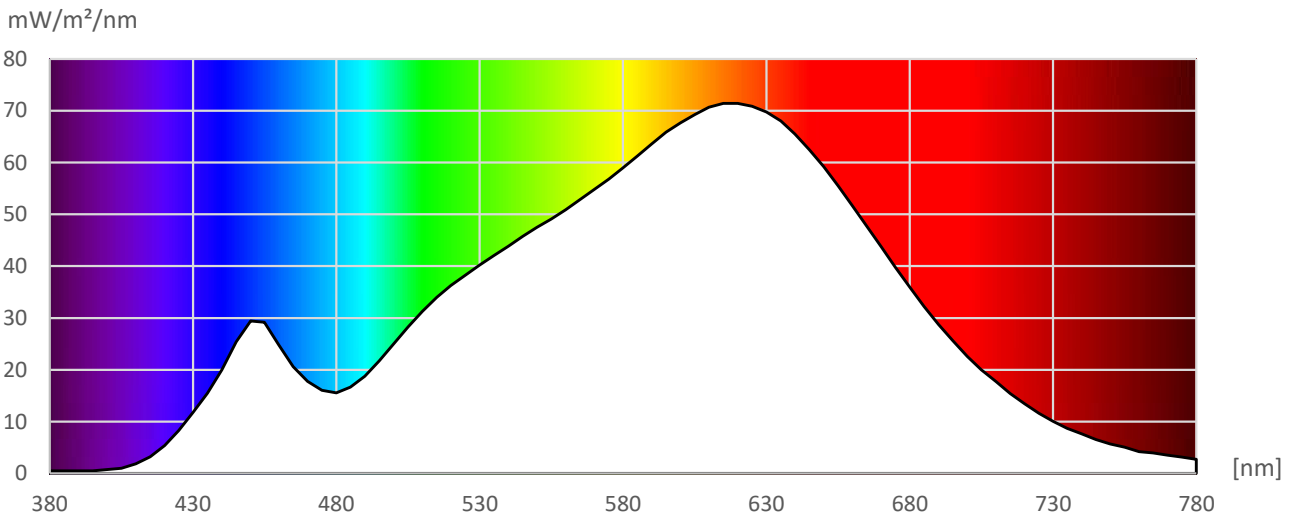
First, last name of inspector

Measurement protocol



Test object: Stairville
 Z100M Par 64 LED 3000K 100W
 443912 / 3m / white / wide

Measurement file: 443912_3m_w.CSV
 Date of measurement: 25.03.2021
 Time of measurement: 15:36:00



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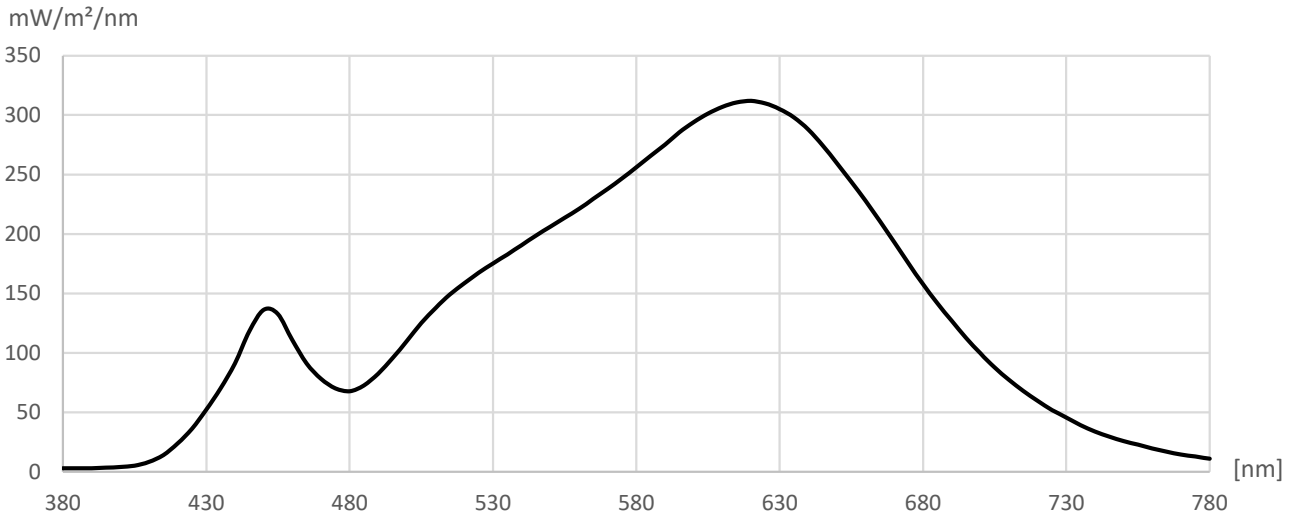
First, last name of inspector

Measurement protocol



Test object: Stairville
 Z100M Par 64 LED 3000K 100W
 443912 / 3m / white / narrow

Measurement file: 443912_3m_n.CSV
 Date of measurement: 25.03.2021
 Time of measurement: 15:35:21



R1 = 90,7	Ra = 90,7	Illuminance	15926,5 lx	CIE1931
R2 = 94,4	Re = 87,6	Ee	54,851 W/m ²	x = 0,4348
R3 = 96,5	GAI = 58,8	LER	290,4 lm/W	y = 0,4009
R4 = 90,6				
R5 = 90,2		correlated color temperature (CCT)	2995 K	CIE1976
R6 = 93,0		Duv	-0,001	u' = 0,2506
R7 = 91,1				v' = 0,5198
R8 = 79,4		Saturation	50,9 %	
R9 = 53,3				CIE1960
R10 = 86,1		Dominant wavelength	582 nm	u = 0,2506
R11 = 90,7		Peak wavelength	619 nm	v = 0,3466
R12 = 82,4				
R13 = 91,5		Flicker frequency	% < 1.0 Hz	TM30
R14 = 97,5		Percent Flicker	< 1.0 %	Rf = 89,2
R15 = 86,9		Flicker index	% < 1.0	Rg = 100,2

[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm	[nm]	mW/m ² /nm
380	2,97	440	91,21	500	110,08	560	221,22	620	311,91	680	157,91	740	33,68
385	2,99	445	118,21	505	125,19	565	229,42	625	309,78	685	141,75	745	29,54
390	2,99	450	136,16	510	137,78	570	237,95	630	305,11	690	126,99	750	25,80
395	3,34	455	132,63	515	149,04	575	246,55	635	298,02	695	112,53	755	22,67
400	3,98	460	110,85	520	158,45	580	256,11	640	287,81	700	99,56	760	19,65
405	5,11	465	91,14	525	167,31	585	265,80	645	274,50	705	87,81	765	16,83
410	8,19	470	78,16	530	175,29	590	275,15	650	259,59	710	77,40	770	14,37
415	13,98	475	70,13	535	182,85	595	285,42	655	243,86	715	68,05	775	12,73
420	23,73	480	67,80	540	190,63	600	293,91	660	227,91	720	59,56	780	10,96
425	36,37	485	72,64	545	198,63	605	301,29	665	210,55	725	51,94		
430	52,16	490	82,56	550	206,22	610	306,91	670	192,98	730	45,69		
435	70,13	495	95,73	555	213,54	615	310,63	675	175,03	735	39,23		

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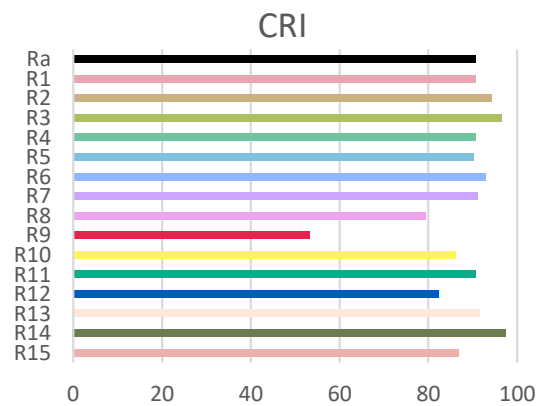
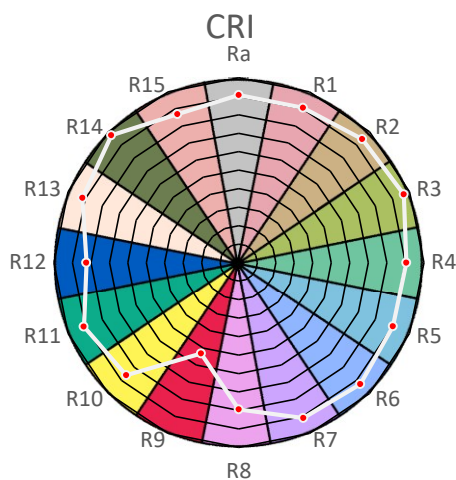
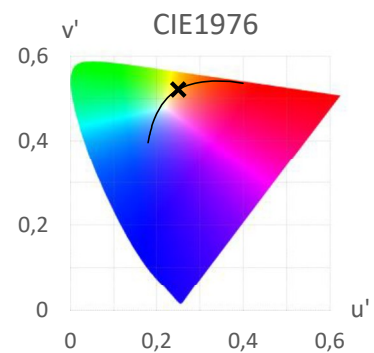
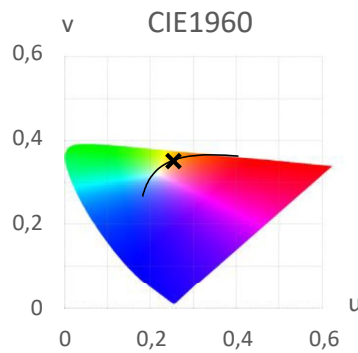
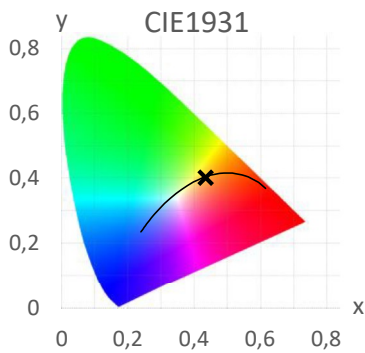
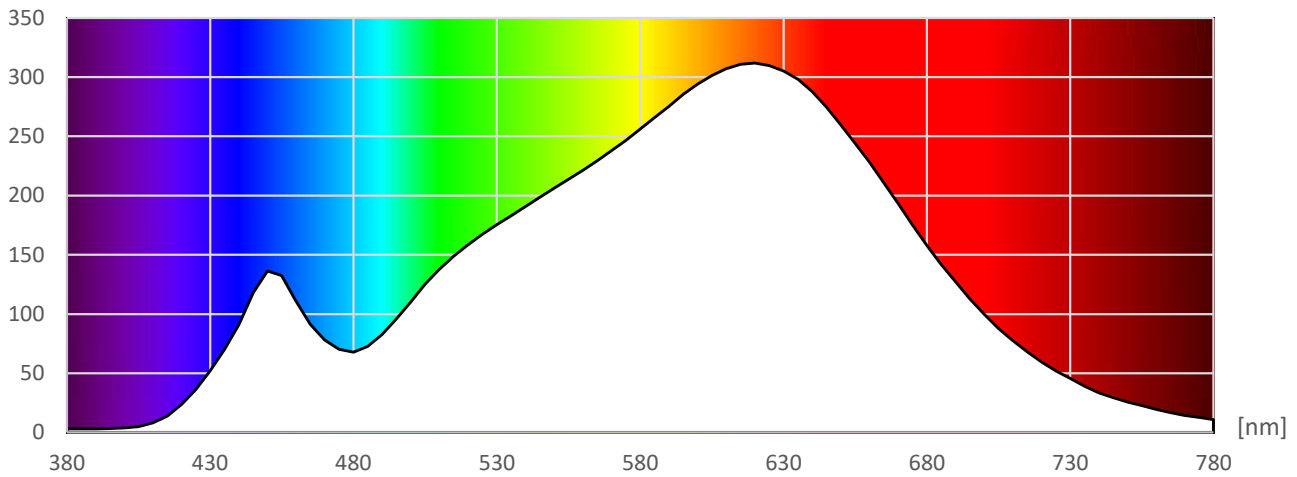
Measurement protocol

th•mann

Test object: Stairville
 Z100M Par 64 LED 3000K 100W
 443912 / 3m / white / narrow

Measurement file: 443912_3m_n.CSV
 Date of measurement: 25.03.2021
 Time of measurement: 15:35:21

mW/m²/nm



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Burgebrach, 25.03.2021

Sebastian Laske

First, last name of inspector