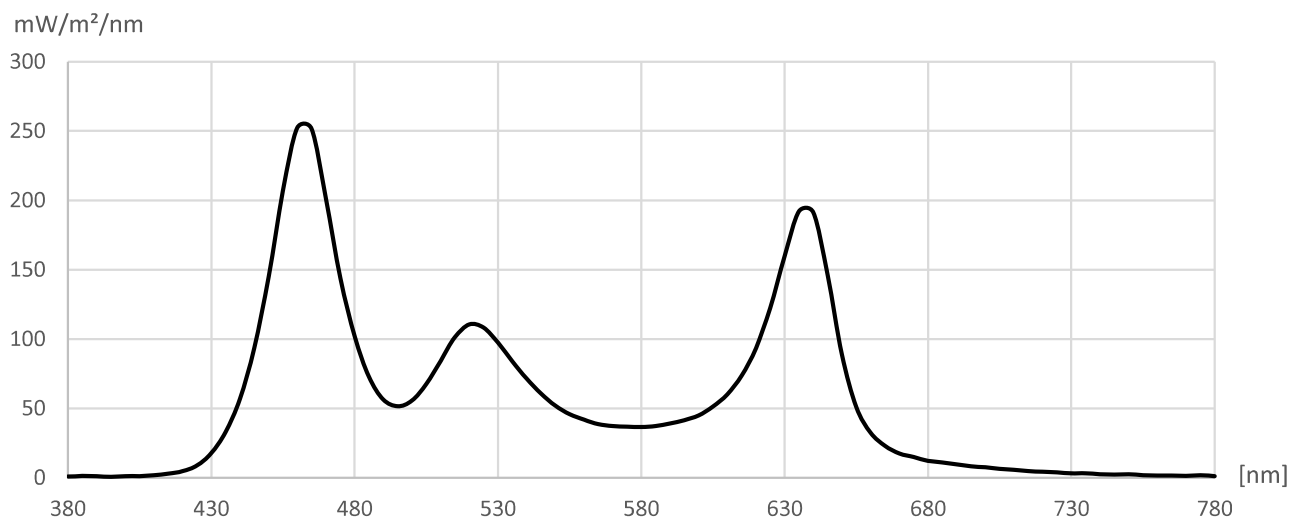


Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / all

Measurement file: 418760_1m_all.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:14:15



R1 = 29,3	Ra = 49,0	Illuminance	5002,83 lx	CIE1931
R2 = 59,6	Re = 29,6	Ee	22,082 W/m ²	x = 0,2916
R3 = 85,1	GAI = 145,8	LER	226,6 lm/W	y = 0,2651
R4 = 43,2				
R5 = 43,5		correlated color temperature (CCT)	10150 K	CIE1976
R6 = 58,4		Duv	-0,0202	u' = 0,2083
R7 = 68,6		Saturation	22,3 %	v' = 0,4262
R8 = 4,0				
R9 = #####				CIE1960
R10 = 17,5		Dominant wavelength	448 nm	u = 0,2083
R11 = 32,2		Peak wavelength	463 nm	v = 0,2841
R12 = 52,7				
R13 = 33,9		Flicker frequency	% < 2.5 Hz	TM30
R14 = 85,6		Percent Flicker	< 2.5 %	Rf = 62,2
R15 = 8,1		Flicker index	% < 2.5	Rg = 110,6

[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	0,85	440	56,78	500	55,64	560	41,78	620	93,56	680	12,25	740	2,55
385	1,26	445	93,72	505	67,73	565	38,68	625	122,38	685	11,03	745	2,26
390	1,07	450	145,16	510	84,36	570	37,27	630	159,62	690	9,68	750	2,51
395	0,74	455	206,62	515	101,22	575	36,76	635	192,11	695	8,25	755	1,86
400	1,18	460	252,30	520	110,54	580	36,60	640	191,27	700	7,58	760	1,57
405	1,16	465	251,59	525	108,16	585	37,32	645	145,70	705	6,43	765	1,63
410	1,77	470	201,07	530	97,37	590	39,19	650	89,03	710	5,73	770	1,29
415	2,88	475	143,84	535	83,79	595	41,52	655	51,04	715	4,80	775	1,84
420	4,74	480	101,87	540	71,50	600	44,96	660	32,45	720	4,30	780	1,17
425	8,84	485	72,89	545	60,79	605	51,28	665	23,00	725	3,91		
430	17,64	490	56,39	550	51,93	610	60,17	670	17,45	730	3,17		
435	32,98	495	51,56	555	45,78	615	73,60	675	14,95	735	3,20		

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Burgebrach, 08.06.2018

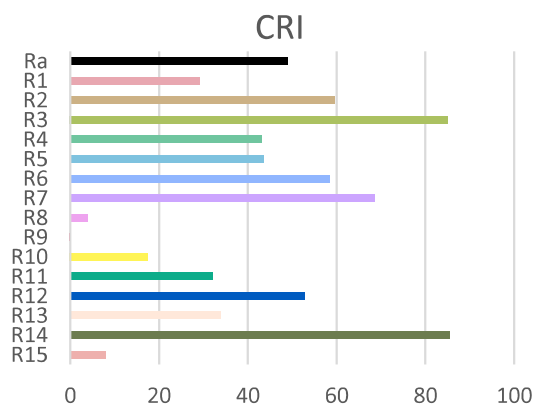
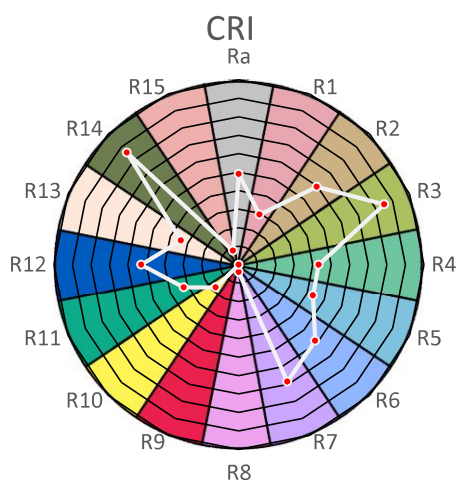
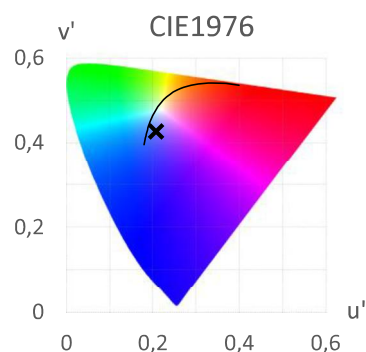
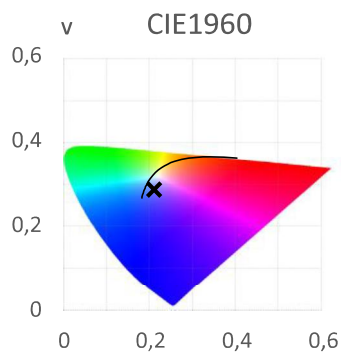
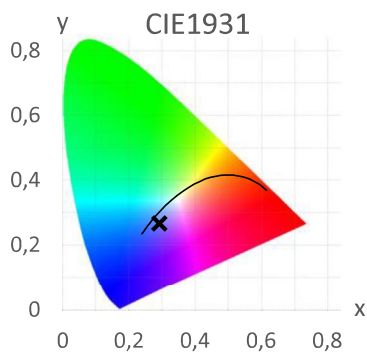
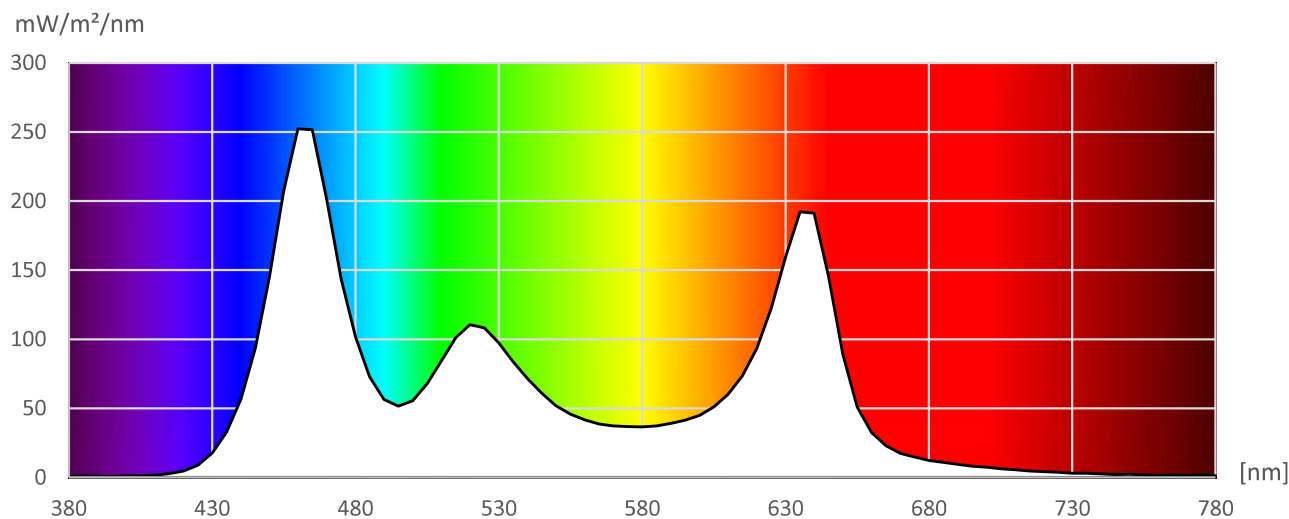
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / all

Measurement file: 418760_1m_all.CS
Date of measurement: 08.06.2018
Time of measurement: 08:14:15



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Burgebrach, 08.06.2018

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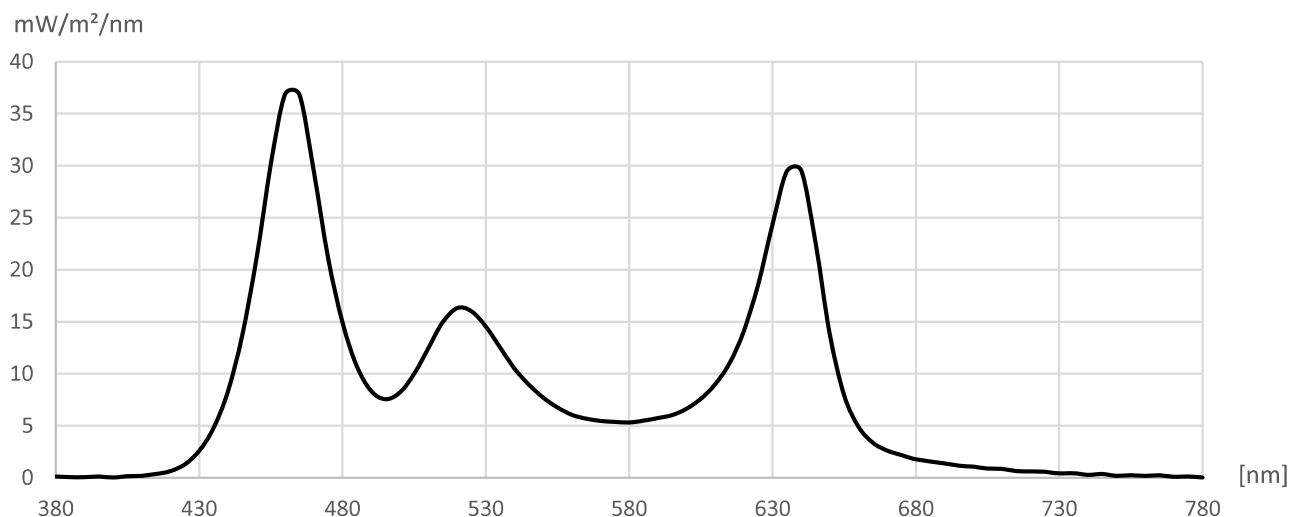
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / all

Measurement file: 418760_3m_all.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:14:29



R1 = 26,7	Ra = 46,9
R2 = 58,4	Re = 27,2
R3 = 84,5	GAI = 146,9
R4 = 40,5	
R5 = 40,9	
R6 = 56,7	
R7 = 67,5	
R8 = -0,1	
R9 = #####	
R10 = 15,0	
R11 = 28,9	
R12 = 50,9	
R13 = 31,6	
R14 = 85,1	
R15 = 4,9	

Illuminance	741,79 lx
Ee	3,269 W/m ²
LER	226,9 lm/W
correlated color temperature (CCT)	9635 K
Duv	-0,0213
Saturation	21,4 %
Dominant wavelength	437 nm
Peak wavelength	463 nm
Flicker frequency	% < 2.5 Hz
Percent Flicker	< 2.5 %
Flicker index	% < 2.5

CIE1931
x = 0,2945
y = 0,2665
CIE1976
u' = 0,2100
v' = 0,4276
CIE1960
u = 0,2100
v = 0,2851
TM30
Rf = 61,5
Rg = 112,4

[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	0,13	440	8,27	500	8,19	560	6,05	620	14,11	680	1,78	740	0,28
385	0,05	445	13,66	505	9,99	565	5,68	625	18,53	685	1,57	745	0,35
390	0,05	450	21,14	510	12,49	570	5,46	630	24,31	690	1,38	750	0,18
395	0,10	455	30,07	515	14,94	575	5,36	635	29,46	695	1,16	755	0,24
400	0,02	460	36,85	520	16,30	580	5,32	640	29,56	700	1,05	760	0,17
405	0,14	465	36,81	525	16,00	585	5,48	645	22,56	705	0,87	765	0,23
410	0,19	470	29,44	530	14,54	590	5,73	650	13,86	710	0,84	770	0,09
415	0,37	475	21,07	535	12,49	595	6,03	655	7,94	715	0,65	775	0,11
420	0,64	480	14,89	540	10,51	600	6,63	660	4,90	720	0,60	780	0,03
425	1,29	485	10,75	545	8,95	605	7,59	665	3,36	725	0,56		
430	2,56	490	8,34	550	7,72	610	8,98	670	2,61	730	0,41		
435	4,75	495	7,54	555	6,75	615	11,01	675	2,17	735	0,44		

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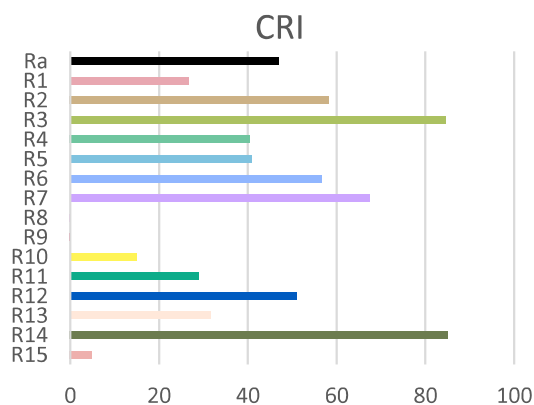
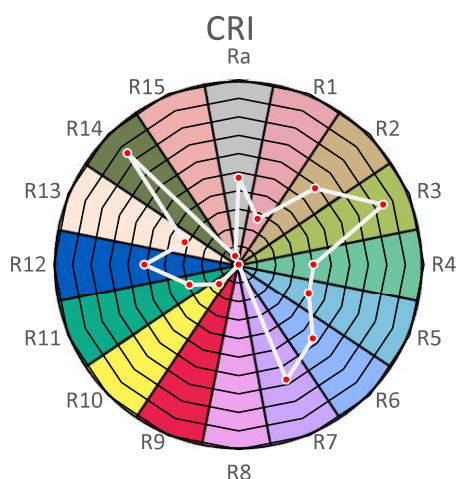
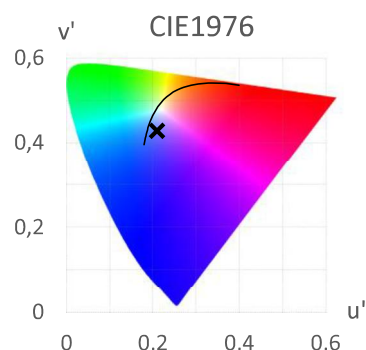
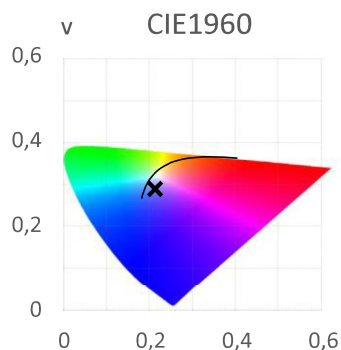
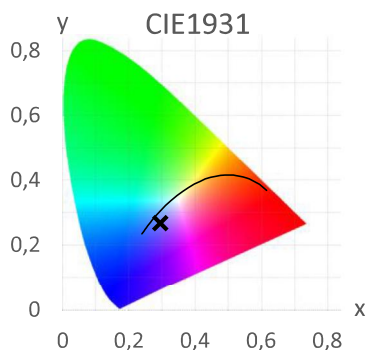
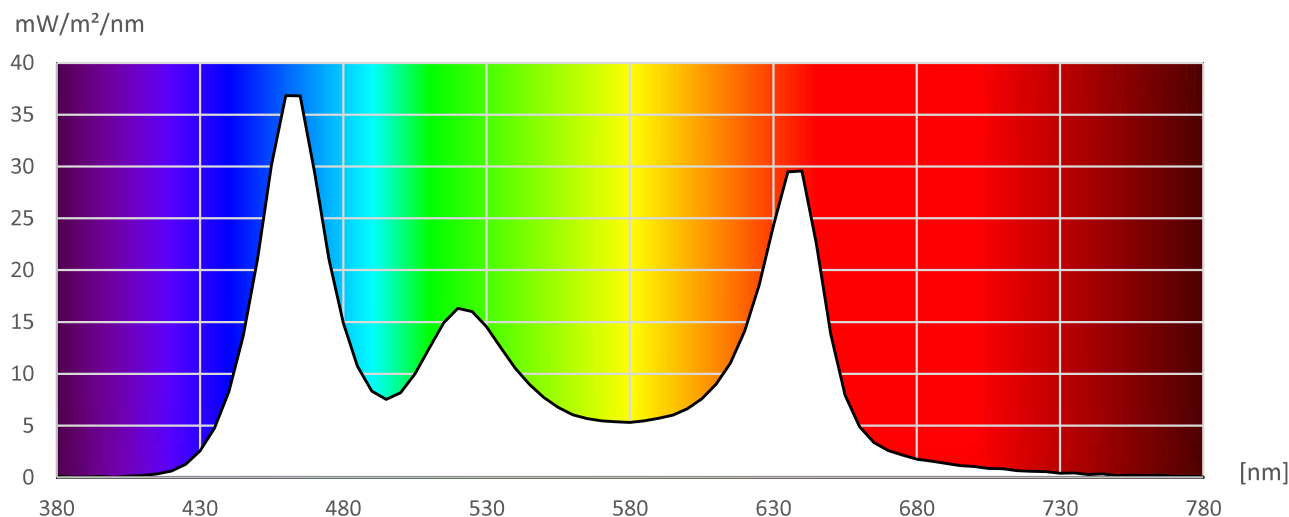
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / all

Measurement file: 418760_3m_all.CS
Date of measurement: 08.06.2018
Time of measurement: 08:14:29



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Burgebrach, 08.06.2018

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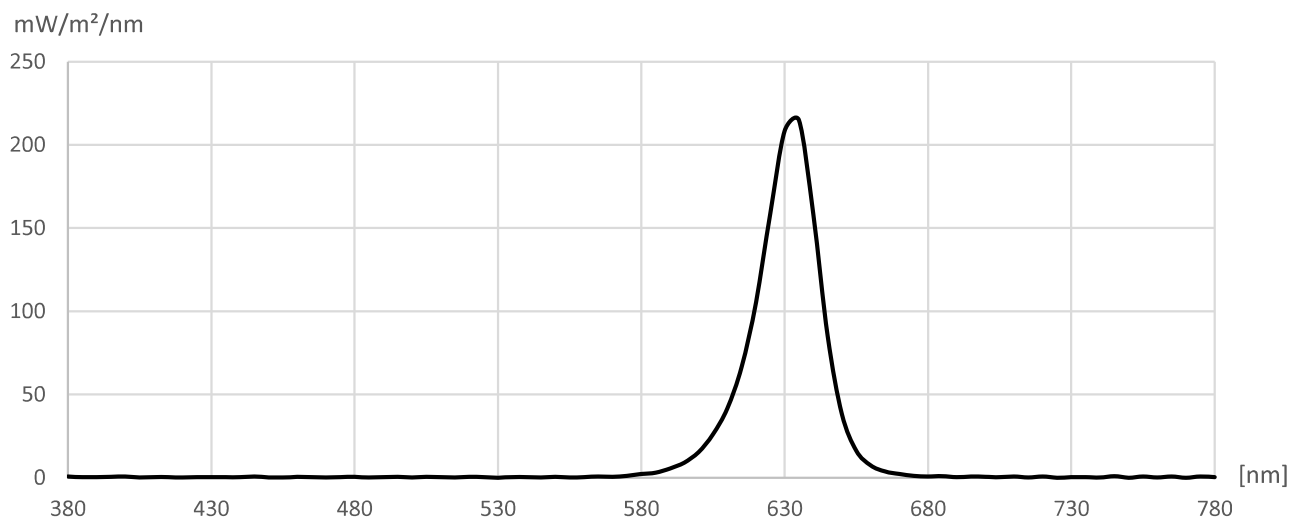
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / red

Measurement file: 418760_1m_r.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:14:48



R1 = -	Ra = -	Illuminance	1144,89 lx	CIE1931
R2 = -	Re = -	Ee	5,971 W/m²	x = 0,6868
R3 = -	GAI = -	LER	191,7 lm/W	y = 0,3063
R4 = -				
R5 = -		correlated color temperature (CCT)	< 1600 K	CIE1976
R6 = -		Duv	-	u' = 0,5182
R7 = -				v' = 0,5199
R8 = -		Saturation	98 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	626 nm	u = 0,5182
R11 = -		Peak wavelength	632 nm	v = 0,3466
R12 = -				
R13 = -		Flicker frequency	% < 2.5 Hz	TM30
R14 = -		Percent Flicker	< 2.5 %	Rf = -
R15 = -		Flicker index	% < 2.5	Rg = -

[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm
380	0,77	440	0,32	500	0,11	560	0,35	620	105,48	680	0,72	740	0,13
385	0,37	445	0,75	505	0,58	565	0,75	625	158,41	685	0,99	745	0,94
390	0,35	450	0,24	510	0,33	570	0,51	630	208,22	690	0,31	750	0,04
395	0,59	455	0,12	515	0,17	575	1,13	635	214,72	695	0,67	755	0,77
400	0,69	460	0,47	520	0,56	580	2,24	640	158,07	700	0,57	760	0,21
405	0,22	465	0,32	525	0,36	585	2,98	645	84,74	705	0,27	765	0,68
410	0,44	470	0,21	530	0,06	590	5,59	650	38,46	710	0,77	770	0,00
415	0,31	475	0,41	535	0,44	595	9,07	655	16,36	715	0,14	775	0,74
420	0,11	480	0,47	540	0,35	600	15,38	660	7,43	720	0,79	780	0,40
425	0,33	485	0,22	545	0,22	605	26,02	665	3,71	725	0,00		
430	0,31	490	0,35	550	0,54	610	41,68	670	2,23	730	0,30		
435	0,33	495	0,55	555	0,12	615	66,70	675	1,12	735	0,33		

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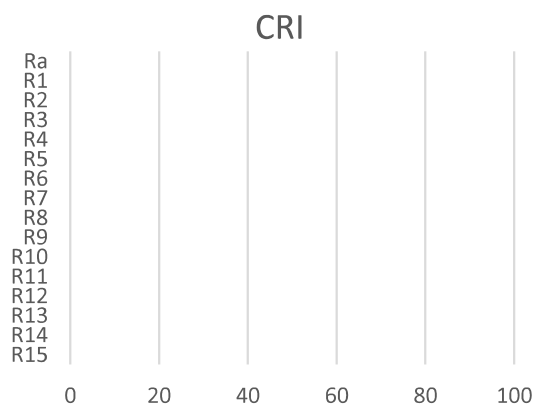
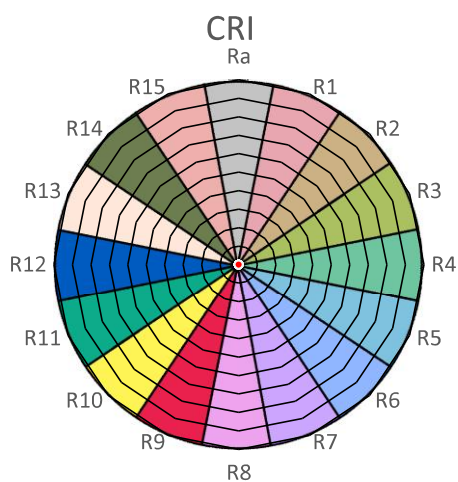
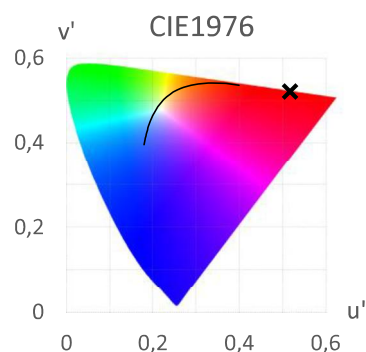
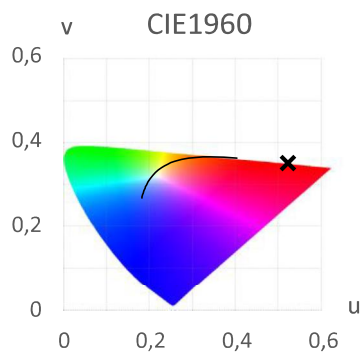
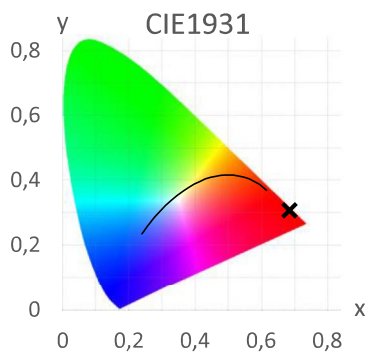
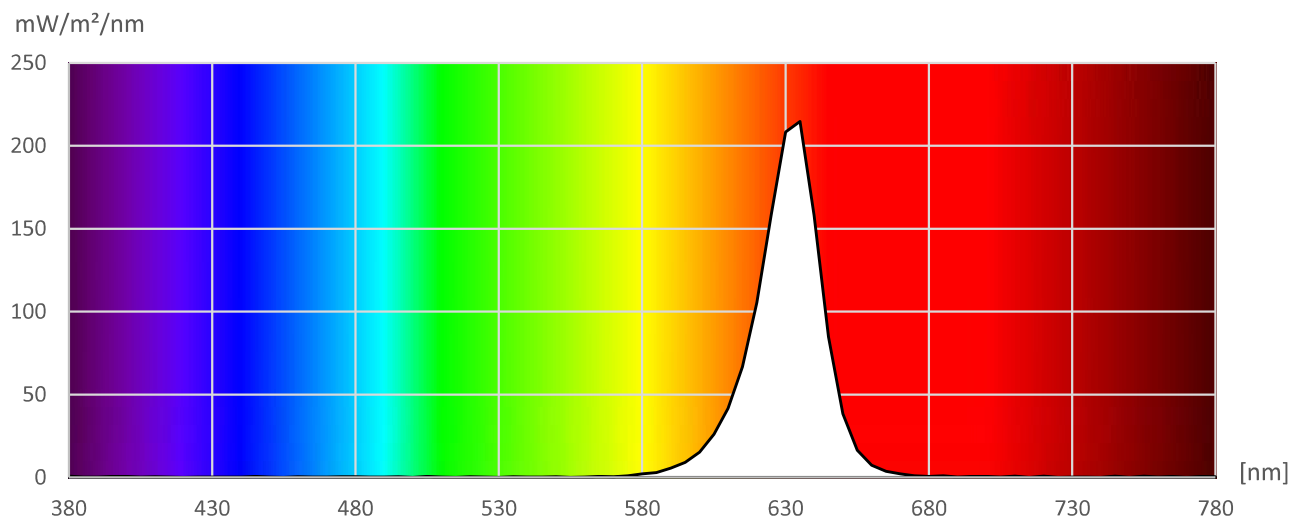
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / red

Measurement file: 418760_1m_r.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:14:48



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Burgebrach, 08.06.2018

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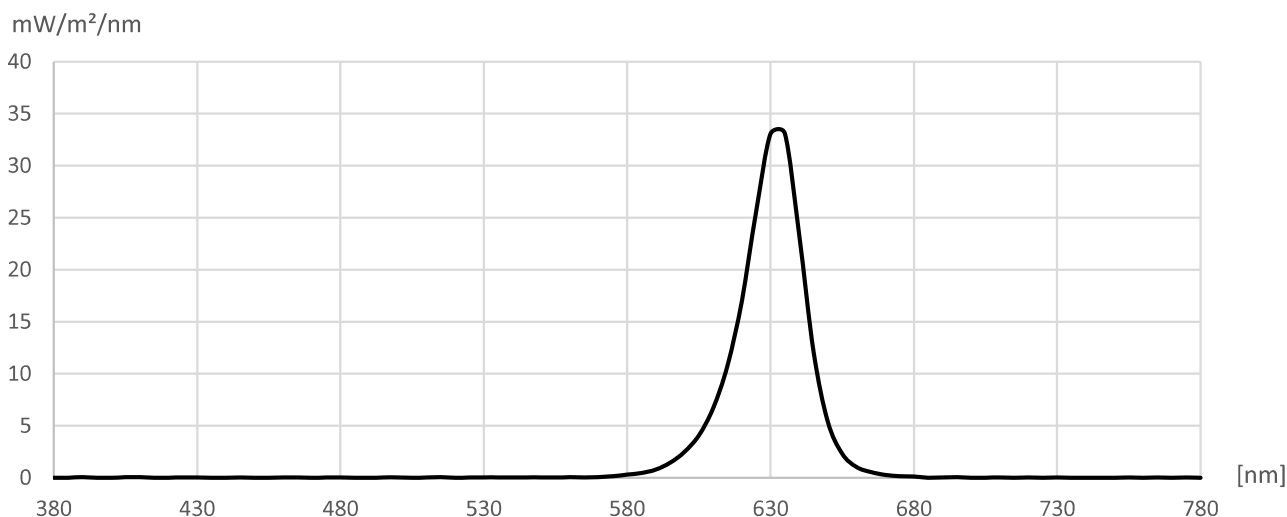
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / red

Measurement file: 418760_3m_r.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:14:58



R1 = -	Ra = -	Illuminance	178,09 lx	CIE1931
R2 = -	Re = -	Ee	0,911 W/m ²	x = 0,6912
R3 = -	GAI = -	LER	195,4 lm/W	y = 0,3067
R4 = -				
R5 = -		correlated color temperature (CCT)	< 1600 K	CIE1976
R6 = -		Duv	-	u' = 0,5219
R7 = -				v' = 0,5210
R8 = -		Saturation	99,2 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	626 nm	u = 0,5219
R11 = -		Peak wavelength	632 nm	v = 0,3473
R12 = -				
R13 = -		Flicker frequency	% < 2.5 Hz	TM30
R14 = -		Percent Flicker	< 2.5 %	Rf = -
R15 = -		Flicker index	% < 2.5	Rg = -

[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	0,00	440	0,01	500	0,04	560	0,04	620	17,03	680	0,12	740	0,01
385	0,01	445	0,03	505	0,00	565	0,03	625	25,52	685	0,01	745	0,00
390	0,05	450	0,00	510	0,02	570	0,07	630	33,06	690	0,03	750	0,00
395	0,00	455	0,00	515	0,05	575	0,14	635	33,10	695	0,05	755	0,01
400	0,00	460	0,03	520	0,00	580	0,29	640	23,35	700	0,00	760	0,00
405	0,04	465	0,03	525	0,02	585	0,46	645	12,10	705	0,01	765	0,01
410	0,06	470	0,00	530	0,04	590	0,78	650	5,44	710	0,03	770	0,00
415	0,00	475	0,01	535	0,04	595	1,43	655	2,32	715	0,01	775	0,02
420	0,01	480	0,03	540	0,01	600	2,47	660	1,03	720	0,03	780	0,00
425	0,03	485	0,01	545	0,04	605	4,06	665	0,55	725	0,01		
430	0,04	490	0,00	550	0,04	610	6,70	670	0,27	730	0,03		
435	0,00	495	0,02	555	0,01	615	10,81	675	0,14	735	0,00		

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Burgebrach, 08.06.2018

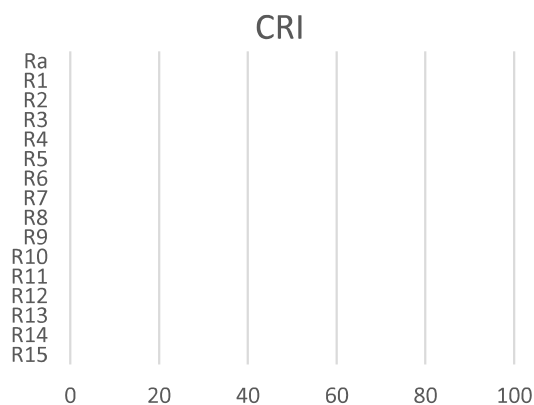
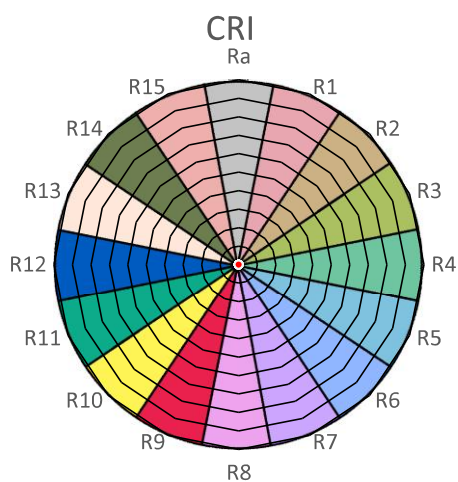
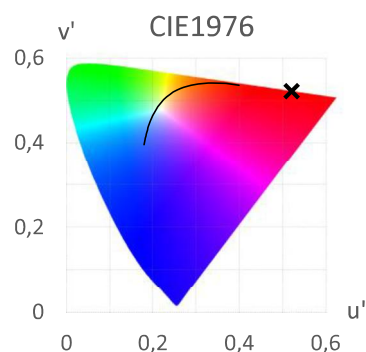
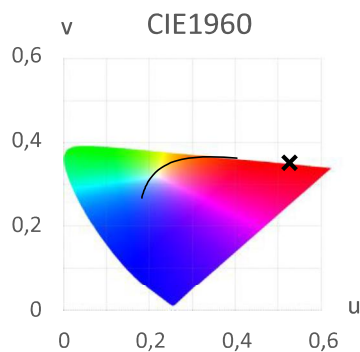
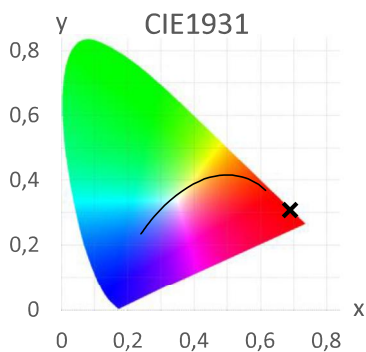
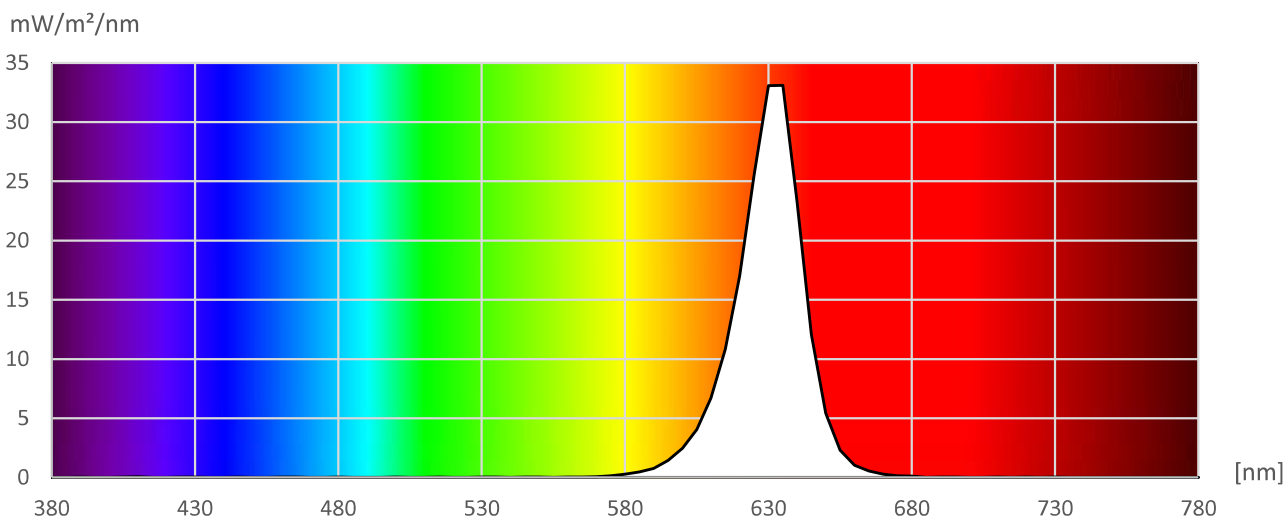
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / red

Measurement file: 418760_3m_r.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:14:58



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Burgebrach, 08.06.2018

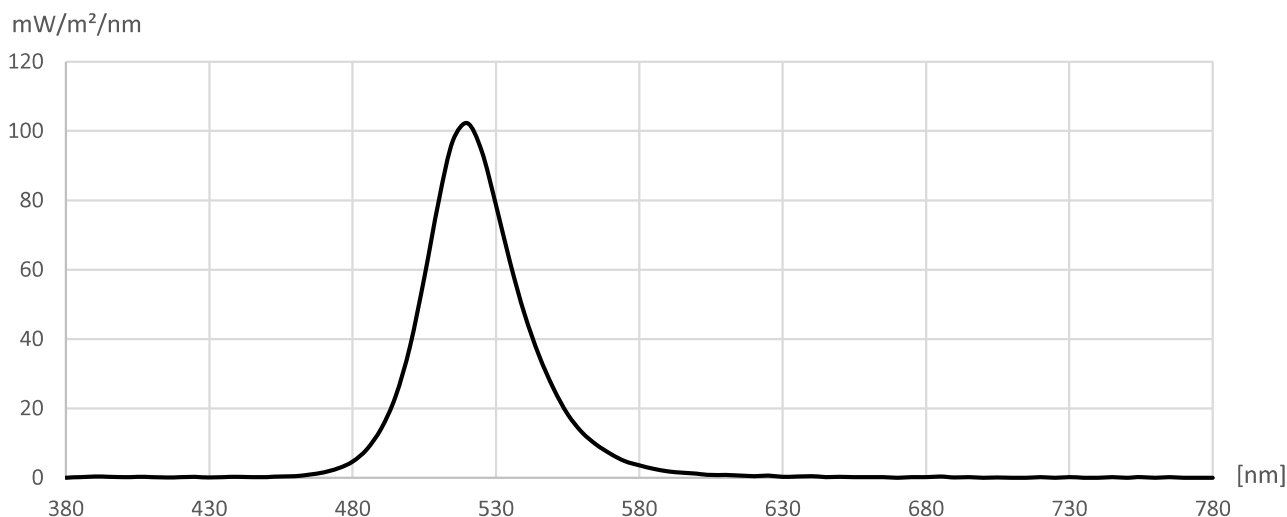
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / green

Measurement file: 418760_1m_g.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:12



R1 = -33,8	Ra = -20,5	Illuminance	2006,39 lx	CIE1931
R2 = -4,5	Re = -50,6	Ee	4,240 W/m²	x = 0,1653
R3 = -14,6	GAI = 0,9	LER	473,2 lm/W	y = 0,7130
R4 = -59,9				
R5 = -8,2		correlated color temperature (CCT)	7958 K	CIE1976
R6 = -12,1		Duv	0,158	u' = 0,0589
R7 = -1,4				v' = 0,5716
R8 = -29,2		Saturation	75,2 %	
R9 = #####				CIE1960
R10 = -96,9		Dominant wavelength	522 nm	u = 0,0589
R11 = -88,1		Peak wavelength	519 nm	v = 0,3811
R12 = -26,2				
R13 = -38,8		Flicker frequency	% < 2.5 Hz	TM30
R14 = 43,0		Percent Flicker	< 2.5 %	Rf = 1,2
R15 = -37,3		Flicker index	% < 2.5	Rg = 10,5

[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm
380	0,02	440	0,27	500	37,90	560	13,06	620	0,47	680	0,15	740	0,00
385	0,18	445	0,20	505	57,82	565	9,55	625	0,59	685	0,33	745	0,15
390	0,32	450	0,21	510	79,87	570	6,90	630	0,27	690	0,06	750	0,01
395	0,30	455	0,37	515	97,25	575	4,79	635	0,33	695	0,20	755	0,21
400	0,14	460	0,44	520	102,31	580	3,56	640	0,46	700	0,01	760	0,00
405	0,22	465	0,90	525	94,24	585	2,57	645	0,19	705	0,10	765	0,14
410	0,20	470	1,59	530	78,60	590	1,79	650	0,26	710	0,00	770	0,00
415	0,06	475	2,72	535	61,71	595	1,46	655	0,18	715	0,00	775	0,02
420	0,14	480	4,68	540	47,22	600	1,15	660	0,20	720	0,16	780	0,00
425	0,23	485	8,22	545	35,36	605	0,78	665	0,17	725	0,00		
430	0,05	490	14,21	550	25,87	610	0,78	670	0,03	730	0,21		
435	0,19	495	23,51	555	18,35	615	0,65	675	0,15	735	0,00		

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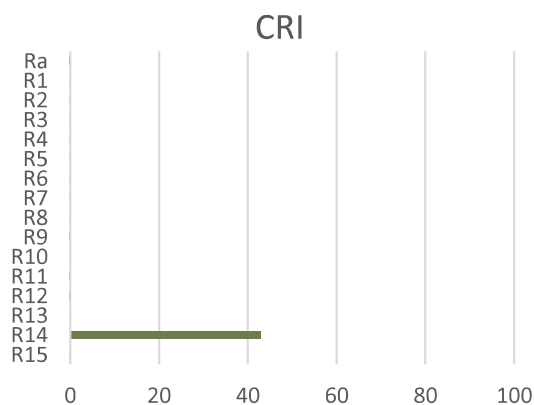
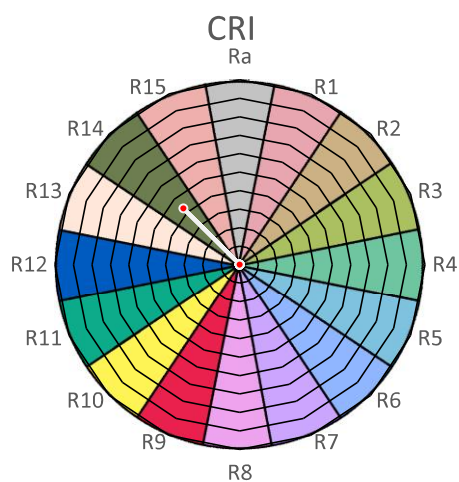
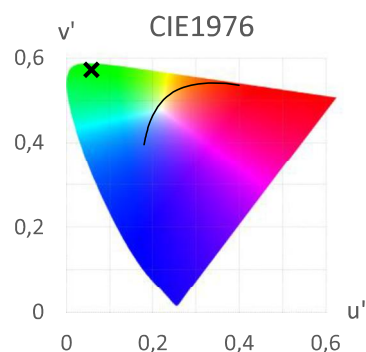
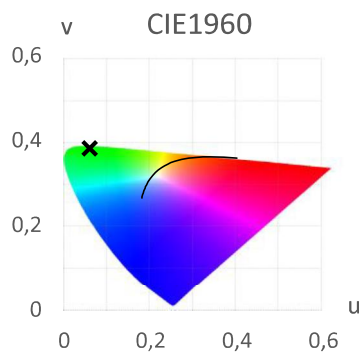
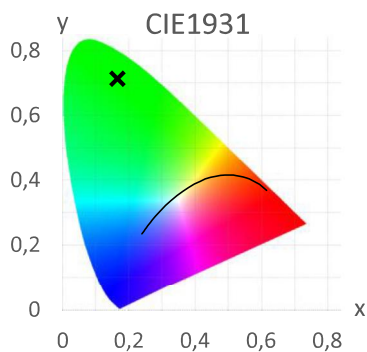
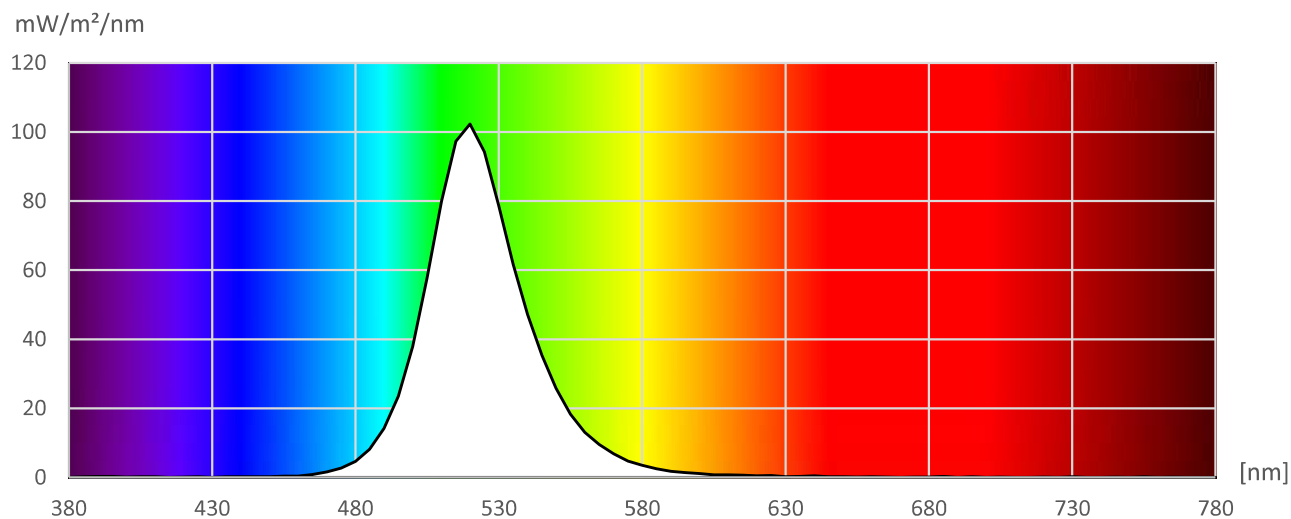
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / green

Measurement file: 418760_1m_g.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:12



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Burgebrach, 08.06.2018

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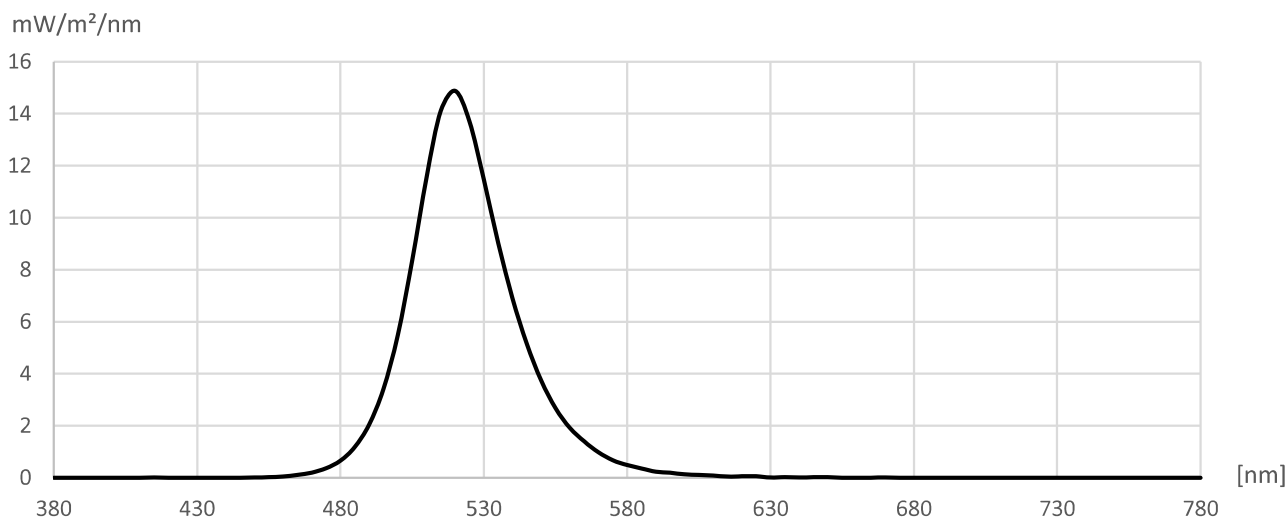
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / green

Measurement file: 418760_3m_g.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:23



R1 = -35,2	Ra = -23,4
R2 = -6,8	Re = -53,7
R3 = -18,8	GAI = 0,7
R4 = -64,0	
R5 = -9,3	
R6 = -14,0	
R7 = -6,3	
R8 = -32,6	
R9 = #####	
R10 = #####	
R11 = -92,5	
R12 = -27,9	
R13 = -40,5	
R14 = 41,0	
R15 = -38,8	

Illuminance	291,05 lx
Ee	0,610 W/m ²
LER	477,5 lm/W
correlated color temperature (CCT)	7963 K
Duv	0,1592
Saturation	76,2 %
Dominant wavelength	522 nm
Peak wavelength	519 nm
Flicker frequency	% < 2.5 Hz
Percent Flicker	< 2.5 %
Flicker index	% < 2.5

CIE1931
x = 0,1633
y = 0,7184
CIE1976
u' = 0,0578
v' = 0,5725
CIE1960
u = 0,0578
v = 0,3816
TM30
Rf = 0,8
Rg = 8,5

[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	0,00	440	0,00	500	5,49	560	1,92	620	0,05	680	0,00	740	0,00
385	0,00	445	0,00	505	8,37	565	1,39	625	0,06	685	0,00	745	0,00
390	0,00	450	0,01	510	11,55	570	0,98	630	0,01	690	0,00	750	0,00
395	0,00	455	0,02	515	14,11	575	0,67	635	0,03	695	0,00	755	0,00
400	0,00	460	0,05	520	14,88	580	0,49	640	0,01	700	0,00	760	0,00
405	0,00	465	0,10	525	13,70	585	0,36	645	0,02	705	0,00	765	0,00
410	0,00	470	0,20	530	11,46	590	0,23	650	0,02	710	0,00	770	0,00
415	0,01	475	0,36	535	9,02	595	0,19	655	0,00	715	0,00	775	0,00
420	0,00	480	0,66	540	6,91	600	0,13	660	0,00	720	0,00	780	0,00
425	0,00	485	1,18	545	5,16	605	0,11	665	0,00	725	0,00		
430	0,00	490	2,04	550	3,74	610	0,08	670	0,01	730	0,00		
435	0,00	495	3,42	555	2,67	615	0,04	675	0,00	735	0,00		

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Burgebrach, 08.06.2018

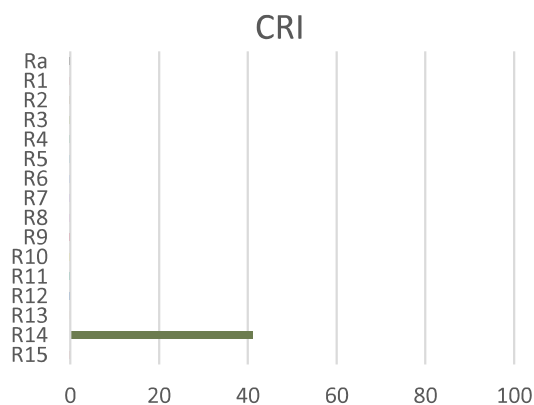
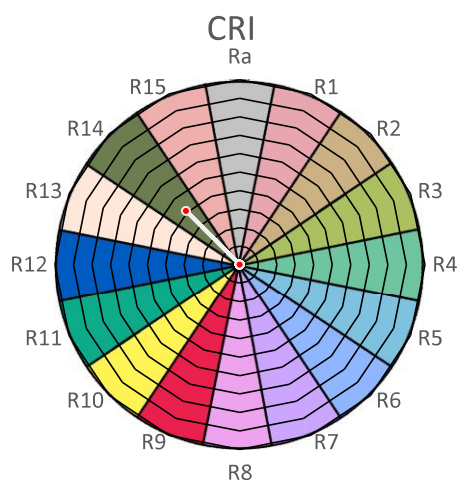
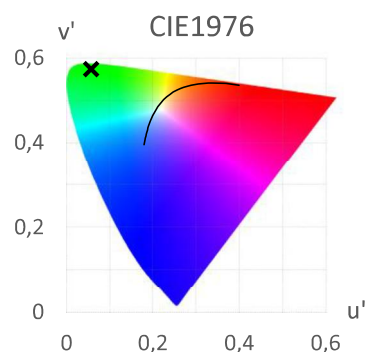
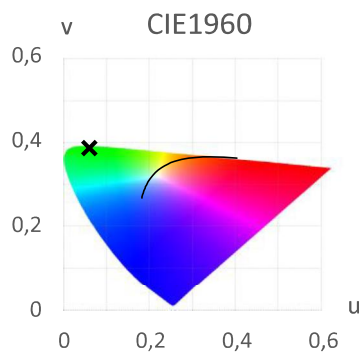
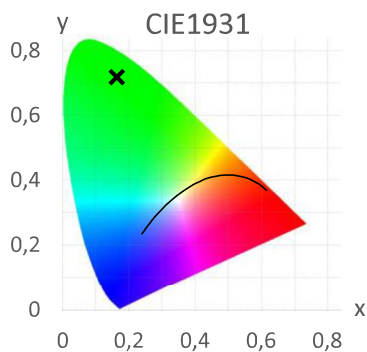
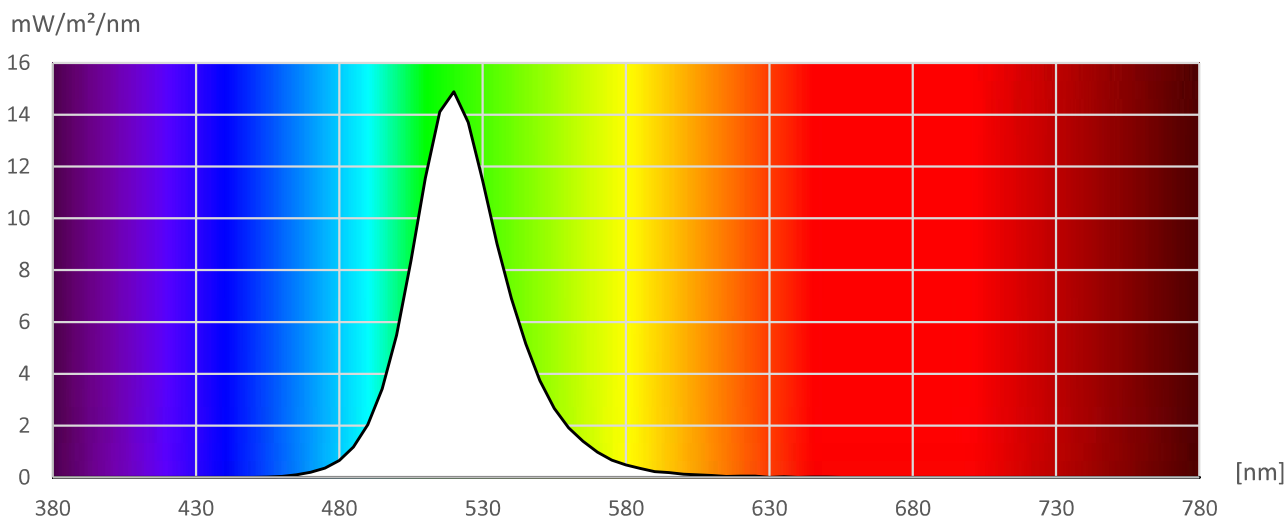
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / green

Measurement file: 418760_3m_g.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:23



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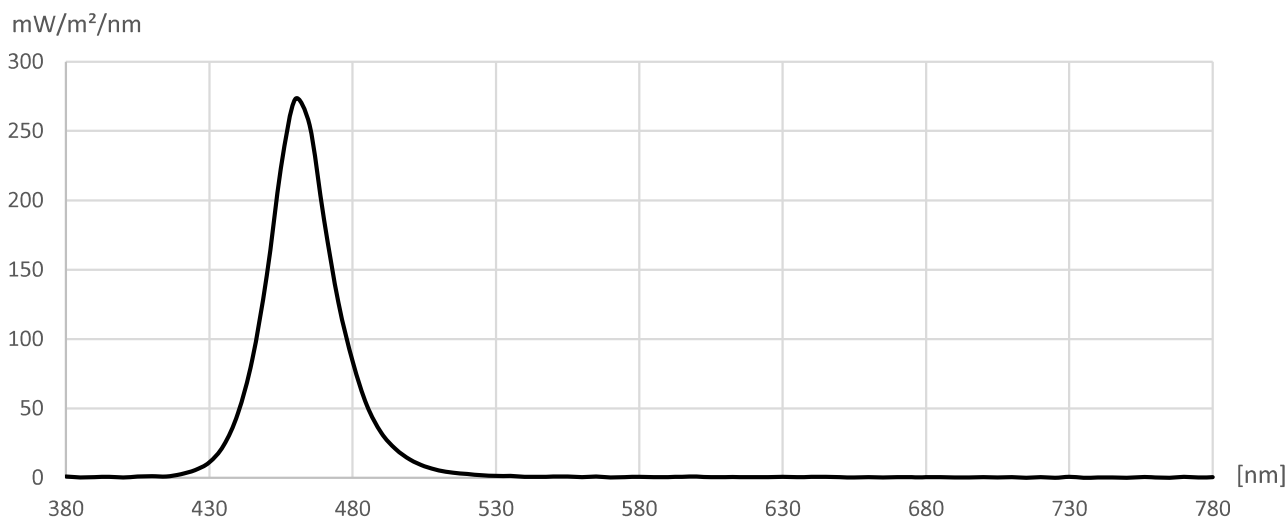
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / blue

Measurement file: 418760_1m_b.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:42



R1 = -	Ra = -	Illuminance	500,96 lx	CIE1931
R2 = -	Re = -	Ee	8,172 W/m²	x = 0,1408
R3 = -	GAI = -	LER	61,3 lm/W	y = 0,0516
R4 = -				
R5 = -		correlated color temperature (CCT)	> 50000 K	CIE1976
R6 = -		Duv	-	u' = 0,1687
R7 = -				v' = 0,1392
R8 = -		Saturation	97,2 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	459 nm	u = 0,1687
R11 = -		Peak wavelength	460 nm	v = 0,0928
R12 = -				
R13 = -		Flicker frequency	% < 2.5 Hz	TM30
R14 = -		Percent Flicker	< 2.5 %	Rf = -
R15 = -		Flicker index	% < 2.5	Rg = -

[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm
380	0,80	440	46,44	500	13,10	560	0,37	620	0,36	680	0,31	740	0,10
385	0,30	445	85,34	505	8,32	565	0,77	625	0,39	685	0,50	745	0,23
390	0,48	450	145,51	510	5,28	570	0,27	630	0,62	690	0,17	750	0,00
395	0,71	455	222,88	515	3,61	575	0,49	635	0,33	695	0,20	755	0,51
400	0,29	460	273,04	520	2,64	580	0,66	640	0,54	700	0,45	760	0,28
405	0,78	465	254,31	525	1,81	585	0,48	645	0,64	705	0,17	765	0,05
410	1,10	470	186,31	530	1,31	590	0,53	650	0,31	710	0,51	770	0,54
415	0,86	475	126,40	535	1,28	595	0,73	655	0,25	715	0,00	775	0,10
420	2,55	480	83,59	540	0,71	600	0,81	660	0,46	720	0,47	780	0,38
425	5,57	485	52,36	545	0,67	605	0,39	665	0,29	725	0,00		
430	11,04	490	32,47	550	0,78	610	0,51	670	0,48	730	0,54		
435	23,14	495	20,66	555	0,91	615	0,52	675	0,32	735	0,03		

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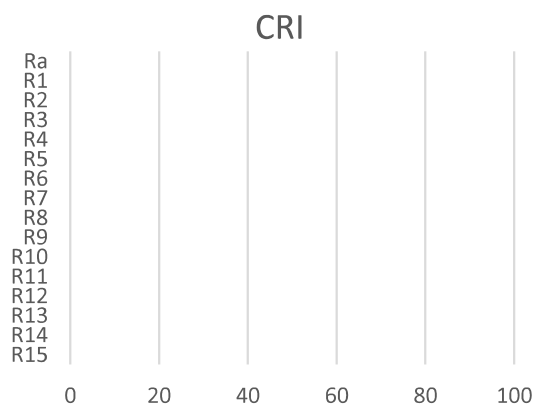
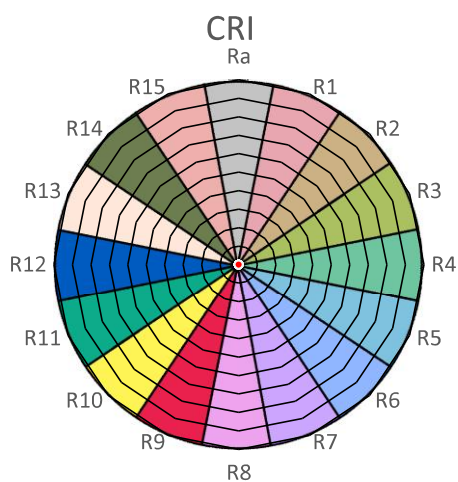
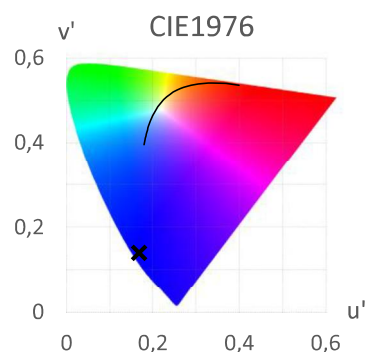
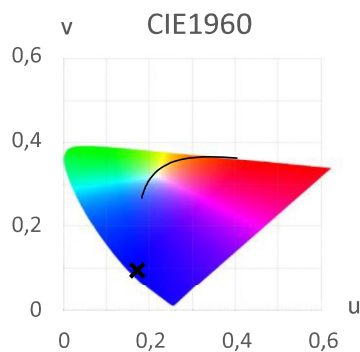
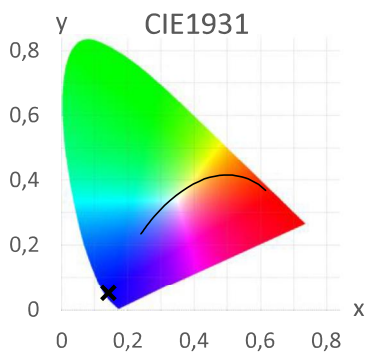
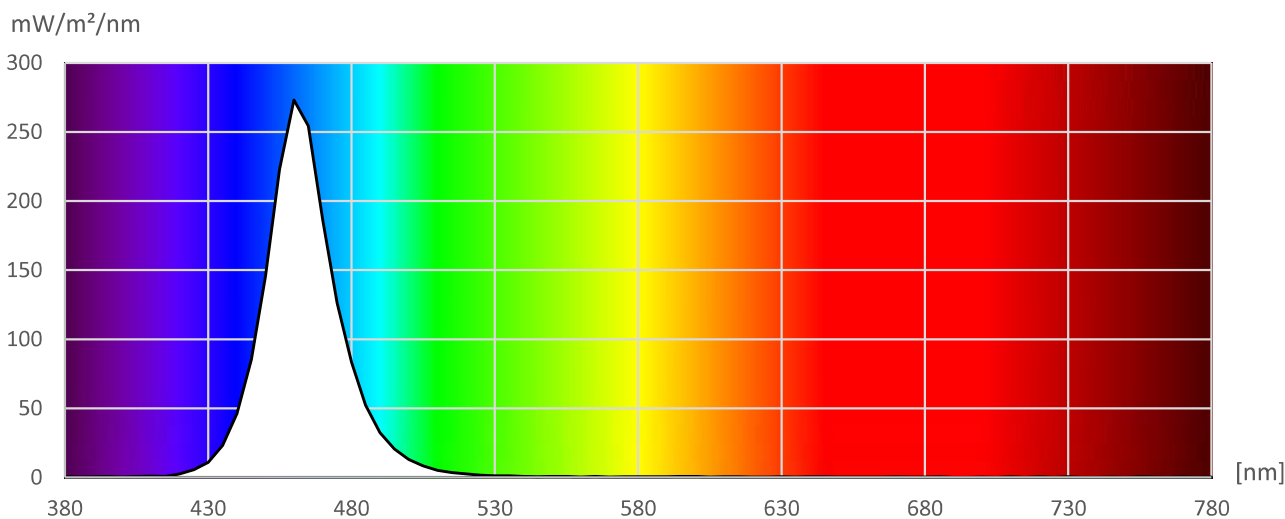
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / blue

Measurement file: 418760_1m_b.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:42



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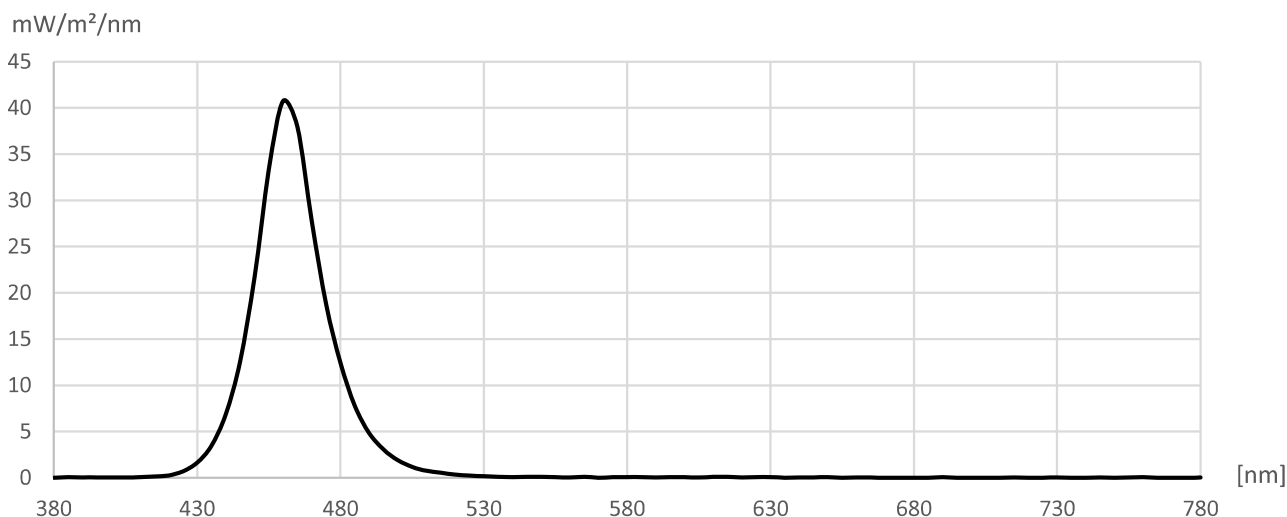
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / blue

Measurement file: 418760_3m_b.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:51



R1 = -	Ra = -	Illuminance	72,27 lx	CIE1931
R2 = -	Re = -	Ee	1,204 W/m²	x = 0,1400
R3 = -	GAI = -	LER	60,0 lm/W	y = 0,0502
R4 = -				
R5 = -		correlated color temperature (CCT)	> 50000 K	CIE1976
R6 = -		Duv	-	u' = 0,1686
R7 = -				v' = 0,1360
R8 = -		Saturation	97,7 %	
R9 = -				CIE1960
R10 = -		Dominant wavelength	459 nm	u = 0,1686
R11 = -		Peak wavelength	460 nm	v = 0,0907
R12 = -				
R13 = -		Flicker frequency	% < 2.5 Hz	TM30
R14 = -		Percent Flicker	< 2.5 %	Rf = -
R15 = -		Flicker index	% < 2.5	Rg = -

[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm
380	0,00	440	6,87	500	1,90	560	0,03	620	0,02	680	0,00	740	0,00
385	0,05	445	12,61	505	1,17	565	0,09	625	0,06	685	0,00	745	0,01
390	0,04	450	21,71	510	0,74	570	0,01	630	0,07	690	0,06	750	0,00
395	0,04	455	33,24	515	0,55	575	0,06	635	0,01	695	0,00	755	0,02
400	0,02	460	40,74	520	0,32	580	0,08	640	0,02	700	0,01	760	0,05
405	0,03	465	37,92	525	0,23	585	0,08	645	0,04	705	0,00	765	0,00
410	0,05	470	27,71	530	0,16	590	0,03	650	0,07	710	0,00	770	0,01
415	0,15	475	18,72	535	0,11	595	0,07	655	0,00	715	0,02	775	0,00
420	0,25	480	12,37	540	0,08	600	0,05	660	0,03	720	0,00	780	0,01
425	0,69	485	7,82	545	0,09	605	0,03	665	0,02	725	0,01		
430	1,62	490	4,85	550	0,10	610	0,08	670	0,00	730	0,03		
435	3,46	495	3,06	555	0,05	615	0,10	675	0,00	735	0,00		

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Burgebrach, 08.06.2018

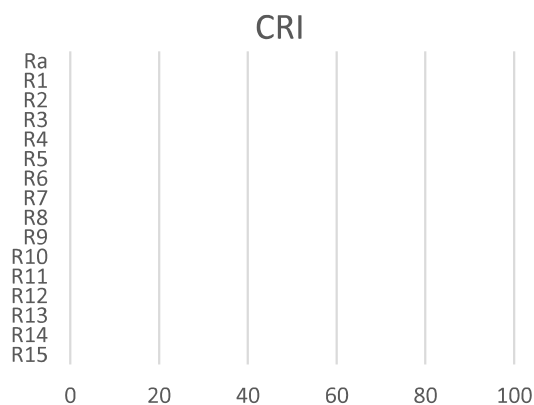
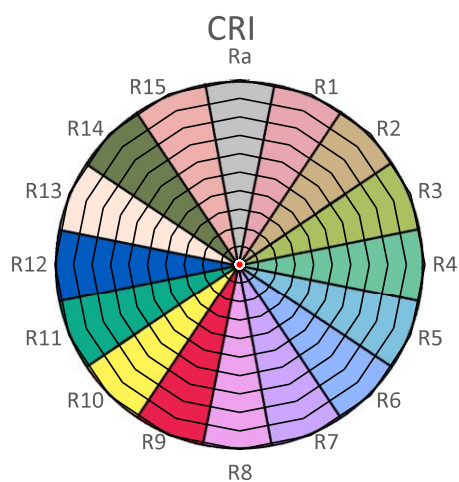
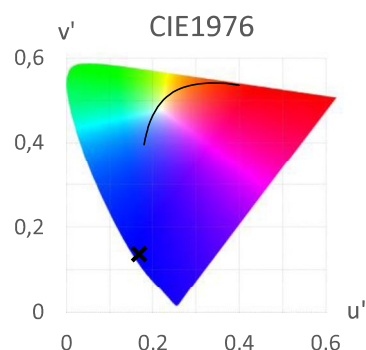
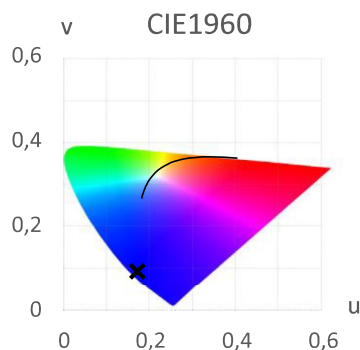
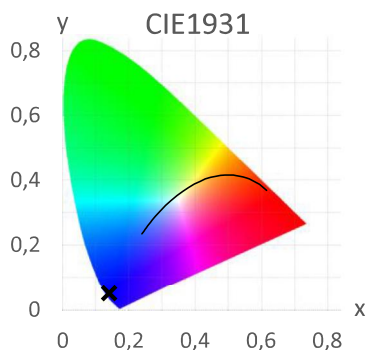
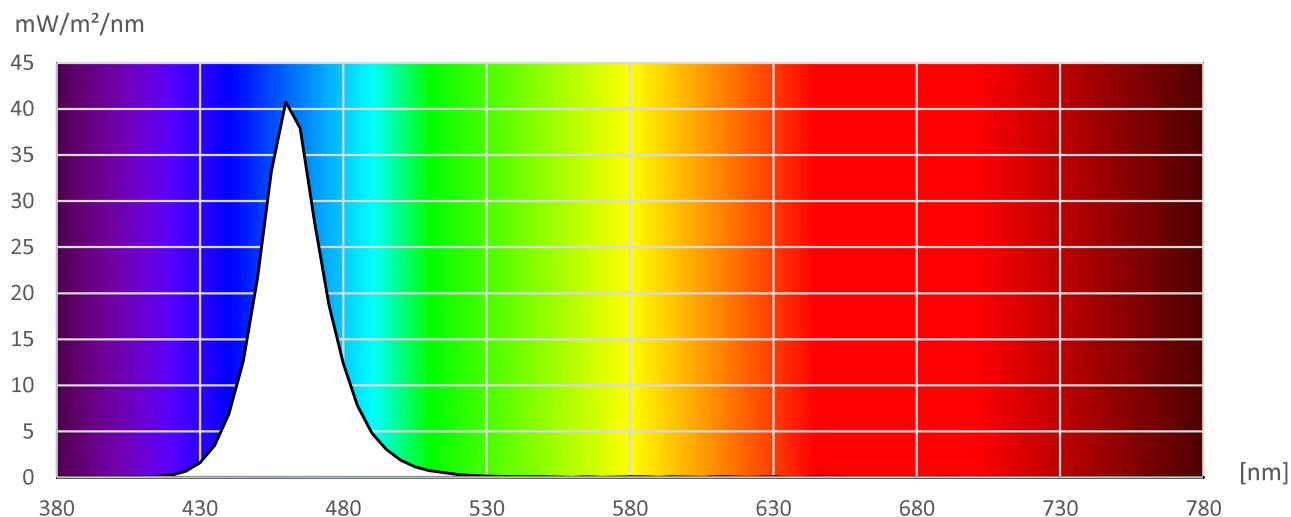
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / blue

Measurement file: 418760_3m_b.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:15:51



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Burgebrach, 08.06.2018

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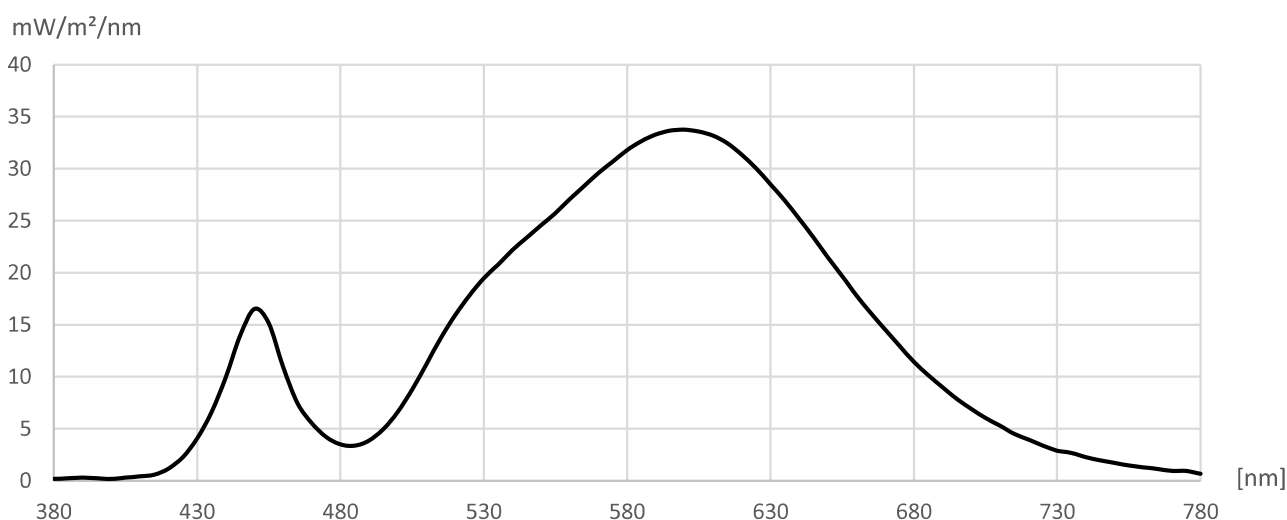
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / ww

Measurement file: 418760_1m_ww.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:16:10



R1 = 73,7	Ra = 76,1	Illuminance	1772,76 lx	CIE1931
R2 = 82,7	Re = 67,8	Ee	5,302 W/m ²	x = 0,4411
R3 = 90,1	GAI = 49,0	LER	334,3 lm/W	y = 0,4148
R4 = 74,3				
R5 = 71,5		correlated color temperature (CCT)	3002 K	CIE1976
R6 = 74,9		Duv	0,0036	u' = 0,2487
R7 = 84,4		Saturation	56,7 %	v' = 0,5261
R8 = 57,4				
R9 = -2,8				CIE1960
R10 = 58,6		Dominant wavelength	581 nm	u = 0,2487
R11 = 69,1		Peak wavelength	599 nm	v = 0,3508
R12 = 47,3				
R13 = 74,9		Flicker frequency	% < 2.5 Hz	TM30
R14 = 93,9		Percent Flicker	< 2.5 %	Rf = 76,2
R15 = 67,6		Flicker index	% < 2.5	Rg = 95,4

[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	0,17	440	9,96	500	6,63	560	27,08	620	31,34	680	11,45	740	2,26
385	0,23	445	13,96	505	8,77	565	28,34	625	30,04	685	10,16	745	1,96
390	0,29	450	16,53	510	11,23	570	29,58	630	28,49	690	8,98	750	1,72
395	0,23	455	15,16	515	13,70	575	30,68	635	26,93	695	7,86	755	1,47
400	0,17	460	10,95	520	15,90	580	31,78	640	25,18	700	6,89	760	1,30
405	0,30	465	7,47	525	17,82	585	32,66	645	23,37	705	6,03	765	1,13
410	0,41	470	5,53	530	19,46	590	33,28	650	21,48	710	5,31	770	0,95
415	0,58	475	4,20	535	20,80	595	33,65	655	19,70	715	4,51	775	0,94
420	1,18	480	3,49	540	22,16	600	33,74	660	17,80	720	3,95	780	0,66
425	2,28	485	3,36	545	23,36	605	33,57	665	16,13	725	3,38		
430	4,05	490	3,87	550	24,57	610	33,16	670	14,53	730	2,89		
435	6,58	495	4,96	555	25,74	615	32,44	675	12,97	735	2,67		

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Burgebrach, 08.06.2018

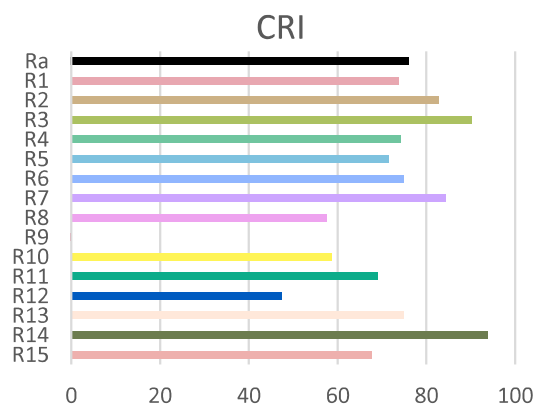
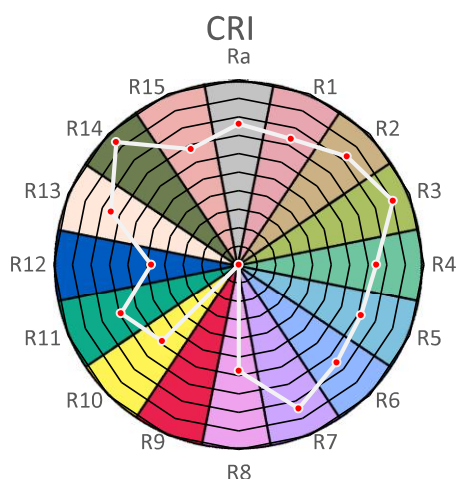
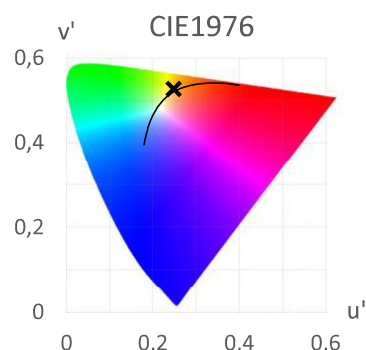
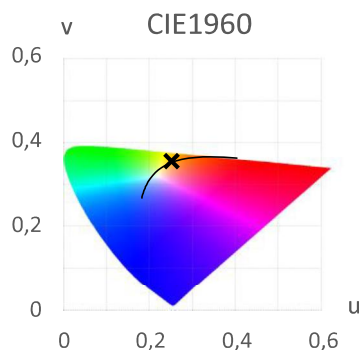
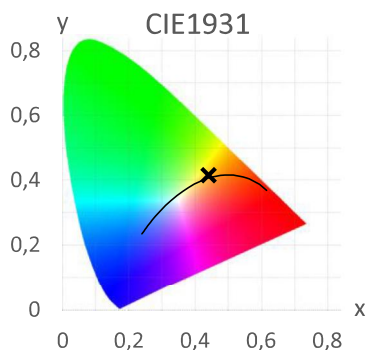
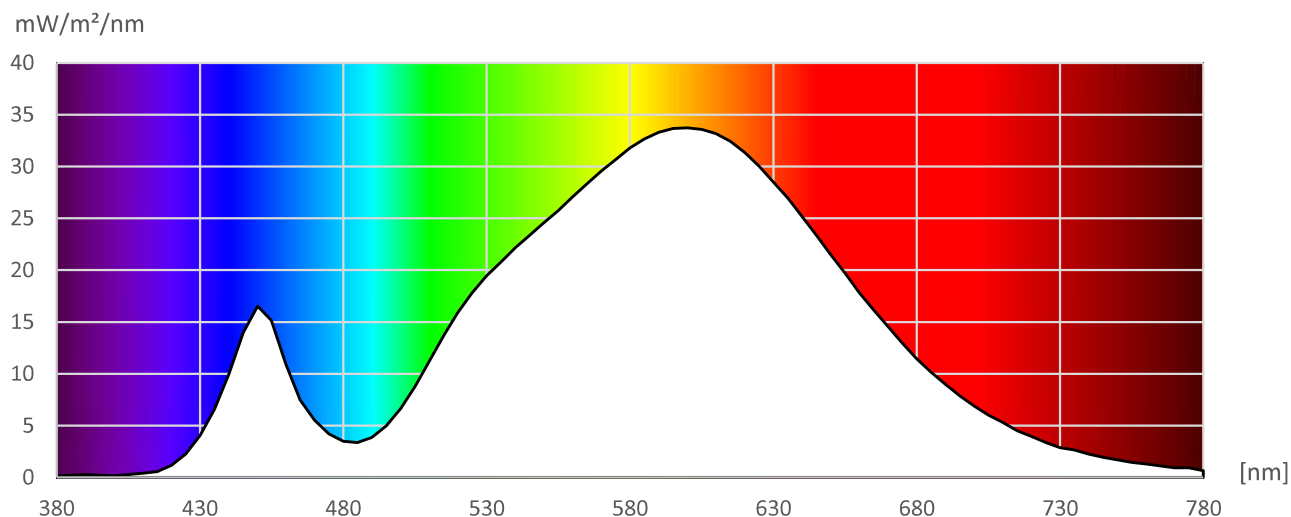
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 1 m / ww

Measurement file: 418760_1m_ww.C
Date of measurement: 08.06.2018
Time of measurement: 08:16:10



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Burgebrach, 08.06.2018

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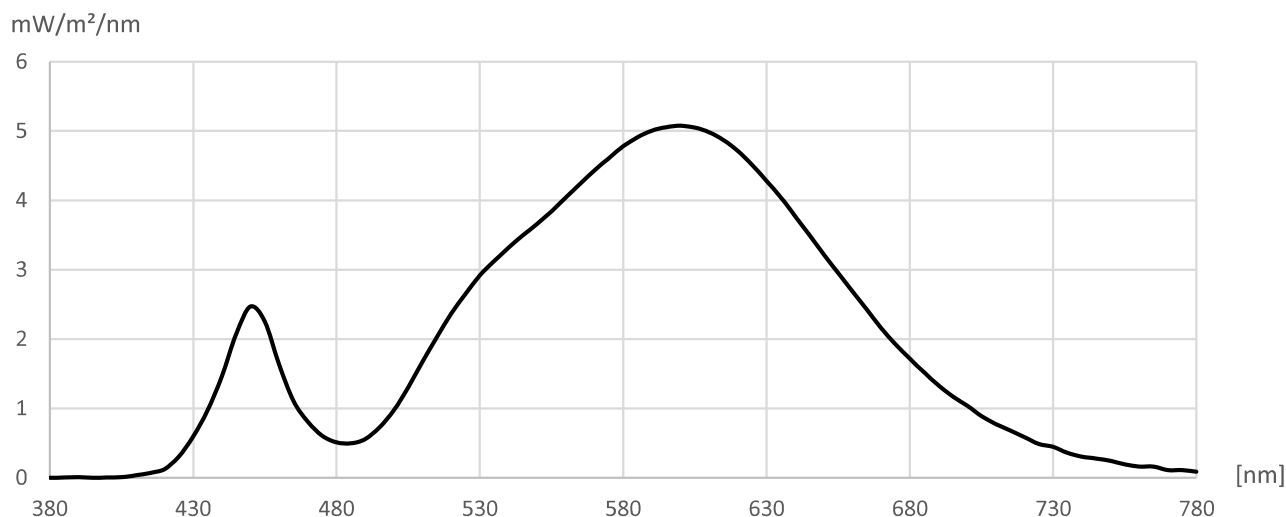
First, last name of inspector

Measurement protocol

th.mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / ww

Measurement file: 418760_3m_ww.CSV
Date of measurement: 08.06.2018
Time of measurement: 08:16:23



R1 = 73,5	Ra = 76,0	Illuminance	265,54 lx	CIE1931
R2 = 82,6	Re = 67,6	Ee	0,790 W/m²	x = 0,4423
R3 = 90,1	GAI = 48,4	LER	336,0 lm/W	y = 0,4154
R4 = 74,1				
R5 = 71,3		correlated color temperature (CCT)	2989 K	CIE1976
R6 = 74,7		Duv	0,0037	u' = 0,2492
R7 = 84,3		Saturation	57,3 %	v' = 0,5266
R8 = 57,1				
R9 = -3,5				CIE1960
R10 = 58,4		Dominant wavelength	581 nm	u = 0,2492
R11 = 68,9		Peak wavelength	599 nm	v = 0,3510
R12 = 46,7				
R13 = 74,7		Flicker frequency	% < 2.5 Hz	TM30
R14 = 93,8		Percent Flicker	< 2.5 %	Rf = 76,1
R15 = 67,4		Flicker index	% < 2.5	Rg = 95,2

[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm	[nm]	mW/m²/nm
380	0,00	440	1,47	500	0,97	560	4,04	620	4,71	680	1,72	740	0,30
385	0,00	445	2,08	505	1,30	565	4,24	625	4,51	685	1,52	745	0,28
390	0,01	450	2,47	510	1,67	570	4,43	630	4,28	690	1,33	750	0,24
395	0,00	455	2,25	515	2,03	575	4,61	635	4,04	695	1,17	755	0,19
400	0,00	460	1,63	520	2,37	580	4,78	640	3,77	700	1,04	760	0,16
405	0,01	465	1,10	525	2,66	585	4,91	645	3,50	705	0,89	765	0,16
410	0,03	470	0,80	530	2,92	590	5,01	650	3,22	710	0,77	770	0,11
415	0,07	475	0,61	535	3,12	595	5,06	655	2,95	715	0,68	775	0,11
420	0,12	480	0,51	540	3,32	600	5,08	660	2,69	720	0,58	780	0,09
425	0,30	485	0,50	545	3,50	605	5,05	665	2,42	725	0,49		
430	0,60	490	0,56	550	3,66	610	4,98	670	2,16	730	0,44		
435	0,97	495	0,73	555	3,84	615	4,87	675	1,93	735	0,36		

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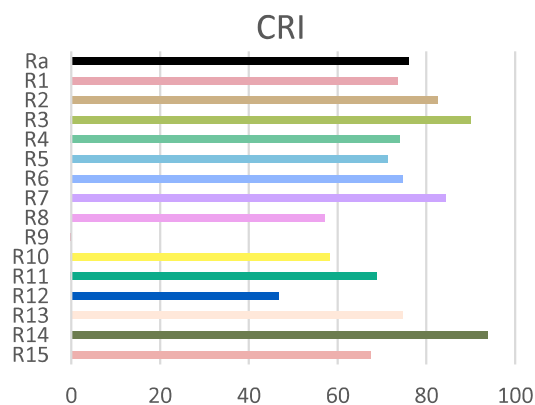
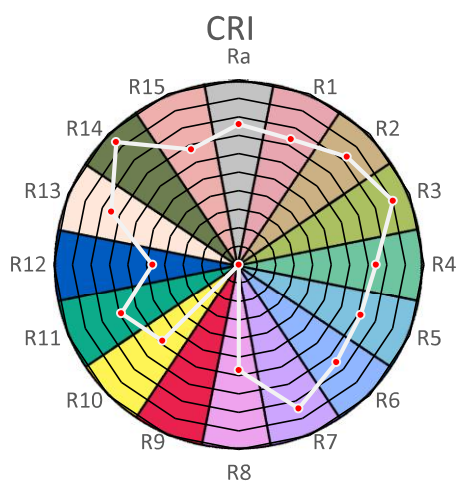
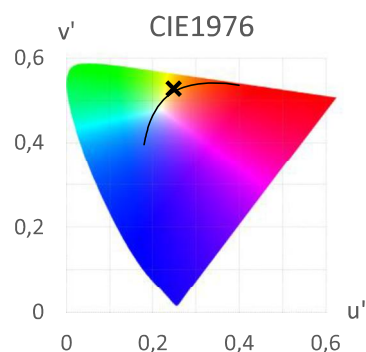
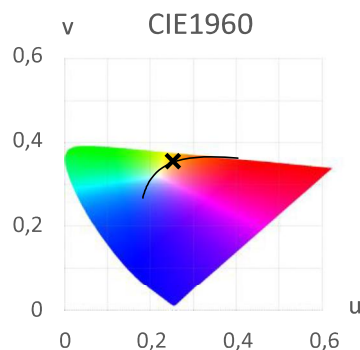
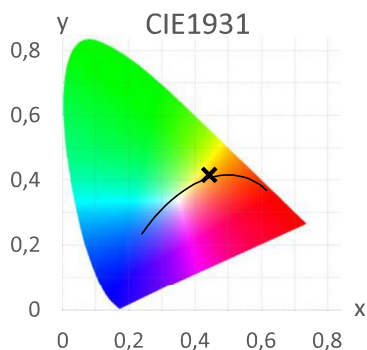
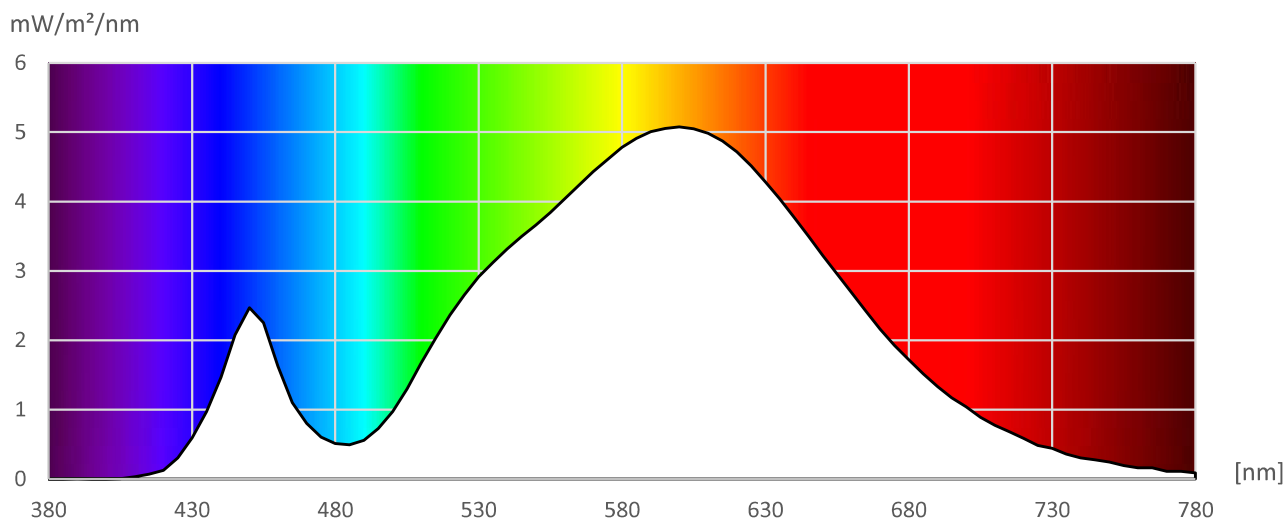
First, last name of inspector

Measurement protocol

th•mann

Test object: Stairville
HL-x9 QCL RGB WW Flood 9x8W
Item 418760 / @ 3 m / ww

Measurement file: 418760_3m_ww.C
Date of measurement: 08.06.2018
Time of measurement: 08:16:23



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Burgebrach, 08.06.2018

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First, last name of inspector