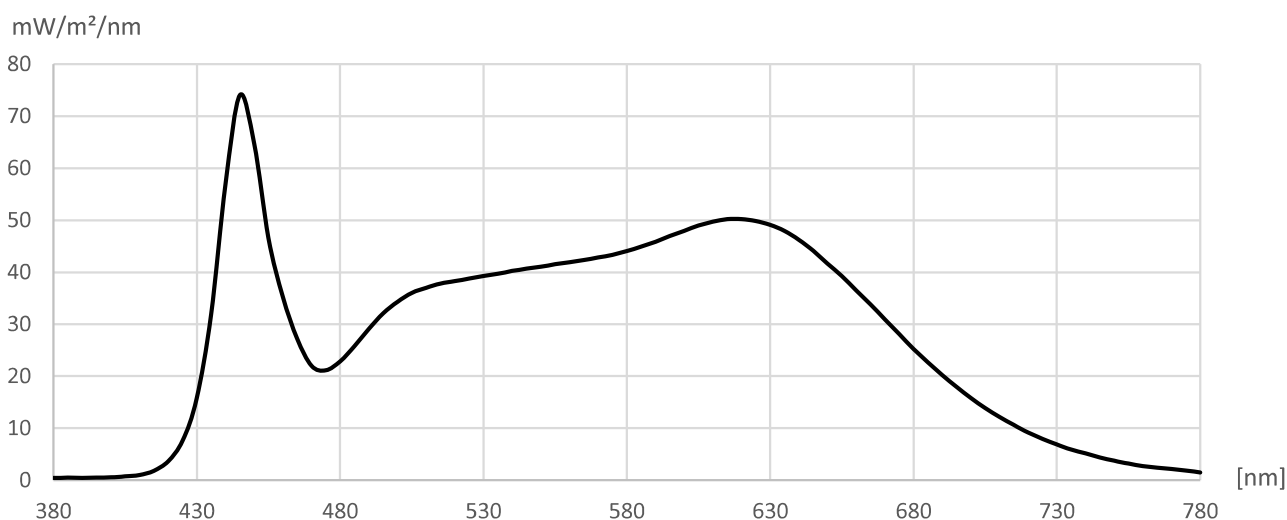


Measurement protocol

th.mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / all / @ 1 m

Measurement file: all_1m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:20:34



R1 = 97,2	Ra = 95,8	Illuminance	3061,49 lx	CIE1931
R2 = 97,4	Re = 95,0	Ee	11,149 W/m²	x = 0,3609
R3 = 94,7	GAI = 96,0	LER	274,6 lm/W	y = 0,3453
R4 = 93,4				
R5 = 97,9		correlated color temperature (CCT)	4380 K	CIE1976
R6 = 94,4		Duv	-0,0092	u' = 0,2248
R7 = 94,8				v' = 0,4839
R8 = 96,3		Saturation	11,8 %	
R9 = 93,8				CIE1960
R10 = 95,3		Dominant wavelength	588 nm	u = 0,2248
R11 = 91,5		Peak wavelength	445 nm	v = 0,3226
R12 = 87,4				
R13 = 97,2		Flicker frequency	% < 2.5 Hz	TM30
R14 = 96,5		Percent Flicker	< 2.5 %	Rf = 91,4
R15 = 96,9		Flicker index	% < 2.5	Rg = 104,5

[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	0,44	440	56,92	500	34,32	560	41,91	620	50,21	680	25,29	740	5,17
385	0,48	445	74,04	505	36,04	565	42,35	625	49,81	685	22,70	745	4,39
390	0,46	450	64,63	510	37,01	570	42,81	630	49,10	690	20,25	750	3,74
395	0,51	455	46,62	515	37,81	575	43,36	635	47,93	695	17,96	755	3,19
400	0,55	460	35,33	520	38,28	580	44,07	640	46,24	700	15,80	760	2,71
405	0,74	465	27,23	525	38,76	585	44,92	645	44,12	705	13,88	765	2,44
410	1,02	470	22,02	530	39,30	590	45,88	650	41,68	710	12,19	770	2,16
415	1,83	475	21,13	535	39,68	595	46,93	655	39,26	715	10,63	775	1,89
420	3,67	480	22,88	540	40,23	600	47,96	660	36,51	720	9,17	780	1,52
425	7,61	485	25,75	545	40,67	605	48,96	665	33,80	725	7,97		
430	15,74	490	29,07	550	41,05	610	49,69	670	30,93	730	6,88		
435	31,83	495	32,09	555	41,52	615	50,18	675	28,09	735	5,90		

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Burgebrach, 23.12.2019

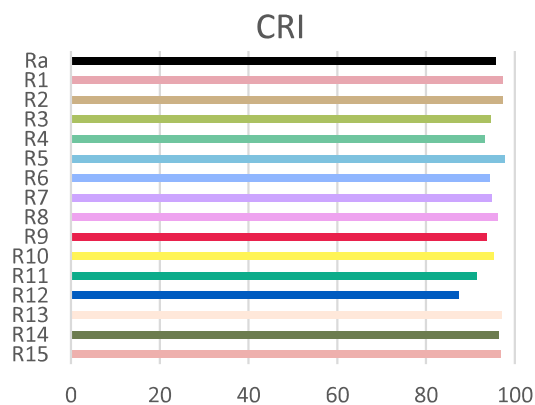
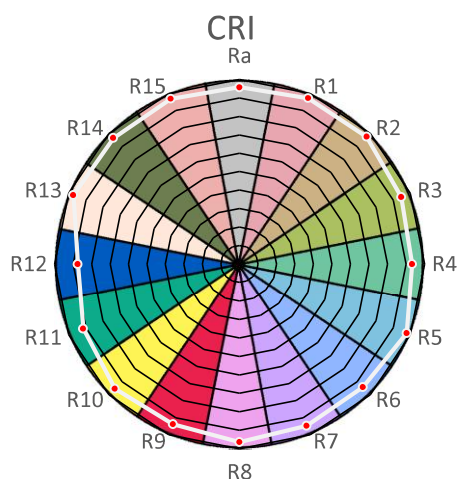
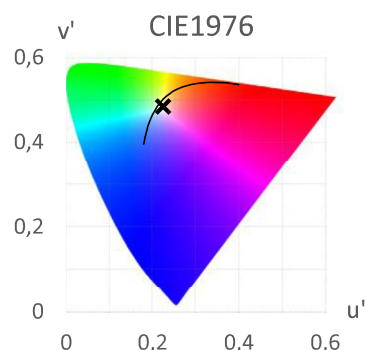
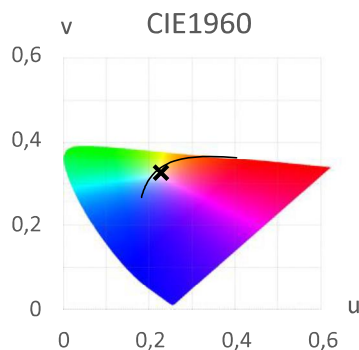
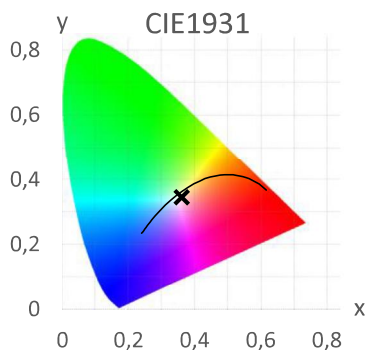
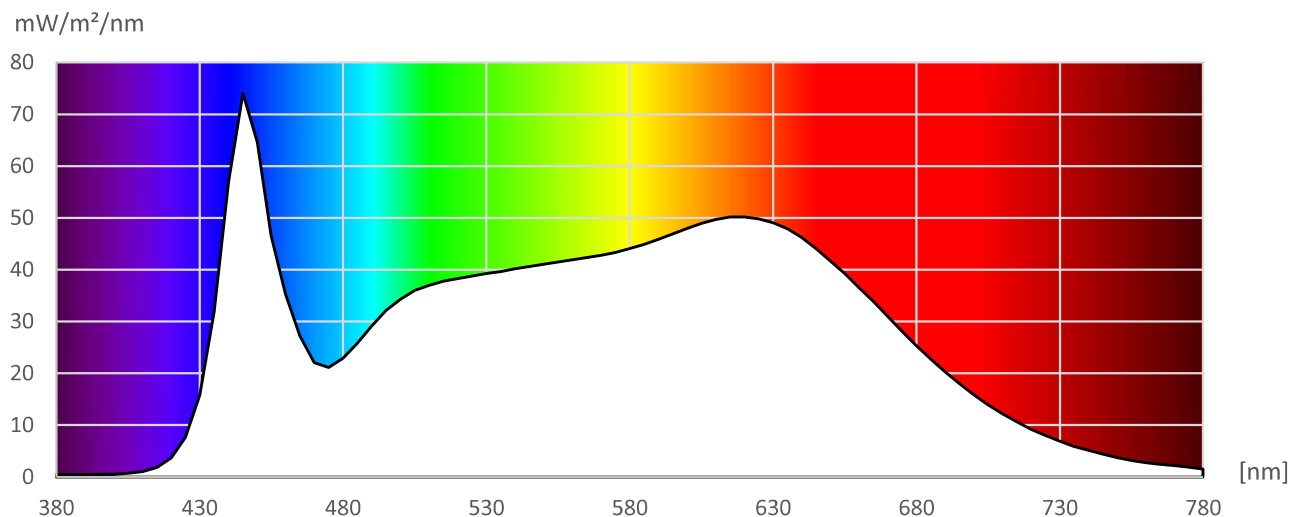
First, last name of inspector

Measurement protocol

th•mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / all / @ 1 m

Measurement file: all_1m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:20:34



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Burgebrach, 23.12.2019

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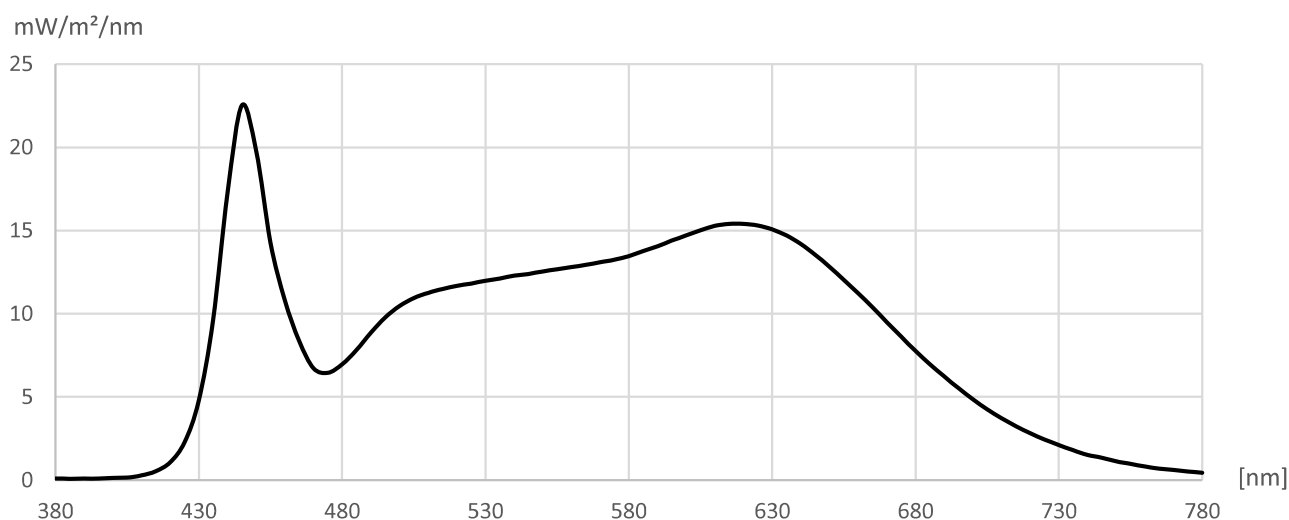
First, last name of inspector

Measurement protocol

th.mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / all / @ 2 m

Measurement file: all_2m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:21:17



R1 = 97,1	Ra = 95,7	Illuminance	936,15 lx	CIE1931
R2 = 97,3	Re = 95,0	Ee	3,408 W/m ²	x = 0,3615
R3 = 94,8	GAI = 95,9	LER	274,7 lm/W	y = 0,3455
R4 = 93,4				
R5 = 97,8		correlated color temperature (CCT)	4357 K	CIE1976
R6 = 94,3		Duv	-0,0094	u' = 0,2252
R7 = 94,8				v' = 0,4841
R8 = 96,3		Saturation	12,1 %	
R9 = 93,9				CIE1960
R10 = 95,4		Dominant wavelength	588 nm	u = 0,2252
R11 = 91,5		Peak wavelength	445 nm	v = 0,3227
R12 = 87,4				
R13 = 97,1		Flicker frequency	% < 2.5 Hz	TM30
R14 = 96,6		Percent Flicker	< 2.5 %	Rf = 91,4
R15 = 96,8		Flicker index	% < 2.5	Rg = 104,6

[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	0,11	440	17,24	500	10,47	560	12,81	620	15,40	680	7,77	740	1,53
385	0,09	445	22,52	505	10,96	565	12,94	625	15,30	685	6,98	745	1,36
390	0,09	450	19,77	510	11,26	570	13,10	630	15,07	690	6,24	750	1,13
395	0,10	455	14,31	515	11,49	575	13,25	635	14,71	695	5,53	755	0,99
400	0,14	460	10,83	520	11,68	580	13,47	640	14,19	700	4,86	760	0,82
405	0,16	465	8,37	525	11,82	585	13,77	645	13,55	705	4,26	765	0,70
410	0,29	470	6,73	530	11,99	590	14,06	650	12,83	710	3,74	770	0,62
415	0,54	475	6,46	535	12,12	595	14,40	655	12,04	715	3,24	775	0,53
420	1,08	480	6,98	540	12,29	600	14,70	660	11,24	720	2,82	780	0,44
425	2,29	485	7,81	545	12,40	605	15,02	665	10,38	725	2,44		
430	4,77	490	8,85	550	12,55	610	15,28	670	9,49	730	2,12		
435	9,62	495	9,77	555	12,68	615	15,40	675	8,63	735	1,80		

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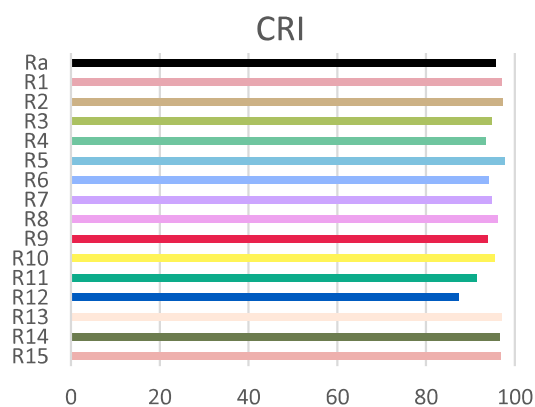
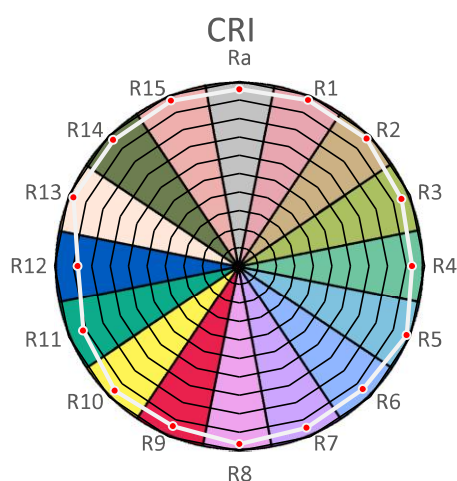
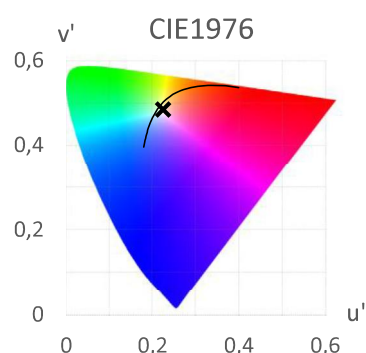
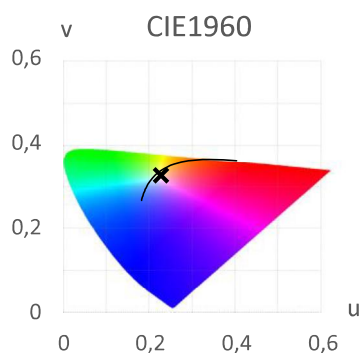
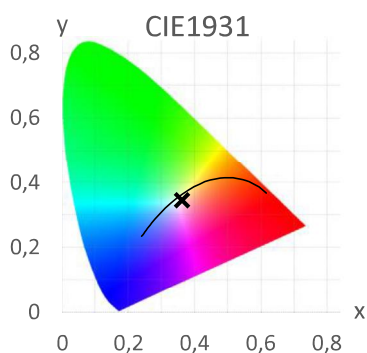
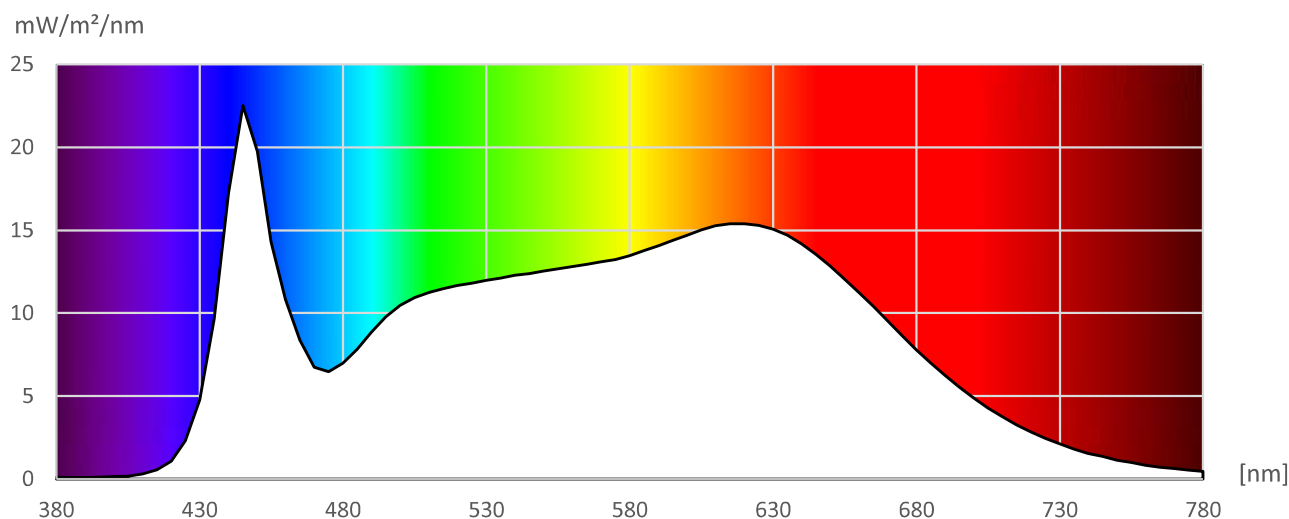
First, last name of inspector

Measurement protocol

th•mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / all / @ 2 m

Measurement file: all_2m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:21:17



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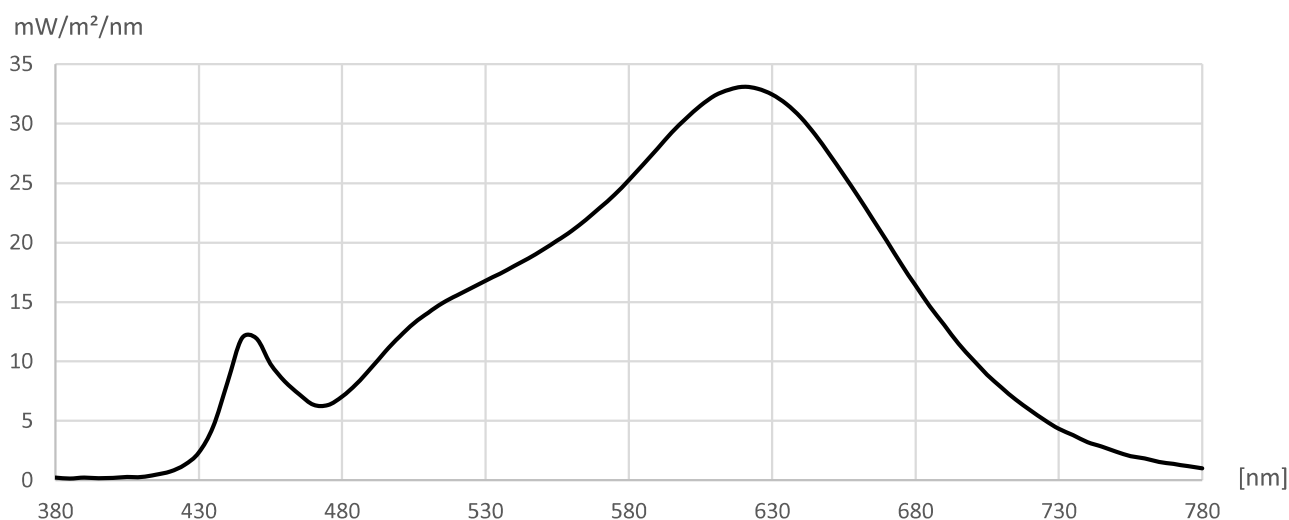
First, last name of inspector

Measurement protocol

th.mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / ww / @ 1 m

Measurement file: ww_1m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:21:38



R1 = 93,3	Ra = 93,3
R2 = 96,8	Re = 90,8
R3 = 99,2	GAI = 51,4
R4 = 94,2	
R5 = 93,6	
R6 = 97,1	
R7 = 91,5	
R8 = 80,6	
R9 = 56,9	
R10 = 92,4	
R11 = 96,2	
R12 = 88,8	
R13 = 94,3	
R14 = 99,3	
R15 = 88,3	

Illuminance	1582,77 lx
Ee	5,456 W/m²
LER	290,1 lm/W
correlated color temperature (CCT)	2837 K
Duv	0,0003
Saturation	57,4 %
Dominant wavelength	583 nm
Peak wavelength	619 nm
Flicker frequency	% < 2.5 Hz
Percent Flicker	< 2.5 %
Flicker index	% < 2.5

CIE1931
x = 0,4496
y = 0,4089
CIE1976
u' = 0,2566
v' = 0,5252
CIE1960
u = 0,2566
v = 0,3501
TM30
Rf = 92,2
Rg = 99,3

[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	0,22	440	8,22	500	12,09	560	20,97	620	33,11	680	16,39	740	3,19
385	0,13	445	11,95	505	13,21	565	21,91	625	32,94	685	14,63	745	2,83
390	0,22	450	11,95	510	14,10	570	22,93	630	32,44	690	13,06	750	2,39
395	0,16	455	9,80	515	14,90	575	24,00	635	31,64	695	11,48	755	2,03
400	0,21	460	8,32	520	15,55	580	25,25	640	30,53	700	10,15	760	1,84
405	0,27	465	7,24	525	16,15	585	26,57	645	29,06	705	8,88	765	1,53
410	0,27	470	6,34	530	16,79	590	27,91	650	27,43	710	7,80	770	1,37
415	0,46	475	6,32	535	17,38	595	29,25	655	25,68	715	6,77	775	1,19
420	0,73	480	7,06	540	18,02	600	30,42	660	23,88	720	5,90	780	1,01
425	1,29	485	8,09	545	18,66	605	31,51	665	22,01	725	5,06		
430	2,33	490	9,40	550	19,38	610	32,36	670	20,10	730	4,33		
435	4,49	495	10,82	555	20,15	615	32,86	675	18,19	735	3,79		

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Burgebrach, 23.12.2019

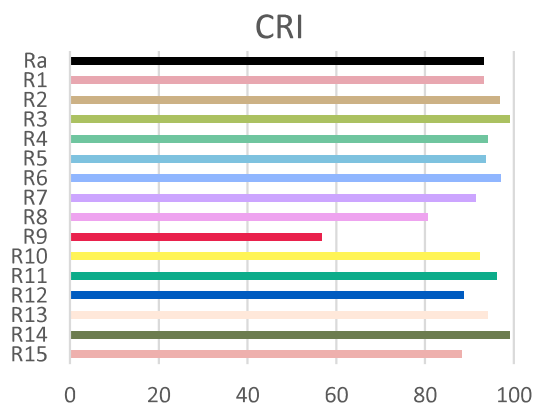
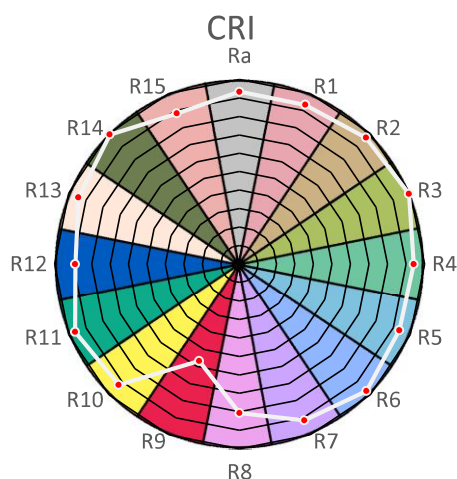
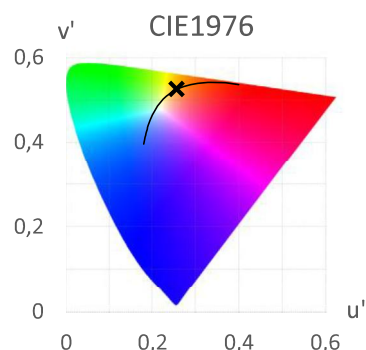
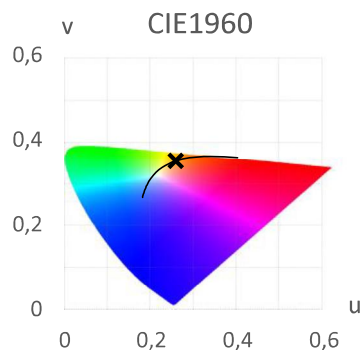
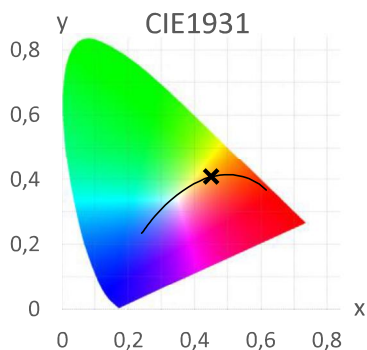
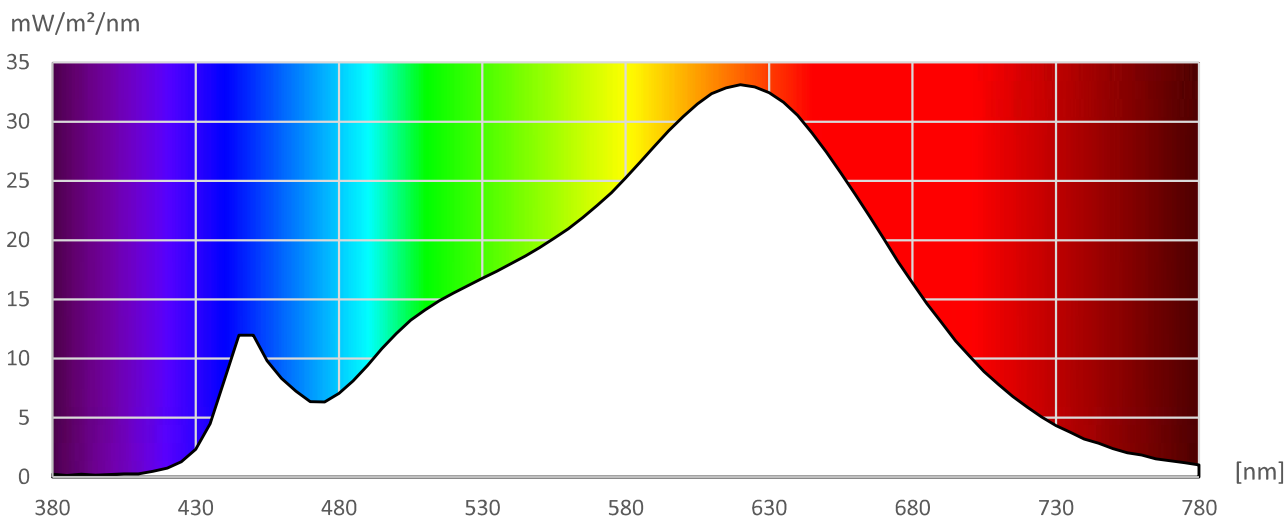
First, last name of inspector

Measurement protocol

th•mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / ww / @ 1 m

Measurement file: ww_1m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:21:38



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Burgebrach, 23.12.2019

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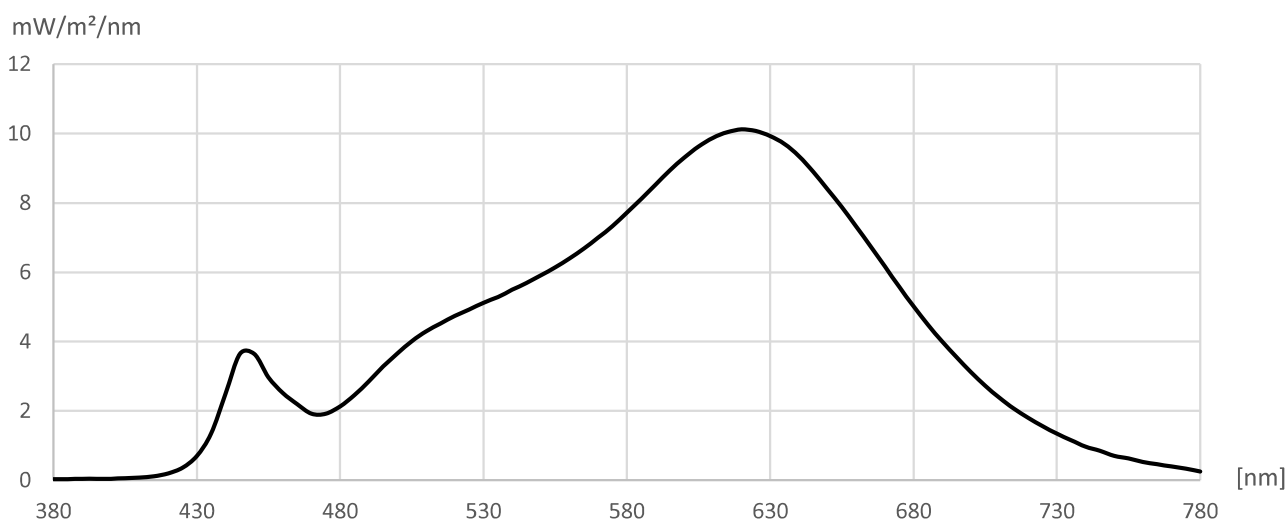
First, last name of inspector

Measurement protocol

th.mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / ww / @ 2 m

Measurement file: ww_2m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:21:55



R1 = 93,2	Ra = 93,3	Illuminance	482,93 lx	CIE1931
R2 = 96,8	Re = 90,8	Ee	1,664 W/m²	x = 0,4502
R3 = 99,2	GAI = 51,1	LER	290,2 lm/W	y = 0,4091
R4 = 94,1				
R5 = 93,6		correlated color temperature (CCT)	2828 K	CIE1976
R6 = 97,1		Duv	0,0004	u' = 0,2570
R7 = 91,5				v' = 0,5253
R8 = 80,5		Saturation	57,7 %	
R9 = 56,9				CIE1960
R10 = 92,4		Dominant wavelength	583 nm	u = 0,2570
R11 = 96,1		Peak wavelength	619 nm	v = 0,3502
R12 = 88,6				
R13 = 94,2		Flicker frequency	% < 2.5 Hz	TM30
R14 = 99,2		Percent Flicker	< 2.5 %	Rf = 92,1
R15 = 88,3		Flicker index	% < 2.5	Rg = 99,3

[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	0,03	440	2,49	500	3,66	560	6,40	620	10,12	680	5,03	740	0,97
385	0,03	445	3,64	505	4,01	565	6,68	625	10,07	685	4,49	745	0,85
390	0,04	450	3,64	510	4,30	570	6,99	630	9,93	690	4,01	750	0,70
395	0,04	455	2,97	515	4,52	575	7,33	635	9,70	695	3,55	755	0,63
400	0,04	460	2,52	520	4,74	580	7,72	640	9,35	700	3,12	760	0,53
405	0,06	465	2,20	525	4,92	585	8,12	645	8,89	705	2,73	765	0,46
410	0,07	470	1,92	530	5,12	590	8,53	650	8,40	710	2,38	770	0,40
415	0,11	475	1,92	535	5,29	595	8,94	655	7,88	715	2,07	775	0,33
420	0,20	480	2,14	540	5,49	600	9,30	660	7,32	720	1,80	780	0,26
425	0,36	485	2,45	545	5,69	605	9,62	665	6,75	725	1,56		
430	0,70	490	2,85	550	5,91	610	9,87	670	6,16	730	1,34		
435	1,35	495	3,28	555	6,14	615	10,04	675	5,58	735	1,16		

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Burgebrach, 23.12.2019

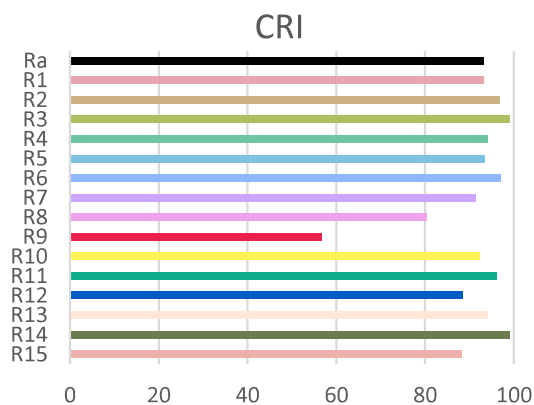
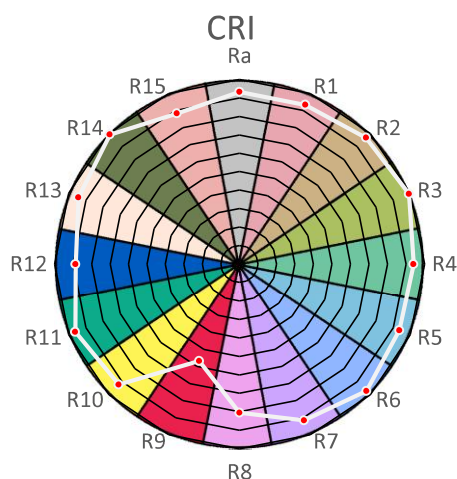
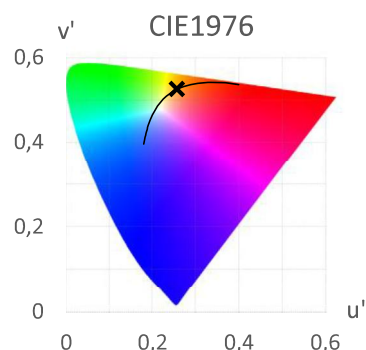
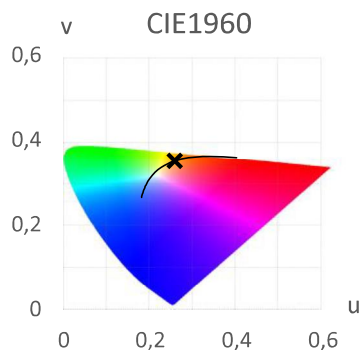
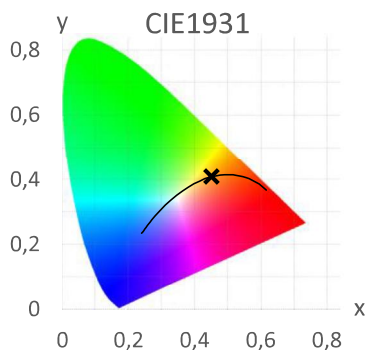
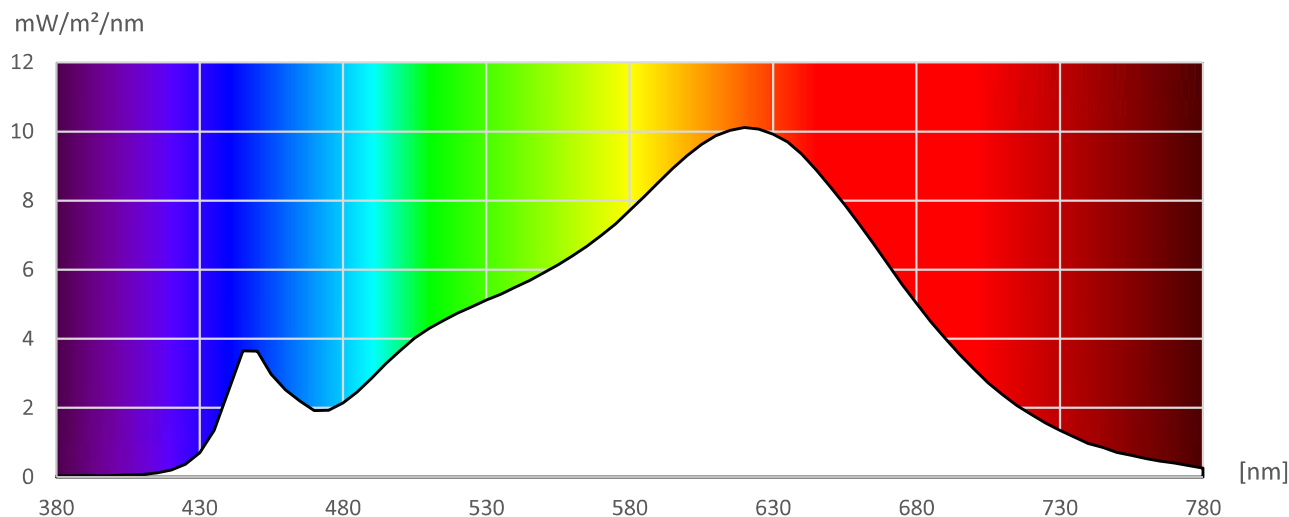
First, last name of inspector

Measurement protocol

th•mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / ww / @ 2 m

Measurement file: ww_2m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:21:55



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Burgebrach, 23.12.2019

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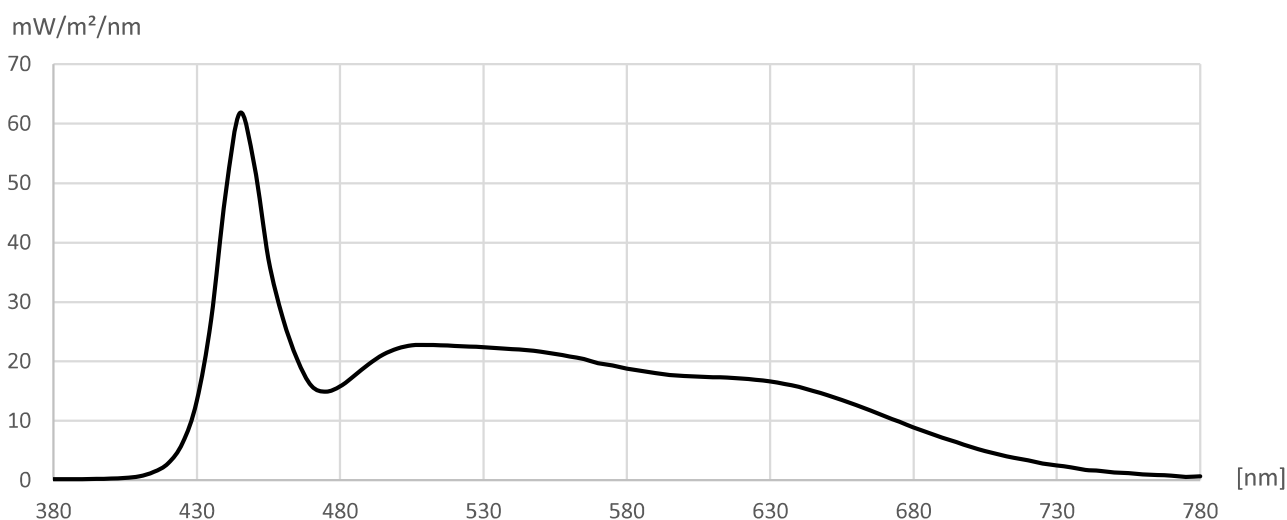
First, last name of inspector

Measurement protocol

th.mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / cw / @ 1 m

Measurement file: cw_1m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:22:14



R1 = 97,5	Ra = 93,4
R2 = 94,4	Re = 92,5
R3 = 88,0	GAI = 108,3
R4 = 91,6	
R5 = 98,4	
R6 = 89,8	
R7 = 92,7	
R8 = 94,9	
R9 = 98,3	
R10 = 85,8	
R11 = 90,3	
R12 = 76,7	
R13 = 97,3	
R14 = 93,3	
R15 = 98,1	

Illuminance	1474,08 lx
Ee	5,676 W/m²
LER	259,7 lm/W
correlated color temperature (CCT)	8529 K
Duv	-0,0032
Saturation	17,7 %
Dominant wavelength	475 nm
Peak wavelength	445 nm
Flicker frequency	% < 2.5 Hz
Percent Flicker	< 2.5 %
Flicker index	% < 2.5

CIE1931
x = 0,2921
y = 0,2955
CIE1976
u' = 0,1960
v' = 0,4461
CIE1960
u = 0,1960
v = 0,2974
TM30
Rf = 89,6
Rg = 103,5

[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	0,20	440	48,01	500	22,16	560	20,84	620	17,12	680	8,91	740	1,72
385	0,19	445	61,80	505	22,71	565	20,38	625	16,91	685	8,03	745	1,60
390	0,20	450	53,02	510	22,75	570	19,71	630	16,63	690	7,19	750	1,31
395	0,22	455	37,28	515	22,72	575	19,30	635	16,20	695	6,39	755	1,19
400	0,28	460	27,33	520	22,59	580	18,79	640	15,70	700	5,60	760	0,98
405	0,40	465	20,38	525	22,50	585	18,42	645	15,02	705	4,93	765	0,89
410	0,67	470	15,85	530	22,40	590	18,03	650	14,32	710	4,32	770	0,79
415	1,39	475	14,92	535	22,24	595	17,73	655	13,52	715	3,78	775	0,58
420	2,86	480	15,81	540	22,05	600	17,53	660	12,62	720	3,33	780	0,65
425	6,28	485	17,59	545	21,91	605	17,43	665	11,72	725	2,82		
430	13,27	490	19,56	550	21,62	610	17,33	670	10,77	730	2,48		
435	26,97	495	21,12	555	21,25	615	17,26	675	9,83	735	2,19		

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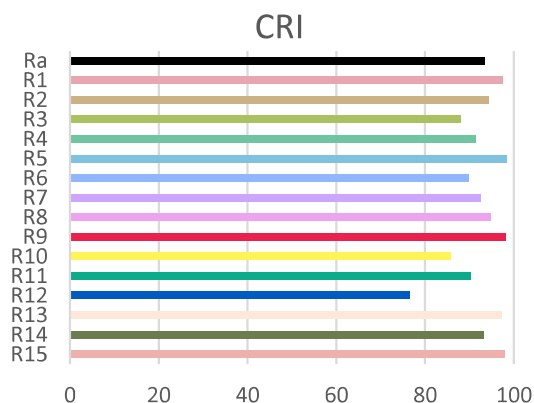
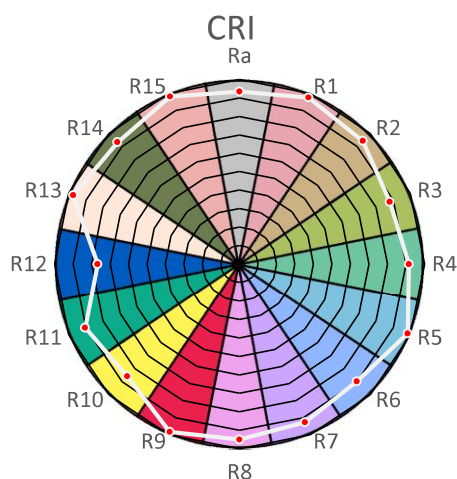
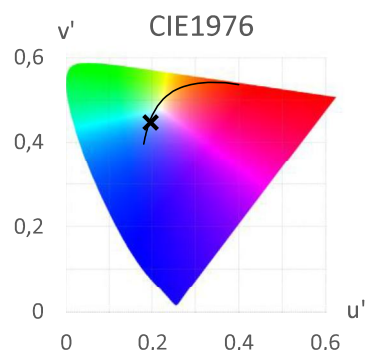
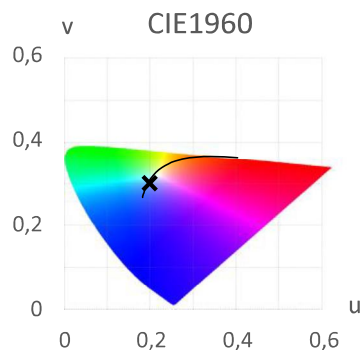
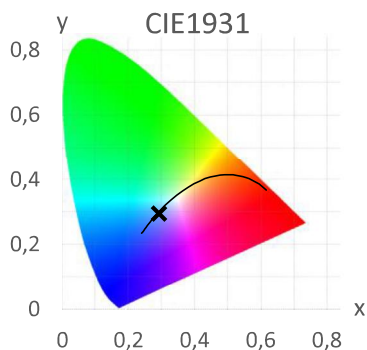
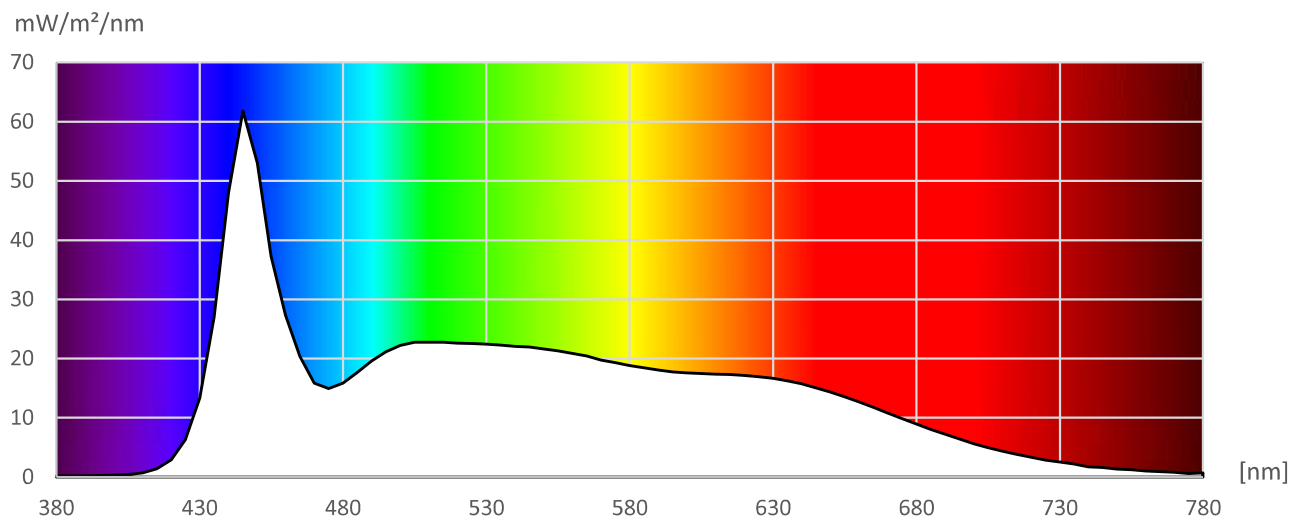
First, last name of inspector

Measurement protocol

th•mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / cw / @ 1 m

Measurement file: cw_1m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:22:14



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Burgebrach, 23.12.2019

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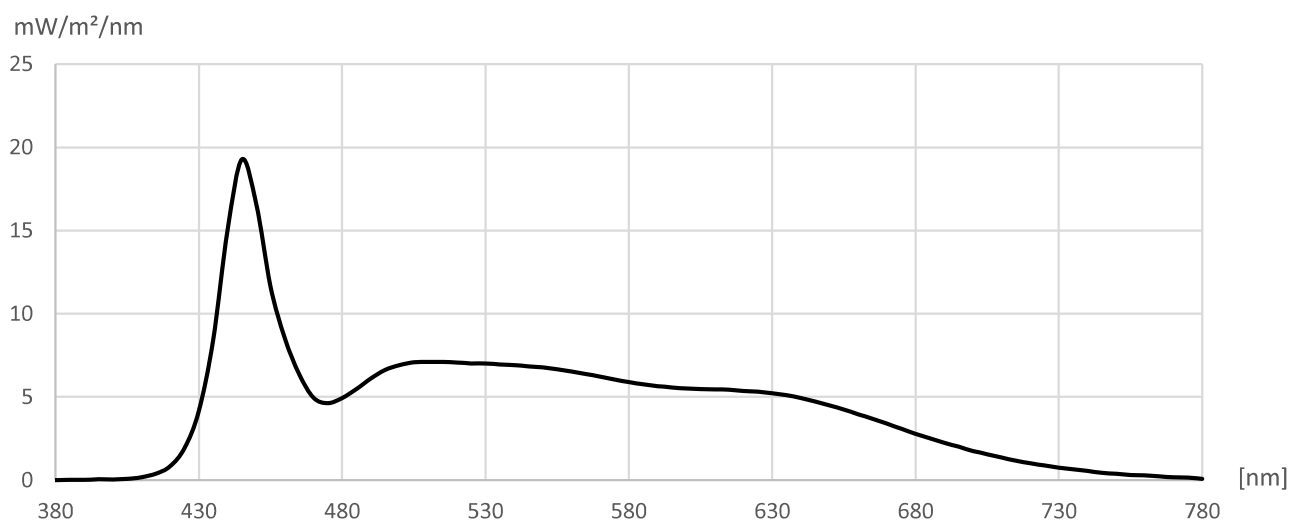
First, last name of inspector

Measurement protocol

th.mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / cw / @ 2 m

Measurement file: cw_2m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:22:28



R1 = 97,5	Ra = 93,4
R2 = 94,4	Re = 92,5
R3 = 88,0	GAI = 108,2
R4 = 91,6	
R5 = 98,4	
R6 = 89,8	
R7 = 92,7	
R8 = 94,9	
R9 = 98,2	
R10 = 85,9	
R11 = 90,3	
R12 = 76,7	
R13 = 97,3	
R14 = 93,3	
R15 = 98,0	

Illuminance	462,19 lx
Ee	1,774 W/m²
LER	260,5 lm/W
correlated color temperature (CCT)	8465 K
Duv	-0,0032
Saturation	17,5 %
Dominant wavelength	475 nm
Peak wavelength	445 nm
Flicker frequency	% < 2.5 Hz
Percent Flicker	< 2.5 %
Flicker index	% < 2.5

CIE1931
x = 0,2927
y = 0,2960
CIE1976
u' = 0,1962
v' = 0,4465
CIE1960
u = 0,1962
v = 0,2976
TM30
Rf = 89,6
Rg = 103,3

[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	15,00	500	6,92	560	6,53	620	5,36	680	2,79	740	0,56
385	0,03	445	19,29	505	7,09	565	6,38	625	5,31	685	2,52	745	0,45
390	0,03	450	16,60	510	7,11	570	6,23	630	5,22	690	2,25	750	0,39
395	0,06	455	11,67	515	7,11	575	6,06	635	5,10	695	2,02	755	0,32
400	0,05	460	8,55	520	7,08	580	5,90	640	4,95	700	1,76	760	0,30
405	0,08	465	6,37	525	7,02	585	5,77	645	4,72	705	1,57	765	0,24
410	0,18	470	4,95	530	7,02	590	5,65	650	4,50	710	1,36	770	0,17
415	0,40	475	4,64	535	6,96	595	5,58	655	4,25	715	1,19	775	0,16
420	0,84	480	4,95	540	6,93	600	5,51	660	3,97	720	1,01	780	0,09
425	1,94	485	5,48	545	6,85	605	5,48	665	3,69	725	0,89		
430	4,13	490	6,11	550	6,78	610	5,46	670	3,40	730	0,75		
435	8,39	495	6,62	555	6,66	615	5,44	675	3,10	735	0,66		

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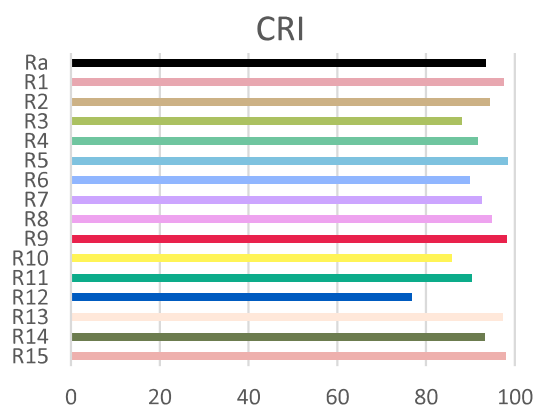
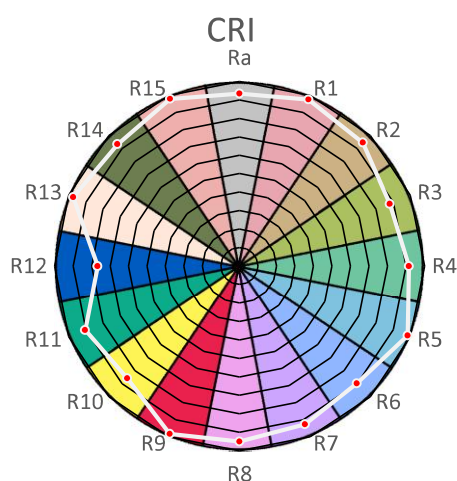
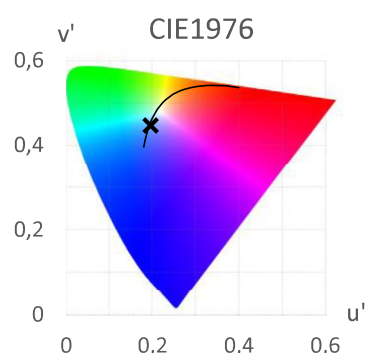
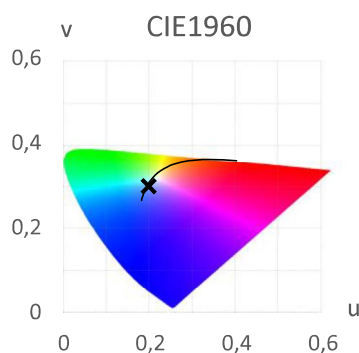
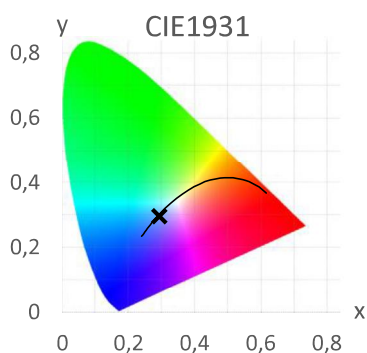
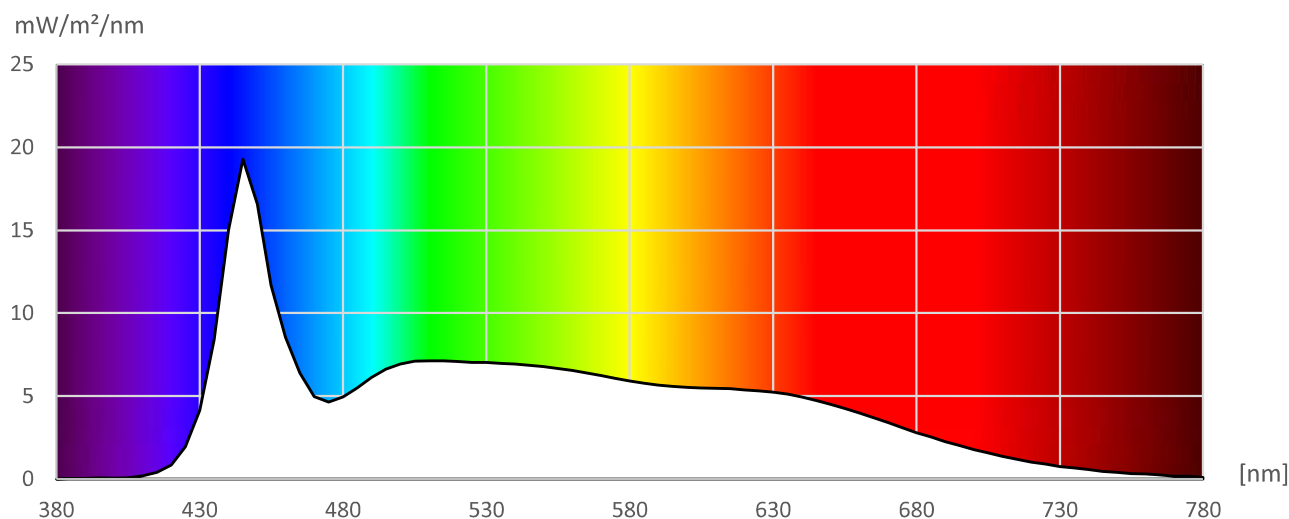
First, last name of inspector

Measurement protocol

th•mann

Test object: Varytec
VP-1 DMX Video BiLight Panel
457073 / cw / @ 2 m

Measurement file: cw_2m.CSV
Date of measurement: 23.12.2019
Time of measurement: 12:22:28



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