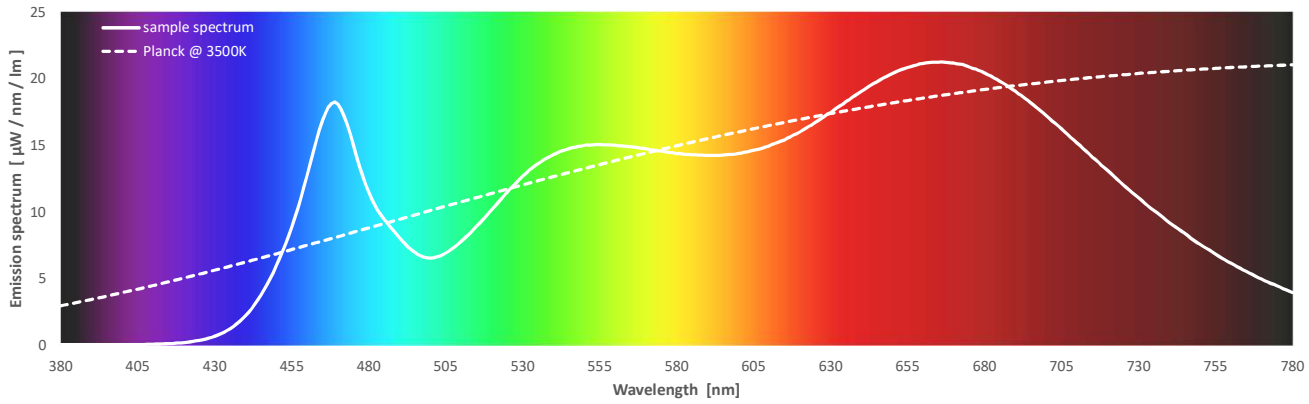
LED spectrum report - 96635280 AGILIO 6000-940 DOP 3CD SP-WFL WH

in situ conditions at luminaire ambient temperature Ta = 25 °C Luminaire Setting: SP 24 June 2021



Colour coordinates
(CIE 1931 2° observer)

CCT	3626 K
Du'v'	0.0020
Duv	0.0015
x	0.3999
y	0.3912
u'	0.2320
v'	0.5107

Colour coordinates
(CIE 2015 10° observer)

CCT	3598 K
Du'v'	0.0041
Duv	0.0029
x	0.4068
y	0.3946
u'	0.2351
v'	0.5131

Spectral values for sample spectrum and Planck @ 3500K (380nm - 780nm)
in CIE 1931 2° colour space and with according V(λ) curve

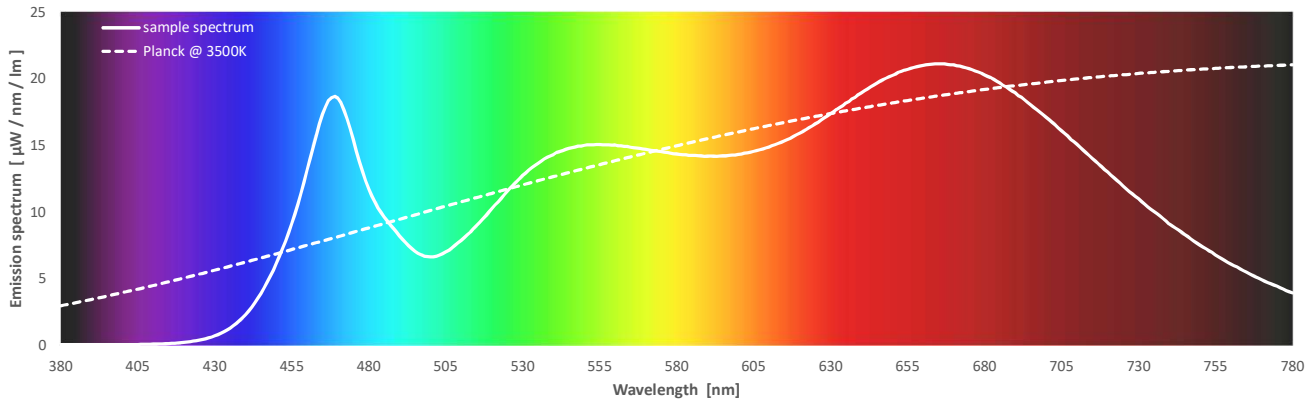
Description	Symbol	Sample	Planck @ 3500K	Unit
photopic ratio (CIE 1931 2°/CIE 2015 10°)	P/P	0.928	0.928	-
scotopic / photopic ratio	S/P	1.73	1.69	-
melanopic values (CIE S 026/E:2018)				
melanopic daylight efficacy ratio	MDER	0.652	0.623	-
melanopic equal-energy efficacy ratio (≙ WELL standard)	MEER	0.719	0.688	-
melanopic correlated colour temperature	mCCT	3659	3500	K
blue light hazard (IEC 62471:2006, IEC/TR 62778:2014)				
blue light hazard efficacy of luminous radiation	$K_{B,v}$	0.402	0.460	mW/lm
blue light hazard efficacy of melanopic radiation	$K_{B,mel}$	0.617	0.738	mW/(MDER·lm)
luminous efficacy of radiation	LER	220	181	lm/W_{rad}
UV energy content (380nm ... 400nm)	E_{UV}/E	0%	1%	-
NIR energy content (700nm ... 780nm)	E_{NIR}/E	17%	30%	-
damage index (CIE 157:2004)				
a - low-grade paper	(b=0.0380)	0.001	0.006	mW/(m²·lx)
b - rag paper	(b=0.0125)	0.161	0.215	mW/(m²·lx)
c - oil paints on canvas & water colours on rag paper	(b=0.0115)	0.202	0.264	mW/(m²·lx)
d - textiles	(b=0.0100)	0.288	0.363	mW/(m²·lx)
cyanosis observation index (AS/NZS 1680.2.5:1997)	COI	3.0	1.9	-
photosynthetic photon flux	PPFD	0.0186	0.0189	µmol/s/lm

Colour rendering index (CRI) for sample spectrum in CIE 1931 2° colour space

Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
94	98	99	97	88	93	96	92	91	82	96	86	70	98	97	92

LED spectrum report - 96635280 AGILIO 6000-940 DOP 3CD SP-WFL WH

in situ conditions at luminaire ambient temperature Ta = 25 °C Luminaire Setting: WFL 24 June 2021



Colour coordinates
(CIE 1931 2° observer)

CCT	3670 K
Du'v'	0.0017
Duv	0.0012
x	0.3973
y	0.3893
u'	0.2311
v'	0.5095

Colour coordinates
(CIE 2015 10° observer)

CCT	3643 K
Du'v'	0.0039
Duv	0.0028
x	0.4041
y	0.3929
u'	0.2341
v'	0.5120

Spectral values for sample spectrum and Planck @ 3500K (380nm - 780nm)
in CIE 1931 2° colour space and with according V(λ) curve

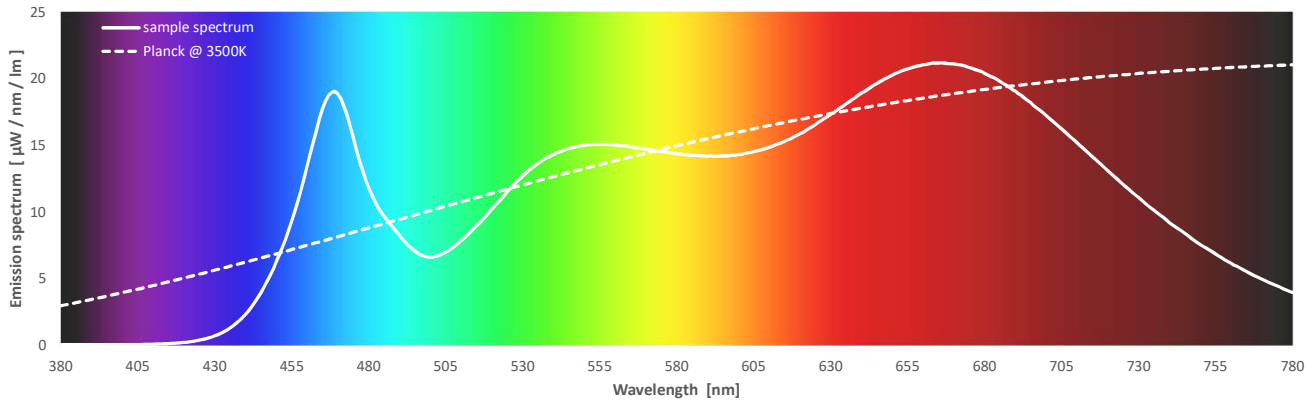
Description	Symbol	Sample	Planck @ 3500K	Unit
photopic ratio (CIE 1931 2°/CIE 2015 10°)	P/P	0.927	0.928	-
scotopic / photopic ratio	S/P	1.75	1.69	-
melanopic values (CIE S 026/E:2018)				
melanopic daylight efficacy ratio	MDER	0.662	0.623	-
melanopic equal-energy efficacy ratio (≙ WELL standard)	MEER	0.731	0.688	-
melanopic correlated colour temperature	mCCT	3720	3500	K
blue light hazard (IEC 62471:2006, IEC/TR 62778:2014)				
blue light hazard efficacy of luminous radiation	$K_{B,v}$	0.412	0.460	mW/lm
blue light hazard efficacy of melanopic radiation	$K_{B,mel}$	0.623	0.738	mW/(MDER·lm)
luminous efficacy of radiation	LER	220	181	lm/W_{rad}
UV energy content (380nm ... 400nm)	E_{UV}/E	0%	1%	-
NIR energy content (700nm ... 780nm)	E_{NIR}/E	17%	30%	-
damage index (CIE 157:2004)				
a - low-grade paper	(b=0.0380)	0.001	0.006	mW/(m²·lx)
b - rag paper	(b=0.0125)	0.163	0.215	mW/(m²·lx)
c - oil paints on canvas & water colours on rag paper	(b=0.0115)	0.204	0.264	mW/(m²·lx)
d - textiles	(b=0.0100)	0.291	0.363	mW/(m²·lx)
cyanosis observation index (AS/NZS 1680.2.5:1997)	COI	2.9	1.9	-
photosynthetic photon flux	PPFD	0.0186	0.0189	µmol/s/lm

Colour rendering index (CRI) for sample spectrum in CIE 1931 2° colour space

Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
94	98	98	97	88	93	97	92	90	81	97	86	70	98	97	92

LED spectrum report - 96635280 AGILIO 6000-940 DOP 3CD SP-WFL WH

in situ conditions at luminaire ambient temperature Ta = 25 °C Luminaire Setting: WFL (measured @ 30deg) 24 June 2021



Colour coordinates
(CIE 1931 2° observer)

CCT	3684 K
Du'v'	0.0012
Duv	0.0009
x	0.3963
y	0.3879
u'	0.2310
v'	0.5087

Colour coordinates
(CIE 2015 10° observer)

CCT	3659 K
Du'v'	0.0034
Duv	0.0024
x	0.4030
y	0.3916
u'	0.2338
v'	0.5113

Spectral values for sample spectrum and Planck @ 3500K (380nm - 780nm)
in CIE 1931 2° colour space and with according V(λ) curve

Description	Symbol	Sample	Planck @ 3500K	Unit
photopic ratio (CIE 1931 2°/CIE 2015 10°)	P/P	0.927	0.928	-
scotopic / photopic ratio	S/P	1.75	1.69	-
melanopic values (CIE S 026/E:2018)				
melanopic daylight efficacy ratio	MDER	0.667	0.623	-
melanopic equal-energy efficacy ratio (≙ WELL standard)	MEER	0.736	0.688	-
melanopic correlated colour temperature	mCCT	3745	3500	K
blue light hazard (IEC 62471:2006, IEC/TR 62778:2014)				
blue light hazard efficacy of luminous radiation	$K_{B,v}$	0.418	0.460	mW/lm
blue light hazard efficacy of melanopic radiation	$K_{B,mel}$	0.627	0.738	mW/(MDER·lm)
luminous efficacy of radiation	LER	219	181	lm/W_{rad}
UV energy content (380nm ... 400nm)	E_{UV}/E	0%	1%	-
NIR energy content (700nm ... 780nm)	E_{NIR}/E	17%	30%	-
damage index (CIE 157:2004)				
a - low-grade paper	(b=0.0380)	0.001	0.006	$mW/(m^2 \cdot lx)$
b - rag paper	(b=0.0125)	0.164	0.215	$mW/(m^2 \cdot lx)$
c - oil paints on canvas & water colours on rag paper	(b=0.0115)	0.206	0.264	$mW/(m^2 \cdot lx)$
d - textiles	(b=0.0100)	0.293	0.363	$mW/(m^2 \cdot lx)$
cyanosis observation index (AS/NZS 1680.2.5:1997)	COI	2.8	1.9	-
photosynthetic photon flux	PPFD	0.0187	0.0189	µmol/s/lm

Colour rendering index (CRI) for sample spectrum in CIE 1931 2° colour space

Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
94	98	98	97	88	93	97	92	90	80	97	86	70	98	98	92