

Light efficiency:



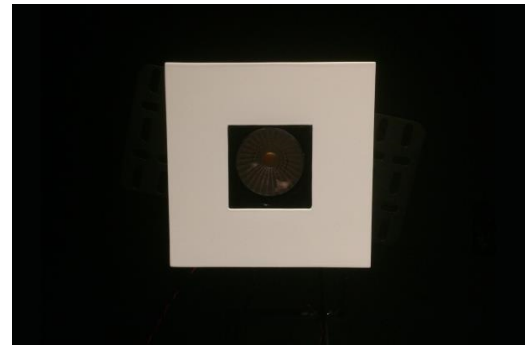
Output: 982 lm

Light quality:

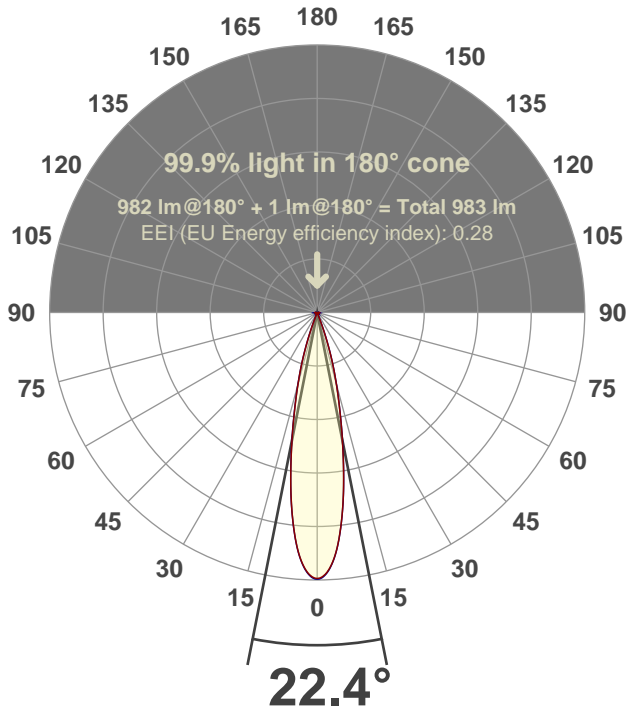


Peak: 5513 cd

Power: 21.1 W



Beam angle



Test number:

CR4D-S-FL-C20-30k-24 (GRF-CZ20-NF-SQ)

Luminaire Model:

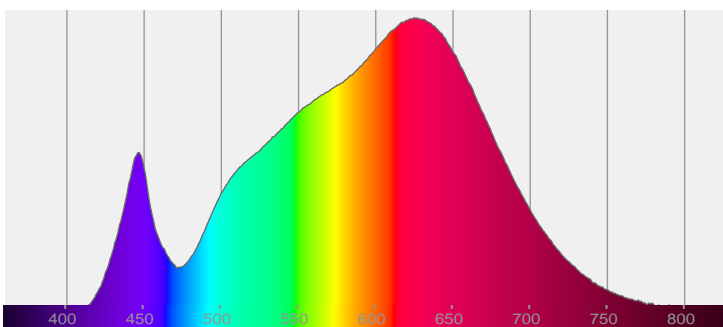
Core 4" Square Flat C20 30K 24°

Date and time:

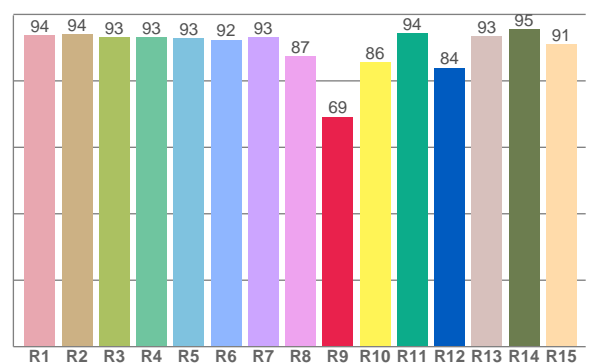
4/3/2017 1:08:31 PM

LUM: 982

Spectra



CRI: 92.5 (R1-R8)



Color parameters

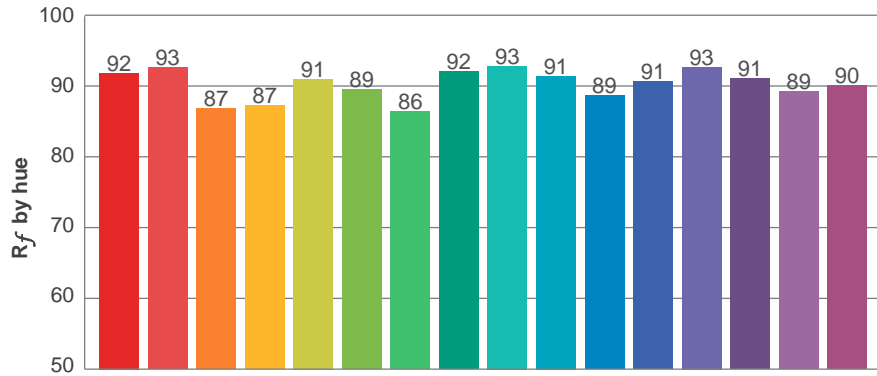
Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CRI	CRI R9	TM30 R _f	TM30 R _g	CQS	x	y	u	v	Δuv
92.5	69.1	90.4	103.1	90.2	0.429	0.400	0.248	0.346	-0.0007

R_f 90.4
Fidelity index R_f

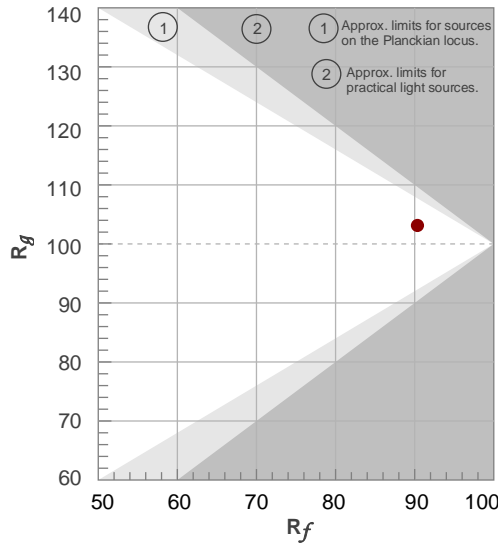
R_g 103.1
Gammut index R_g

TM30: 90.4

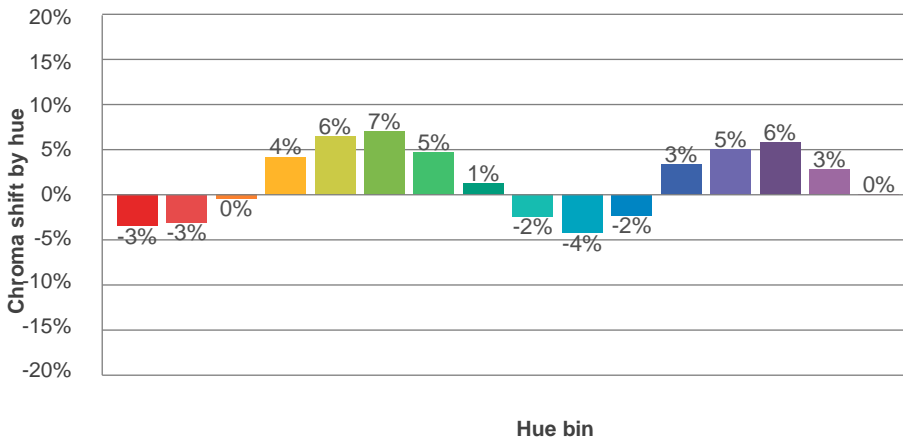
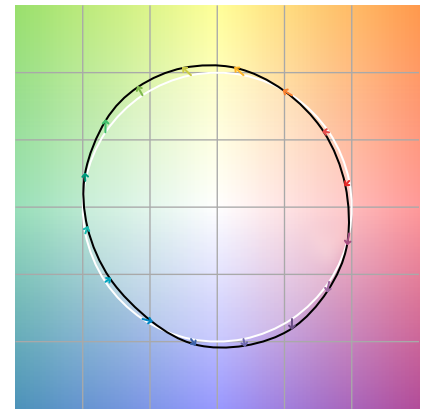
TM-30Color



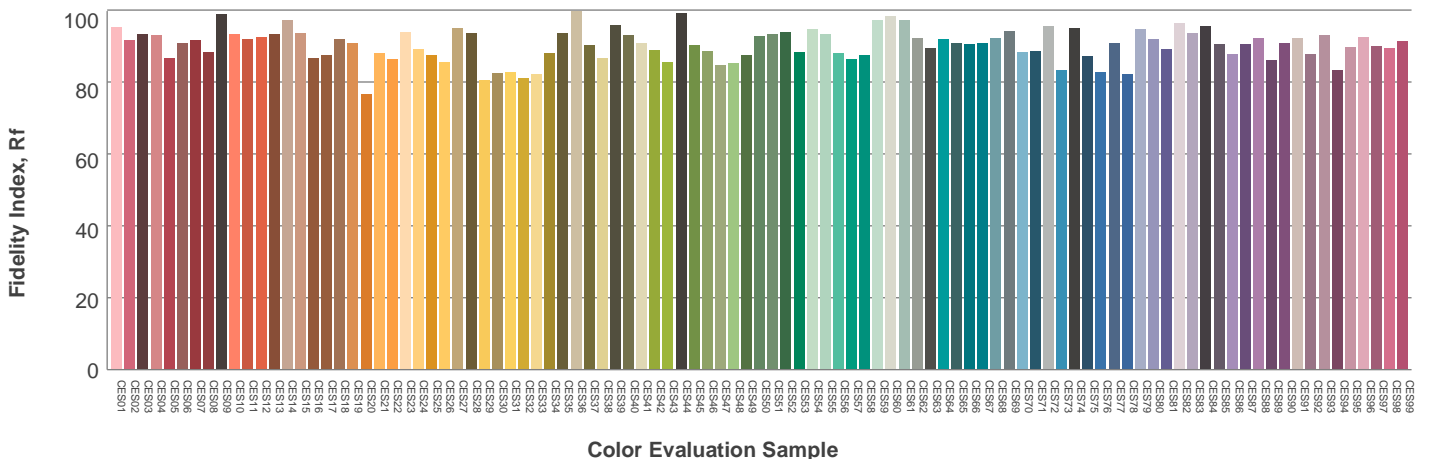
Hue Bin	R_f	Graphic shifts (%)	
		Chroma	Hue
1	92	-3%	-3%
2	93	-3%	3%
3	87	0%	7%
4	87	4%	7%
5	91	6%	5%
6	89	7%	-1%
7	86	5%	-7%
8	92	1%	-5%
9	93	-2%	-4%
10	91	-4%	0%
11	89	-2%	6%
12	91	3%	4%
13	93	5%	0%
14	91	6%	-4%
15	89	3%	-6%
16	90	0%	-8%



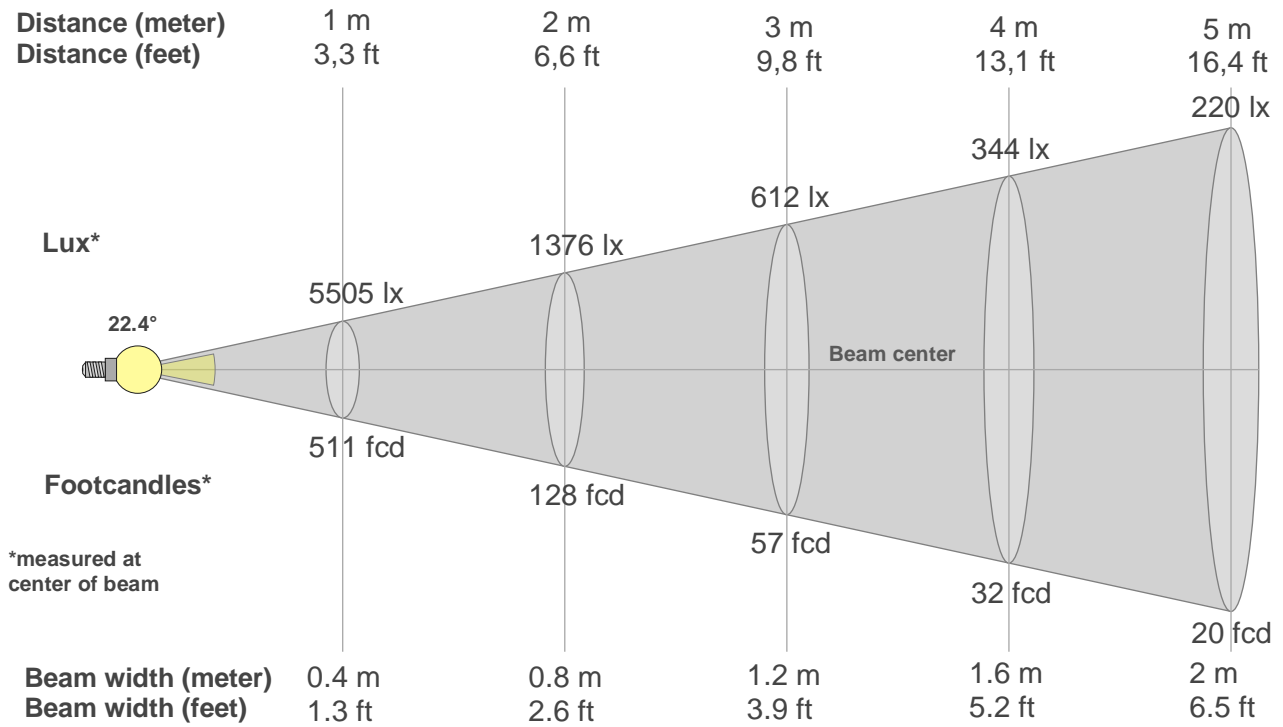
Color vector graphics



Color distortion



Beam details



Beam intensities from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
5505lx	1376lx	612lx	344lx	220lx	153lx	112lx	86lx	68lx	55lx	45lx	38lx	33lx	28lx	24lx	22lx	19lx	17lx	15lx	14lx
511.5fcd	127.9fcd	56.8fcd	32fcd	20.5fcd	14.2fcd	10.4fcd	8fcd	6.3fcd	5.1fcd	4.2fcd	3.6fcd	3fcd	2.6fcd	2.3fcd	2fcd	1.8fcd	1.6fcd	1.4fcd	1.3fcd

Intensities in 0° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
5505	5384	5072	4545	3871	3120	2419	1812	1311	848	435	146	65	48	40	33	27	21	17	13
100%	98%	92%	83%	70%	57%	44%	33%	24%	15%	8%	3%	1%	1%	1%	1%	0%	0%	0%	0%

Intensities in 90° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
5505	5397	5079	4547	3875	3125	2423	1813	1308	857	441	154	68	50	41	34	28	22	17	13
100%	98%	92%	83%	70%	57%	44%	33%	24%	16%	8%	3%	1%	1%	1%	1%	1%	0%	0%	0%

Intensities in 180° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
5505	5384	5072	4545	3871	3120	2419	1812	1311	848	435	146	65	48	40	33	27	21	17	13
100%	98%	92%	83%	70%	57%	44%	33%	24%	15%	8%	3%	1%	1%	1%	1%	0%	0%	0%	0%

Intensities in 270° c-plane

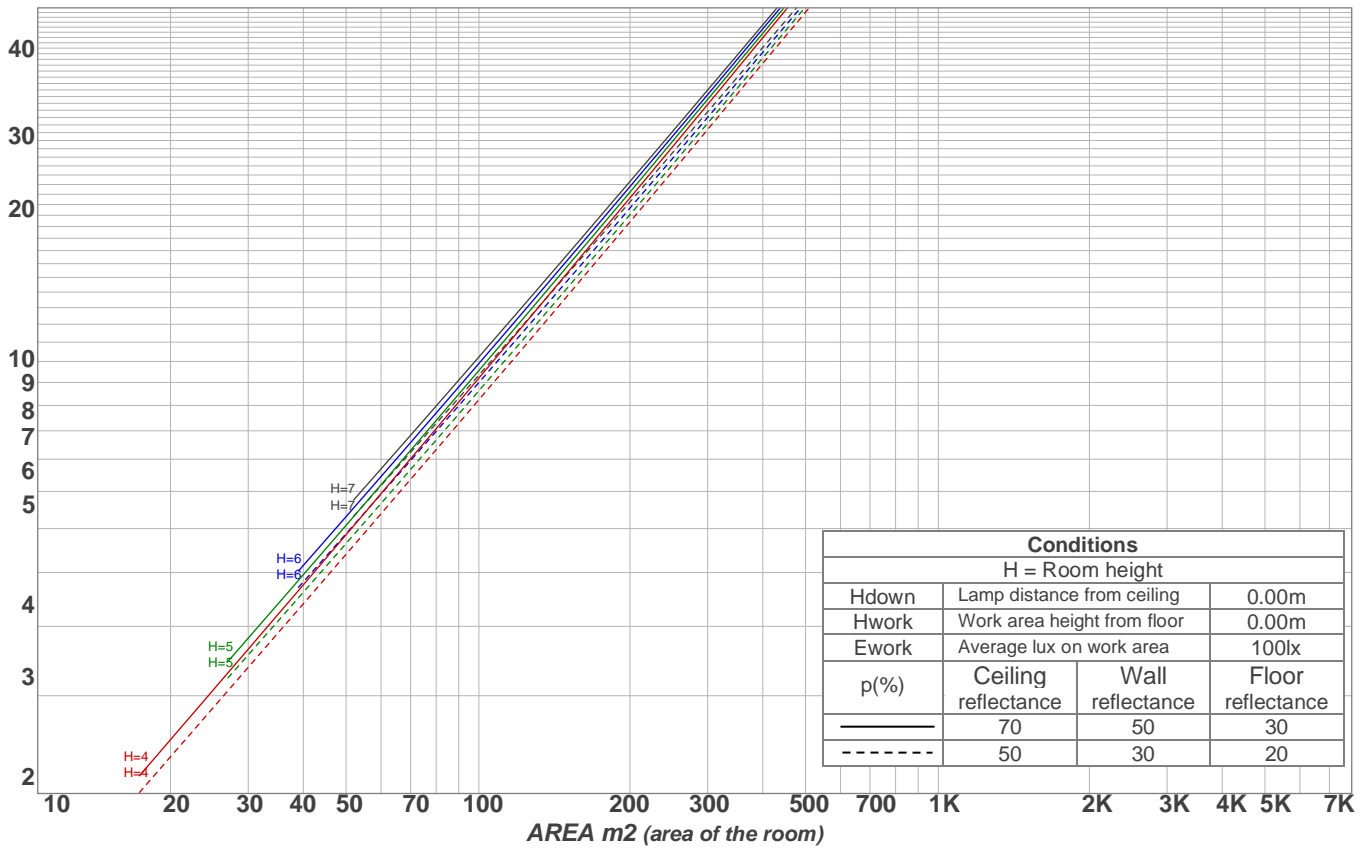
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
5505	5397	5079	4547	3875	3125	2423	1813	1308	857	441	154	68	50	41	34	28	22	17	13
100%	98%	92%	83%	70%	57%	44%	33%	24%	16%	8%	3%	1%	1%	1%	1%	1%	0%	0%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
22.4°	42.3°	49°	98.9%	98.3%

Light planning

Luminaire budgetary diagram

LAMPS (number of lamps)
50



Luminaire budgetary diagram
AREA m2 (area of the room)
Coefficients of Utilization

Ceiling reflectance	80				70				50			30			10			0			
Wall reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio)																				
	Room Values are expressed as percentage of Lumens delivered to the task surface																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	115	113	111	109	113	111	109	108	107	106	104	103	102	101	100	99	98	98	97	96	95
2	112	108	105	103	109	106	104	102	103	101	99	100	99	97	98	96	94	96	94	93	91
3	108	104	100	98	107	103	99	97	100	97	95	98	96	94	96	94	93	94	92	90	89
4	105	100	96	94	104	99	96	93	97	94	92	95	93	91	94	92	90	92	89	88	87
5	102	97	93	90	101	96	92	90	95	91	89	93	90	88	92	89	88	90	87	85	84
6	100	94	90	87	99	93	90	87	92	89	87	91	88	86	90	87	85	88	85	83	82
7	97	91	88	85	96	91	87	85	90	87	84	89	86	84	88	85	83	86	83	82	81
8	95	89	85	83	94	89	85	82	88	84	82	87	84	82	86	83	82	84	82	80	79
9	93	87	83	81	92	86	83	80	86	82	80	85	82	80	84	82	80	83	80	78	77
10	91	85	81	79	90	84	81	79	84	81	78	83	80	78	83	80	78	83	80	78	77

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
408 lm	448 lm	96.8 lm	11.8 lm	4.11 lm	4.06 lm	4.72 lm	3.32 lm	2.41 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm

UGR

p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	17.2	17.6	17.3	17.8	18.0	17.0	17.3	17.0	17.5	17.7
	3H	18.7	19.2	19.1	19.4	19.6	19.0	19.5	19.3	19.7	19.8
	4H	19.5	20.0	19.9	20.2	20.5	20.0	20.5	20.4	20.7	21.0
	6H	20.6	21.0	20.9	21.3	21.7	21.2	21.6	21.5	21.9	22.3
	8H	21.2	21.6	21.5	21.9	22.3	21.8	22.2	22.1	22.5	22.9
	12H	21.9	22.3	22.2	22.7	23.1	22.6	23.0	22.9	23.3	23.7
4H	2H	17.8	18.3	18.2	18.5	18.8	17.6	18.1	18.0	18.4	18.6
	3H	19.8	20.1	20.1	20.5	20.9	20.0	20.4	20.3	20.8	21.2
	4H	20.7	21.1	21.1	21.5	22.0	21.1	21.5	21.6	22.0	22.5
	6H	21.9	22.4	22.4	22.7	23.0	22.5	22.9	23.0	23.2	23.6
	8H	22.6	23.0	23.1	23.3	23.7	23.2	23.6	23.7	23.9	24.3
	12H	23.5	23.8	24.0	24.2	24.6	24.1	24.4	24.6	24.8	25.3
8H	4H	21.3	21.7	21.8	22.0	22.4	21.6	22.0	22.1	22.4	22.7
	6H	22.8	23.1	23.3	23.5	24.0	23.3	23.5	23.8	24.0	24.5
	8H	23.8	24.0	24.3	24.5	25.1	24.2	24.4	24.8	25.0	25.6
	12H	24.9	25.0	25.5	25.5	26.1	25.4	25.6	26.0	26.1	26.7
12H	4H	21.4	21.7	21.9	22.1	22.5	21.7	22.0	22.2	22.4	22.9
	6H	23.1	23.3	23.6	23.8	24.5	23.6	23.7	24.1	24.3	24.9
	8H	24.2	24.3	24.8	24.8	25.4	24.6	24.7	25.2	25.3	25.8
Corrected glare indices referring to 982 lm total luminous flux											