

Light efficiency:



Output: 1687 lm

Light quality:

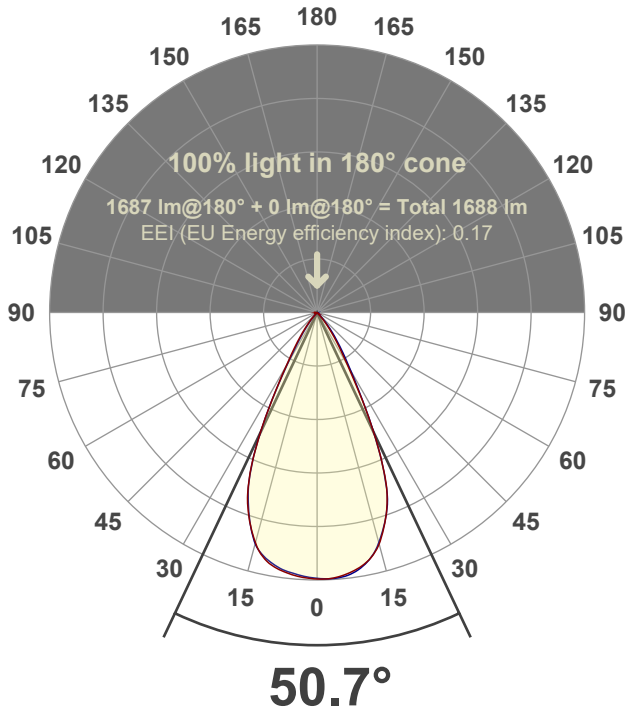


Peak: 2531 cd

Power: 20.7 W



Beam angle



Test number:

**GR-F-CZ20-30k-WF-SQ-Rev2**

Luminaire Model:

**Graffiti Regress Square Fixed Downlight-CZ20 30k 60° Optic**

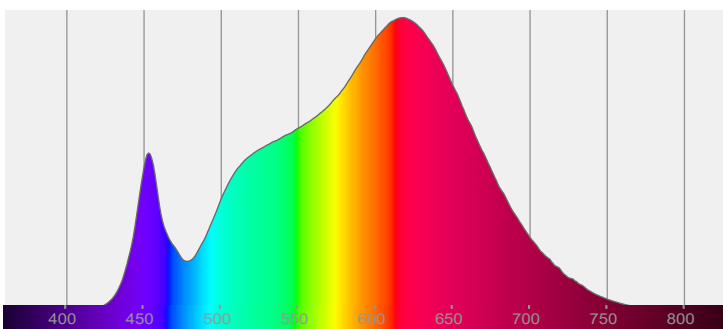
Date and time:

**6/30/2022 7:56:05 PM**

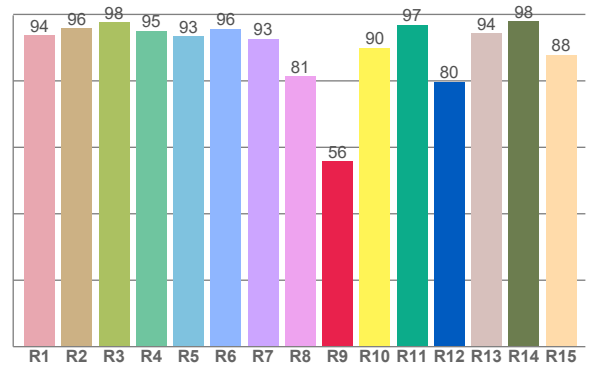
Delivered Lumens

**1687**

Spectra



CRI: 93.2 (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 <sub>f</sub>	TM30 R <sub>g</sub>	CQS	x	y	u	v	Δuv
	93.2	55.9	92.1	99.1	91.6	0.436	0.408	0.249	0.348	0.0015

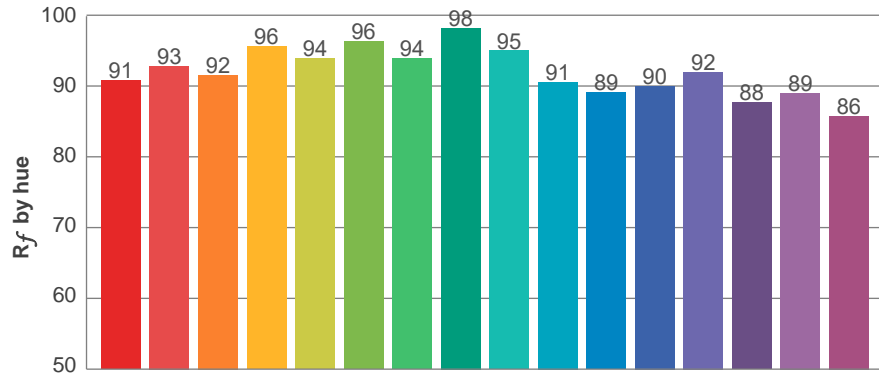
**$R_f$  92.1**  
Fidelity index  $R_f$

---

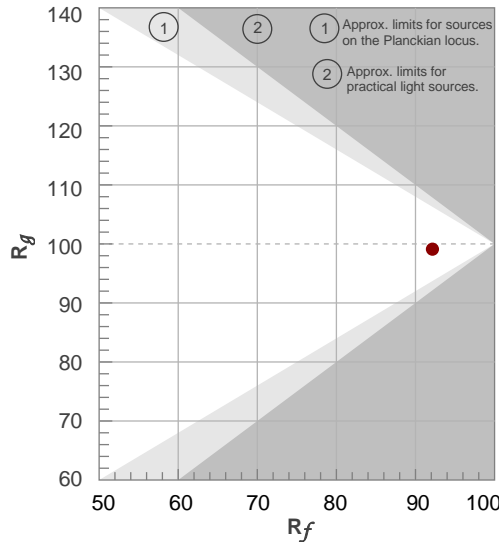
**$R_g$  99.1**  
Gammut index  $R_g$

TM30: 92.1

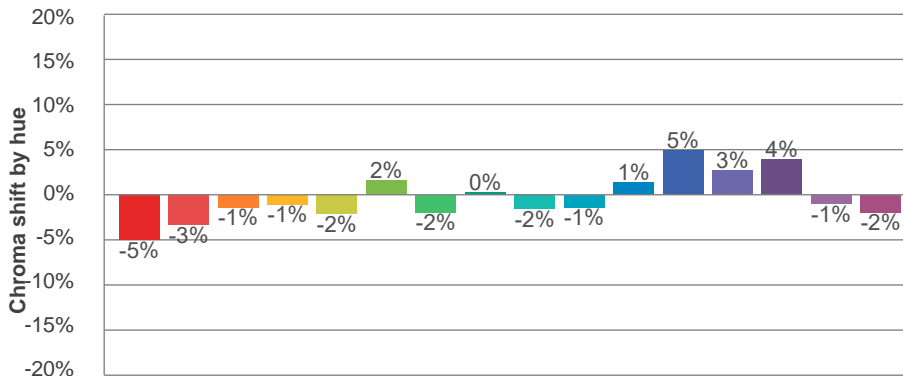
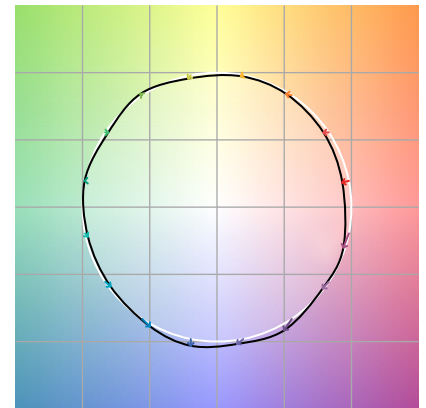
TM-30Color



Hue Bin	$R_f$	Graphic shifts (%)	
		Chroma	Hue
1	91	-5%	0%
2	93	-3%	2%
3	92	-1%	4%
4	96	-1%	2%
5	94	-2%	2%
6	96	2%	1%
7	94	-2%	-1%
8	98	0%	0%
9	95	-2%	3%
10	91	-1%	5%
11	89	1%	8%
12	90	5%	1%
13	92	3%	-5%
14	88	4%	-9%
15	89	-1%	-7%
16	86	-2%	-11%



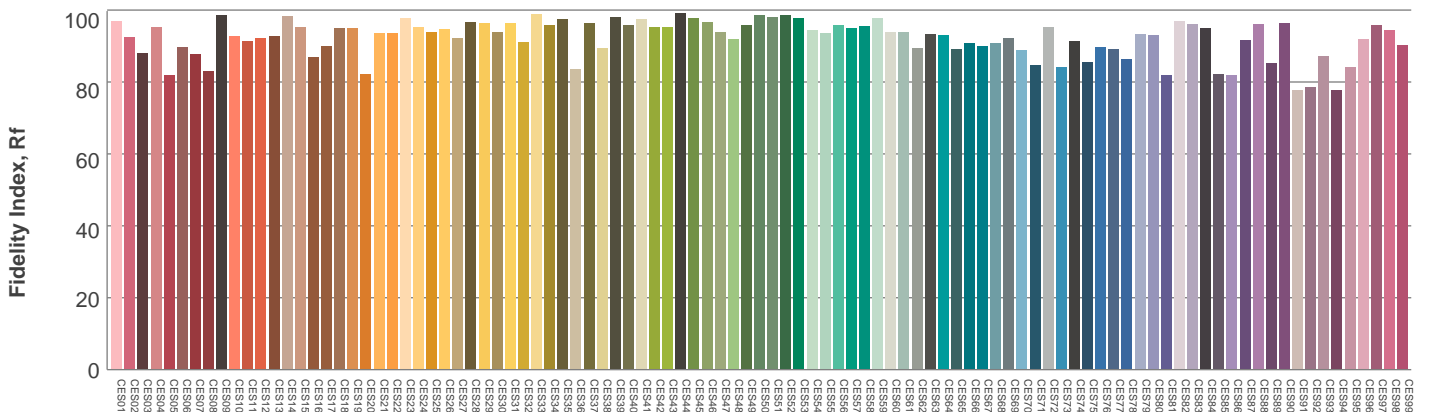
Color vector graphics



Color distortion

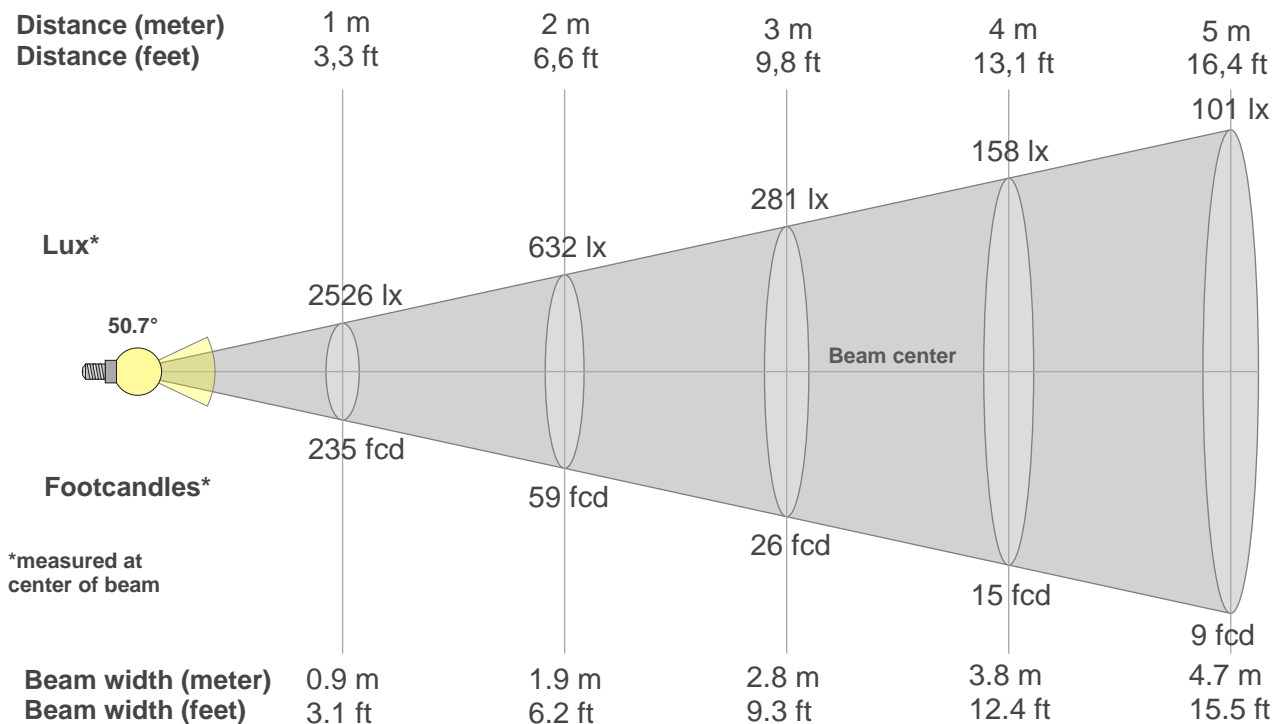


Hue bin



Color Evaluation Sample

### 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
2526lx	632lx	281lx	158lx	101lx	70lx	52lx	39lx	31lx	25lx	21lx	18lx	15lx	13lx	11lx	10lx	9lx	8lx	7lx	6lx
234.7fcd	58.7fcd	26.1fcd	14.7fcd	9.4fcd	6.5fcd	4.8fcd	3.7fcd	2.9fcd	2.3fcd	1.9fcd	1.6fcd	1.4fcd	1.2fcd	1fcd	0.9fcd	0.8fcd	0.7fcd	0.7fcd	0.6fcd

#### 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°
2526	2530	2521	2503	2477	2444	2394	2320	2216	2088	1941	1756	1473	1160	856	609	445	336	247	178
100%	100%	100%	99%	98%	97%	95%	92%	88%	83%	77%	70%	58%	46%	34%	24%	18%	13%	10%	7%

#### 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°
2526	2530	2528	2517	2492	2451	2394	2316	2206	2085	1942	1738	1466	1163	872	664	513	398	304	231
100%	100%	100%	100%	99%	97%	95%	92%	87%	83%	77%	69%	58%	46%	35%	26%	20%	16%	12%	9%

#### 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°
2526	2523	2513	2495	2471	2439	2390	2316	2206	2077	1926	1728	1471	1163	849	615	458	343	254	184
100%	100%	99%	99%	98%	97%	95%	92%	87%	82%	76%	68%	58%	46%	34%	24%	18%	14%	10%	7%

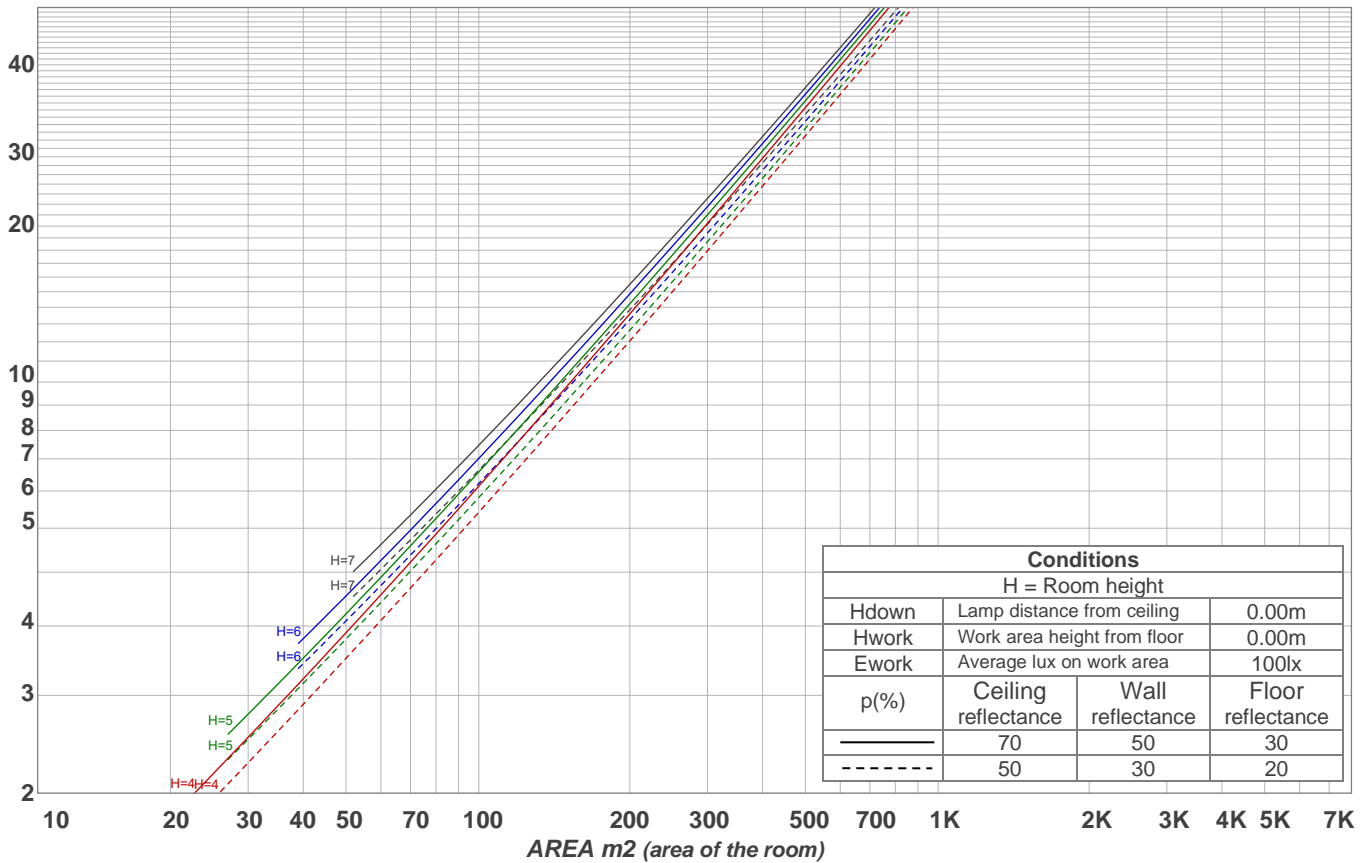
#### Intensities in 270° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2526	2513	2498	2479	2457	2423	2377	2312	2209	2072	1912	1731	1468	1155	845	584	398	283	200	138
100%	99%	99%	98%	97%	96%	94%	92%	87%	82%	76%	69%	58%	46%	33%	23%	16%	11%	8%	5%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
50.7°	72°	86.5°	99.4%	98.8%

LAMPS (number of lamps)  
50

### Light planning Luminaire budgetary diagram



### 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	
1	114	111	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	94	94	94	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89	89	89	
3	104	99	94	91	102	97	93	90	95	91	88	92	89	87	90	88	86	84	84	84	
4	100	93	88	84	98	92	87	84	90	86	83	88	85	82	86	83	81	80	80	80	
5	96	88	83	79	94	87	82	79	85	81	78	84	80	77	82	79	77	75	75	75	
6	91	84	78	74	90	83	78	74	81	77	74	80	76	73	79	75	73	71	71	71	
7	88	79	74	70	86	79	74	70	77	73	70	76	72	69	75	72	69	68	68	68	
8	84	75	70	66	83	75	70	66	74	69	66	73	69	66	72	68	66	64	64	64	
9	81	72	67	63	80	71	66	63	71	66	63	70	66	63	69	65	62	61	61	61	
10	77	69	63	60	76	68	63	60	67	63	60	67	63	60	66	62	59	58	58	58	

### Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
237 lm	627 lm	581 lm	192 lm	36.6 lm	3.77 lm	3.04 lm	2.79 lm	3.23 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