



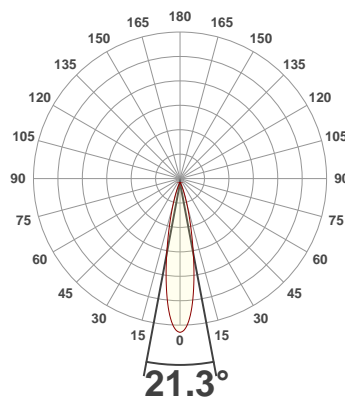
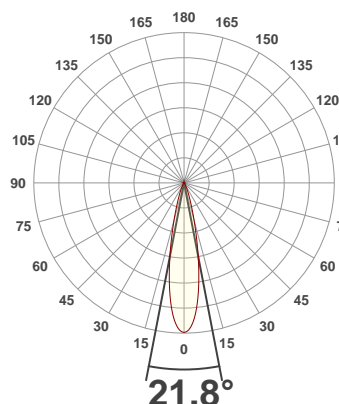
**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-20191008-830
DATE OF MEASUREMENT:	2019-10-08
SIZE (dia. x h):	440 mm x 92 mm

**ANGULAR DISTRIBUTION AT C0/180**

**ANGULAR DISTRIBUTION AT C90/270**

**LIGHT OUTPUT DATA**

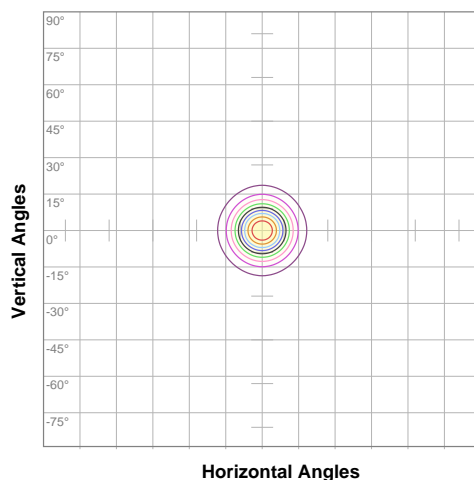


TOTAL LUMEN OUTPUT:	16674 lm
EFFICACY:	84 lm/W
PEAK INTENSITY:	91168 cd
COLOR RENDERING INDEX (CRI):	83.3
COLOR TEMPERATURE (CCT):	3946K
FIDELITY INDEX (TM30Rf):	84.5
GAMUT INDEX (TM30Rg):	96.4

**BEAM OUTPUT DATA**

BEAM ANGLE (FWHM)   C0/180:	21.8°
BEAM ANGLE (FWHM)   C90/270:	21.3°
FIELD ANGLE (10%)   C0/180:	40.8°
FIELD ANGLE (10%)   C90/270:	41.6°
NUMBER OF PLANES MEASURED:	12

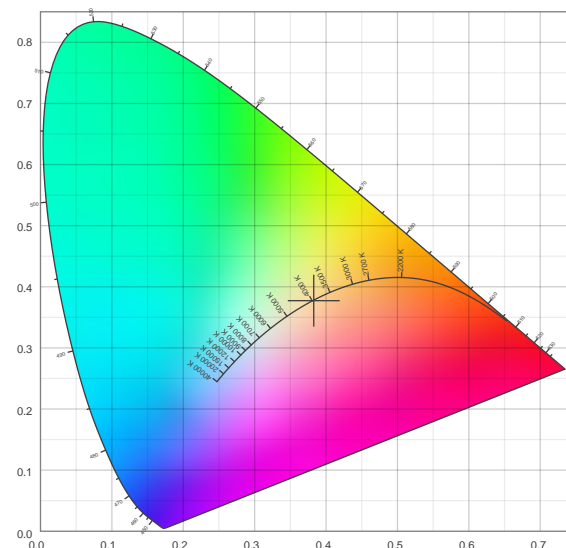
**ISO CANDELA DIAGRAM DATA**



10%	9110 cd
20%	18220 cd
30%	27330 cd
40%	36440 cd
50%	45551 cd
60%	54661 cd
70%	63771 cd
80%	72881 cd
90%	81991 cd

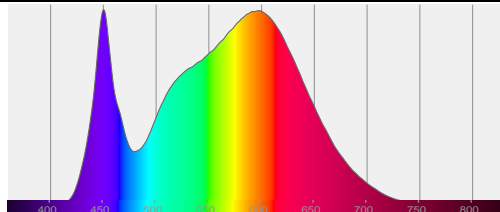
INPUT POWER:	197.4 W
POWER FACTOR:	1.0
OPTICAL POWER:	50.5 mW
PEAK WAVELENGTH:	450 nm
DOMINANT WAVELENGTH:	582 nm

**CIE 1931:**



**SPECTRA**

**CIE 1931 ZOOM**



x:	0.383
y:	0.377
u:	0.226
v:	0.335
Δuv:	-0.0004

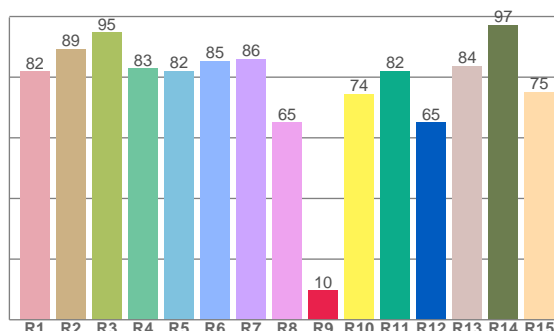
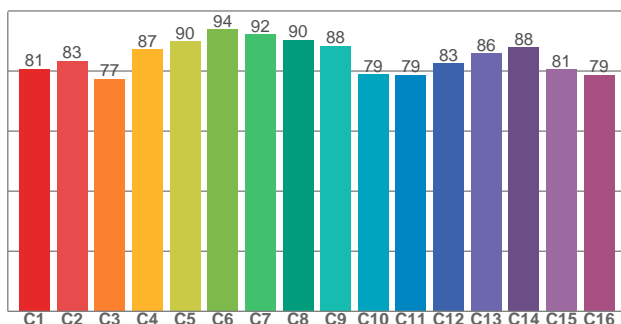
ZONAL LUMEN SUMMARY

0°-10° 6621 lm	10°-20° 6701 lm	20°-30° 2060 lm	30°-40° 624 lm	40°-50° 310 lm	50°-60° 203 lm	60°-70° 120 lm	70°-80° 35.2 lm	80°-90° 0.373 lm
90°-100° 0.005 lm	100°-110° 0.005 lm	110°-120° 0.004 lm	120°-130° 0.003 lm	130°-140° 0.002 lm	140°-150° 0.002 lm	150°-160° 0.001 lm	160°-170° 0.001 lm	170°-180° 0.000 lm

COLOR DETAILS

TM30: 84.5

CRI: 83.3 (R1-R8)



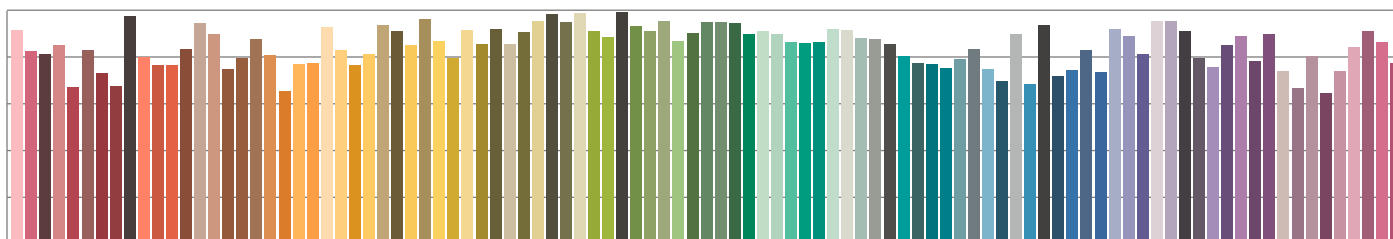
TM30 C values, 16 binned values out of total of 99 C values

CRI R values, only R1-R8 are used to calculate final CRI value

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
80.7	83.4	77.4	87.2	90.0	93.8	92.2	90.4	88.4	78.9	78.7	82.6	86.0	87.9	80.7	78.7

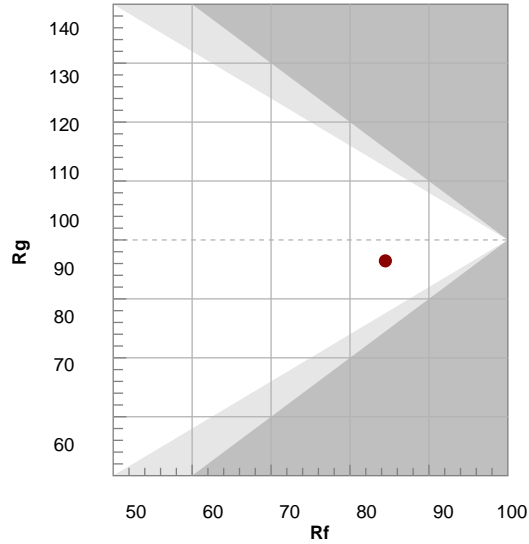
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
81.8	89.2	94.7	82.9	81.9	85.3	86.0	65.0	9.6	74.4	82.1	65.0	83.7	97.1	75.0

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	81	-12%	-1%
2	83	-7%	6%
3	77	-4%	12%
4	87	1%	8%
5	90	2%	5%
6	94	3%	-2%
7	92	-3%	-4%
8	90	-5%	-2%
9	88	-7%	4%
10	79	-7%	11%
11	79	2%	14%
12	83	5%	7%
13	86	7%	-6%
14	88	9%	-7%
15	81	-1%	-14%
16	79	-5%	-12%



FIDELITY INDEX

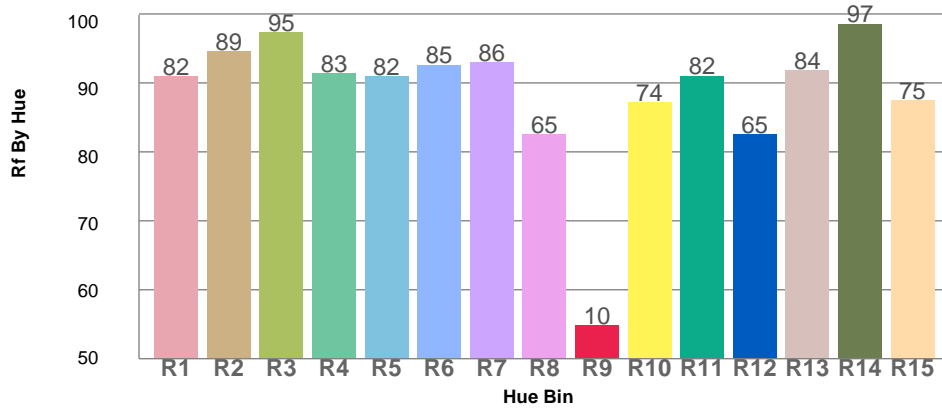
**R<sub>f</sub> 84.5**

GAMUT INDEX

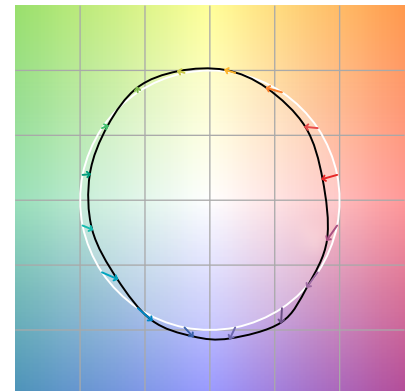
**R<sub>g</sub> 96.4**

Approx. limits for sources on the Planckian locus.  
Approx. limits for practical light sources.

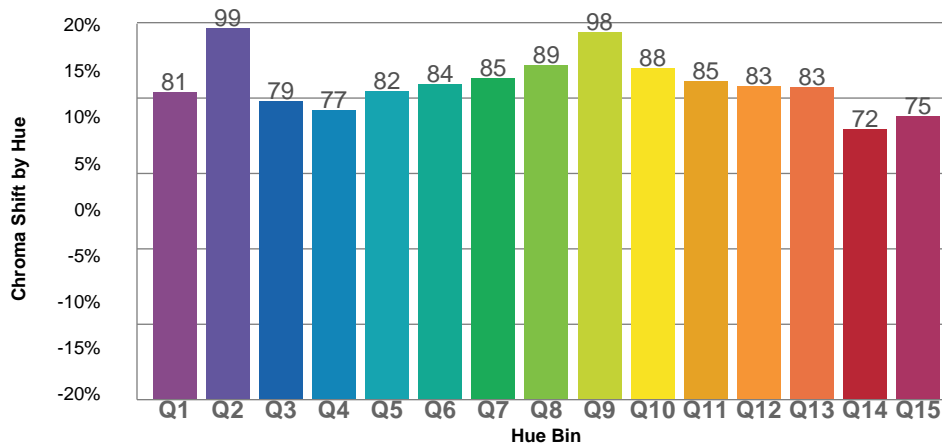
TM30 OVER 50



COLOR VECTOR GRAPHICS



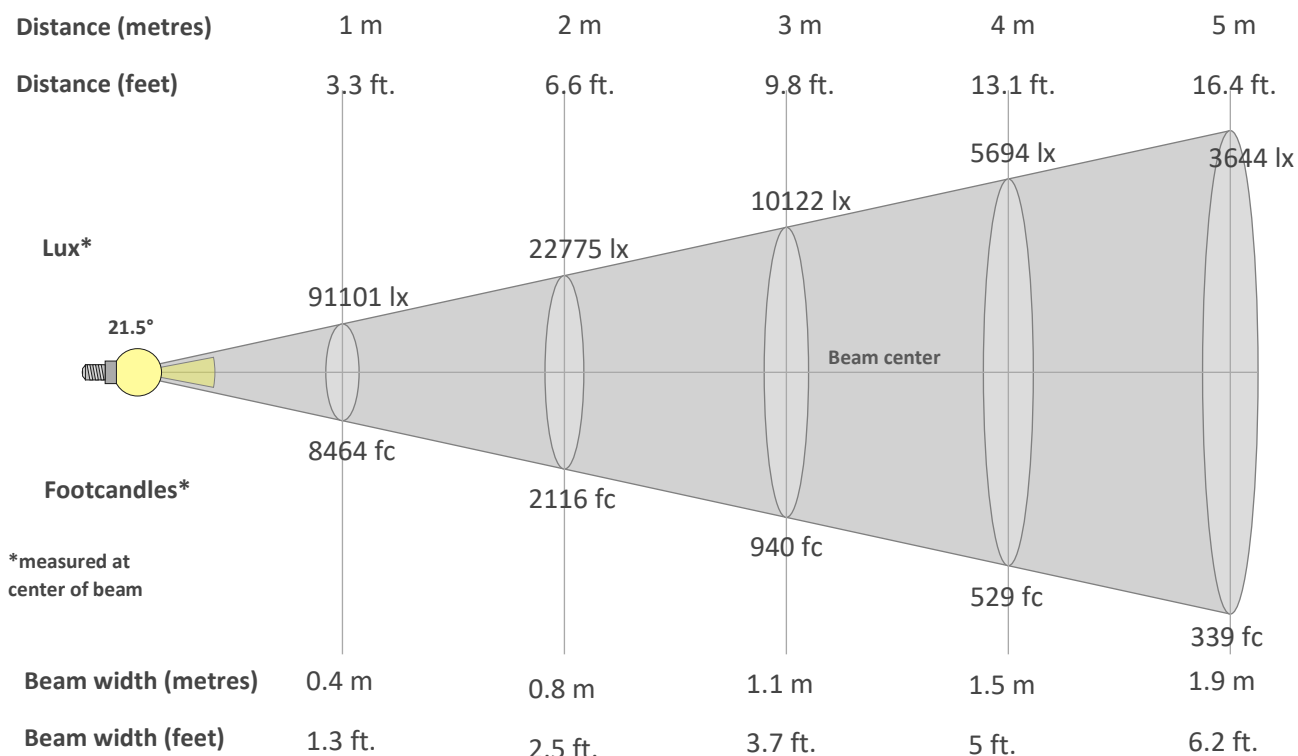
TM30 CHROMA SHIFT



COLOR DISTORTION GRAPHICS



**BEAM DETAILS**



**Beam intensity 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
91101lx	22775lx	10122lx	5694lx	3644lx	2531lx	1859lx	1423lx	1125lx	911lx	753lx	633lx	539lx	465lx	405lx	356lx	315lx	281lx	252lx	228lx
8463.6fc	2115.9fc	940.4fc	529fc	338.5fc	235.1fc	172.7fc	132.2fc	104.5fc	84.6fc	69.9fc	58.8fc	50.1fc	43.2fc	37.6fc	33.1fc	29.3fc	26.1fc	23.4fc	21.2fc

**Intensity in 0° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
91.1K	89.3K	84.0K	75.2K	63.9K	51.2K	38.9K	28.2K	19.9K	13.9K	9.8K	7.0K	5.1K	3.7K	2.7K	1.9K	1.4K	1.1K	0.9K	0.7K
100%	98%	92%	83%	70%	56%	43%	31%	22%	15%	11%	8%	6%	4%	3%	2%	2%	1%	1%	1%

**Intensity in 90° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
91.1K	89.1K	83.3K	73.9K	62.0K	49.4K	37.7K	27.9K	20.3K	14.6K	10.4K	7.4K	5.3K	3.7K	2.7K	1.9K	1.5K	1.1K	0.9K	0.7K
100%	98%	91%	81%	68%	54%	41%	31%	22%	16%	11%	8%	6%	4%	3%	2%	2%	1%	1%	1%

**Intensity in 180° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
91.1K	89.3K	84.0K	75.2K	63.9K	51.2K	38.9K	28.2K	19.9K	13.9K	9.8K	7.0K	5.1K	3.7K	2.7K	1.9K	1.4K	1.1K	0.9K	0.7K
100%	98%	92%	83%	70%	56%	43%	31%	22%	15%	11%	8%	6%	4%	3%	2%	2%	1%	1%	1%

**Intensity in 270° c-plane**

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
91.1K	89.1K	83.3K	73.9K	62.0K	49.4K	37.7K	27.9K	20.3K	14.6K	10.4K	7.4K	5.3K	3.7K	2.7K	1.9K	1.5K	1.1K	0.9K	0.7K
100%	98%	91%	81%	68%	54%	41%	31%	22%	16%	11%	8%	6%	4%	3%	2%	2%	1%	1%	1%