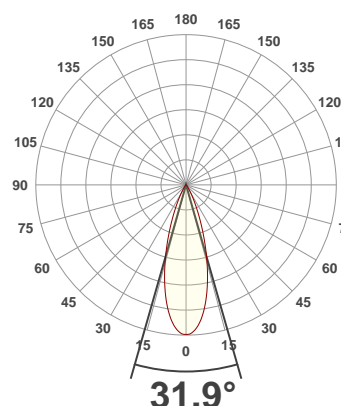




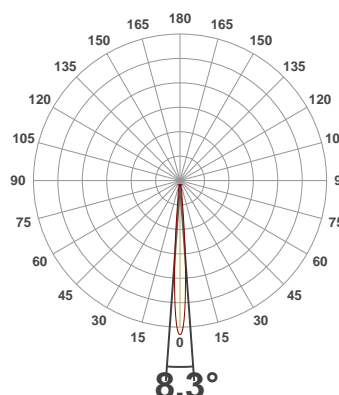
# PRODUCT INFORMATION

SERIAL NUMBER:	LL-20191121-1165
DATE OF MEASUREMENT:	2019-11-21
SIZE (mm): (L x W x H)	298 x 71 x 59.5

## ANGULAR DISTRIBUTION AT C0/180



## ANGULAR DISTRIBUTION AT C90/270



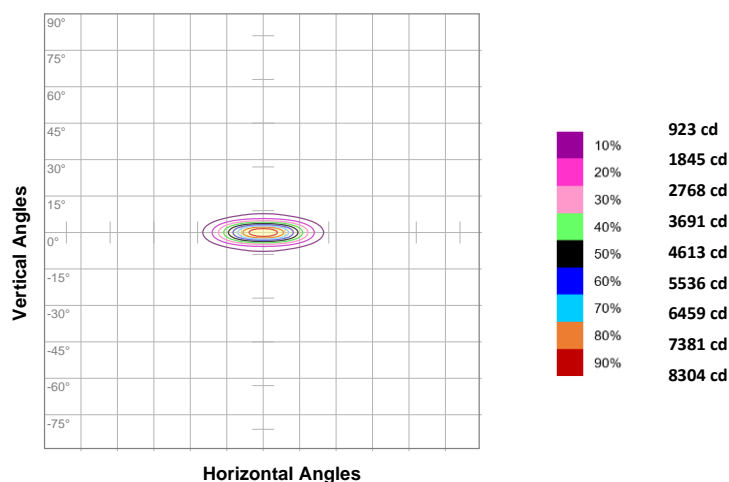
## LIGHT OUTPUT DATA

TOTAL LUMEN OUTPUT:	1101 lm
EFFICACY:	74 lm/W
PEAK INTENSITY:	9240 cd
COLOR RENDERING INDEX (CRI):	83.8
COLOR TEMPERATURE (CCT):	3773K
FIDELITY INDEX (TM30Rf):	84.7
GAMUT INDEX (TM30Rg):	93.5

## BEAM OUTPUT DATA

BEAM ANGLE (FWHM)   C0/180:	31.9°
BEAM ANGLE (FWHM)   C90/270:	8.3°
FIELD ANGLE (10%)   C0/180:	55.3°
FIELD ANGLE (10%)   C90/270:	17.3°
NUMBER OF PLANES MEASURED:	36

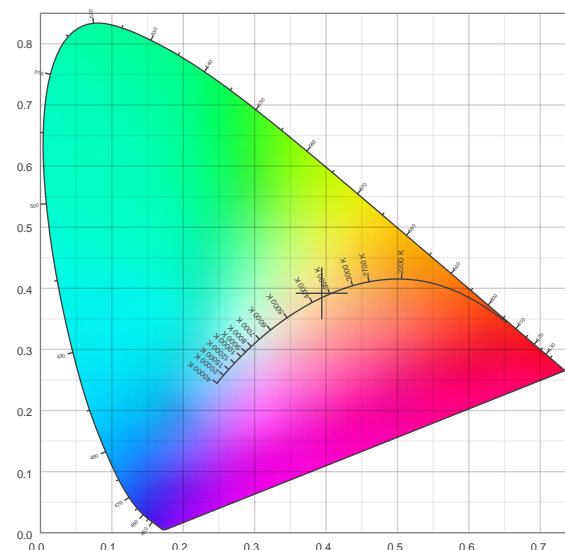
## ISO CANDELA DIAGRAM



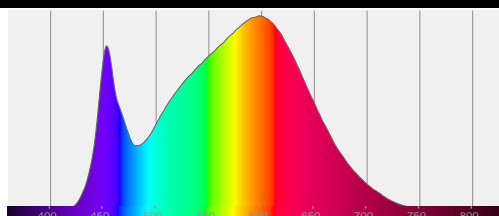
## DATA

INPUT POWER:	14.9 W
POWER FACTOR:	1.0
OPTICAL POWER:	3.33 mW
PEAK WAVELENGTH:	598 nm
DOMINANT WAVELENGTH:	580 nm

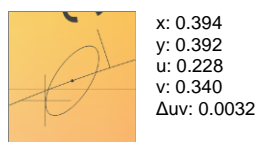
## CIE 1931:



## SPECTRA

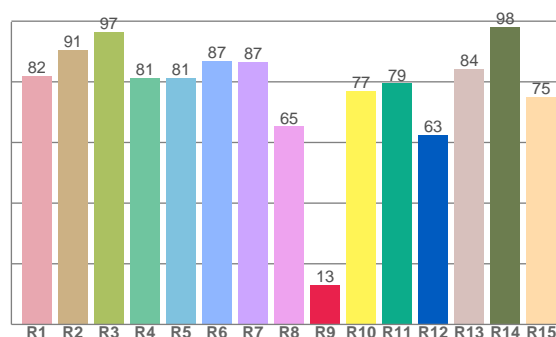
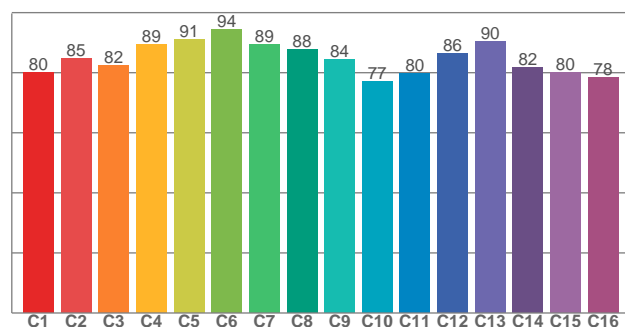


## CIE 1931 ZOOM



**ZONAL LUMEN SUMMARY**

0°-10° 440 lm	10°-20° 378 lm	20°-30° 168 lm	30°-40° 65.0 lm	40°-50° 28.2 lm	50°-60° 13.9 lm	60°-70° 6.43 lm	70°-80° 1.95 lm	80°-90° 0.165 lm
90°-100° 0.013 lm	100°-110° 0.013 lm	110°-120° 0.010 lm	120°-130° 0.010 lm	130°-140° 0.004 lm	140°-150° 0.003 lm	150°-160° 0.002 lm	160°-170° 0.001 lm	170°-180° 0.000 lm

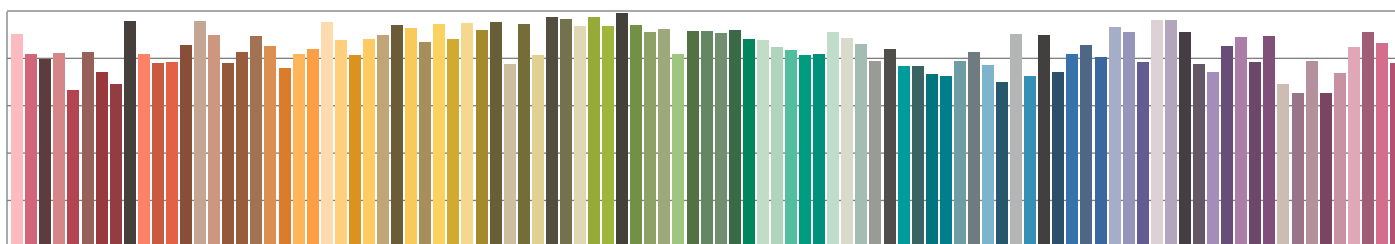
**COLOR DETAILS**
**TM30: 84.7**
**CRI: 83.8 (R1-R8)**


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

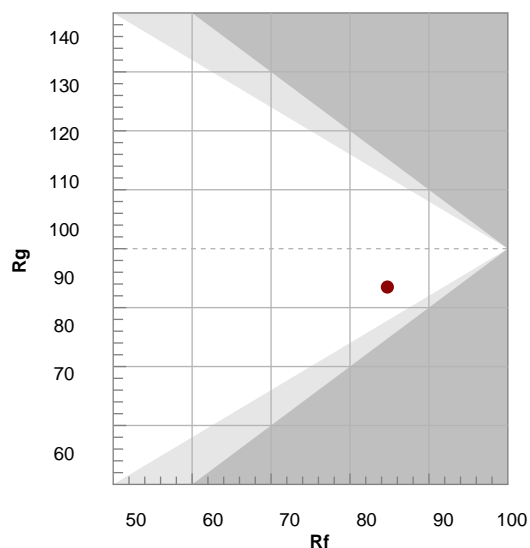
CRI R values, only R1-R8 are used to calculate final CRI value

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
80.2	84.8	82.3	89.5	91.2	94.4	89.5	87.8	84.4	77.0	79.7	86.3	90.3	81.9	80.1	78.3

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
81.9	90.6	96.6	81.3	81.2	86.8	86.6	65.3	13.0	76.9	79.4	62.5	84.1	98.2	75.0

**TM30 COLOR EVALUATION SAMPLE**

**TM30 DETAILS**

Hue Bin	$R_f$	Graphic shifts (%)	
		Chroma	Hue
1	80	-11%	0%
2	85	-7%	5%
3	82	-4%	8%
4	89	-2%	4%
5	91	-3%	2%
6	94	-2%	-1%
7	89	-7%	-1%
8	88	-7%	2%
9	84	-6%	9%
10	77	-5%	13%
11	80	3%	14%
12	86	6%	3%
13	90	3%	-5%
14	82	5%	-14%
15	80	-3%	-13%
16	78	-7%	-11%

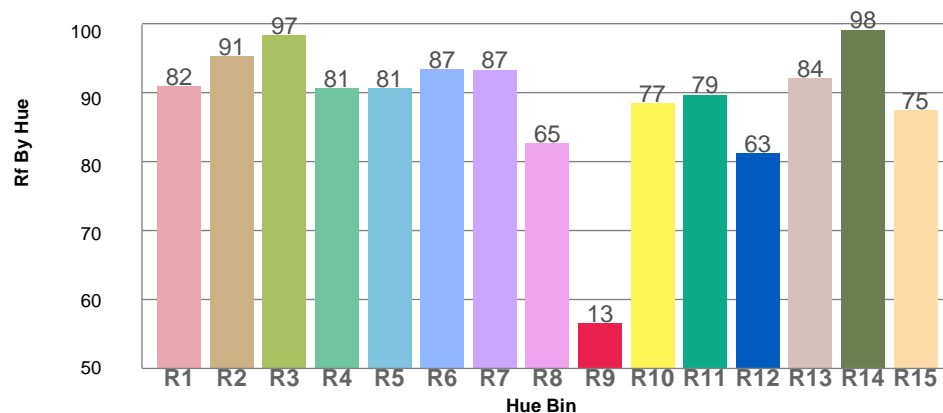


FIDELITY INDEX  
 **$R_f$  84.7**

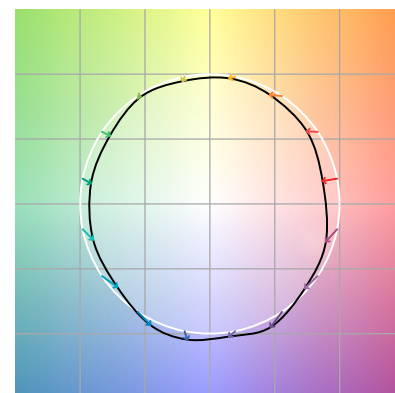
GAMUT INDEX  
 **$R_g$  93.5**

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

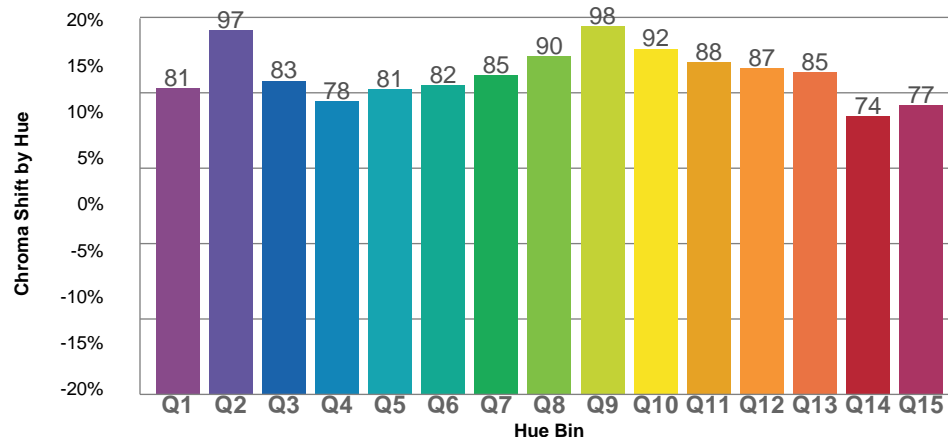
TM30 OVER 50



COLOR VECTOR GRAPHICS



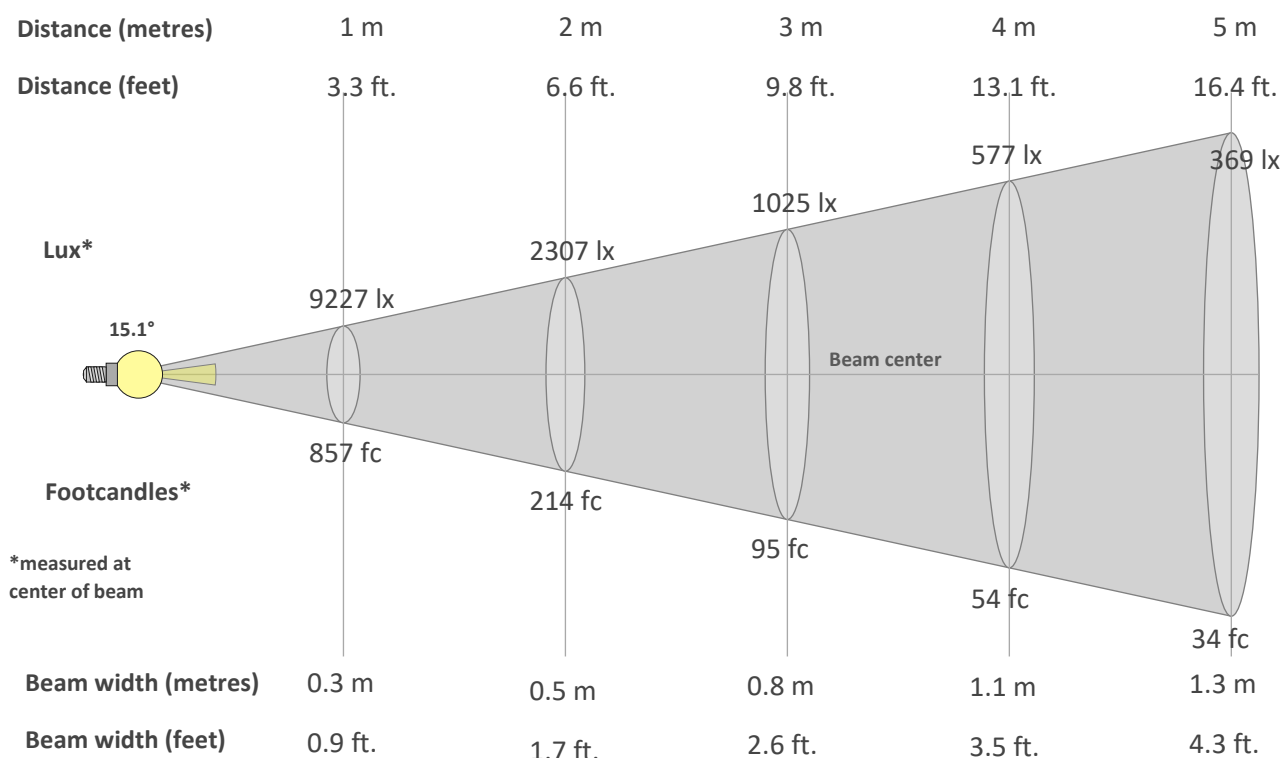
TM30 CHROMA SHIFT



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
9227lx	2307lx	1025lx	577lx	369lx	256lx	188lx	144lx	114lx	92lx	76lx	64lx	55lx	47lx	41lx	36lx	32lx	28lx	26lx	23lx
857.2fc	214.3fc	95.2fc	53.6fc	34.3fc	23.8fc	17.5fc	13.4fc	10.6fc	8.6fc	7.1fc	6fc	5.1fc	4.4fc	3.8fc	3.3fc	3fc	2.6fc	2.4fc	2.1fc

## Intensity in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9227	9202	9130	9021	8867	8662	8425	8148	7830	7489	7118	6718	6307	5883	5446	5008	4572	4145	3726	3321
100%	100%	99%	98%	96%	94%	91%	88%	85%	81%	77%	73%	68%	64%	59%	54%	50%	45%	40%	36%

## Intensity in 90° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9227	8932	8019	6506	4817	3315	2154	1448	1070	858	720	627	558	504	457	414	370	326	285	251
100%	97%	87%	71%	52%	36%	23%	16%	12%	9%	8%	7%	6%	5%	5%	4%	4%	4%	3%	3%

## Intensity in 180° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9227	9202	9130	9021	8867	8662	8425	8148	7830	7489	7118	6718	6307	5883	5446	5008	4572	4145	3726	3321
100%	100%	99%	98%	96%	94%	91%	88%	85%	81%	77%	73%	68%	64%	59%	54%	50%	45%	40%	36%

## Intensity in 270° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
9227	8932	8019	6506	4817	3315	2154	1448	1070	858	720	627	558	504	457	414	370	326	285	251
100%	97%	87%	71%	52%	36%	23%	16%	12%	9%	8%	7%	6%	5%	5%	4%	4%	4%	3%	3%