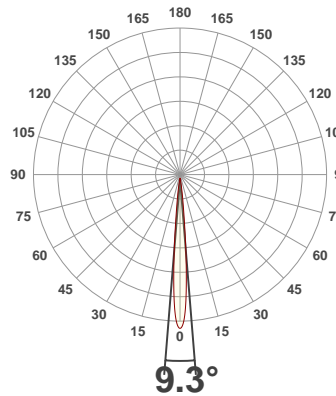
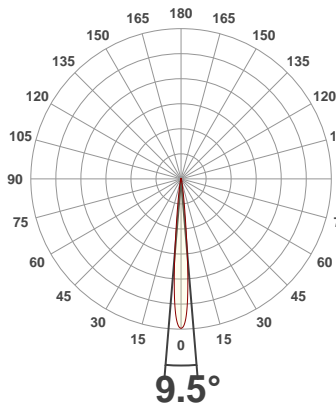




PRODUCT INFORMATION

SERIAL NUMBER:	LL-200312-0404
DATE OF MEASUREMENT:	2020-03-12
SIZE (dia. x h):	310 mm x 85 mm

ANGULAR DISTRIBUTION AT C0/180 | ANGULAR DISTRIBUTION AT C90/270 | LIGHT OUTPUT DATA

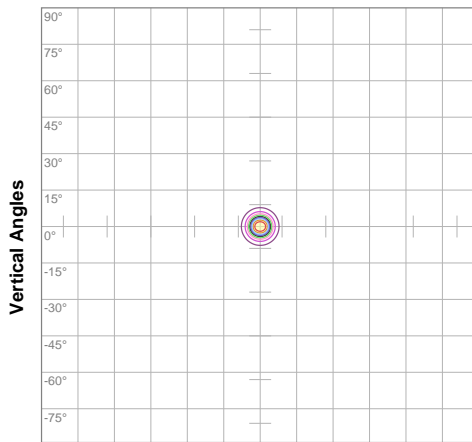


TOTAL LUMEN OUTPUT:	10352 lm
EFFICACY:	104 lm/W
PEAK INTENSITY:	295185 cd
COLOR RENDERING INDEX (CRI):	81.1
COLOR TEMPERATURE (CCT):	3805K
FIDELITY INDEX (TM30Rf):	82.3
GAMUT INDEX (TM30Rg):	98.1

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	9.5°
BEAM ANGLE (FWHM) C90/270:	9.3°
FIELD ANGLE (10%) C0/180:	17.3°
FIELD ANGLE (10%) C90/270:	17.3°
NUMBER OF PLANES MEASURED:	12

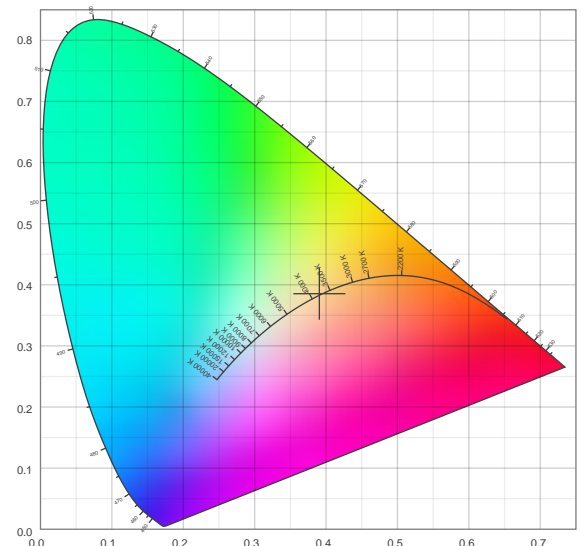
ISO CANDELA DIAGRAM | DATA



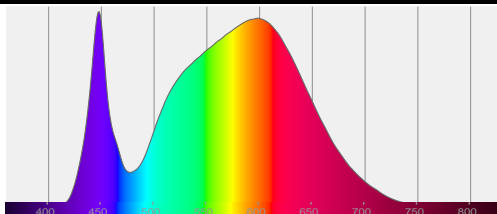
10%	29509 cd
20%	59018 cd
30%	88527 cd
40%	118036 cd
50%	147544 cd
60%	177053 cd
70%	206562 cd
80%	236071 cd
90%	265580 cd

INPUT POWER:	99.1 W
POWER FACTOR:	1.0
OPTICAL POWER:	31.2 mW
PEAK WAVELENGTH:	448 nm
DOMINANT WAVELENGTH:	581 nm

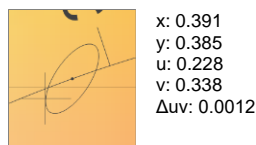
CIE 1931:



SPECTRA



CIE 1931 ZOOM



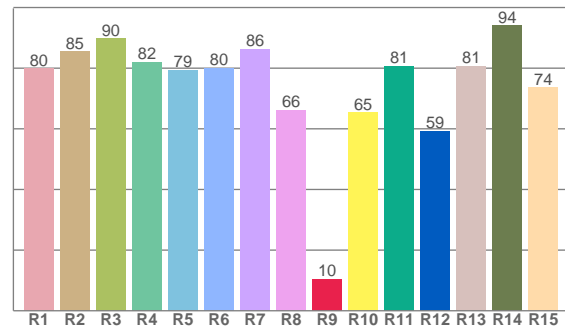
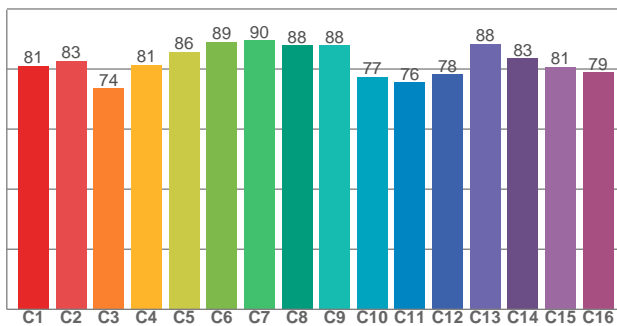
ZONAL LUMEN SUMMARY

0°-10° 8602 lm	10°-20° 1317 lm	20°-30° 279 lm	30°-40° 118 lm	40°-50° 20.8 lm	50°-60° 10.6 lm	60°-70° 4.17 lm	70°-80° 0.250 lm	80°-90° 0.071 lm
90°-100° 0.028 lm	100°-110° 0.027 lm	110°-120° 0.018 lm	120°-130° 0.009 lm	130°-140° 0.010 lm	140°-150° 0.003 lm	150°-160° 0.003 lm	160°-170° 0.002 lm	170°-180° 0.015 lm

COLOR DETAILS

TM30: 82.3

CRI: 81.1 (R1-R8)



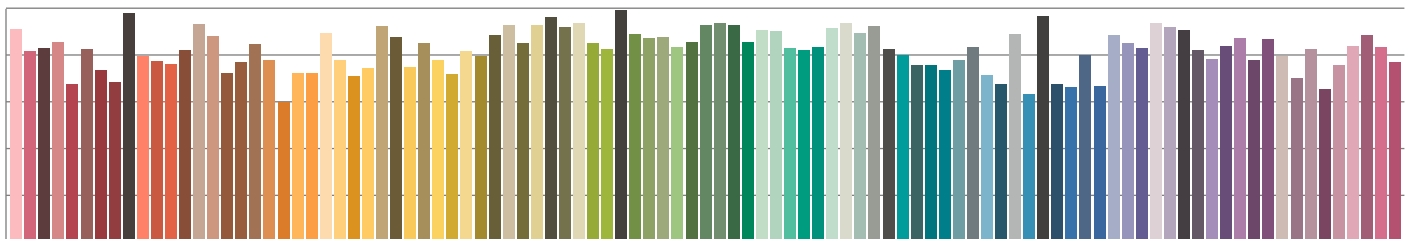
TM30 C values, 16 binned values out of total of 99 C values

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
81.1	82.7	73.6	81.4	85.7	89.0	89.6	88.0	88.0	77.4	75.5	78.2	88.4	83.5	80.7	78.9

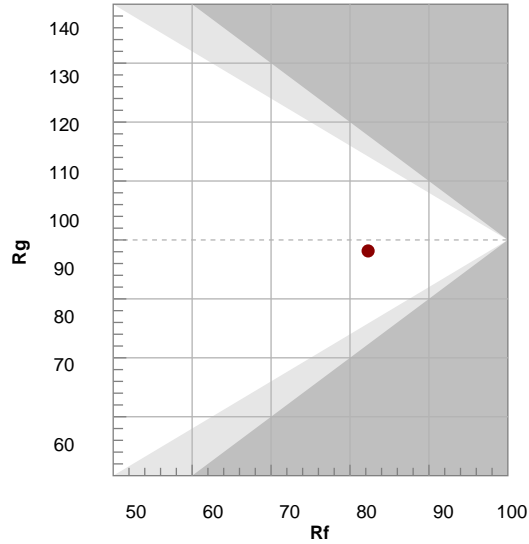
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
79.9	85.4	89.8	82.0	79.3	80.0	86.3	66.2	10.4	65.4	80.7	59.3	80.7	94.0	73.6

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	83	-8%	6%
3	74	-4%	14%
4	81	3%	12%
5	86	7%	7%
6	89	7%	-2%
7	90	0%	-7%
8	88	-5%	-6%
9	88	-8%	0%
10	77	-10%	9%
11	76	-1%	17%
12	78	6%	10%
13	88	7%	1%
14	83	10%	-9%
15	81	2%	-14%
16	79	-4%	-13%



FIDELITY INDEX

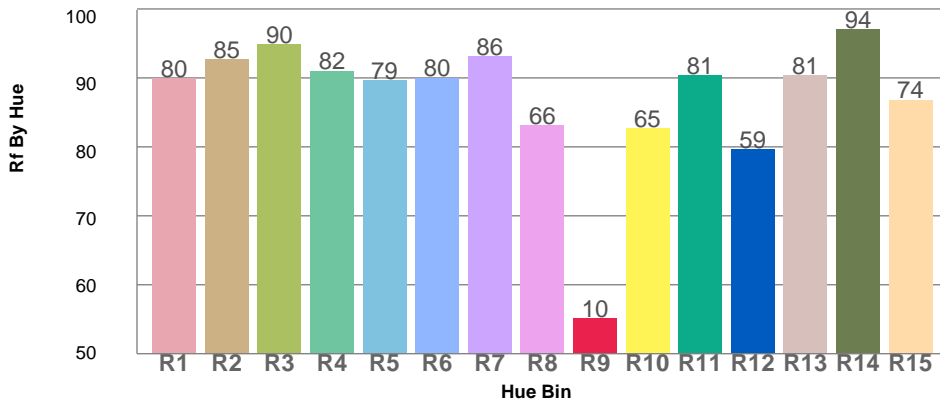
R_f 82.3

GAMUT INDEX

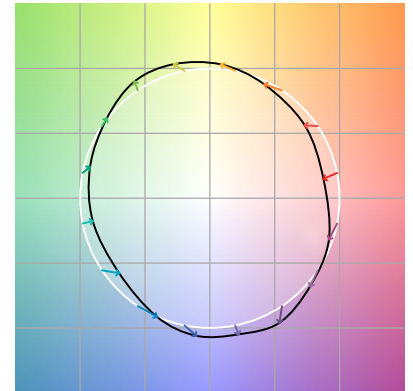
R_g 98.1

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

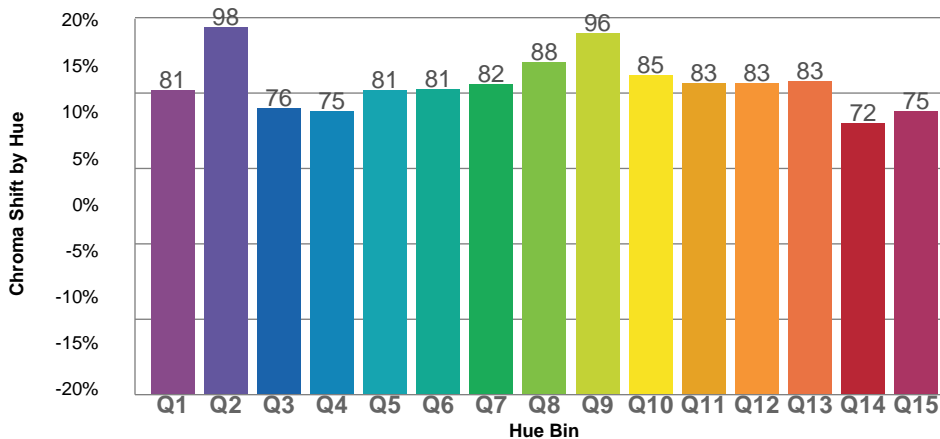
TM30 OVER 50



COLOR VECTOR GRAPHICS



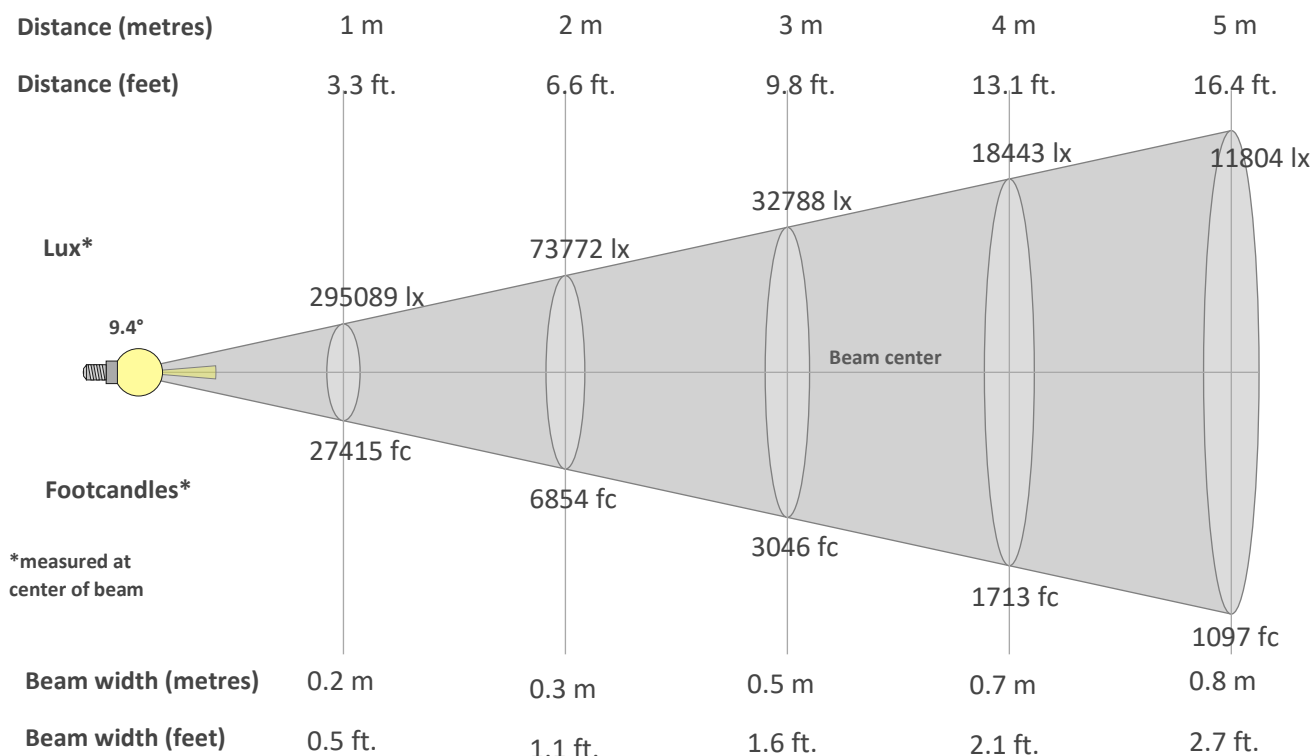
TM30 CHROMA SHIFT



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
295089lx	73772lx	32788lx	18443lx	11804lx	8197lx	6022lx	4611lx	3643lx	2951lx	2439lx	2049lx	1746lx	1506lx	1312lx	1153lx	1021lx	911lx	817lx	738lx
27414.7fc	6853.7fc	3046.1fc	1713.4fc	1096.6fc	761.5fc	559.5fc	428.4fc	338.5fc	274.1fc	226.6fc	190.4fc	162.2fc	139.9fc	121.8fc	107.1fc	94.9fc	84.6fc	75.9fc	68.5fc

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°
295K	291K	275K	242K	192K	134K	87K	56K	38K	26K	18K	12K	9K	6K	4K	3K	2K	2K	2K	1K
100%	99%	93%	82%	65%	45%	29%	19%	13%	9%	6%	4%	3%	2%	2%	1%	1%	1%	1%	0%

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°
295K	289K	270K	233K	181K	128K	83K	54K	37K	26K	18K	12K	8K	6K	5K	3K	3K	2K	2K	2K
100%	98%	91%	79%	61%	43%	28%	18%	13%	9%	6%	4%	3%	2%	2%	1%	1%	1%	1%	1%

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°
295K	291K	275K	242K	192K	134K	87K	56K	38K	26K	18K	12K	9K	6K	4K	3K	2K	2K	2K	1K
100%	99%	93%	82%	65%	45%	29%	19%	13%	9%	6%	4%	3%	2%	2%	1%	1%	1%	1%	0%

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°
295K	289K	270K	233K	181K	128K	83K	54K	37K	26K	18K	12K	8K	6K	5K	3K	3K	2K	2K	2K
100%	98%	91%	79%	61%	43%	28%	18%	13%	9%	6%	4%	3%	2%	2%	1%	1%	1%	1%	1%