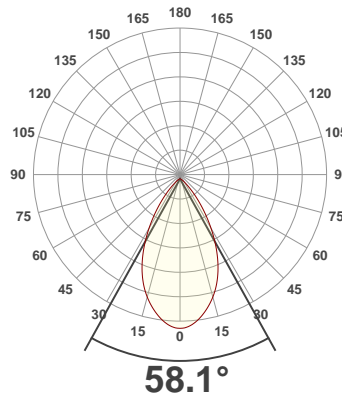
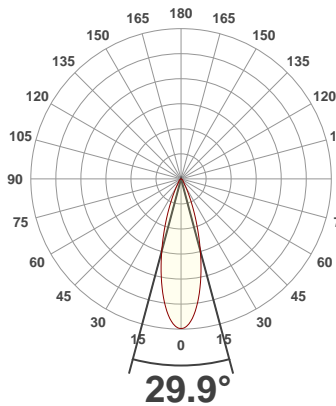




**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-200228-0336
DATE OF MEASUREMENT:	2020-02-28
SIZE (dia. x h):	310 mm x 85 mm

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

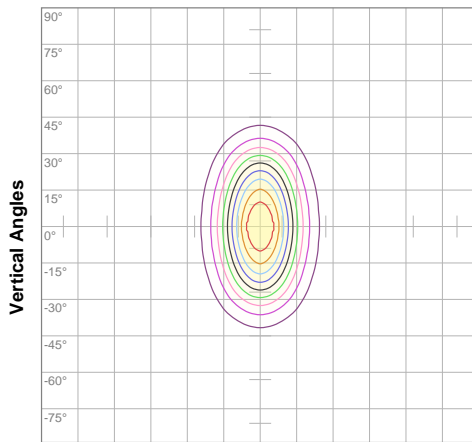


TOTAL LUMEN OUTPUT:	9950 lm
EFFICACY:	103 lm/W
PEAK INTENSITY:	17490 cd
COLOR RENDERING INDEX (CRI):	81.3
COLOR TEMPERATURE (CCT):	3802K
FIDELITY INDEX (TM30Rf):	82.3
GAMUT INDEX (TM30Rg):	97.9

**BEAM OUTPUT DATA**

BEAM ANGLE (FWHM)   C0/180:	29.9°
BEAM ANGLE (FWHM)   C90/270:	58.1°
FIELD ANGLE (10%)   C0/180:	54.3°
FIELD ANGLE (10%)   C90/270:	92.6°
NUMBER OF PLANES MEASURED:	24

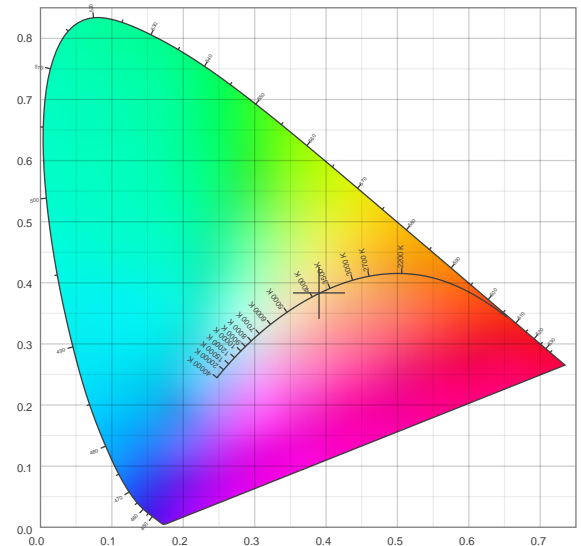
**ISO CANDELA DIAGRAM | DATA**



10%	1748 cd
20%	3496 cd
30%	5244 cd
40%	6992 cd
50%	8739 cd
60%	10487 cd
70%	12235 cd
80%	13983 cd
90%	15731 cd

INPUT POWER:	96.9 W
POWER FACTOR:	1.0
OPTICAL POWER:	30.1 mW
PEAK WAVELENGTH:	448 nm
DOMINANT WAVELENGTH:	582 nm

**CIE 1931:**



**SPECTRA | CIE 1931 ZOOM**



x:	0.390
y:	0.383
u:	0.229
v:	0.337
Δuv:	0.0004

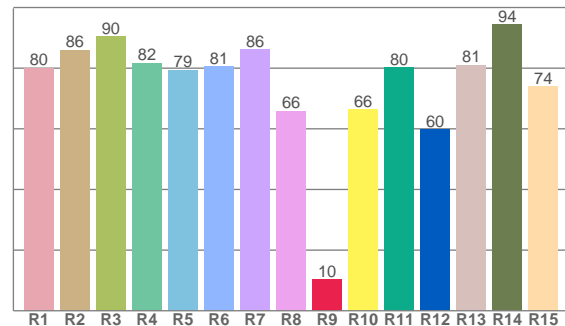
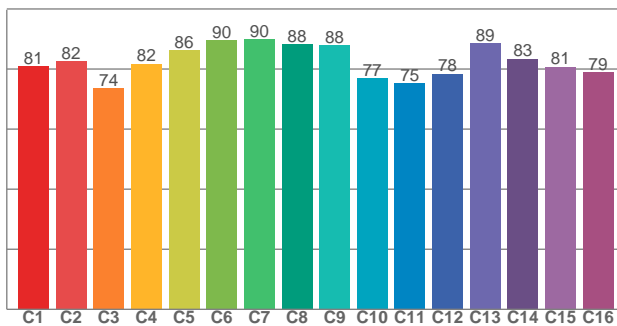
ZONAL LUMEN SUMMARY

0°-10° 1511 lm	10°-20° 3143 lm	20°-30° 2646 lm	30°-40° 1455 lm	40°-50° 636 lm	50°-60° 298 lm	60°-70° 169 lm	70°-80° 80.1 lm	80°-90° 10.5 lm
90°-100° 0.003 lm	100°-110° 0.003 lm	110°-120° 0.002 lm	120°-130° 0.002 lm	130°-140° 0.001 lm	140°-150° 0.000 lm	150°-160° 0.000 lm	160°-170° 0.000 lm	170°-180° 0.000 lm

COLOR DETAILS

TM30: 82.3

CRI: 81.3 (R1-R8)



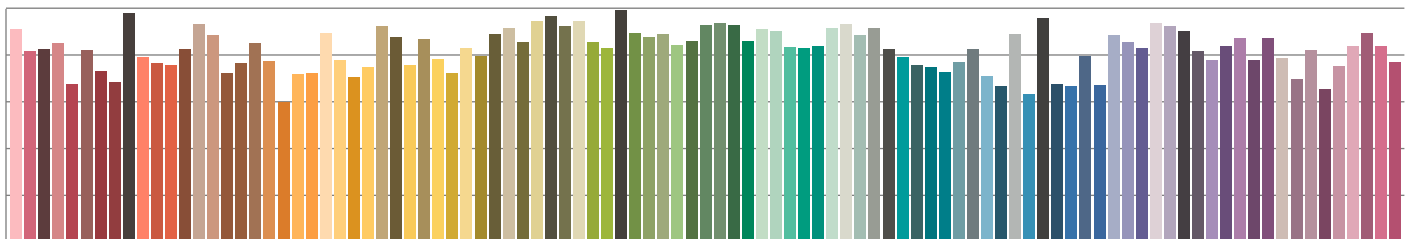
TM30 C values, 16 binned values out of total of 99 C values

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
80.9	82.5	73.5	81.8	86.2	89.6	89.9	88.3	88.0	76.9	75.2	78.4	88.5	83.3	80.7	79.0

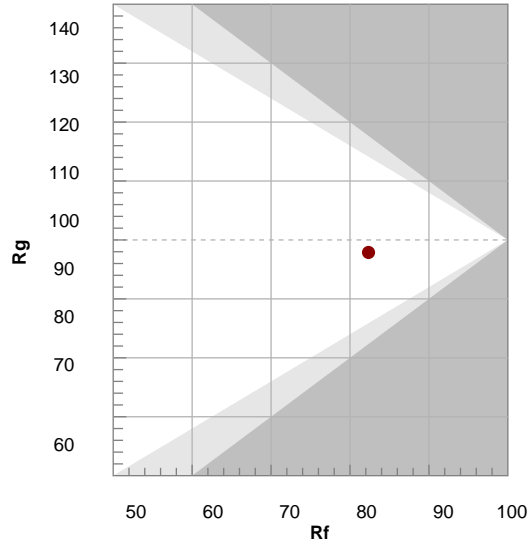
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
80.0	85.9	90.4	81.8	79.4	80.5	86.2	65.9	10.3	66.3	80.2	59.7	81.0	94.3	73.9

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	81	-11%	-2%
2	82	-8%	6%
3	74	-4%	14%
4	82	3%	11%
5	86	6%	7%
6	90	7%	-2%
7	90	0%	-7%
8	88	-5%	-5%
9	88	-8%	1%
10	77	-10%	10%
11	75	-1%	17%
12	78	6%	10%
13	89	7%	1%
14	83	9%	-9%
15	81	2%	-14%
16	79	-4%	-13%



FIDELITY INDEX

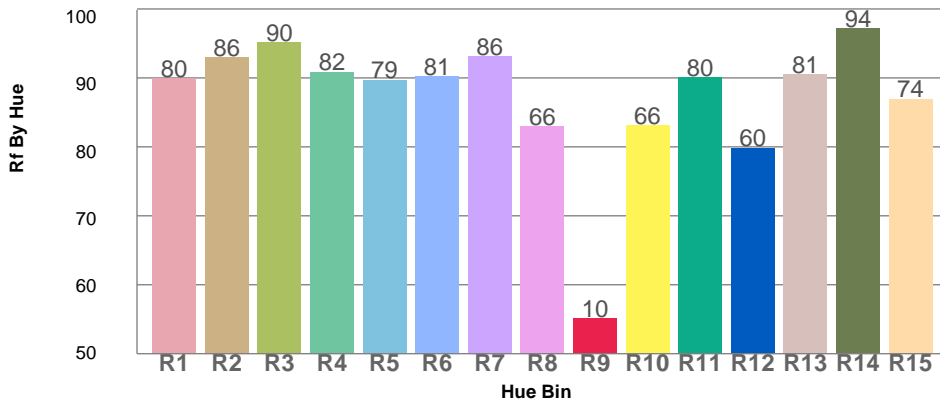
**R<sub>f</sub> 82.3**

GAMUT INDEX

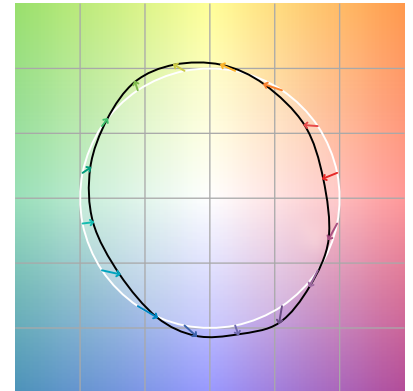
**R<sub>g</sub> 97.9**

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

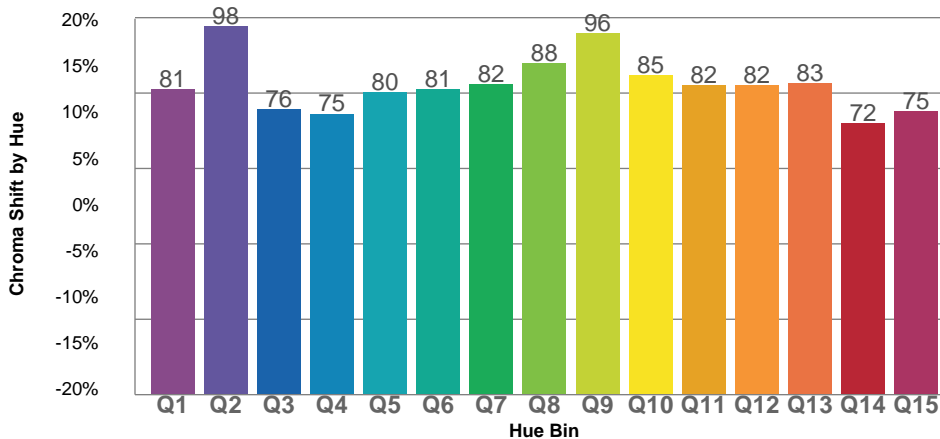
TM30 OVER 50



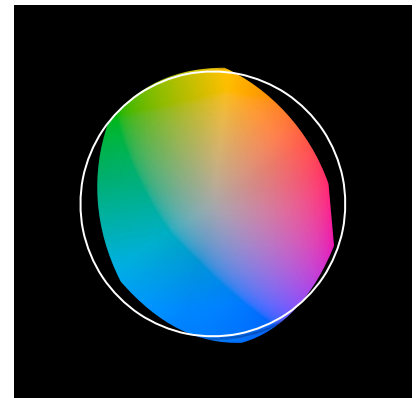
COLOR VECTOR GRAPHICS



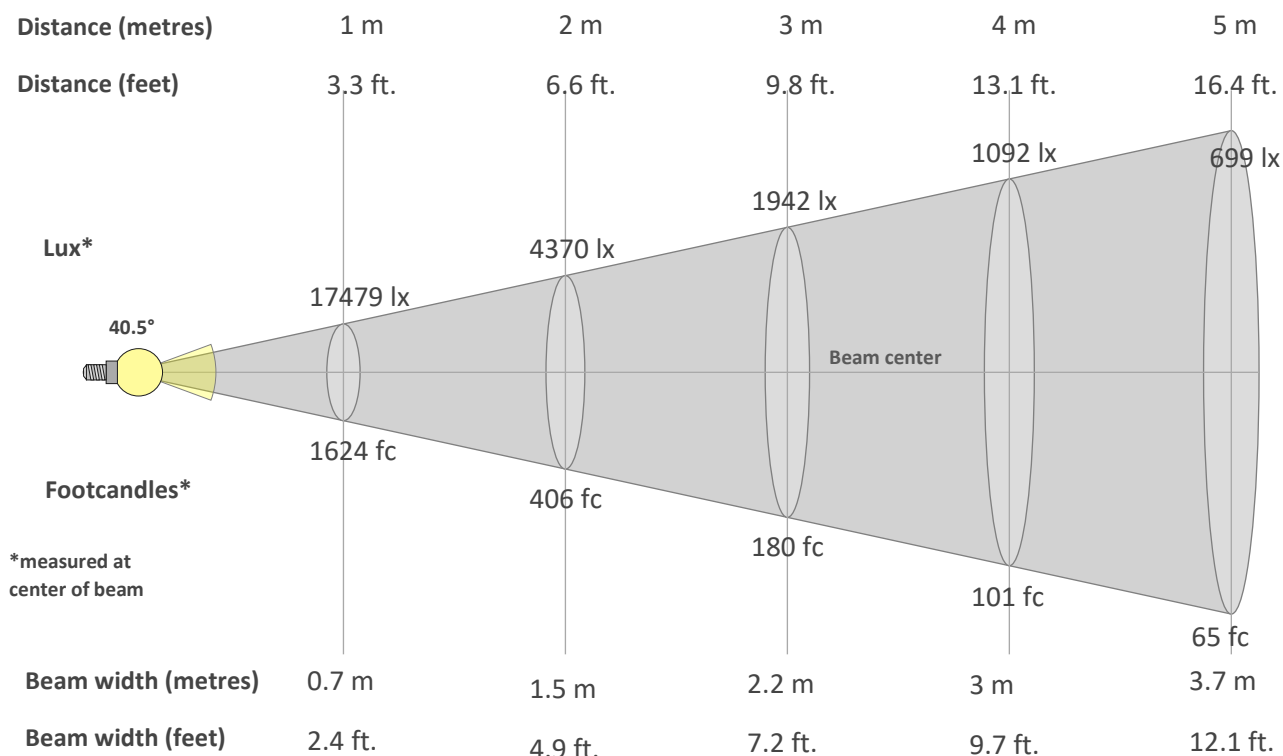
TM30 CHROMA SHIFT



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
17479lx	4370lx	1942lx	1092lx	699lx	486lx	357lx	273lx	216lx	175lx	144lx	121lx	103lx	89lx	78lx	68lx	60lx	54lx	48lx	44lx
1623.8fc	406fc	180.4fc	101.5fc	65fc	45.1fc	33.1fc	25.4fc	20fc	16.2fc	13.4fc	11.3fc	9.6fc	8.3fc	7.2fc	6.3fc	5.6fc	5fc	4.5fc	4.1fc

**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°
17.5K	17.3K	16.6K	15.6K	14.3K	12.8K	11.2K	9.5K	7.9K	6.4K	5.0K	3.8K	2.9K	2.1K	1.5K	1.1K	0.9K	0.7K	0.6K	0.5K
100%	99%	95%	89%	82%	73%	64%	54%	45%	37%	29%	22%	16%	12%	9%	6%	5%	4%	3%	3%

**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°
17.5K	17.4K	17.2K	16.9K	16.5K	16.0K	15.5K	14.9K	14.3K	13.6K	12.9K	12.1K	11.2K	10.2K	9.3K	8.3K	7.2K	6.3K	5.3K	4.4K
100%	100%	98%	97%	94%	92%	89%	85%	82%	78%	74%	69%	64%	59%	53%	47%	41%	36%	30%	25%

**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°
17.5K	17.3K	16.6K	15.6K	14.3K	12.8K	11.2K	9.5K	7.9K	6.4K	5.0K	3.8K	2.9K	2.1K	1.5K	1.1K	0.9K	0.7K	0.6K	0.5K
100%	99%	95%	89%	82%	73%	64%	54%	45%	37%	29%	22%	16%	12%	9%	6%	5%	4%	3%	3%

**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°
17.5K	17.4K	17.2K	16.9K	16.5K	16.0K	15.5K	14.9K	14.3K	13.6K	12.9K	12.1K	11.2K	10.2K	9.3K	8.3K	7.2K	6.3K	5.3K	4.4K
100%	100%	98%	97%	94%	92%	89%	85%	82%	78%	74%	69%	64%	59%	53%	47%	41%	36%	30%	25%