

Light Efficiency:



Light Quality:



Color Temperature:



Output: 5941 lm

Peak: 602837 cd

Power: 649 W

PF: 1.0



Product Name:

Proteus Hybrid

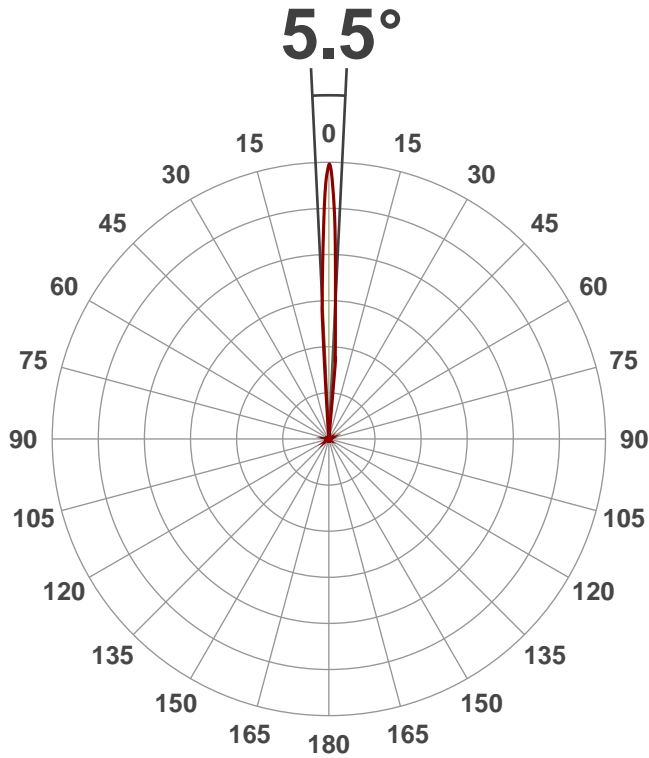
Test:

Beam CTO color Zoom 50%

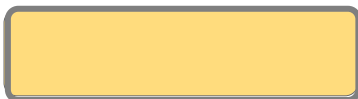
Date:

1/19/2018

Note:



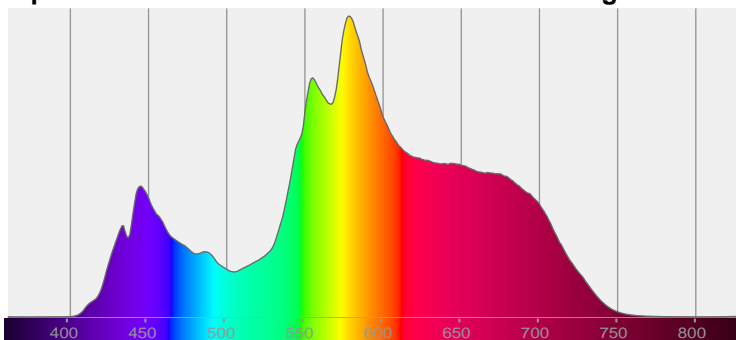
Beam Angle



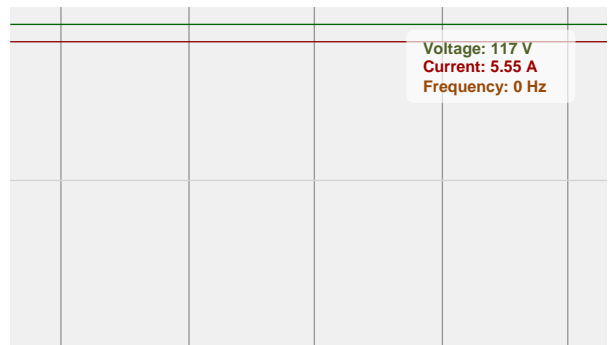
CIE 1931
x: 0.417
y: 0.389

Spectra

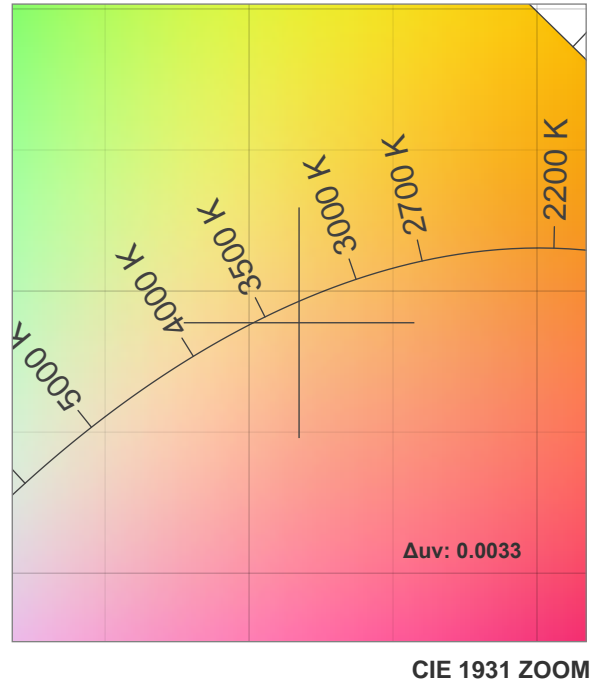
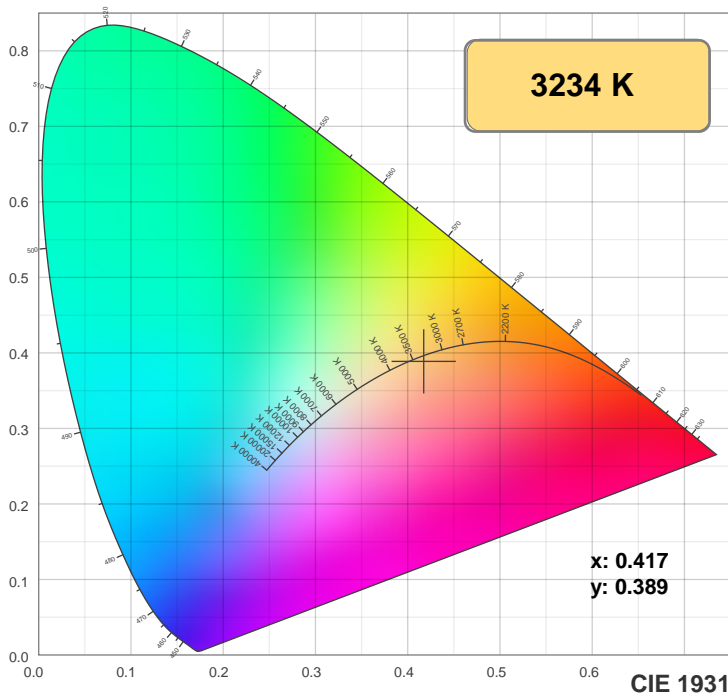
Dominant Wavelength: 584nm



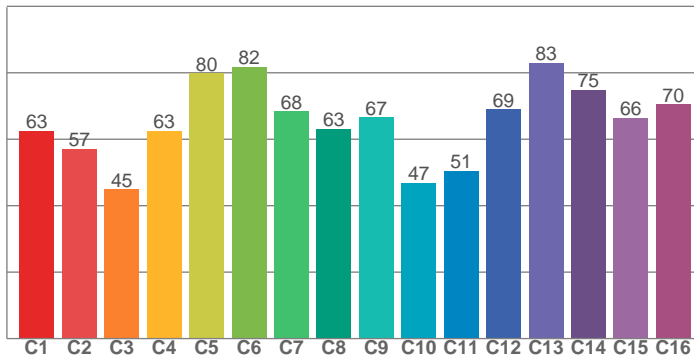
Power



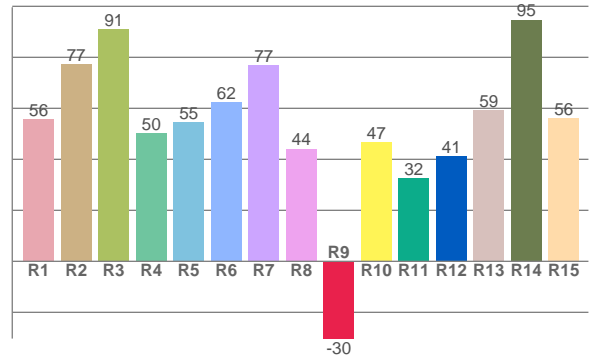
Color Details



TM30: 64.8



CRI: 64.0 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
55.6	77.2	90.9	50.2	54.5	62.2	76.9	44.2	-30.3	46.8	32.5	41.1	59.3	94.7	56.0

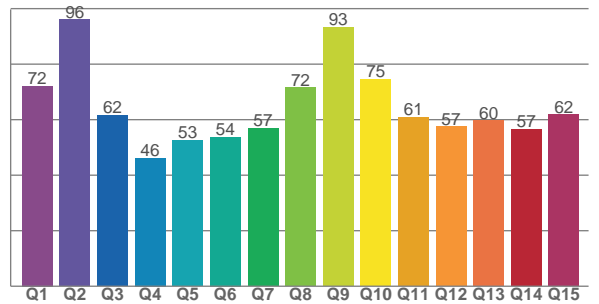
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
62.5	57.2	44.9	62.5	79.8	81.7	68.4	63.1	66.6	46.9	50.5	69.0	82.9	74.9	66.4	70.5

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
72.2	96.1	61.6	46.2	52.6	53.7	56.9	71.6	93.3	74.5	60.8	57.5	59.7	56.5	61.9

CQS: 62.3



Color Parameters

Color Temperature	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
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3234 K	64.0	-30.3	64.8	89.2	62.3	0.417	0.389	0.244	0.342	0.0033

TM30 Details

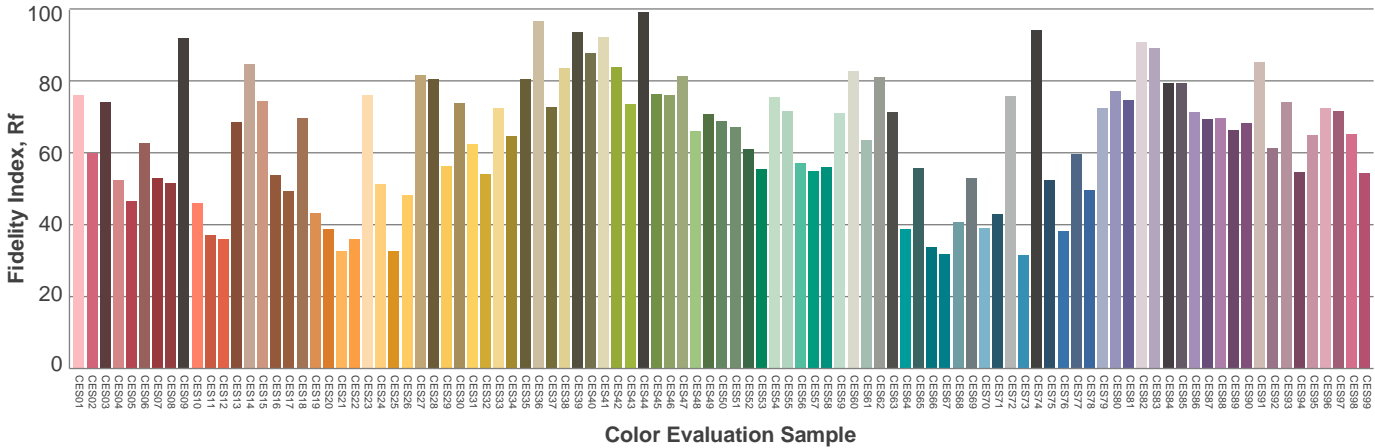
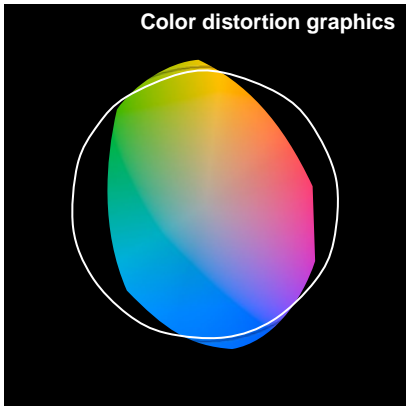
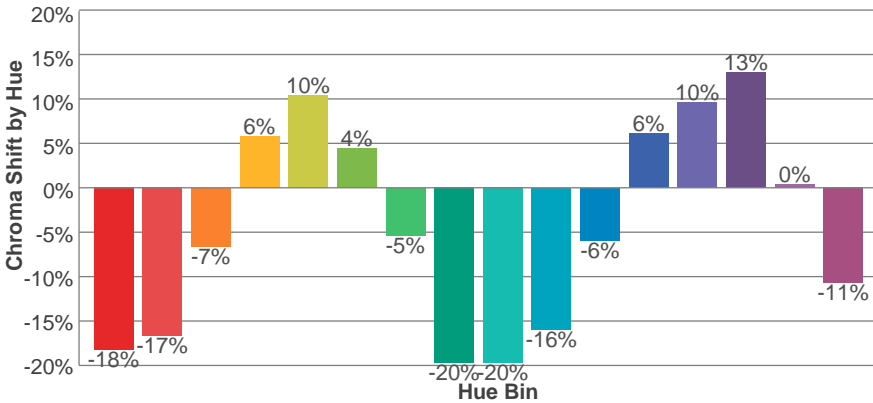
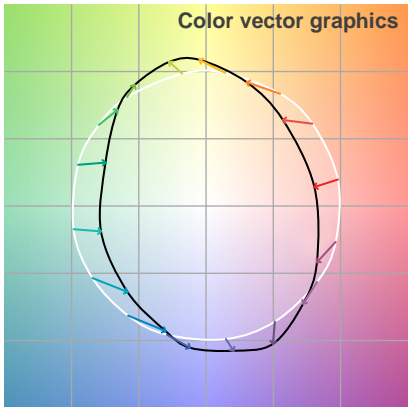
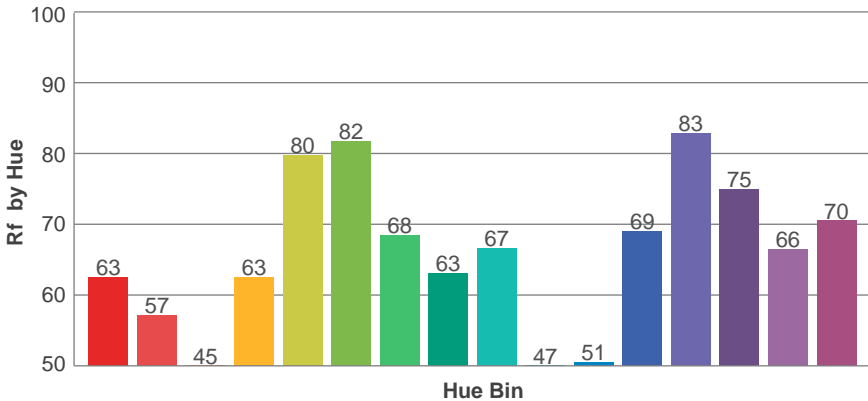
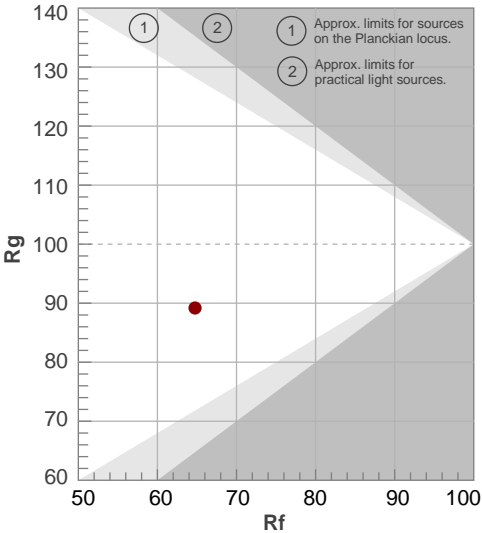
Rf 64.8

Fidelity Index Rf

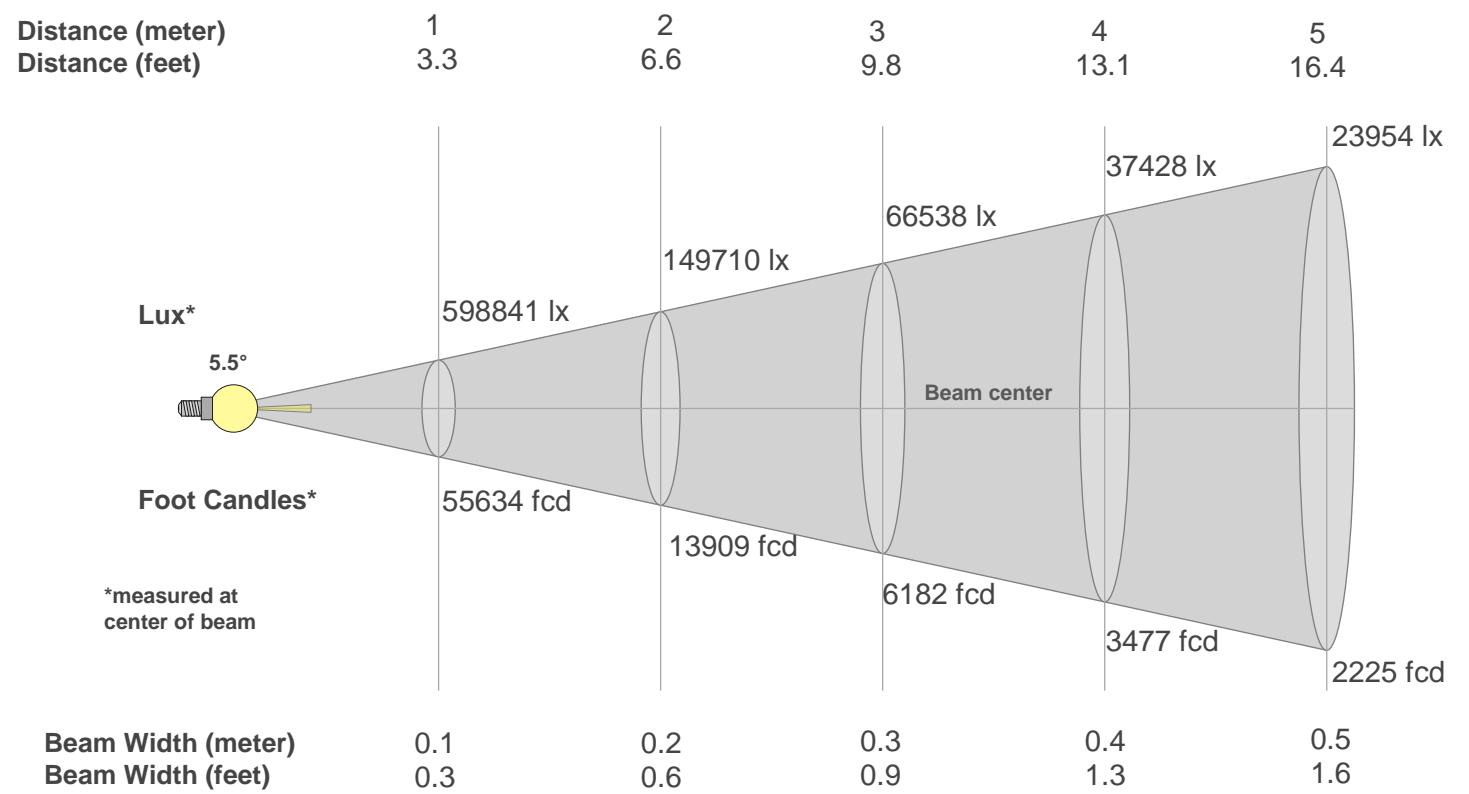
Rg 89.2

Gammut Index Rg

		Graphic shifts (%)	
Hue Bin	Rf	Chroma	Hue
1	63	-18%	-2%
2	57	-17%	14%
3	45	-7%	25%
4	63	6%	21%
5	80	10%	8%
6	82	4%	-10%
7	68	-5%	-17%
8	63	-20%	-6%
9	67	-20%	6%
10	47	-16%	23%
11	51	-6%	29%
12	69	6%	19%
13	83	10%	4%
14	75	13%	-10%
15	66	0%	-19%
16	70	-11%	-18%



Beam Details



Beam Intensities from 1-20m																				
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ft	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
Lx	598841	149710	66538	37428	23954	16634	12221	9357	7393	5988	4949	4159	3543	3055	2662	2339	2072	1848	1659	1497
Fcd	55634.1	13908.5	6181.6	3477.1	2225.4	1545.4	1135.4	869.3	686.8	556.3	459.8	386.3	329.2	283.8	247.3	217.3	192.5	171.7	154.1	139.1

Intensities in 0° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
599K	523K	387K	274K	1K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K
100%	87%	65%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Intensities in 90° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
599K	523K	387K	274K	1K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K
100%	87%	65%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

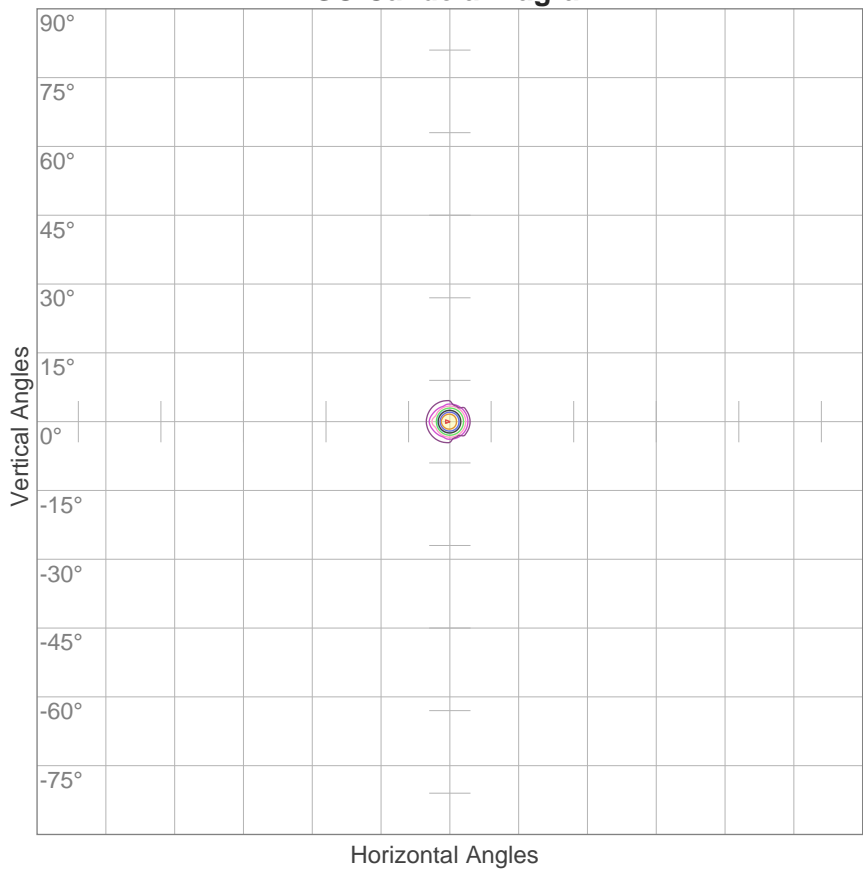
Intensities in 180° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
599K	542K	409K	275K	204K	120K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	1K	1K	1K	1K	1K
100%	90%	68%	46%	34%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Intensities in 270° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
599K	542K	409K	275K	204K	120K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	1K	1K	1K	1K	1K
100%	90%	68%	46%	34%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%	Intensity Ratio in 120° Cone	Intensity Ratio in 90° Cone
5.5°	8.8°	9.1°	97.9%	97.3%

ISO Diagrams

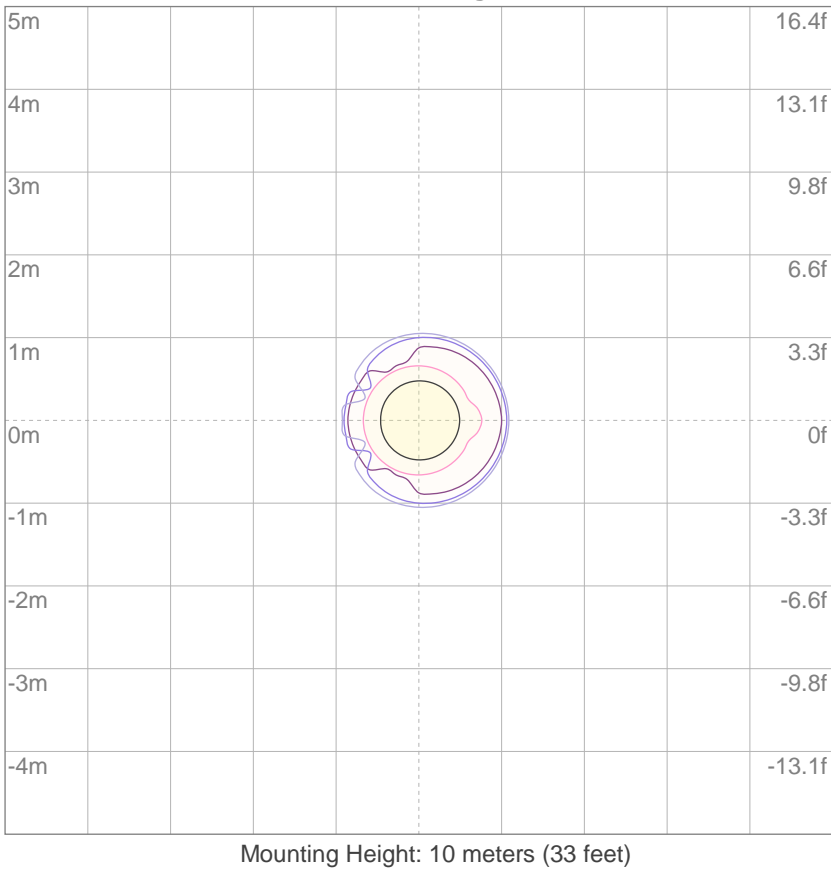
ISO Candela Diagram



10%	59884 cd
20%	119768 cd
30%	179652 cd
40%	239536 cd
50%	299420 cd
60%	359304 cd
70%	419188 cd
80%	479072 cd
90%	538956 cd

Conditions:
Number of c-planes: 2
Candela at center: 598841 cd

ISO Lux Diagram



3%	180 lx
5%	299 lx
10%	599 lx
30%	1797 lx
50%	2994 lx

Conditions:
Number of c-planes: 2
Lux at center: 5988 lx

Lux distribution on a surface when lamp is mounted at 10 meters from the surface.

Light Planning

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	0
Floor Reflectance	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	110	110	110	105	105	105	100	100	100	98
1	116	114	113	112	113	112	111	110	108	107	106	104	103	103	100	100	99	98
2	114	111	109	107	111	109	107	106	106	104	103	103	102	101	100	99	99	97
3	112	108	106	104	110	107	105	103	104	103	101	102	101	99	100	99	98	97
4	110	106	104	102	108	105	103	101	103	101	100	101	100	98	99	98	97	96
5	108	105	102	100	107	104	101	100	102	100	99	101	99	98	99	98	97	96
6	107	103	101	99	106	103	100	98	101	99	98	100	98	97	99	97	96	96
7	106	102	100	98	105	102	99	98	100	99	97	99	98	97	99	97	96	95
8	105	101	99	97	104	101	99	97	100	98	97	99	97	96	98	97	96	95
9	104	100	98	97	104	100	98	96	99	97	96	99	97	96	98	96	95	95
10	104	100	98	96	103	99	97	96	99	97	96	98	97	95	98	96	95	95

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
5465 lm	116 lm	125 lm	60.7 lm	31.7 lm	18.0 lm	10.3 lm	7.22 lm	6.13 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
6.92 lm	6.34 lm	5.29 lm	11.9 lm	15.8 lm	22.9 lm	18.8 lm	11.6 lm	0.962 lm