

Light Efficiency:



Light Quality:



Color Temperature:



Output: 8631 lm

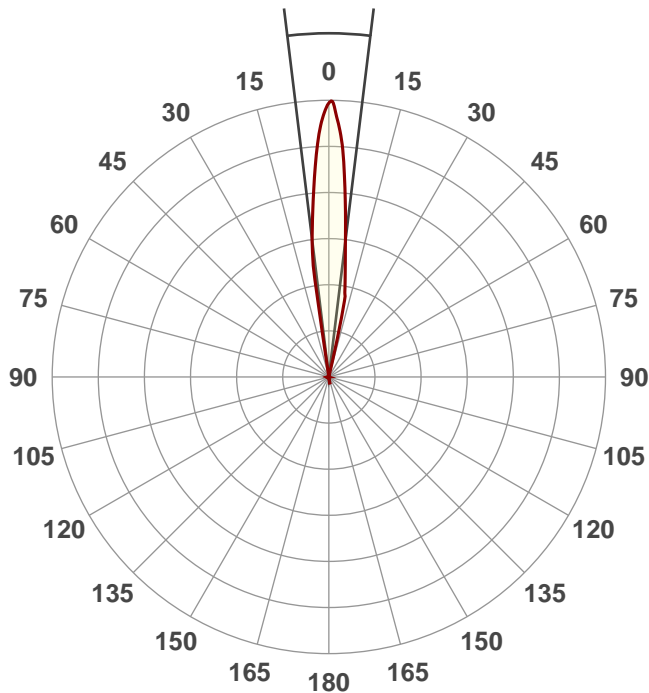
Peak: 139592 cd

Power: 648 W

PF: 1.0



13.9°



Product Name:

**Proteus Hybrid**

Test:

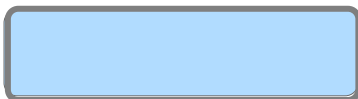
**Beam CTB color wheel Zoom Out**

Date:

**1/19/2018**

Note:

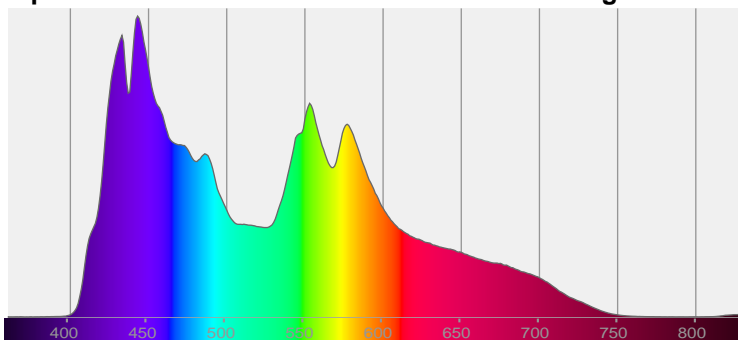
Beam Angle



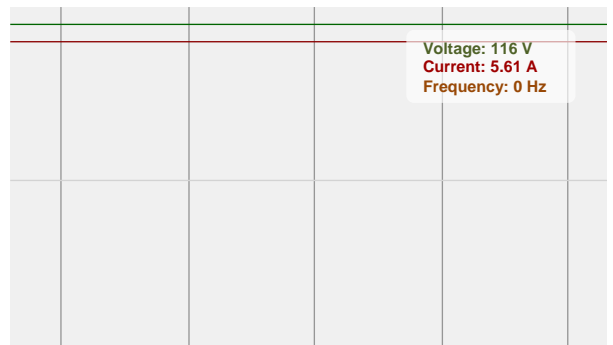
CIE 1931  
x: 0.287  
y: 0.285

Spectra

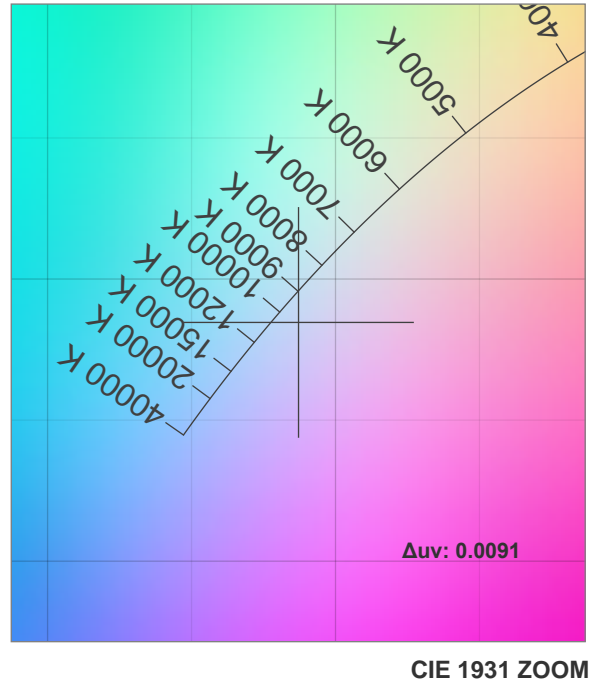
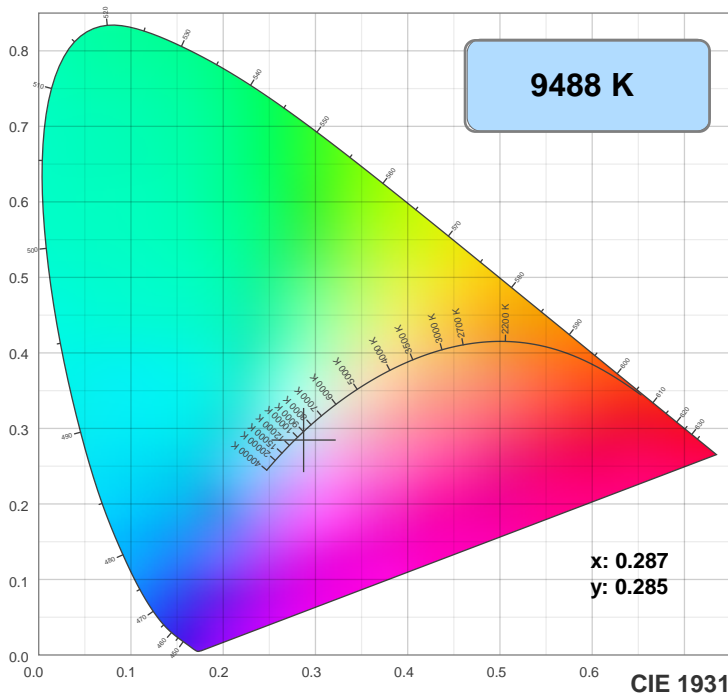
Dominant Wavelength: 461nm



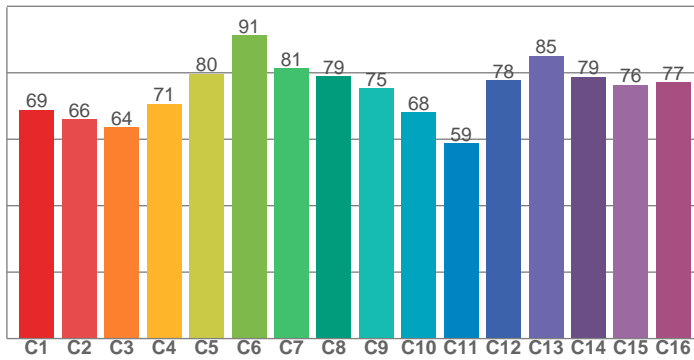
Power



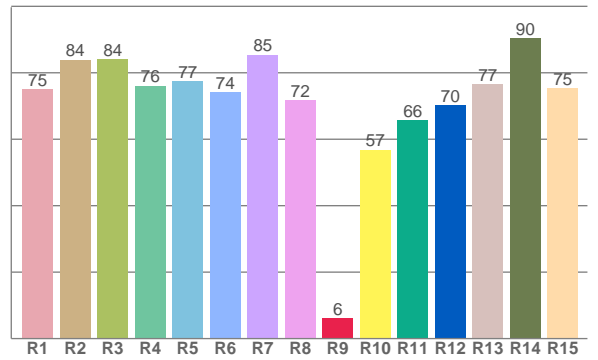
## Color Details



TM30: 75.4



CRI: 78.5 (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
74.9	84.0	84.1	76.1	77.5	74.2	85.5	71.7	6.2	56.8	65.6	70.2	76.6	90.5	75.3

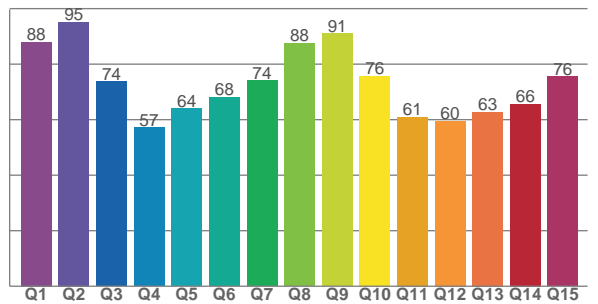
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
68.9	66.0	63.6	70.7	79.6	91.3	81.4	78.9	75.3	68.0	58.8	77.7	85.2	78.8	76.3	77.1

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
88.0	95.2	73.7	57.2	64.0	68.1	74.2	87.5	91.1	75.7	60.9	59.6	62.8	65.7	75.6

CQS: 70.8



## 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	$\Delta uv$
9488 K	78.5	6.2	75.4	92.4	70.8	0.287	0.285	0.197	0.292	0.0091

TM30 Details

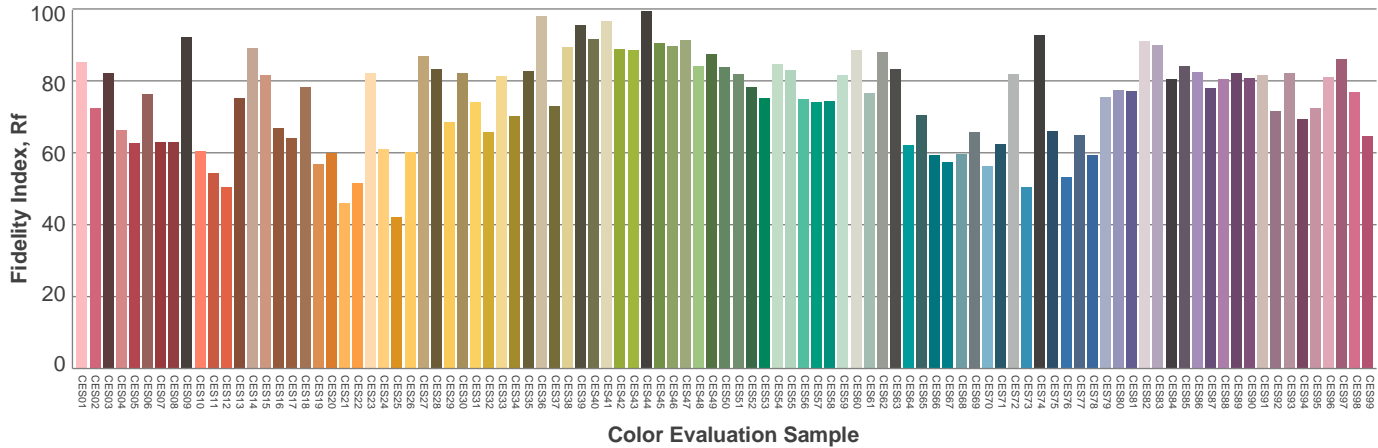
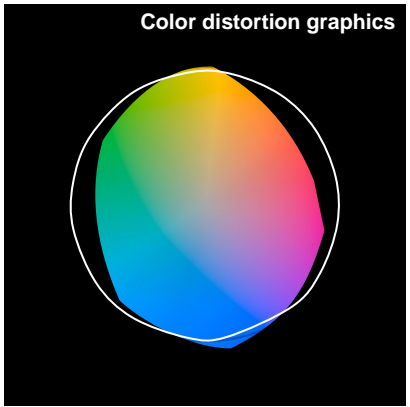
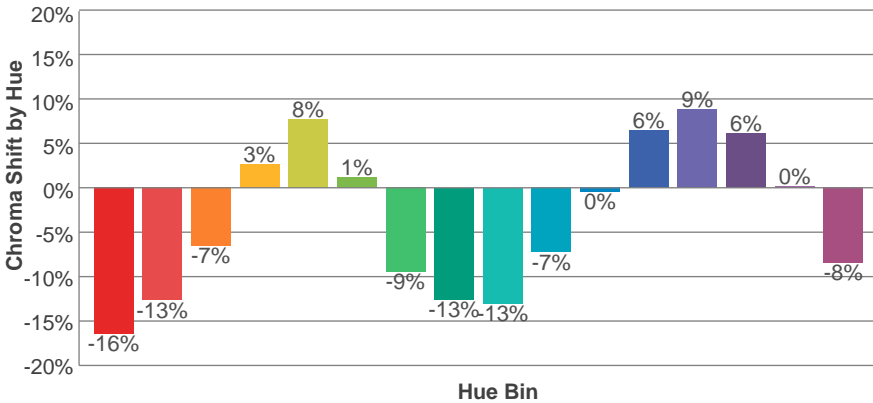
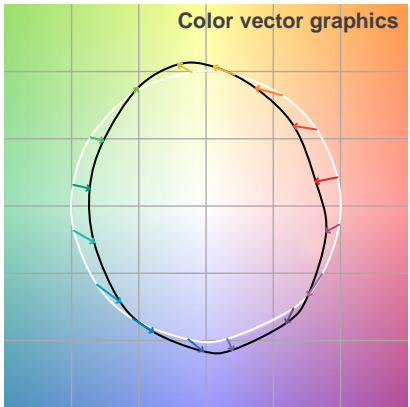
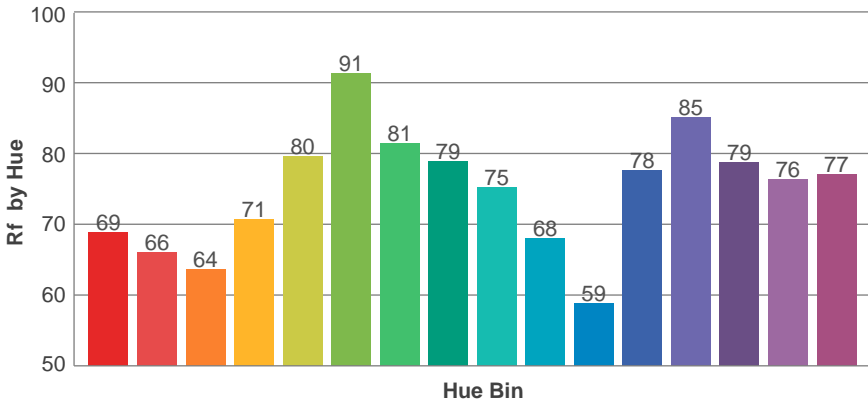
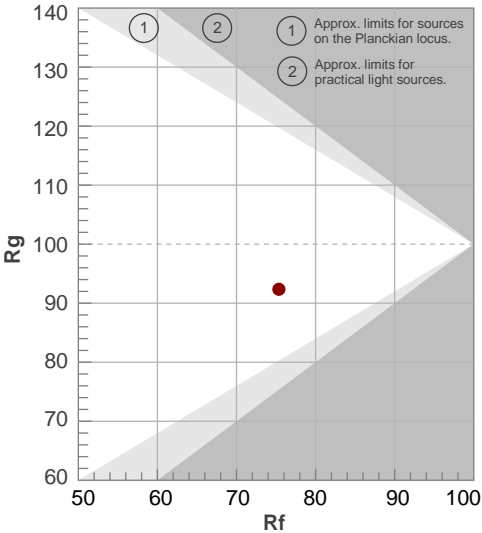
Rf 75.4

Fidelity Index Rf

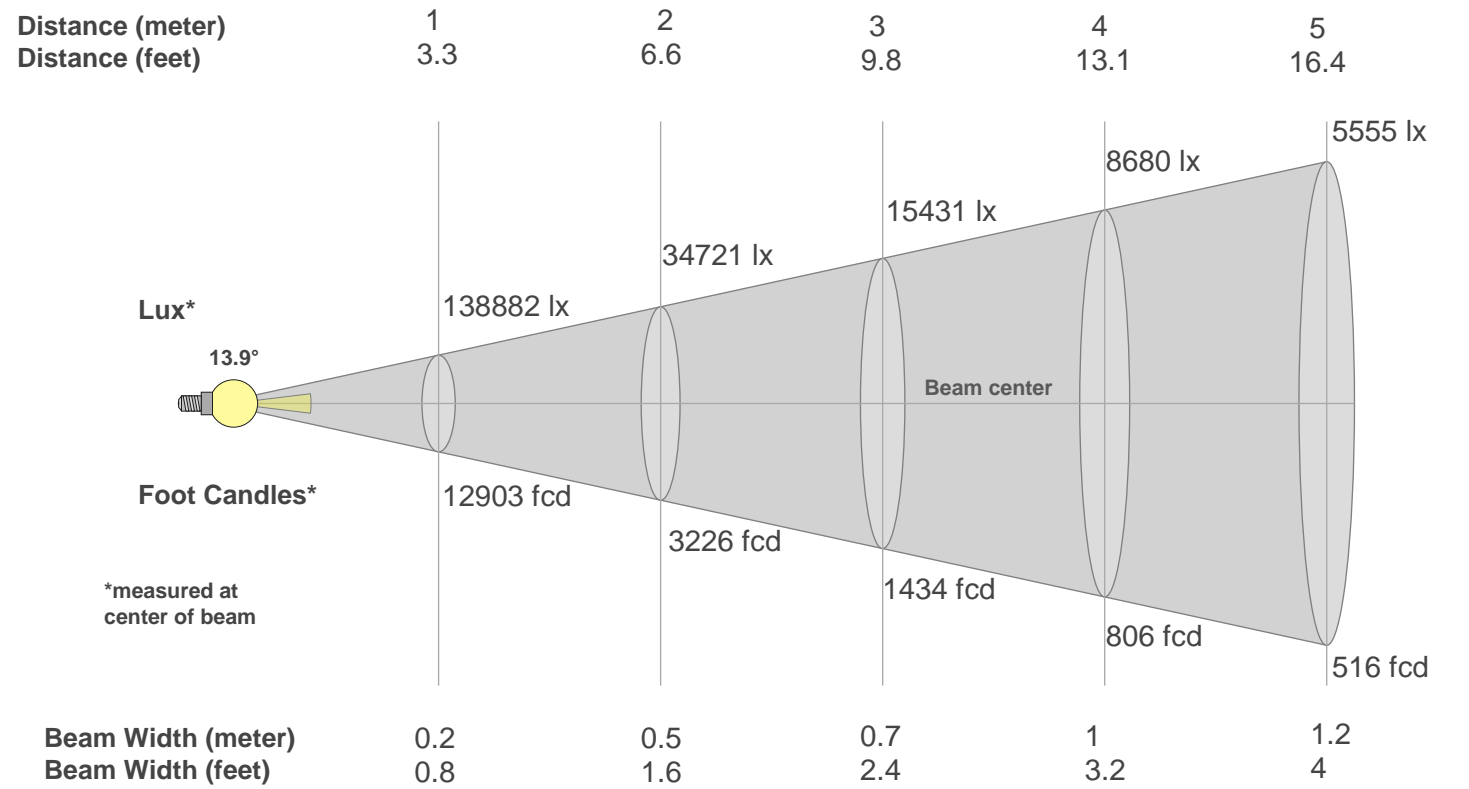
Rg 92.4

Gammut Index Rg

		Graphic shifts (%)	
Hue Bin	Rf	Chroma	Hue
1	69	-16%	0%
2	66	-13%	12%
3	64	-7%	19%
4	71	3%	16%
5	80	8%	9%
6	91	1%	-4%
7	81	-9%	-3%
8	79	-13%	0%
9	75	-13%	11%
10	68	-7%	20%
11	59	0%	18%
12	78	6%	12%
13	85	9%	2%
14	79	6%	-10%
15	76	0%	-19%
16	77	-8%	-7%



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	138882	34721	15431	8680	5555	3858	2834	2170	1715	1389	1148	964	822	709	617	543	481	429	385	347
Fcd	12902.6	3225.6	1433.6	806.4	516.1	358.4	263.3	201.6	159.3	129	106.6	89.6	76.3	65.8	57.3	50.4	44.6	39.8	35.7	32.3

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°
139K	134K	126K	116K	103K	91K	80K	69K	53K	4K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K
100%	97%	91%	83%	74%	65%	57%	50%	38%	3%	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°	
139K	134K	126K	116K	103K	91K	80K	69K	53K	4K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	
100%	97%	91%	83%	74%	65%	57%	50%	38%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

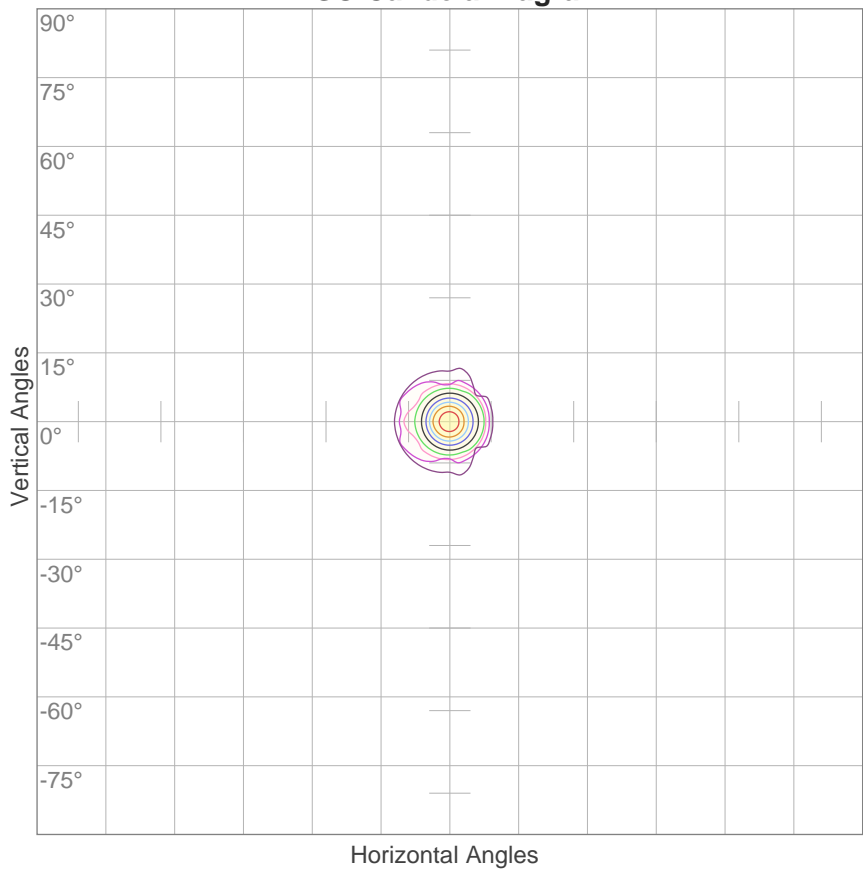
Intensities in 180° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
139K	138K	130K	121K	109K	94K	81K	69K	60K	53K	47K	42K	30K	9K	0K	0K	0K	0K	0K	0K
100%	99%	93%	87%	78%	68%	58%	50%	43%	38%	34%	30%	22%	6%	0%	0%	0%	0%	0%	0%

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°
139K	138K	130K	121K	109K	94K	81K	69K	60K	53K	47K	42K	30K	9K	0K	0K	0K	0K	0K	0K
100%	99%	93%	87%	78%	68%	58%	50%	43%	38%	34%	30%	22%	6%	0%	0%	0%	0%	0%	0%

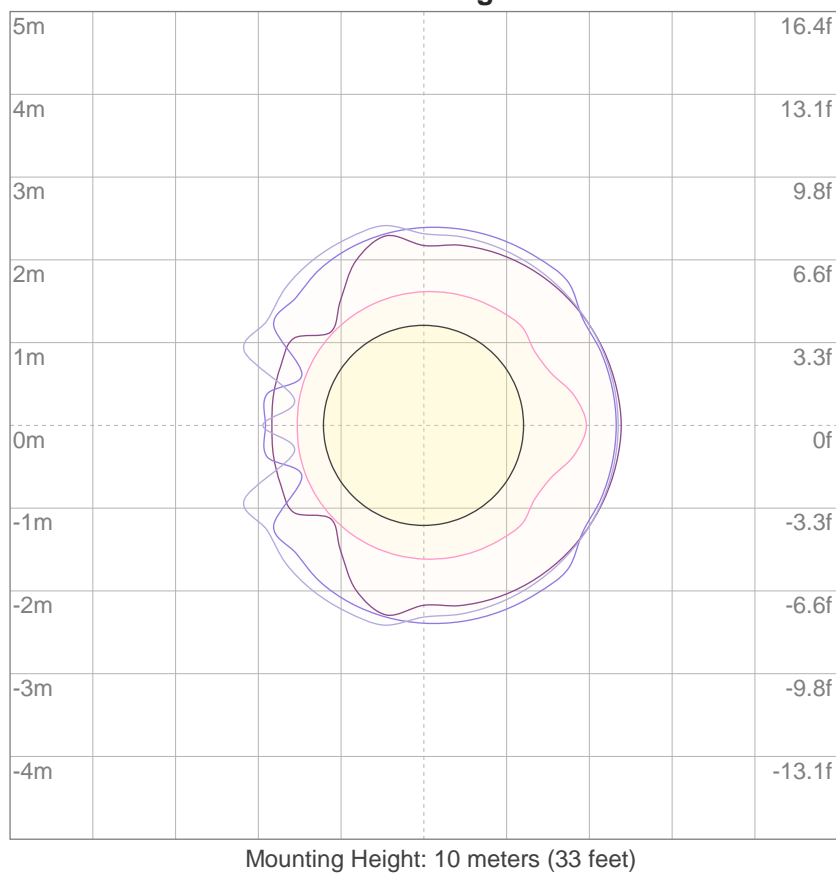
Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%	Intensity Ratio in 120° Cone	Intensity Ratio in 90° Cone
13.9°	21.6°	22.3°	95.7%	94.6%

# ISO Diagrams

ISO Candela Diagram



ISO Lux Diagram



# 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	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	115	113	111	110	112	111	109	108	106	105	104	102	101	100	98	97	97	95
2	112	109	107	104	110	107	105	103	104	102	100	100	99	98	97	96	95	94
3	110	106	103	101	108	104	102	100	101	99	98	99	97	96	96	95	94	93
4	107	103	100	98	106	102	99	97	100	97	96	97	96	94	95	94	93	92
5	105	101	98	95	104	100	97	95	98	96	94	96	94	93	95	93	92	91
6	104	99	96	94	102	98	95	93	97	94	92	95	93	92	94	92	91	90
7	102	97	94	92	101	97	94	92	95	93	91	94	92	91	93	91	90	89
8	101	96	93	91	100	96	93	91	94	92	90	93	91	90	92	91	89	89
9	100	95	92	90	99	94	92	90	93	91	89	93	91	89	92	90	89	88
10	98	94	91	89	98	93	91	89	93	90	89	92	90	88	91	89	88	87

## Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
6587 lm	1222 lm	175 lm	130 lm	87.1 lm	55.4 lm	39.0 lm	23.7 lm	17.8 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
14.7 lm	13.8 lm	16.7 lm	39.4 lm	58.6 lm	60.8 lm	52.2 lm	30.4 lm	6.26 lm