

COOLEEDGE™

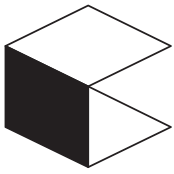
COOLEEDGE LIGHT QUALITY METRICS: FABRILUM TUNABLE WHITE 2700K-5700K (BOTH CHANNELS @50%)

NOTES ABOUT LIGHT QUALITY METRICS DATA:

- Values shown are TYPICAL – actual performance of individual units may vary
- The data presented has been generated in accordance with LM-79-08
- Spectral and color rendering data is applicable to all luminaire sizes, models, and flux levels of FABRILum including:
 - Spectral Power Distribution (SPD)
 - Nominal CCT
 - Chromaticity
 - R_f and R_g (TM-30-15)
 - CRI (R_a) and R-values
 - D_{uv}

SELECTED DEFINITIONS

- **Candlepower:** As presented in this document it is the same as “candela” the SI unit of measurement for light intensity.
- **CRI (R_a):** The general Color Rendering Index based on 8 CIE reference pastel color samples.
- **D_{uv} :** The American National Standards Institute (ANSI) references D_{uv} , a metric based on the CIE 1976 color space that quantifies the distance between the chromaticity of a given light source and a blackbody radiator of equal CCT. A negative D_{uv} indicates that the source is “below” the Planckian locus (blackbody curve), potentially having a red/blue tint, whereas a positive D_{uv} indicates that the source is “above” the curve, potentially exhibiting a green tint.
- **Nominal CCT Quadrangles:** ANSI has defined acceptable chromaticity quadrangles for LED binning in relation to the blackbody curve within CIE color space. The data presented shows the typical chromaticity coordinate within the relevant quadrangle.
- **R-value (R):** The R-value is a mathematical calculation measuring how similar a light source renders a particular color compared to a reference blackbody source of the same CCT. R-values are not absolute and therefore cannot be used as a specific measurement of color rendering. For example, a 2700K source may have a lower R9 value than a 5700K source, however, in absolute terms the 2700K source will render saturated red much better than the 5700K source because of the relative abundance of red in the spectral power distribution (SPD) for the 2700K source in comparison.
- **R1-R15:** The data presented include the special CRI set of CIE 14 samples and the Japanese Industrial Standard (JIS) for R15.
- **R_f :** The IESNA TM-30-15 technical memorandum for measuring color rendering defines a “fidelity” index, R_f , that is similar to CRI and quantifies the average difference in appearance between the test source and a reference source based on 99 reference colors.
- **R_g :** The IESNA TM-30-15 technical memorandum for measuring color rendering defines a “gamut” index, R_g , that quantifies the average difference in color saturation between the test source and a reference source based on 99 reference colors.



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DATA SHOWN IS BASED ON A 4' X 6' (1200MM X 1800MM) TEST LUMINAIRE

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LIGHTING PROPERTIES: TYPICAL PERFORMANCE

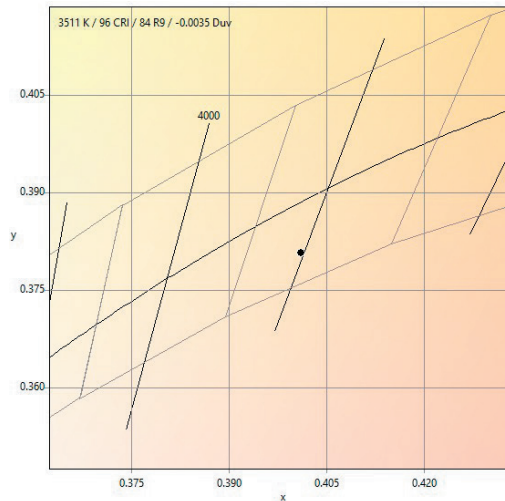
TEST CONDITIONS

Temp (°C)	DC Voltage (V)	Current (A)	Power (W)
23.0	120	1.64	197

COLOR RENDERING INDEX DETAILS

Reference	Value
R1	98
R2	99
R3	98
R4	95
R5	96
R6	95
R7	94
R8	91
R9	84
R10	99
R11	96
R12	76
R13	99
R14	99
R15	97

NOMINAL CCT QUADRANGLES



CHROMATICITY COORDINATES

Chromaticity (x)	0.4011
Chromaticity (y)	0.3808
Chromaticity (u)	0.2371
Chromaticity (v)	0.3376
Chromaticity (u)	0.2371
Chromaticity (v)	0.5064
Duv	-0.0035

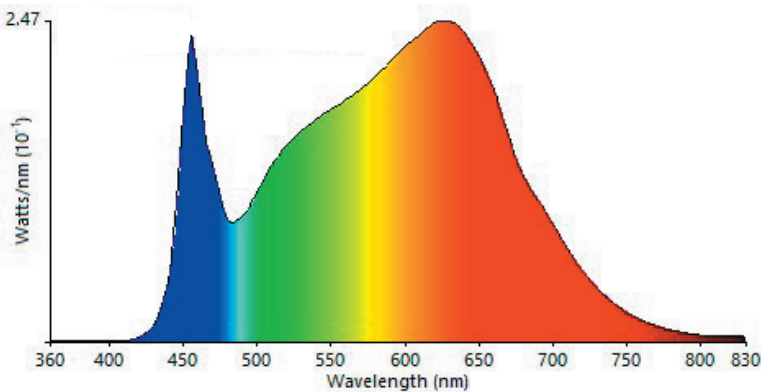
SUMMARY OF RESULTS

Total Lumen Output	13450 Lumens
Luminaire Efficacy	68.3 lm/W
Maximum Candela	5010 Candela
CCT	3511 K
CRI	96
R9	84
TM-30 R _f	90
TM-30 R _g	99

INTENSITY (CANDLEPOWER) SUMMARY

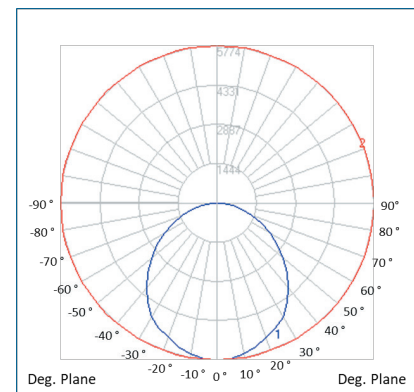
Angle	Mean CP	Lumens
0	100%	100%
5	99%	98%
10	98%	92%
15	95%	81%
20	91%	65%
25	88%	47%
30	30%	29%
35	78%	13%
40	71%	4%
45	63%	
50	55%	
55	47%	
60	39%	
65	31%	
70	23%	
75	16%	
80	9%	
85	3%	
90	0%	

SPECTRAL POWER DISTRIBUTION (SPD)



Testing was performed in accordance with LM-79-08.

POLAR GRAPH



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Cooledge Lighting reserves the right to change materials or modify the design of its product without notification as part of the company's continuing product improvement program.