COOLEDGE™

COOLEDGE LIGHT QUALITY METRICS: TILE INTERIOR - 3000K

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
- A complete summary of LM-79-08 data is provided for 600 lm/sqft (6450 lm/m2) TILE models only; however, spectral and color rendering data is applicable to TILE models of the same CCT at lower lumen output levels (150/1600 & 300/3225), 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_i)**: 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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LIGHTING PROPERTIES: TYPICAL PERFORMANCE

TEST CONDITIONS

Temp (°C)	DC Voltage (V)	Current (A)	Power (W)
23.5	58.0	0.0941	5.46

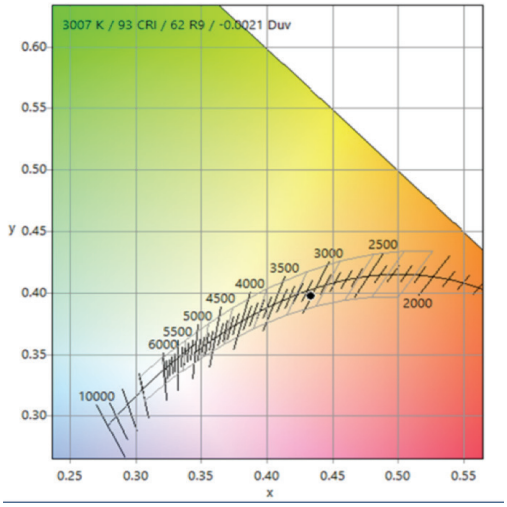
SUMMARY OF RESULTS

Total Lumen Output	600 Lumens
Luminaire Efficacy	110 lm/W
Maximum Candela	197 Candela
CCT	3007 K
CRI (Ra)	93
Duv	-0.0021
TM-30 R_f	88
TM-30 R_g	97

COLOR RENDERING INDEX DETAILS

Reference	Value
R1	94
R2	99
R3	97
R4	91
R5	93
R6	96
R7	90
R8	81
R9	62
R10	96
R11	91
R12	78
R13	96
R14	100
R15	91

NOMINAL CCT QUADRANGLES



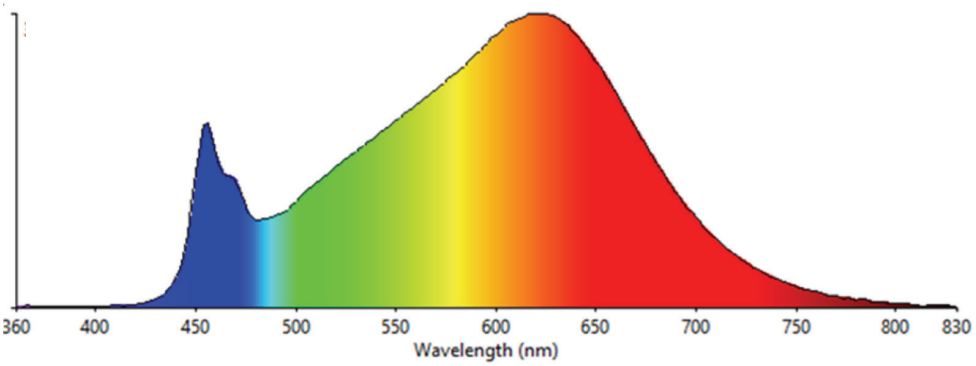
CHROMATICITY COORDINATES

Chromaticity (x)	.04334
Chromaticity (y)	0.3976
Chromaticity (u)	0.2511
Chromaticity (v)	0.3455
Chromaticity (u')	0.2511
Chromaticity (v')	0.5183
Duv	-0.0021

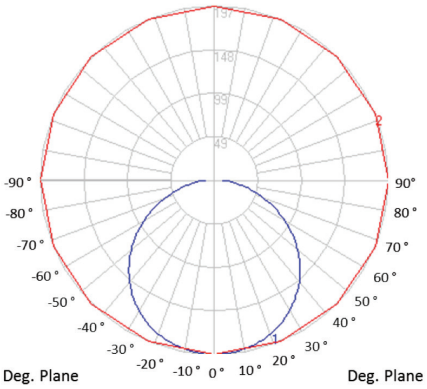
INTENSITY (CANDLEPOWER) SUMMARY

Angle	Mean CP	Lumens
0	197.0	
5	196.4	599
10	194.2	
15	190.5	580
20	185.4	
25	178.7	534
30	170.6	
35	161.0	459
40	149.9	
45	137.4	362
50	123.7	
55	108.7	256
60	92.8	
65	76.3	155
70	59.6	
75	43.3	72
80	28.6	
85	16.9	19
90	8.2	

SPECTRAL POWER DISTRIBUTION (SPD)



POLAR GRAPH



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

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