COOLEDGE™

COOLEDGE LIGHT QUALITY METRICS
SPECIALTY ILLUMINATION SOLUTIONS: FLUSH MOUNT - 2200K TILE R3

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 a nominal 1'x1' (300mm x 300mm) area assuming the High Flux option for Specialty Illumination Solutions - Flush Mount; however, spectral and color rendering data is applicable to models of the same CCT at all flux levels 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 (ºC)	DC Voltage (V)	DC Current (A)	Input Power (W)
25.0	54	0.104	5.6

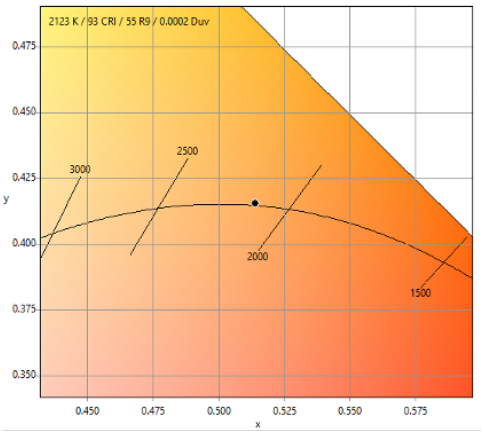
SUMMARY OF RESULTS

Total Lumen Output	345 Lumens
Luminaire Efficacy	62 lm/W
Maximum Candela	119.6 Candela
CCT	2123 K
CRI	93
R9	55
TM-30 R_f	92
TM-30 R_g	98

COLOR RENDERING INDEX DETAILS

Refernce	Value
R1	93
R2	98
R3	98
R4	93
R5	94
R6	97
R7	89
R8	78
R9	55
R10	95
R11	97
R12	92
R13	95
R14	99
R15	87

NOMINAL CCT QUADRANGLES



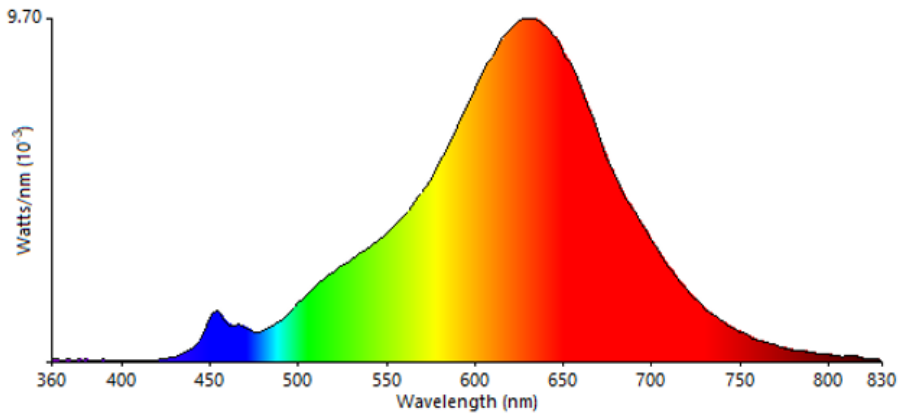
CHROMATICITY COORDINATES

Chromaticity (x)	0.5140
Chromaticity (y)	0.4154
Chromaticity (u)	0.2955
Chromaticity (v)	0.3583
Chromaticity (u')	0.2955
Chromaticity (v')	0.5374
Duv	0.0002

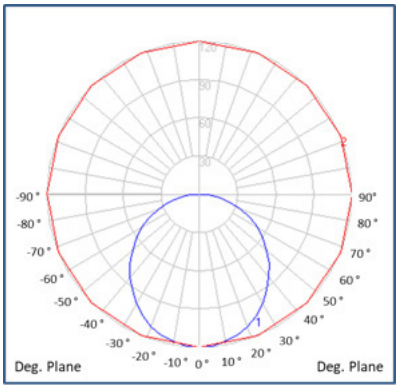
INTENSITY (CANDLEPOWER) SUMMARY

Angle	Mean CP	Lumens
0	100%	100%
5	99%	
10	98%	98%
15	96%	
20	92%	90%
25	88%	
30	83%	77%
35	78%	
40	72%	61%
45	65%	
50	58%	44%
55	51%	
60	45%	27%
65	37%	
70	29%	13%
75	21%	
80	14%	3%
85	6%	
90	0%	

SPECTRAL POWER DISTRIBUTION (SPD)



POLAR GRAPH



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

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