

itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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REPORT NUMBER: ITL64904 Page 1 of 3
DATE: 05/26/10
PREPARED FOR: NEXXUS LIGHTING, INC.

CATALOG NUMBER: AG10MR16--60 6500K D1

LAMP: ONE R16 STYLE GU10 BASE LED LAMP, MOLDED FINNED WHITE PLASTIC BODY, ONE WHITE CIRCUIT BOARD WITH 40 VERTICAL BASE-UP WHITE LIGHT EMITTING DIODES (LEDS), MULTIPLE METAL POSTS BETWEEN UPPER AND LOWER HOUSING, TRANSLUCENT WHITE FLAT PLASTIC DIFFUSER, VERTICAL BASE-UP POSITION.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LAMP.

INSTRUMENTATION: Kikusui PCR500L AC Power Source
Yokogawa WT210 Digital Power Meter
Optronics OL770 Spectroradiometer
ITL 1.5 Meter Diameter Integrating Sphere, 4 π Geometry

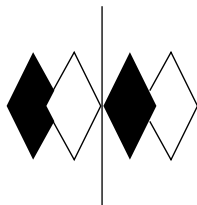
OBJECT OF TEST: Measure the Total Luminous Flux*, Spectral Power Distribution, Correlated Color Temperature (CCT), Color Rendering Index (CRI), Chromaticity Coordinates (x,y), ANSI C78.377 Duv, and input electrical parameters to the lamp.

PROCEDURE: The lamp was provided by customer and the LEDs had an unknown number of burn hours. The lamp was mounted inside the integrating sphere with the lamp in a base up position (LEDs facing down). The lamp was allowed to stabilize at 120 VAC input. After stabilization occurred, total flux, spectral power distribution, CCT, CRI, x/y chromaticity coordinates, ANSI C78.377 Duv, and input electrical data were measured with the lamp operating in the integrating sphere. In order to measure the mean performance, multiple sets were recorded and averaged. Readings were taken with the lamp operating at 120 VAC input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology.

*NOTE: Proper calibration of integrating spheres for measuring total flux output of non-directional lamps will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of lamps with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results

RESULTS: See subsequent pages

Checked: <u> N Gully </u>
Approved: <u> R Bergin </u>



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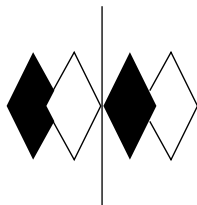
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CATALOG NUMBER: AG10MR16--60 6500K D1

RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	178*
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3072
Chromaticity Ordinate y	0.3184
Correlated Color Temp CCT (K)	6925
Color Rendering Index (CRI)	84
ANSI C78.377-2008 Duv	0.001
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (mA AC)	24.2
Input Power (Watts)	2.68
Input Power Factor (%)	92.3
EFFICACY	
Lumens/Watt	66.4

*NOTE: Proper calibration of integrating spheres for measuring total flux output of non-directional lamps will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of lamps with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results



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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.080	515	2.416	650	1.397
385	0.079	520	2.538	655	1.305
390	0.078	525	2.642	660	1.212
395	0.087	530	2.714	665	1.116
400	0.095	535	2.743	670	1.025
405	0.115	540	2.781	675	0.934
410	0.153	545	2.796	680	0.846
415	0.220	550	2.800	685	0.762
420	0.357	555	2.792	690	0.683
425	0.629	560	2.771	695	0.610
430	1.134	565	2.735	700	0.542
435	1.912	570	2.686	705	0.479
440	3.168	575	2.625	710	0.423
445	5.185	580	2.558	715	0.371
450	6.451	585	2.482	720	0.326
455	5.365	590	2.404	725	0.285
460	3.704	595	2.321	730	0.249
465	2.795	600	2.239	735	0.216
470	2.058	605	2.160	740	0.187
475	1.529	610	2.078	745	0.163
480	1.324	615	1.998	750	0.141
485	1.297	620	1.923	755	0.123
490	1.377	625	1.833	760	0.106
495	1.565	630	1.750	765	0.092
500	1.803	635	1.665	770	0.079
505	2.032	640	1.578	775	0.069
510	2.231	645	1.492	780	0.059

