



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

Page 1 of 4

REPORT NUMBER: ITL86248
DATE: 01/19/16
PREPARED FOR: B-K LIGHTING, INC.
CATALOG NUMBER: MM-LED-e72-NSP-12-C, RM-MM-LED-e72-NSP-12-C, SN-MM-LED-e72-NSP-12-C,
ST-MM-LED-e72-NSP-12-C, SF-MM-LED-e72-NSP-12-C,
TF-MM-LED-e72-NSP-12-C, YM-LED-e72-NSP-12-C, OM-LED-e72-NSP-12-C,
SM-MM-LED-e72-NSP-12, PM-MM-LED-e72-NSP-12-C,
WM-MM-LED-e72-NSP-12-C, UL-MM-LED-e72-NSP-12, DM-LED-e72-NSP-12

ADDRESS: 40429 BRICKYARD DRIVE
MADERA, CA 93636-9515

LUMINAIRE: MACHINED CYLINDRICAL METAL HOUSING, 1 BLACK CIRCUIT BOARD WITH ONE
LED, CLEAR PLASTIC OPTIC IN MOLDED WHITE PLASTIC FRAME, CLEAR
MICRO-PRISMATIC FLAT GLASS LENS IN MACHINED BLACK PAINTED
CYLINDRICAL METAL FRAME WITH UNFINISHED INTERIOR. LENS PRISMS OUT.
LUMINAIRE AIMED AT THE HORIZON FOR THIS TEST.

LAMP: ONE WHITE LIGHT EMITTING DIODE (LED), AIMED AT THE HORIZON.

DRIVER: B-K LIGHTING 518801/400187-F

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT
VOLTAGE (12VAC, 60Hz) TO THE DRIVER.

INSTRUMENTS:	Associated Power Technologies APT5020 AC Power Source	Calibration Due: N/A
	Yokogawa WT210 Digital Power Meter #9	01/31/16
	Ocean Optics QE65000 Spectroradiometer	09/23/16
	ITL 1.5m Diameter Integrating Sphere S15-2, 4PI Geometry	09/23/16

OBJECT OF TEST: Measure the Absolute Flux in lumens*, Spectral Power Distribution (SPD),
Correlated Color Temperature (CCT), Color Rendering Index (CRIa,1-14),
Chromaticity Coordinates (x,y; u',v'), ANSI C78.377 Duv, Total Radiant
Flux*, Scotopic / Photopic Lumen Ratio, and electrical data including
ANSI C82.77-2002 Power Factor (PF) and Total Harmonic Distortion (THD)
to the test sample.

PROCEDURE: The test sample was provided by the customer and had an unknown number
of operating hours. The test sample was mounted inside the integrating
sphere and allowed to stabilize. After stabilization occurred,
measurements were taken. In order to measure mean performance, multiple
data sets were recorded and averaged. Readings were taken with the test
sample operating at 12VAC 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.

RESULTS: (continued subsequent pages)

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM
PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE
FEDERAL GOVERNMENT.

Checked	<u>N WHITE</u>
Approved	<u>P O'CONNOR</u> Sphere Lab Supervisor

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

Page 2 of 4

REPORT NUMBER: ITL86248
DATE: 01/19/16
PREPARED FOR: B-K LIGHTING, INC.
CATALOG NUMBER: MM-LED-e72-NSP-12-C, RM-MM-LED-e72-NSP-12-C, SN-MM-LED-e72-NSP-12-C, ST-MM-LED-e72-NSP-12-C, SF-MM-LED-e72-NSP-12-C, TF-MM-LED-e72-NSP-12-C, YM-LED-e72-NSP-12-C, OM-LED-e72-NSP-12-C, SM-MM-LED-e72-NSP-12, PM-MM-LED-e72-NSP-12-C, WM-MM-LED-e72-NSP-12-C, UL-MM-LED-e72-NSP-12, DM-LED-e72-NSP-12

RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	197 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3971
Chromaticity Ordinate y	0.3965
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2281
Chromaticity Ordinate v'	0.5124
Correlated Color Temp CCT (K)	3730
ANSI C78.377-2008 Duv	0.004
Total Radiant Flux (milliWatts)	588 *
Scotopic / Photopic Lumen Ratio	1.590
ELECTRICAL	
Input Voltage (Volts AC)	12.0
Input Current (Amps AC)	0.345
Input Power (Watts)	2.68
Input Power Factor (%)	64.7
Input Current THD (%)	93.6
Input Voltage THD (%)	1.2
EFFICACY (lumens/Watt)	73.5

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	81
R1 Light greyish red	78
R2 Dark greyish yellow	86
R3 Strong yellowish green	93
R4 Moderate yellowish green	80
R5 Light bluish green	78
R6 Light blue	81
R7 Light violet	87
R8 Light reddish purple	63
R9 Strong red	4
R10 Strong yellow	67
R11 Strong green	78
R12 Strong blue	58
R13 Light yellowish pink (skin)	80
R14 Moderate olive green (leaf)	96

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL86239



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

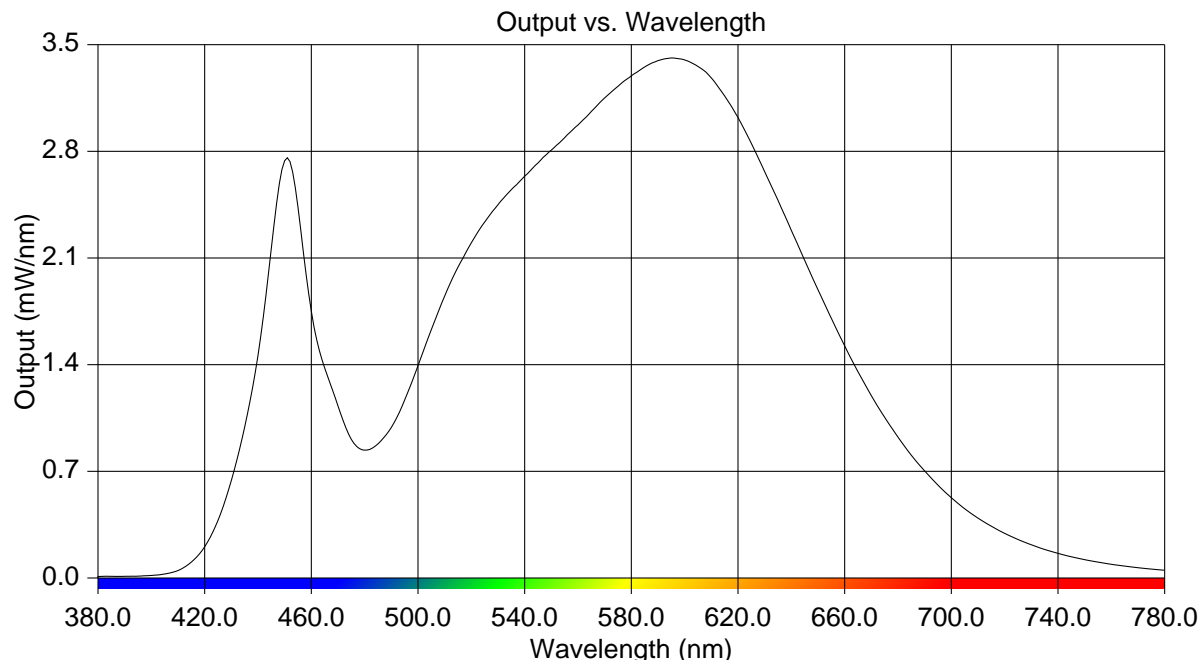
PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

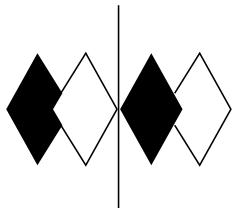
Page 3 of 4

REPORT NUMBER: ITL86248
DATE: 01/19/16
PREPARED FOR: B-K LIGHTING, INC.
CATALOG NUMBER: MM-LED-e72-NSP-12-C, RM-MM-LED-e72-NSP-12-C, SN-MM-LED-e72-NSP-12-C, ST-MM-LED-e72-NSP-12-C, SF-MM-LED-e72-NSP-12-C, TF-MM-LED-e72-NSP-12-C, YM-LED-e72-NSP-12-C, OM-LED-e72-NSP-12-C, SM-MM-LED-e72-NSP-12, PM-MM-LED-e72-NSP-12-C, WM-MM-LED-e72-NSP-12-C, UL-MM-LED-e72-NSP-12, DM-LED-e72-NSP-12

RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.009	515	2.041	650	1.891
385	0.011	520	2.200	655	1.704
390	0.011	525	2.336	660	1.524
395	0.012	530	2.450	665	1.353
400	0.017	535	2.548	670	1.197
405	0.026	540	2.637	675	1.055
410	0.049	545	2.724	680	0.925
415	0.104	550	2.808	685	0.805
420	0.205	555	2.890	690	0.703
425	0.378	560	2.973	695	0.609
430	0.640	565	3.062	700	0.527
435	0.990	570	3.151	705	0.455
440	1.460	575	3.227	710	0.393
445	2.164	580	3.295	715	0.340
450	2.739	585	3.354	720	0.293
455	2.432	590	3.395	725	0.253
460	1.751	595	3.413	730	0.218
465	1.378	600	3.400	735	0.187
470	1.129	605	3.357	740	0.162
475	0.910	610	3.282	745	0.139
480	0.839	615	3.163	750	0.120
485	0.880	620	3.022	755	0.104
490	0.988	625	2.852	760	0.090
495	1.168	630	2.667	765	0.078
500	1.393	635	2.479	770	0.067
505	1.630	640	2.281	775	0.059
510	1.850	645	2.085	780	0.051





itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

Page 4 of 4

REPORT NUMBER: ITL86248
DATE: 01/19/16

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: MM-LED-e72-NSP-12-C, RM-MM-LED-e72-NSP-12-C, SN-MM-LED-e72-NSP-12-C,
ST-MM-LED-e72-NSP-12-C, SF-MM-LED-e72-NSP-12-C,
TF-MM-LED-e72-NSP-12-C, YM-LED-e72-NSP-12-C, OM-LED-e72-NSP-12-C,
SM-MM-LED-e72-NSP-12, PM-MM-LED-e72-NSP-12-C,
WM-MM-LED-e72-NSP-12-C, UL-MM-LED-e72-NSP-12, DM-LED-e72-NSP-12

CIE Chromaticity Diagram

