



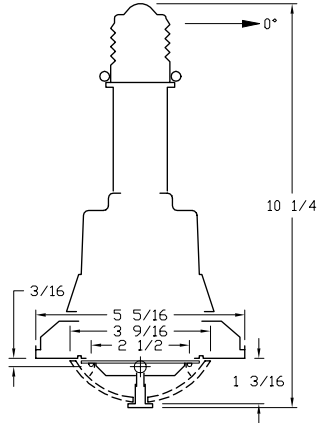
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 THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.
 3386 LONGHORN ROAD, BOULDER, CO 80302 USA

PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 2.5 foot mounting height.



REPORT NUMBER: ITL65729
 DATE: 08/13/10
 PREPARED FOR: EVLUMA
 CATALOG NUMBER: 91635049
 LAMP: ONE 55-WATT MOGUL BASE LED LAMP WITH INTEGRAL LED DRIVER, CAST FINNED SEMI-SPECULAR METAL BODY, MOLDED GRAY PLASTIC TOP, MOLDED BLACK PLASTIC NECK, 16 WHITE LIGHT EMITTING DIODES (LEDS) EACH WITH CLEAR HEMISPHERICAL INTEGRAL LENS, FABRICATED SPECULAR SEGMENTED METAL REFLECTOR, FORMED WHITE PAINTED METAL REFLECTOR MOUNTING RING, FROSTED SEMI-HEMISPHERICAL PLASTIC LENS, MOLDED WHITE PLASTIC LENS RETAINING POST.

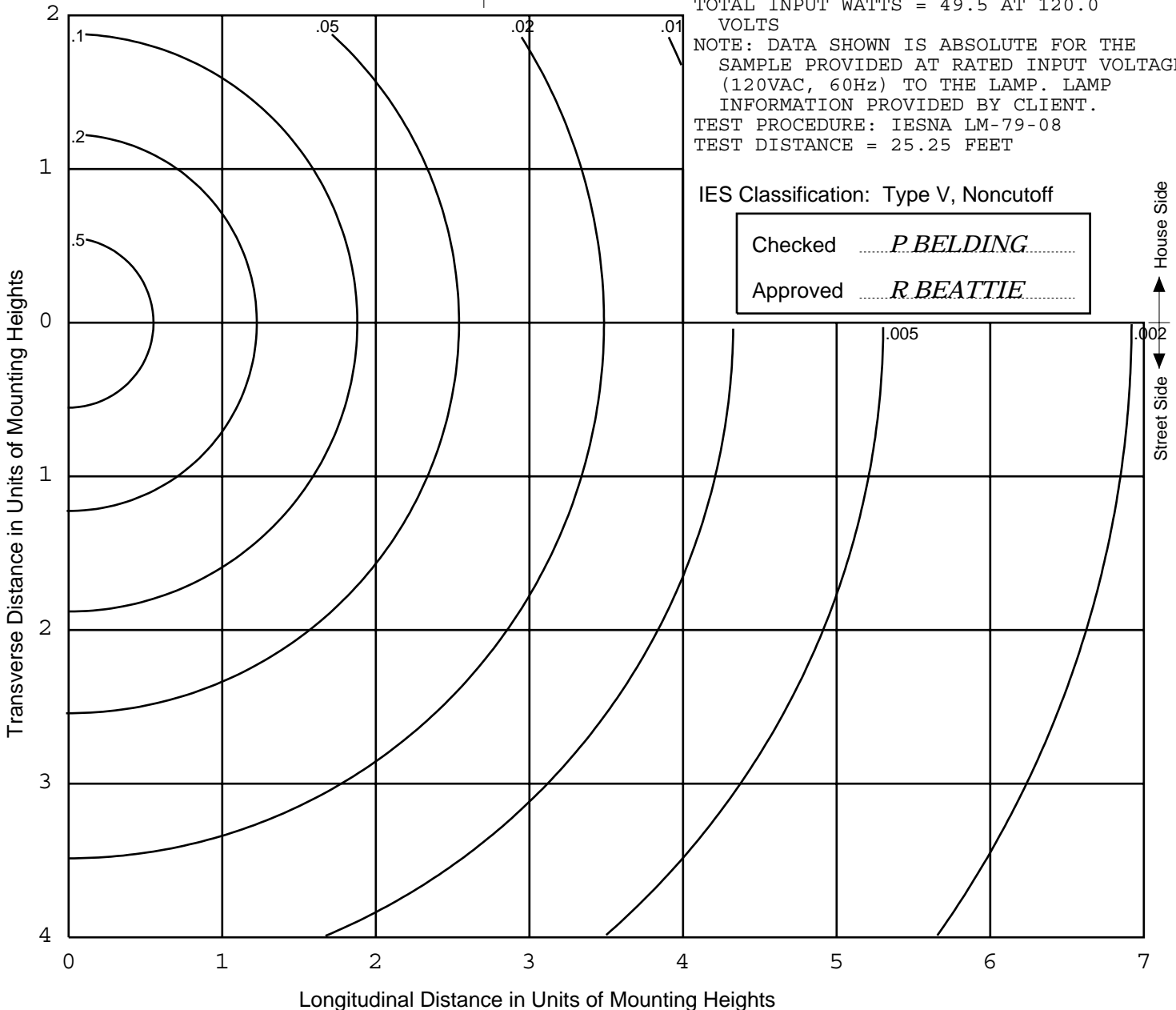
TOTAL INPUT WATTS = 49.5 AT 120.0 VOLTS

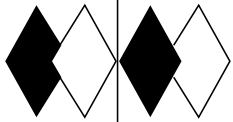
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LAMP. LAMP INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08
 TEST DISTANCE = 25.25 FEET

IES Classification: Type V, Noncutoff

Checked	<i>P. BELDING</i>
Approved	<i>R. BEATTIE</i>





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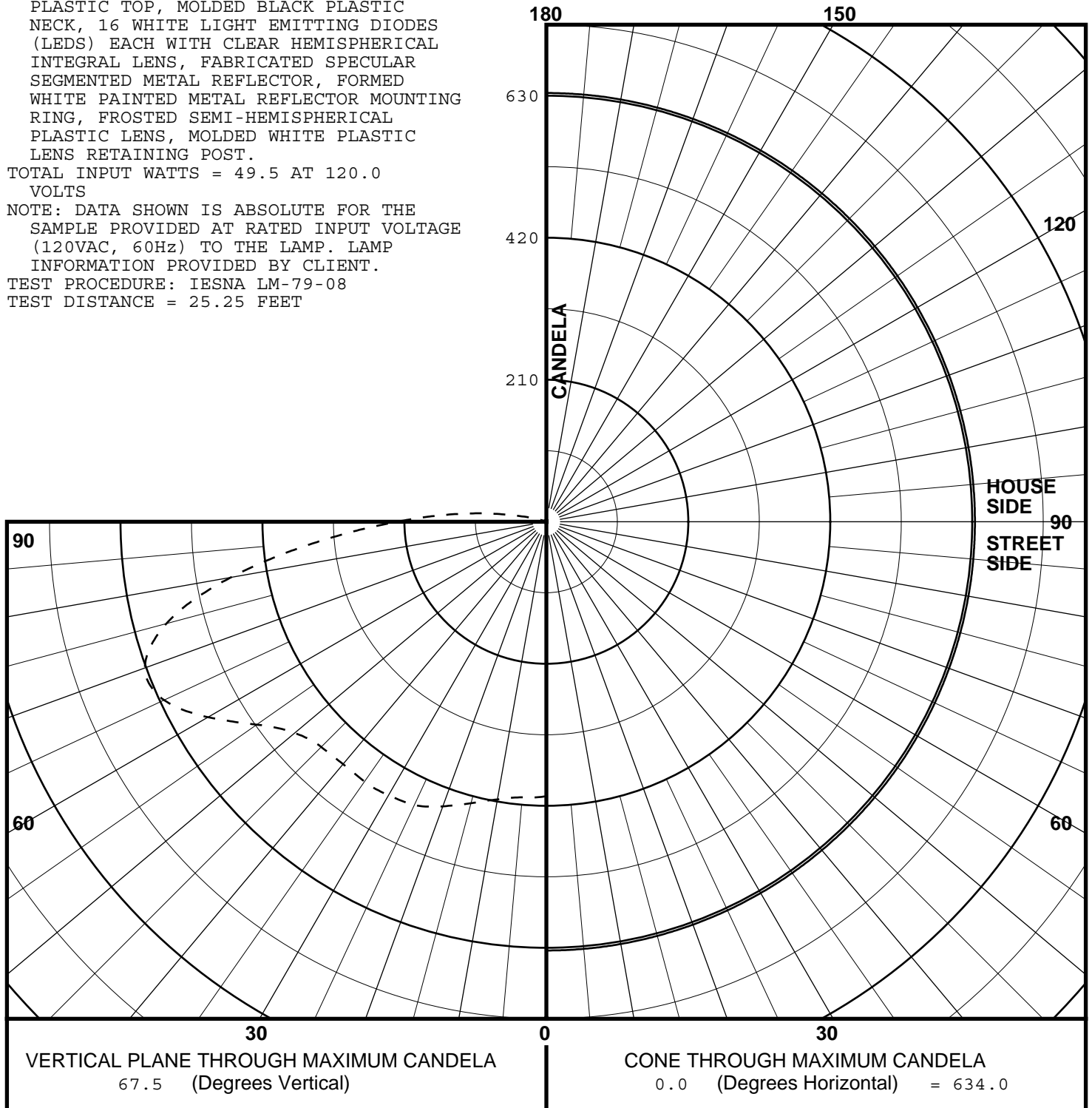
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TEST DISTANCE = 25.25 FEET

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA





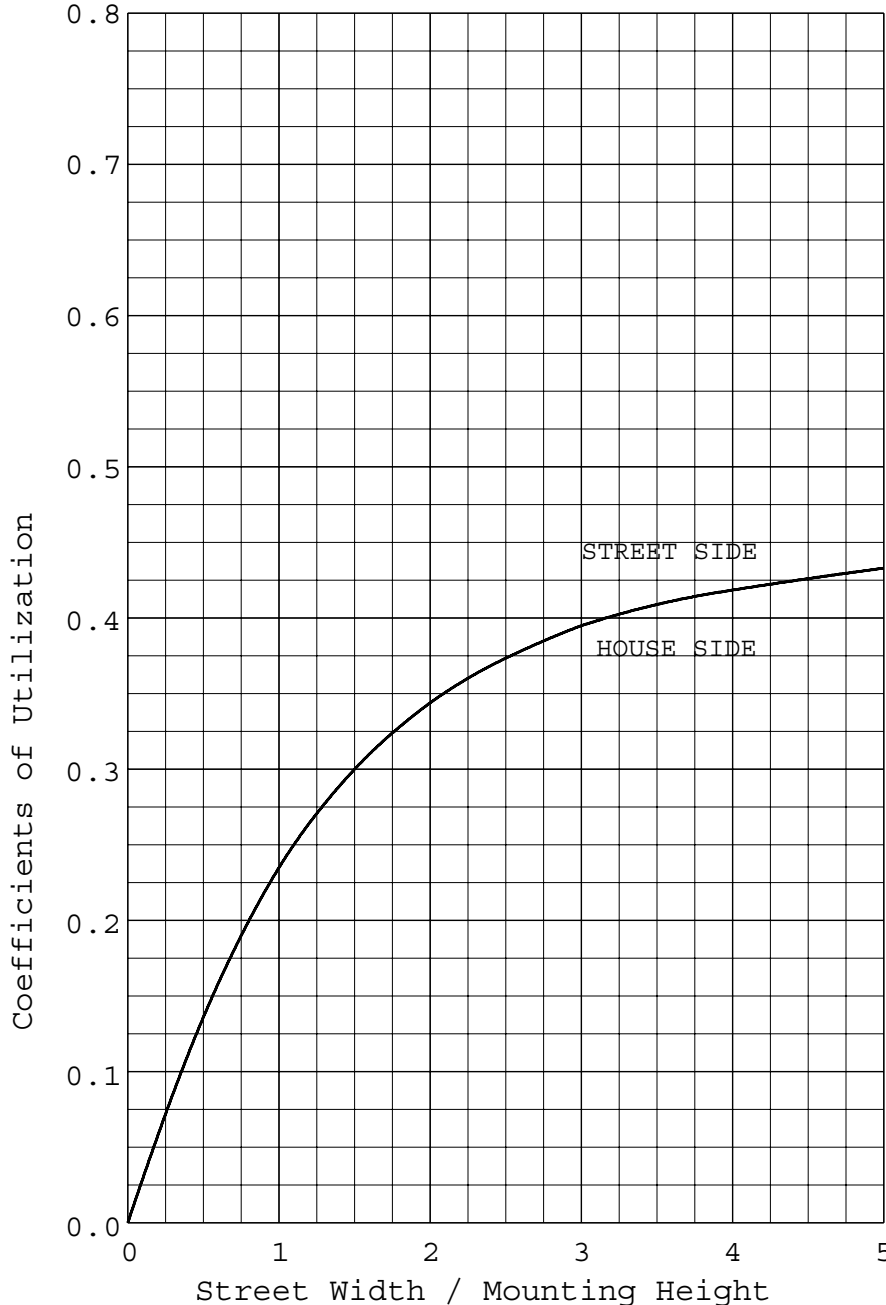
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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	1549.	47.3
DOWNWARD HOUSE SIDE	1549.	47.3
DOWNWARD TOTAL	3099.	94.6
UPWARD STREET SIDE	88.	2.7
UPWARD HOUSE SIDE	88.	2.7
UPWARD TOTAL	176.	5.4
TOTAL FLUX	3275.	100.0
EFFICACY = 66.2 Lm/W		

ALL CANDELA AND LUMENS IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.



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FLUX DISTRIBUTION BY SOLID ANGLE

(PER IESNA TM-15-07, LUMINAIRE CLASSIFICATION SYSTEM FOR OUTDOOR LUMINAIRES)

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS
FORWARD LIGHT	1549.	47.3	
FL (0- 30)	187.6	5.7	
FM (30- 60)	567.0	17.3	
FH (60- 80)	608.0	18.6	G0
FVH(80- 90)	186.7	5.7	U3 G1
BACK LIGHT	1549.	47.3	
BL (0- 30)	187.6	5.7	B1
BM (30- 60)	567.0	17.3	B1
BH (60- 80)	608.0	18.6	B2 G0
BVH(80- 90)	186.7	5.7	U3 G1
UPLIGHT	176.	5.4	
UL (90-100)	148.0	4.5	U3
UH (100-180)	27.8	0.8	U2
TRAPPED LIGHT	0.	0.0	
TOTAL FLUX	3275.	100.0	

BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS
 (PER ADDENDUM A FOR IESNA TM-15-07)

BUG RATING: B2 U3 G1



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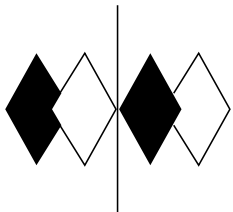
DATE: 08/13/10

CANDELA TABULATION

TYPE V

	180.0	0.
	175.0	0.
	165.0	0.
	155.0	0.
	145.0	0.
	135.0	0.
	125.0	0.
	115.0	0.
	105.0	21.
	95.0	132.
	92.5	174.
	90.0	221.
	87.5	277.
	85.0	339.
V	82.5	407.
E	80.0	474.
R	77.5	535.
T	75.0	582.
I	72.5	614.
C	70.0	632.
A	67.5<<	634.
L	65.0	624.
	62.5	604.
A	60.0	578.
N	57.5	550.
G	55.0	523.
L	52.5	501.
E	50.0	486.
	47.5	476.
	45.0	471.
	42.5	469.
	40.0	468.
	37.5	468.
	35.0	469.
	32.5	469.
	30.0	467.
	25.0	462.
	20.0	448.
	15.0	431.
	10.0	417.
	5.0	409.
	0.0	406.

CONE OF MAXIMUM CANDELA



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REPORT NUMBER: ITL65732
DATE TESTED: 08/18/10
DATE ISSUED: 04/15/11
PREPARED FOR: EVLUMA
CATALOG NUMBER: 91635049

Page 1 of 2

LAMP: ONE 55-WATT MOGUL BASE LED LAMP WITH INTEGRAL LED DRIVER, CAST FINNED SEMI-SPECULAR METAL BODY, MOLDED GRAY PLASTIC TOP, MOLDED BLACK PLASTIC NECK, 16 WHITE LIGHT EMITTING DIODES (LEDs) EACH WITH CLEAR HEMISPHERICAL INTEGRAL LENS, FABRICATED SPECULAR SEGMENTED METAL REFLECTOR, FORMED WHITE PAINTED METAL REFLECTOR MOUNTING RING, FROSTED SEMI-HEMISPHERICAL PLASTIC LENS, MOLDED WHITE PLASTIC LENS RETAINING POST.

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

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

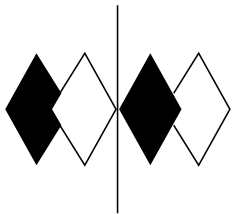
OBJECT OF TEST: Measure the Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRIa,9), Chromaticity Coordinates (x,y), ANSI C78.377 Duv, and electrical data to the lamp.

PROCEDURE: The lamp was provided by customer and had an unknown number of burn hours. The lamp was mounted inside the integrating sphere in a vertical base-up position (LEDs facing down). The lamp was allowed to stabilize at 120VAC input. After stabilization occurred, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRIa,9), Chromaticity Coordinates (x,y), ANSI C78.377 Duv, and electrical data were measured with the lamp operating in the integrating sphere. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the luminaire operating at 120VAC 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:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3523
Chromaticity Ordinate y	0.3472
Correlated Color Temp CCT (K)	4708
Color Rendering Index (CRIa)	78
Color Rendering Index 9 (Strong red)	8
ANSI C78.377-2008 Duv	-0.005
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (mA AC)	459
Input Power (Watts)	49.7
Input Power Factor (%)	90.2

Checked	<i>N. Gully</i>
Approved	<i>R. Bergin</i>



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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	1.114	515	31.051	650	27.482
385	1.126	520	35.669	655	25.100
390	1.155	525	40.008	660	22.891
395	1.317	530	43.723	665	20.720
400	1.480	535	46.446	670	18.715
405	1.864	540	48.914	675	16.784
410	2.649	545	50.750	680	15.000
415	4.286	550	52.121	685	13.391
420	7.846	555	53.189	690	11.923
425	14.463	560	53.915	695	10.590
430	24.759	565	54.322	700	9.395
435	37.727	570	54.525	705	8.316
440	53.506	575	54.428	710	7.354
445	71.890	580	54.153	715	6.487
450	77.942	585	53.573	720	5.724
455	63.800	590	52.721	725	5.043
460	45.311	595	51.603	730	4.439
465	33.168	600	50.180	735	3.913
470	25.153	605	48.555	740	3.444
475	19.475	610	46.661	745	3.048
480	15.958	615	44.583	750	2.679
485	14.106	620	42.522	755	2.367
490	13.585	625	39.972	760	2.088
495	14.661	630	37.489	765	1.843
500	17.351	635	34.951	770	1.618
505	21.313	640	32.458	775	1.432
510	25.933	645	29.997	780	1.260

