

Project Number  
20.00156



**HUBBELL**  
**Lighting**

Date  
1/31/2020

### Photometric Test Report

Lab 5  
Sphere

#### Test Sample Description

Catalog Number: P300306-009-30  
Description: 32" LED Edge-Lit Vanity

#### Photometry

Test Method: IES LM-41-14  
IES LM-79-08 §10  
Preburn Time: 1:15  
Time To Stabilize: 1:20  
Total Operating Time: 2:40

Input Voltage (Volts): 120.0  
Input Current (Amps): 0.266  
Input Wattage (Watts): 31.7  
Ambient Temp (°C): 24.9

#### Sphere

Test Method: IES LM-16-93  
IES LM-79-08 §12.1  
Preburn Time: 1:30  
Time To Stabilize: 1:46  
Total Operating Time: 3:28

Input Voltage (Volts): 120.0  
Input Current (Amps): 0.265  
Input Wattage (Watts): 31.6  
Ambient Temp (°C): 24



#### Hubbell Lighting, Inc.

701 Millennium Boulevard  
Greenville, SC 29607  
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Checked (sphere): M. ELLMANN  
Checked (photometry): D. ROBBINS  
Approved: L. GENNETTEN



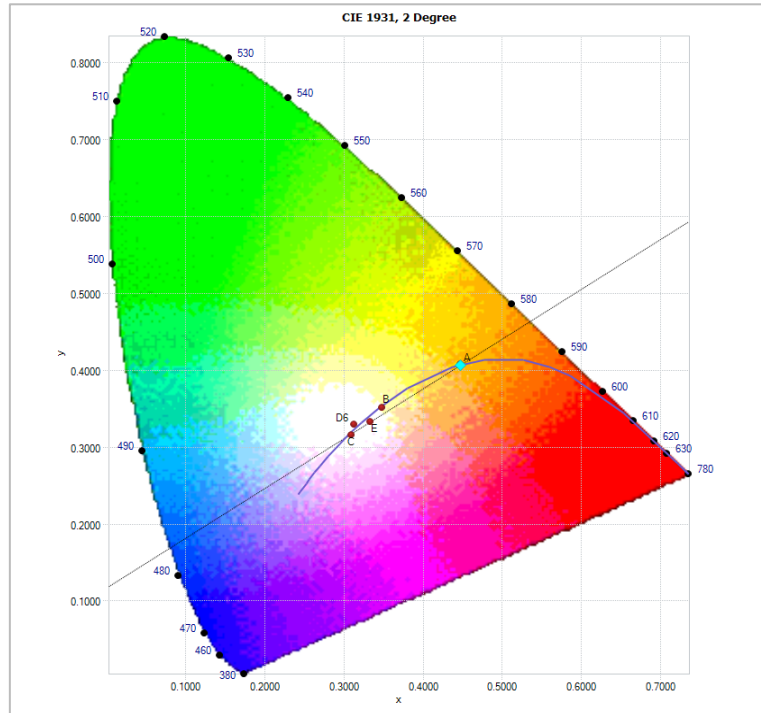
\* This customer-provided information was not verified by the laboratory. Note that LED manufacturer and part # are unverifiable by the lab.  
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Lamp Cat#: 2835  
 Lamp Desc: 84 - Bridgelux 3000K LEDs

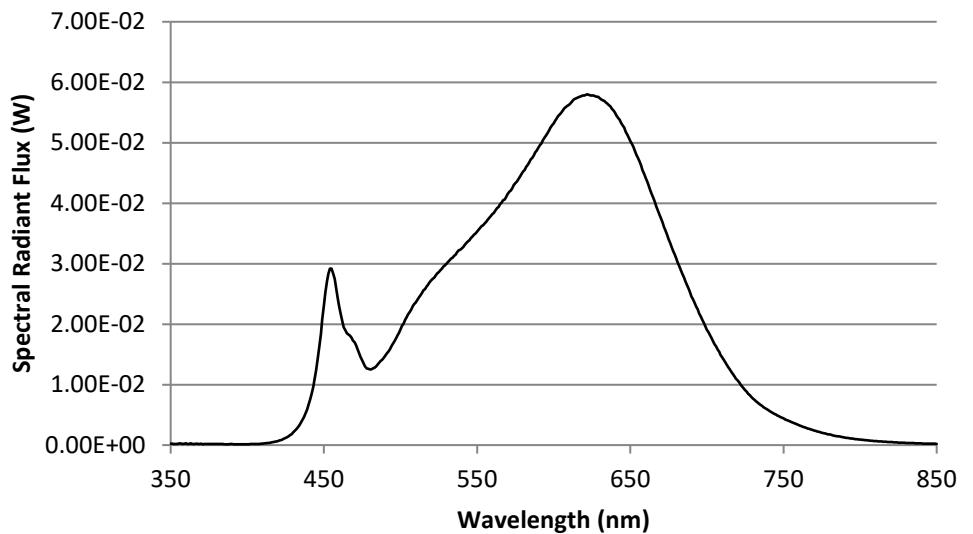
Efficacy: 88.9 LPW      S/P Ratio: 1.4 LM/LM

**Spectral Results**

Name	Value	Unit
$\Phi$	9.84	watts
$\Phi(v)$	2808	lumens
$\Phi(v')$	3819	lm'
Chrom x	0.447	
Chrom y	0.4069	
Chrom u	0.2559	
Chrom v	0.3493	
Duv	0.0007	
Chrom u'	0.2559	
Chrom v'	0.524	
CCT	2858	K
Purity	56.3	%
$\lambda$ (dom)	583.5	nm
FWHM	156.6	nm
$\lambda$ (peak)	622	nm
$\lambda$ (center)	604.6	nm
$\lambda$ (centroid)	597.4	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000226758	
Correlation	0.0054	
R1	93.0	
R2	97.0	
R3	98.7	
R4	92.0	
R5	92.4	
R6	96.0	
R7	91.5	
R8	81.5	
R9	59.9	
R10	91.7	
R11	92.7	
R12	79.8	
R13	94.2	
R14	98.9	



**Spectral Distribution of Radiant Flux**



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**ISSUE DATE:** 02/05/20

**PREPARED FOR:** PROGRESS

**CATALOG NUMBER:** P300306-009-30

**LUMINAIRE:** 32" LED Edge-Lit Vanity

**LAMP CAT. NO.:** 2835

**LAMP:** 84- Bridgelux 3000K LEDs

**MOUNTING:** Wall

**NOTE:** DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

**SEARCH\_CRI:** X

**SEARCH\_COLORTEMP:** Y

**SEARCH\_LPW:** Z

**SEARCH\_DISTRIBUTION:** W



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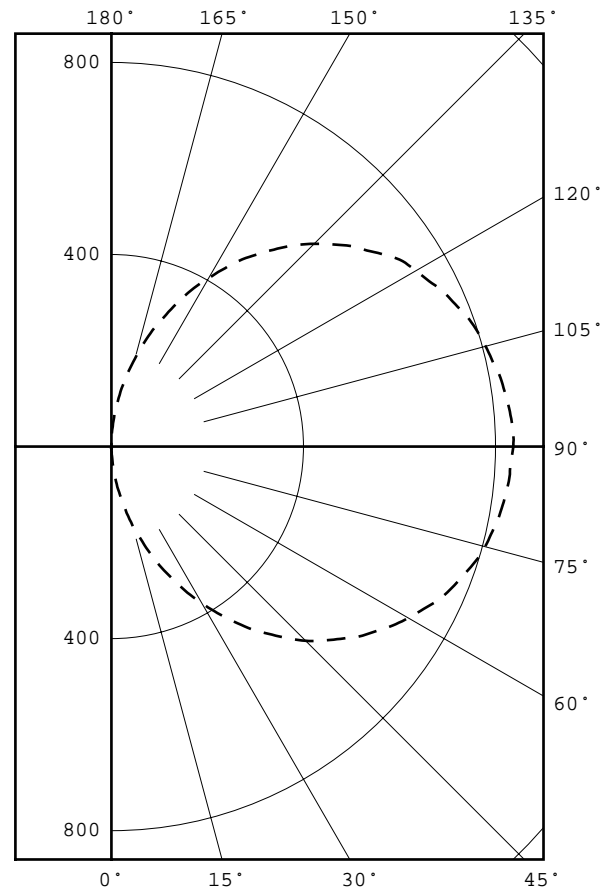
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CANDELA DISTRIBUTION						FLUX
	0.0	45.0	90.0	135.0	180.0	
0	4	4	4	4	4	
5	43	31	4	2	0	2
15	170	112	0	0	0	15
25	306	200	0	0	0	42
35	445	285	0	0	0	82
45	572	366	0	0	0	129
55	671	430	0	0	0	175
65	753	482	0	0	0	217
75	806	518	0	0	0	248
85	831	535	0	0	0	264
90	837	537	0	0	0	
95	833	536	0	0	0	265
105	807	520	0	0	0	249
115	763	489	0	0	0	220
125	696	448	0	0	0	182
135	597	386	0	0	0	136
145	476	307	0	0	0	88
155	335	220	0	0	0	47
165	189	128	1	0	0	17
175	61	42	5	2	0	2
180	5	5	5	5	5	

ZONAL ZONE	LUMEN LUMENS	SUMMARY LUMENS	%FIXT
0- 30		59	2.5
0- 40		141	5.9
0- 60		445	18.7
0- 90		1174	49.3
90-120		733	30.8
90-130		916	38.5
90-150		1139	47.9
90-180		1206	50.7
0-180		2380	100.0

EFFICACY = 75.1 lm/W  
CIE TYPE - GENERAL DIFFUSE  
PLANE : 0-DEG 90-DEG  
SHIELDING ANGLES : 90 90



LEGEND  
0-deg - - - - -  
90-deg - - - - -  
180-deg - - - - -



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PLANE : 0-DEG 90-DEG  
LUMINOUS LENGTH : 4.000 31.000

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 90-DEG	AVERAGE 180-DEG
45	10112.	0.	0.
55	14623.	0.	0.
65	22272.	0.	0.
75	38927.	0.	0.
85	119183.	0.	0.



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CANDELA DISTRIBUTION  
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	4	4	4	4	4	4	4	4	4
5.0	43	42	31	18	4	3	2	0	0
10.0	102	95	71	34	1	1	0	0	0
15.0	170	153	112	53	0	0	0	0	0
20.0	237	216	155	72	0	0	0	0	0
25.0	306	280	200	90	0	0	0	0	0
30.0	377	342	243	109	0	0	0	0	0
35.0	445	403	285	127	0	0	0	0	0
40.0	509	463	328	144	0	0	0	0	0
45.0	572	516	366	161	0	0	0	0	0
50.0	623	565	399	175	0	0	0	0	0
55.0	671	609	430	189	0	0	0	0	0
60.0	714	647	458	201	0	0	0	0	0
65.0	753	682	482	212	0	0	0	0	0
70.0	781	711	503	221	0	0	0	0	0
75.0	806	731	518	227	0	0	0	0	0
80.0	821	745	529	232	0	0	0	0	0
85.0	831	755	535	235	0	0	0	0	0
90.0	837	758	537	235	0	0	0	0	0
95.0	833	756	536	235	0	0	0	0	0
100.0	823	747	530	232	0	0	0	0	0
105.0	807	733	520	227	0	0	0	0	0
110.0	789	715	506	221	0	0	0	0	0
115.0	763	691	489	214	0	0	0	0	0
120.0	732	663	470	209	0	0	0	0	0
125.0	696	631	448	201	0	0	0	0	0
130.0	650	588	418	188	0	0	0	0	0
135.0	597	542	386	174	0	0	0	0	0
140.0	538	490	348	160	0	0	0	0	0
145.0	476	432	307	142	0	0	0	0	0
150.0	405	368	265	123	0	0	0	0	0
155.0	335	306	220	104	0	0	0	0	0
160.0	264	241	174	84	0	0	0	0	0
165.0	189	174	128	63	1	0	0	0	0
170.0	123	113	84	43	3	2	1	0	0
175.0	61	56	42	24	5	3	2	1	0
180.0	5	5	5	5	5	5	5	5	5



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		0
5- 10		2
10- 15		5
15- 20		10
20- 25		17
25- 30		25
30- 35		35
35- 40		47
40- 45		58
45- 50		70
50- 55		82
55- 60		93
60- 65		104
65- 70		113
70- 75		121
75- 80		127
80- 85		131
85- 90		133
90- 95		133
95-100		131
100-105		127
105-110		122
110-115		114
115-120		106
120-125		97
125-130		85
130-135		74
135-140		62
140-145		50
145-150		38
150-155		28
155-160		19
160-165		11
165-170		6
170-175		2
175-180		0

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		2
0- 20		17
0- 30		59
0- 40		141
0- 50		270
0- 60		445
0- 70		662
0- 80		910
0- 90		1174
0-100		1439
0-110		1688
0-120		1908
0-130		2090
0-140		2225
0-150		2314
0-160		2360
0-170		2377
0-180		2380



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30		10
0	107	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	49
1	92	85	79	74	74	84	78	72	68	64	60	56	52	48	46	40	38	35	30
2	81	71	63	56	56	74	65	57	51	53	47	42	42	38	34	32	29	26	21
3	73	61	51	44	44	66	55	47	40	45	38	33	35	30	26	27	23	19	15
4	66	53	43	35	35	59	48	39	32	39	32	26	30	25	21	23	19	15	11
5	60	46	36	29	29	54	42	33	27	34	27	22	27	21	17	20	16	12	9
6	55	41	31	24	24	49	37	29	22	30	23	18	24	18	14	18	13	10	7
7	50	36	27	21	21	46	33	25	19	27	20	15	21	16	12	16	12	8	6
8	46	33	24	18	18	42	30	22	16	24	18	13	19	14	10	14	10	7	5
9	43	30	21	16	16	39	27	19	14	22	16	11	17	12	9	13	9	6	4
10	40	27	19	14	14	36	25	17	12	20	14	10	16	11	8	12	8	5	3

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



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Date  
1/31/2020

### *Goniophotometer Calibration*

*Calibration Lamp:* GE 1000W, 120V, T6, CL (FEL)

*Lamp Number:* ITL78966-1000-66

*Calibration Current:* 8.300 Amps DC

*Total Luminous Flux:* 23013.0 Lumens

*Calibration Date:* 08/20/2019

### *Test Equipment Used*

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 5 - Test Distance: 56.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27072V	10/31/2020
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912722	10/31/2020

### *3-Meter-Sphere Calibration*

*Calibration Lamp:* EIKO 28V75W/E10

*Lamp Number:* SCL-1400-K136

*Calibration Current:* 2.679 Amps

*Total Luminous Flux:* 1429 Lumens

### *Test Equipment Used - Color & SPD; THD & Power Factor*

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>3-Meter Sphere</i>	Labsphere / LMS-3M	N/A	Calibration Checked Daily
<i>Thermometer</i>	National Instruments / USB TC01	1912751	10/31/2020
<i>Power Analyzer</i>	Yokogawa / WT332	C2QA27075V	10/31/2020
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	GW Instek / PSU 150-10	GER221028	N/A
<i>Cal Lamp Supply</i>	Labsphere / LPS-150-0268	1218148505	N/A
<i>Spectrometer</i>	Labsphere / CDS 1100	0624117792	N/A

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