

Project Number
20.00150



HUBBELL
Lighting

Date
2/3/2020

Photometric Test Report

Lab 5
Sphere

Test Sample Description

Catalog Number: P300304-009-30
Description: 16" LED Edge-Lit Vanity

Photometry
Test Method: IES LM-41-14
IES LM-79-08 §10
Preburn Time: 1:15
Time To Stabilize: 1:05
Total Operating Time: 2:15

Input Voltage (Volts): 120.1
Input Current (Amps): 0.135
Input Wattage (Watts): 16.0
Ambient Temp (°C): 25.4

Sphere
Test Method: IES LM-16-93
IES LM-79-08 §12.1
Preburn Time: 2:00
Time To Stabilize: 1:39
Total Operating Time: 4:08

Input Voltage (Volts): 120.0
Input Current (Amps): 0.135
Input Wattage (Watts): 16.0
Ambient Temp (°C): 24



Hubbell Lighting, Inc.

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

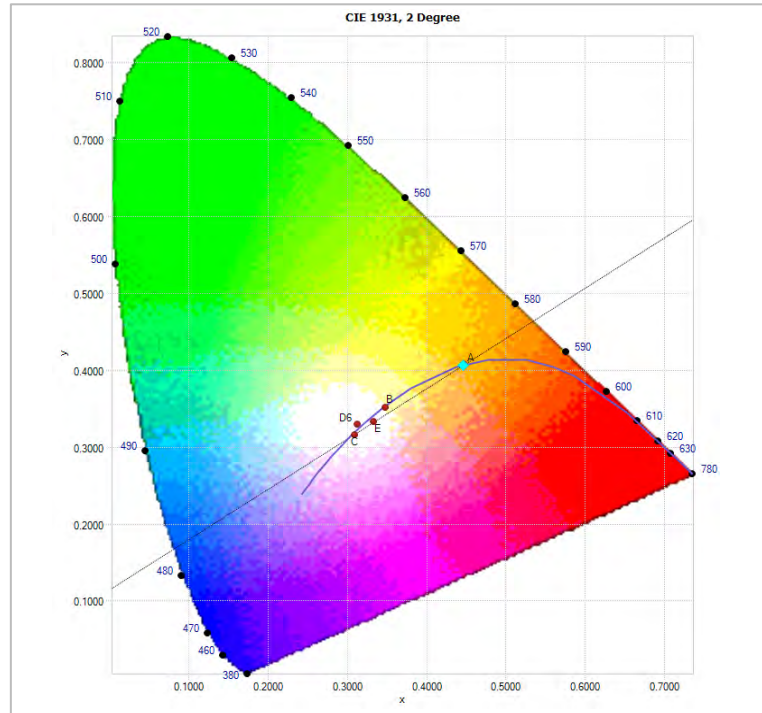


* This customer-provided information was not verified by the laboratory. Note that LED manufacturer and part # are unverifiable by the lab.
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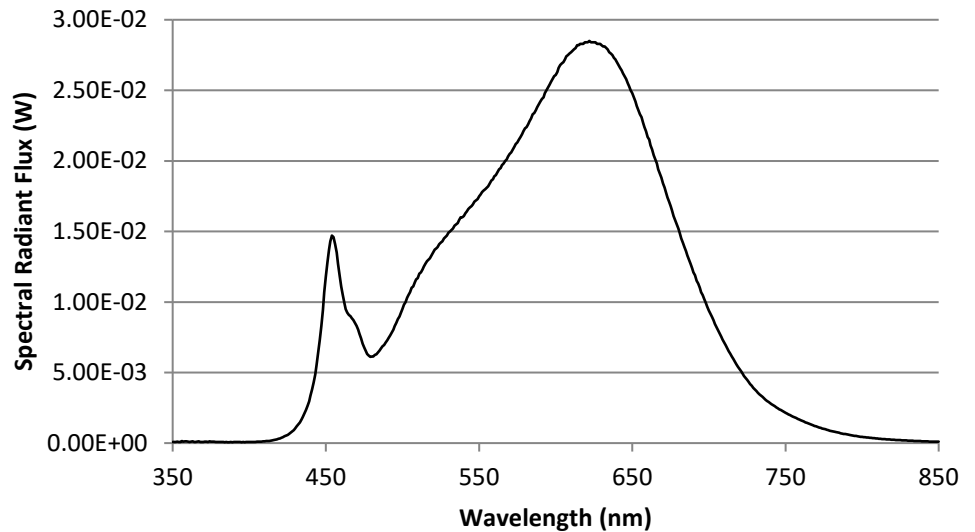
Lamp Cat#: 2835
 Lamp Desc: 40 - Bridgelux 3000K LEDs
 Driver Desc: 1 - Becky BQE15B-0500-30-TD
 Programmed to 500mA
 Efficacy: 86.6 LPW S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	4.85	watts
$\Phi(v)$	1386	lumens
$\Phi(v')$	1891	lm'
Chrom x	0.4461	
Chrom y	0.4069	
Chrom u	0.2553	
Chrom v	0.3492	
Duv	0.0005	
Chrom u'	0.2553	
Chrom v'	0.5238	
CCT	2872	K
Purity	56	%
λ (dom)	583.4	nm
FWHM	157.8	nm
λ (peak)	621.8	nm
λ (center)	604.1	nm
λ (centroid)	597.1	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000185763	
Correlation	0.0054	
R1	93.0	
R2	96.8	
R3	98.7	
R4	92.1	
R5	92.4	
R6	95.8	
R7	91.7	
R8	81.7	
R9	60.1	
R10	91.5	
R11	92.9	
R12	79.5	
R13	94.1	
R14	98.8	



Spectral Distribution of Radiant Flux



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LUMINAIRE: 16" LED Edge-Lit Vanity

LAMP CAT. NO.: 2835

LAMP: 40- 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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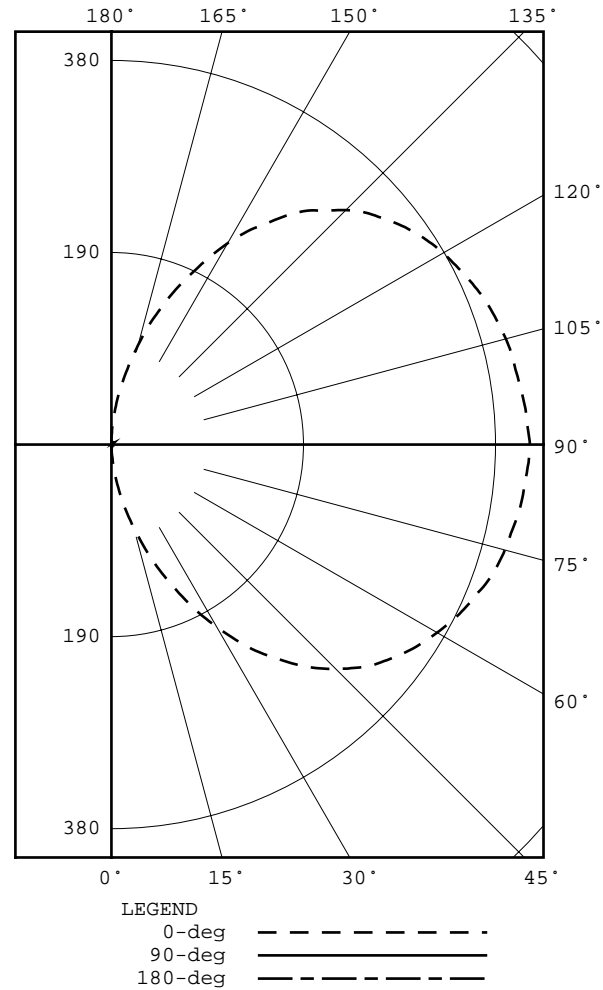
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CANDELA DISTRIBUTION						FLUX
	0.0	45.0	90.0	135.0	180.0	
0	2	2	2	2	2	
5	20	14	3	2	1	1
15	84	55	2	1	1	8
25	166	104	2	1	0	23
35	249	153	2	1	0	45
45	314	196	2	1	0	71
55	357	229	2	1	0	94
65	385	255	2	1	0	114
75	403	272	2	1	0	129
85	411	280	2	0	0	137
90	414	282	2	1	0	
95	411	279	2	0	0	136
105	404	273	2	0	0	129
115	389	260	2	1	0	116
125	366	238	2	0	0	97
135	328	208	2	1	0	74
145	267	167	2	1	0	49
155	186	119	3	1	0	26
165	102	67	3	1	0	9
175	29	21	3	1	0	1
180	2	2	2	2	2	

ZONAL ZONE	LUMEN LUMENS	SUMMARY %FIXT
0- 30	32	2.5
0- 40	77	6.1
0- 60	242	19.2
0- 90	622	49.3
90-120	382	30.3
90-130	479	38.0
90-150	602	47.8
90-180	639	50.7
0-180	1260	100.0

EFFICACY = 78.8 lm/W
CIE TYPE - GENERAL DIFFUSE
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90





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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 4.000 15.000

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 90-DEG	AVERAGE 180-DEG
45	11472.	73.	0.
55	16079.	90.	0.
65	23534.	122.	0.
75	40224.	200.	0.
85	121822.	593.	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	2	2	2	2	2	2	2	2	2
5.0	20	18	14	7	3	2	2	1	1
10.0	50	46	34	17	3	3	2	1	1
15.0	84	77	55	26	2	2	1	1	1
20.0	125	112	80	37	2	2	1	1	0
25.0	166	150	104	48	2	2	1	1	0
30.0	208	186	130	59	2	2	2	1	1
35.0	249	222	153	69	2	1	1	0	0
40.0	284	255	176	79	2	1	1	0	0
45.0	314	282	196	88	2	1	1	0	0
50.0	339	306	214	96	2	2	1	0	0
55.0	357	324	229	104	2	1	1	0	0
60.0	372	340	242	111	2	1	1	0	0
65.0	385	354	255	117	2	1	1	0	0
70.0	396	366	265	122	2	1	1	0	0
75.0	403	373	272	126	2	1	1	0	0
80.0	408	379	277	129	2	1	1	0	0
85.0	411	383	280	131	2	1	0	0	0
90.0	414	385	282	132	2	1	1	0	0
95.0	411	381	279	131	2	1	0	0	0
100.0	407	379	277	129	2	1	1	0	0
105.0	404	374	273	127	2	1	0	0	0
110.0	398	368	267	125	2	1	0	0	0
115.0	389	359	260	120	2	1	1	0	0
120.0	379	348	250	115	2	1	1	0	0
125.0	366	333	238	109	2	1	0	0	0
130.0	349	317	224	102	2	1	0	0	0
135.0	328	296	208	95	2	1	1	0	0
140.0	302	270	189	86	2	1	1	0	0
145.0	267	240	167	76	2	1	1	0	0
150.0	230	205	144	66	3	1	1	0	0
155.0	186	168	119	56	3	2	1	0	0
160.0	144	130	93	44	3	2	1	0	0
165.0	102	92	67	33	3	2	1	1	0
170.0	62	57	43	22	3	2	1	0	0
175.0	29	27	21	12	3	2	1	0	0
180.0	2	2	2	2	2	2	2	2	2



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		0
5- 10		1
10- 15		3
15- 20		5
20- 25		9
25- 30		14
30- 35		20
35- 40		26
40- 45		32
45- 50		38
50- 55		44
55- 60		50
60- 65		55
65- 70		59
70- 75		63
75- 80		66
80- 85		68
85- 90		69
90- 95		69
95-100		68
100-105		66
105-110		63
110-115		60
115-120		56
120-125		51
125-130		46
130-135		40
135-140		34
140-145		28
145-150		21
150-155		16
155-160		10
160-165		6
165-170		3
170-175		1
175-180		0

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		1
0- 20		9
0- 30		32
0- 40		77
0- 50		147
0- 60		242
0- 70		356
0- 80		485
0- 90		622
0-100		758
0-110		887
0-120		1004
0-130		1101
0-140		1175
0-150		1224
0-160		1250
0-170		1259
0-180		1260



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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	73	68	64	60	56	52	49	46	40	38	36	30
2	82	71	63	56	56	74	65	58	51	53	47	42	42	38	34	32	29	26	21
3	73	61	51	44	44	66	55	47	40	45	39	33	36	31	26	27	23	20	15
4	66	53	43	36	36	60	48	39	33	39	32	27	31	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	25	25	50	37	29	22	30	23	18	24	18	14	18	14	10	7
7	50	36	27	21	21	46	33	25	19	27	20	16	21	16	12	16	12	9	6
8	47	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	12	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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2/3/2020

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

<i>Test Equipment Used</i>			
<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>		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

<i>Test Equipment Used - Color & SPD; THD & Power Factor</i>			
<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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