

Project Number
20.01101



HUBBELL
Lighting

Date
9/21/2020

Photometric Test Report

Lab 1
Sphere

Test Sample Description

Catalog Number: P300332-031-30
Description: 22" LED Linear Vanity w/ Acrylic Refractor

Photometry

Test Method: IES LM-46-04
IES LM-79-08 §10
Preburn Time: 1:30
Time To Stabilize: 0:57
Total Operating Time: 3:25

Input Voltage (Volts): 120.0
Input Current (Amps): 0.183
Input Wattage (Watts): 21.4
Ambient Temp (°C): 25.5

Sphere

Test Method: IES LM-16-93
IES LM-79-08 § 12.1
Preburn Time: 1:50
Time To Stabilize: 1:24
Total Operating Time: 4:04

Input Voltage (Volts): 120.0
Input Current (Amps): 0.183
Input Wattage (Watts): 21.3
Ambient Temp (°C): 24
PF @ 120V: 0.978
THD @ 120V (%): 15.1



Hubbell Lighting, Inc.

701 Millennium Boulevard
Greenville, SC 29607
www.hubbelllighting.com

Checked (sphere): M. ELLMANN / B. LEE
Checked (photometry): D. ROBBINS
Approved: P. McCARTHY



* This customer-provided information was not verified by the laboratory and could affect the validity of the test results.
Note that the LED manufacturer and part number are unverifiable by the lab.

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Lamp Cat#: 2835

Lamp Desc: 44 - Seoul 3000K LEDs

Driver Desc: 1 - Becky BQE36-0550-40-TD

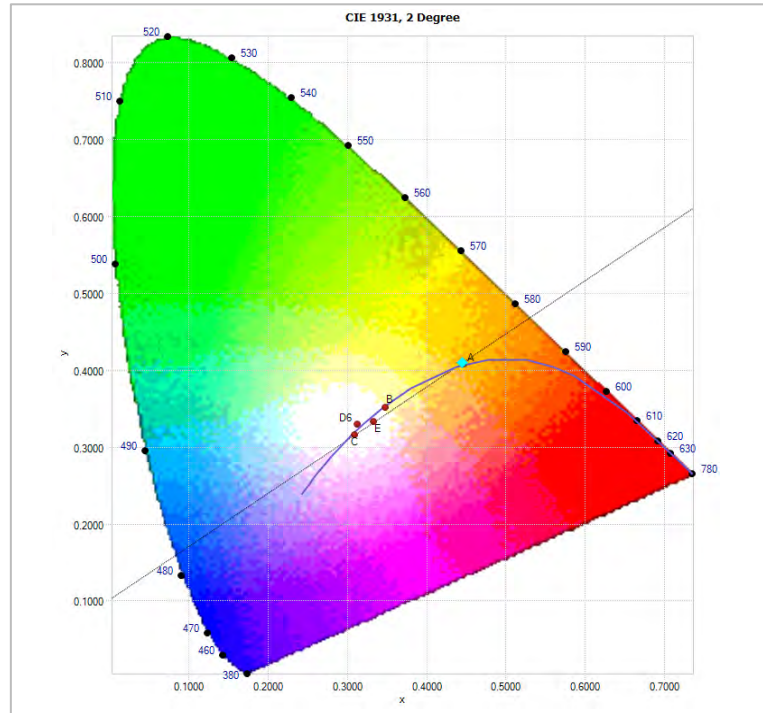
Programmed to 550mA

Efficacy: 48.5 LPW

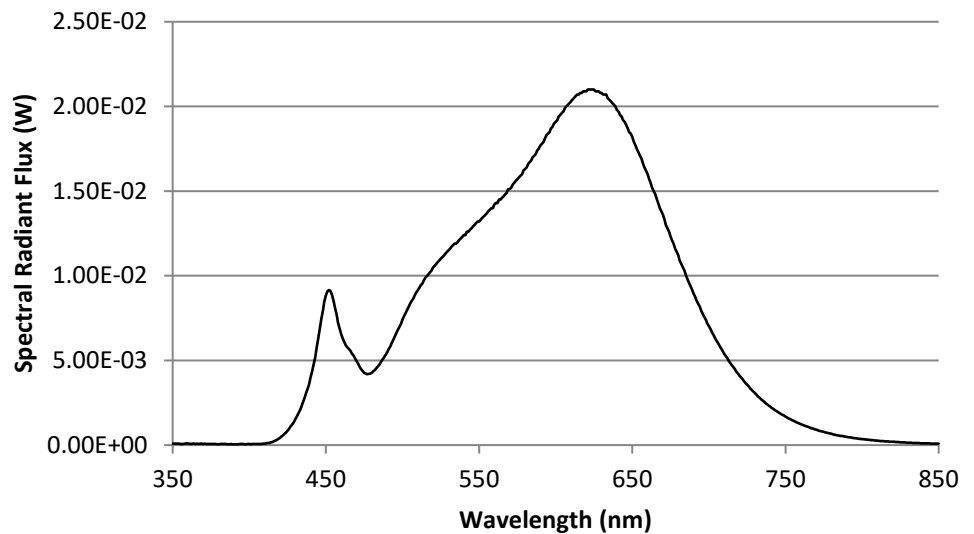
S/P Ratio: 1.4 LM'/LM

Spectral Results

Name	Value	Unit
Φ	3.61	watts
$\Phi(v)$	1033	lumens
$\Phi(v')$	1414	lm'
Chrom x	0.4445	
Chrom y	0.4101	
Chrom u	0.2529	
Chrom v	0.3499	
Duv	0.0011	
Chrom u'	0.2529	
Chrom v'	0.5249	
CCT	2922	K
Purity	56.5	%
λ (dom)	582.7	nm
FWHM	162.7	nm
λ (peak)	622.6	nm
λ (center)	601.5	nm
λ (centroid)	597.0	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.00139613	
Correlation	0.0054	
R1	93.0	
R2	95.6	
R3	97.1	
R4	93.7	
R5	92.5	
R6	94.8	
R7	93.5	
R8	83.4	
R9	61.4	
R10	88.8	
R11	94.6	
R12	81.1	
R13	93.7	
R14	97.6	



Spectral Distribution of Radiant Flux



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PREPARED FOR: PROGRESS

CATALOG NUMBER: P300332-031-30

LUMINAIRE: 22" LED Linear Vanity w/ Acrylic Refractor

LAMP CAT. NO.: 2835

LAMP: 44- Seoul 3000K LEDs

BALLAST CATALOG NUMBER: BQE36-0550-40-TD

BALLAST: 1- Becky - Programmed to 550mA

MOUNTING: Wall

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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CANDELA DISTRIBUTION

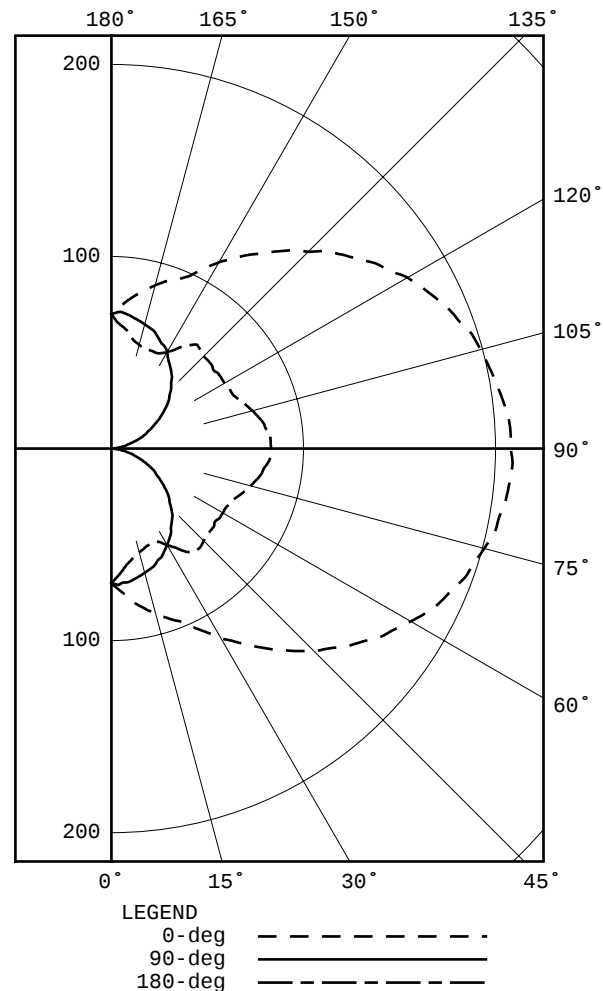
	0.0	45.0	90.0	135.0	180.0
0	70	70	70	70	70
5	76	74	70	66	64
15	89	82	67	57	56
25	103	88	62	51	54
35	125	94	54	48	65
45	149	104	44	53	68
55	171	115	33	51	66
65	189	124	22	46	68
75	201	131	11	45	75
85	208	134	2	41	82
90	208	134	1	38	83
95	207	134	2	44	83
105	199	129	10	47	76
115	186	121	21	47	69
125	168	112	33	51	68
135	145	102	44	53	68
145	123	91	53	49	65
155	100	86	61	52	55
165	88	81	67	57	56
175	76	74	71	66	64
180	70	70	70	70	70

FLUX

7
20
32
46
59
71
80
87
90
90
86
79
70
59
45
32
20
7

ZONAL ZONE	LUMEN	SUMMARY LUMENS	%FIXT
0- 30		59	6.0
0- 40		105	10.7
0- 60		235	24.0
0- 90		491	50.2
90-120		256	26.1
90-130		326	33.2
90-150		430	43.9
90-180		488	49.8
0-180		979	100.0

EFFICACY = 45.7 lm/W
CIE TYPE - GENERAL DIFFUSE
PLANE : 0-DEG 90-DEG 180-DEG
SPACING CRITERIA : 2.71 1.23 1.45
SHIELDING ANGLES : 90 90





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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 1.500 22.000
HEIGHT OF SIDE : 3.500 3.500

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE	AVERAGE	AVERAGE	AVERAGE
IN DEG	0-DEG	90-DEG	180-DEG
45	2969.	2522.	1355.
55	3232.	2202.	1248.
65	3499.	1823.	1259.
75	3757.	1253.	1402.
85	4051.	382.	1597.



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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	70	70	70	70	70	70	70	70	70
5.0	76	76	74	72	70	67	66	64	64
10.0	83	82	78	73	69	64	61	60	59
15.0	89	87	82	74	67	61	57	56	56
20.0	95	92	85	75	65	57	54	54	54
25.0	103	98	88	74	62	53	51	53	54
30.0	114	107	90	73	58	49	49	54	58
35.0	125	116	94	72	54	45	48	59	65
40.0	137	126	99	70	49	41	50	65	69
45.0	149	136	104	67	44	37	53	65	68
50.0	160	145	110	65	39	34	54	63	67
55.0	171	155	115	64	33	32	51	62	66
60.0	180	163	119	63	27	31	48	61	67
65.0	189	170	124	62	22	30	46	62	68
70.0	196	177	128	62	16	26	46	63	71
75.0	201	182	131	61	11	23	45	65	75
80.0	205	185	133	61	6	20	43	68	79
85.0	208	187	134	61	2	22	41	69	82
90.0	208	188	134	61	1	24	38	70	83
95.0	207	187	134	60	2	22	44	71	83
100.0	203	184	132	60	6	21	43	69	80
105.0	199	180	129	60	10	23	47	67	76
110.0	193	174	125	60	16	26	47	65	72
115.0	186	167	121	60	21	30	47	63	69
120.0	178	160	117	61	27	31	49	62	68
125.0	168	152	112	62	33	32	51	63	68
130.0	157	143	107	63	39	34	54	63	68
135.0	145	133	102	65	44	38	53	65	68
140.0	134	123	96	68	49	41	50	65	70
145.0	123	114	91	70	53	45	49	60	65
150.0	112	104	87	72	58	49	50	55	58
155.0	100	96	86	73	61	53	52	54	55
160.0	93	91	84	74	65	57	54	54	55
165.0	88	86	81	74	67	61	57	56	56
170.0	82	81	78	73	69	65	62	60	59
175.0	76	75	74	72	71	67	66	64	64
180.0	70	70	70	70	70	70	70	70	70



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 5		2
5- 10		5
10- 15		8
15- 20		11
20- 25		15
25- 30		18
30- 35		21
35- 40		25
40- 45		28
45- 50		31
50- 55		34
55- 60		37
60- 65		39
65- 70		41
70- 75		43
75- 80		44
80- 85		45
85- 90		45
90- 95		45
95-100		45
100-105		44
105-110		42
110-115		41
115-120		38
120-125		36
125-130		34
130-135		31
135-140		28
140-145		24
145-150		21
150-155		18
155-160		14
160-165		11
165-170		8
170-175		5
175-180		2

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 10		7
0- 20		26
0- 30		59
0- 40		105
0- 50		164
0- 60		235
0- 70		315
0- 80		401
0- 90		491
0-100		582
0-110		668
0-120		747
0-130		817
0-140		876
0-150		921
0-160		953
0-170		973
0-180		979



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	93	87	81	76	85	80	75	70	66	63	59	54	51	48	43	40	39	33
2	83	74	66	59	76	67	60	54	56	50	46	45	41	37	35	32	29	24
3	75	63	54	47	68	58	50	44	48	42	36	38	34	30	30	26	23	19
4	68	55	46	39	62	51	42	36	42	35	30	34	28	24	26	22	19	15
5	62	49	39	32	56	45	36	30	37	30	25	30	24	20	23	19	16	12
6	57	43	34	28	52	40	31	25	33	26	21	26	21	17	20	17	13	10
7	52	39	30	24	48	36	28	22	30	23	18	24	19	15	19	15	12	9
8	48	35	26	21	44	32	24	19	27	21	16	22	17	13	17	13	10	8
9	45	32	24	18	41	29	22	17	24	18	14	20	15	12	16	12	9	7
10	42	29	21	16	38	27	20	15	22	17	13	18	14	10	14	11	8	6

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
9/21/2020

Goniophotometer Calibration

Calibration Lamp: EIKO 75Q/CL/E10 28V75W

Lamp Number: K136

Calibration Current: 2.679 Amps DC

Total Luminous Flux: 1429 Lumens

Calibration Date: 8/28/2020

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL/HLI LAB 1 - Test Distance: 31.74'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	10/31/2020
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	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>Power Supply PF/THD</i>	Voltage-Regulated House Power	N/A	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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