

Project Number
20.00546



HUBBELL
Lighting

Date
05/18/2020

Photometric Test Report

Lab 4
Sphere

Test Sample Description

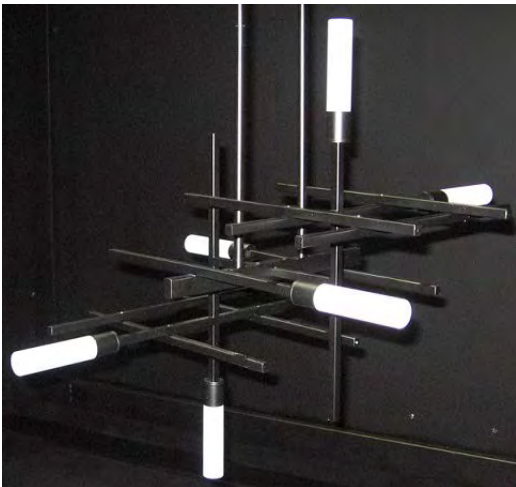
Catalog Number: P400264-031-30
Description: Bar Sculpture w/ 6- LED Light-Tubes

Photometry

Test Method: IES LM-41-14
IES LM-79-08 §10

Preburn Time: 0:35
Time To Stabilize: 0:30
Total Operating Time: 1:45

Input Voltage (Volts): 120.0
Input Current (Amps): 0.203
Input Wattage (Watts): 23.5
Ambient Temp (°C): 24.3



Sphere

Test Method: IES LM-16-93
IES LM-79-08 § 12.1

Preburn Time: 1:00
Time To Stabilize: 1:16
Total Operating Time: 2:16

Input Voltage (Volts): 120.0
Input Current (Amps): 0.205
Input Wattage (Watts): 23.7
Ambient Temp (°C): 24
PF @ 120V: 0.963
THD @ 120V (%): 18.0



Hubbell Lighting, Inc.

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

Checked (sphere): B. LEE
Checked (photometry): R. HALL
Approved: L. GENNETTEN



* 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#: BXEN-30G-13H-9B

Lamp Desc: 48 - BRIDGELUX 3000K LEDs

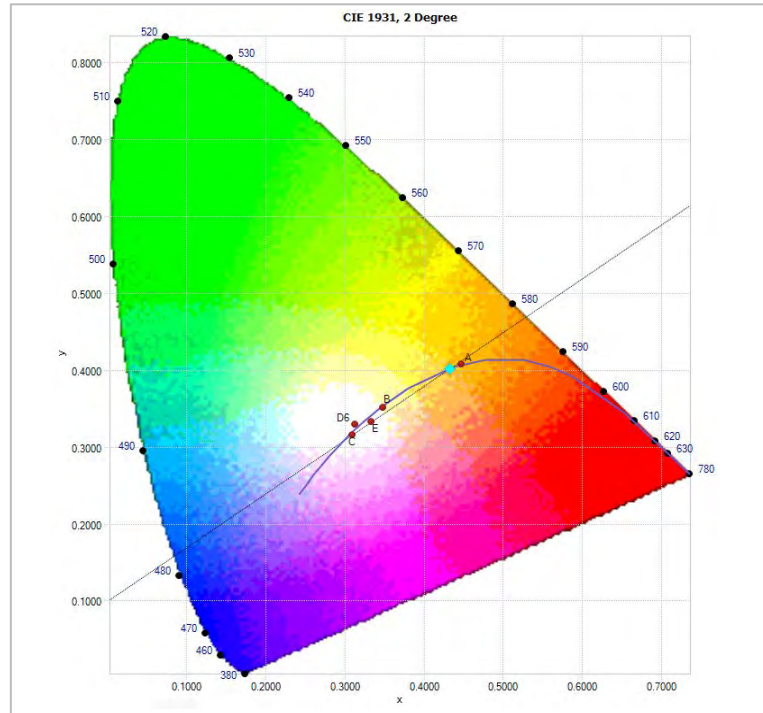
Driver Desc: 1 - JINTOP JT-03-600-24-40

Programmed to 600mA

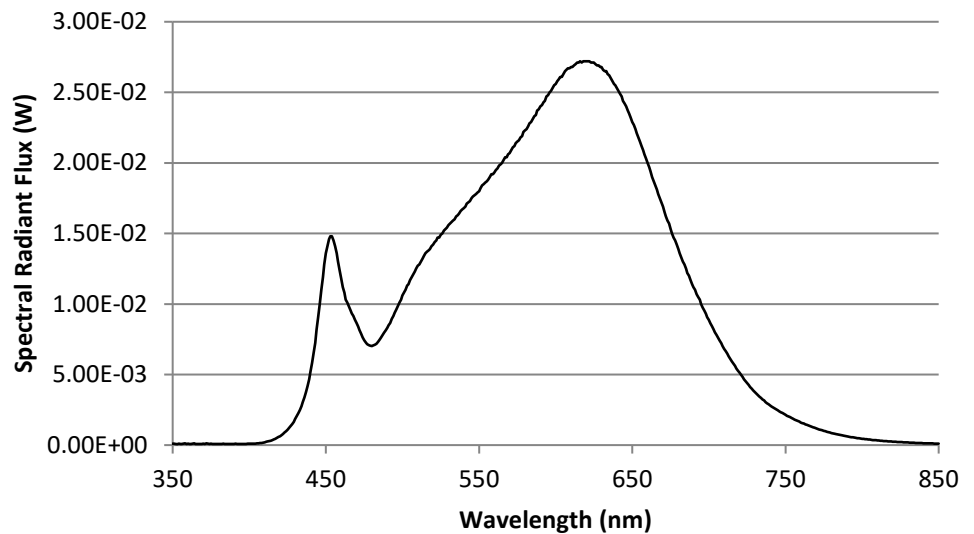
Efficacy: 59.0 LPW S/P Ratio: 1.4 LM'/LM

Spectral Results

Name	Value	Unit
Φ	4.84	watts
$\Phi(v)$	1399	lumens
$\Phi(v')$	2024	lm'
Chrom x	0.4323	
Chrom y	0.4026	
Chrom u	0.2482	
Chrom v	0.3467	
Duv	0	
Chrom u'	0.2482	
Chrom v'	0.5201	
CCT	3065	K
Purity	50.6	%
λ (dom)	582.5	nm
FWHM	165.8	nm
λ (peak)	619.9	nm
λ (center)	598.2	nm
λ (centroid)	592.5	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000191095	
Correlation	0.0054	
R1	92.5	
R2	96.4	
R3	98.4	
R4	92.0	
R5	92.1	
R6	95.2	
R7	91.9	
R8	81.6	
R9	58.7	
R10	90.6	
R11	92.5	
R12	79.7	
R13	93.6	
R14	98.8	



Spectral Distribution of Radiant Flux



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PREPARED FOR: PROGRESS

CATALOG NUMBER: P400264-031-30

LUMINAIRE: Bar Sculpture w/ 6- LED Light-Tubes

LAMP CAT. NO.: BXEN-30G-13H-9B

LAMP: 48- Bridgelux 3000K LEDs

BALLAST: 1- JINTOP Programmed to 600mA

BALLAST CATALOG NUMBER: JT-03-600-24-40

REFRACTOR: Frosted Acrylic Tubes



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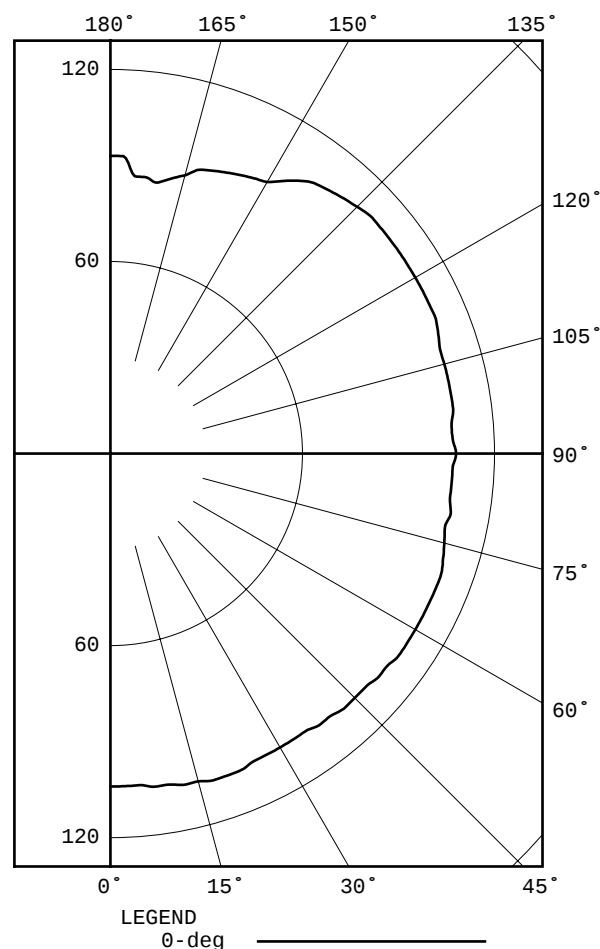
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DEG	CANDELA	LUMENS
0	104	
5	104	10
15	106	30
25	106	49
35	106	67
45	108	84
55	110	98
65	110	109
75	108	115
85	107	117
90	108	
95	107	117
105	108	114
115	110	109
125	110	99
135	109	84
145	104	65
155	96	44
165	90	26
175	87	8
180	93	

ZONAL ZONE	LUMEN	SUMMARY LUMENS	%FIXT
0- 30		89	6.6
0- 40		156	11.6
0- 60		338	25.1
0- 90		679	50.4
90-120		341	25.3
90-130		439	32.6
90-150		589	43.7
90-180		667	49.6
0-180		1346	100.0

EFFICACY = 57.4 lm/W
CIE TYPE - GENERAL DIFFUSE
SPACING CRITERION: 1.57
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90





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PLANE	:	0-DEG	90-DEG
LUMINOUS LENGTH	:	29.000	29.000
HEIGHT OF SIDE	:	29.000	29.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	141.
55	146.
65	153.
75	163.
85	182.



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CANDELA DISTRIBUTION

0.0	104
5.0	104
10.0	105
15.0	106
20.0	107
25.0	106
30.0	106
35.0	106
40.0	107
45.0	108
50.0	109
55.0	110
60.0	110
65.0	110
70.0	110
75.0	108
80.0	108
85.0	107
90.0	108
95.0	107
100.0	108
105.0	108
110.0	109
115.0	110
120.0	110
125.0	110
130.0	110
135.0	109
140.0	107
145.0	104
150.0	98
155.0	96
160.0	94
165.0	90
170.0	86
175.0	87
180.0	93



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 5		2
5- 10		7
10- 15		13
15- 20		18
20- 25		22
25- 30		27
30- 35		31
35- 40		36
40- 45		40
45- 50		44
50- 55		48
55- 60		51
60- 65		53
65- 70		56
70- 75		57
75- 80		58
80- 85		58
85- 90		59
90- 95		59
95-100		59
100-105		58
105-110		57
110-115		56
115-120		53
120-125		51
125-130		48
130-135		44
135-140		40
140-145		35
145-150		30
150-155		25
155-160		20
160-165		15
165-170		10
170-175		6
175-180		2

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0- 10		10
0- 20		40
0- 30		89
0- 40		156
0- 50		240
0- 60		338
0- 70		447
0- 80		562
0- 90		679
0-100		796
0-110		911
0-120		1020
0-130		1118
0-140		1203
0-150		1268
0-160		1312
0-170		1338
0-180		1346



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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	84	84	84	69	69	69	57	57	57	50
1	94	87	82	77	86	80	75	71	67	63	60	55	52	49	43	41	39	34
2	84	74	66	60	76	68	61	55	56	51	46	46	42	38	36	33	30	25
3	75	64	55	48	69	59	51	44	48	42	37	39	34	30	30	27	24	20
4	68	56	47	39	62	51	43	36	42	36	31	34	29	25	27	23	20	16
5	62	49	40	33	57	45	37	31	37	31	26	30	25	21	24	20	16	13
6	57	44	35	28	52	40	32	26	33	27	22	27	22	18	21	17	14	11
7	53	39	30	24	48	36	28	23	30	24	19	24	19	16	19	15	12	9
8	49	35	27	21	45	33	25	20	27	21	17	22	17	14	17	14	11	8
9	45	32	24	19	41	30	22	17	25	19	15	20	15	12	16	12	9	7
10	42	29	22	16	39	27	20	15	23	17	13	19	14	11	15	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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Goniophotometer Calibration

Calibration Lamp : Osram ST8-HA4-250-840 22W / 4000K

Lamp Number: RM B6-28

Ballast: Vossloh Schwabe LN 36.149

Ballast Number: RM B6-28

Calibration Voltage/Frequency: 220Vac / 50hz

Total Luminous Flux: 2463 Lumens

Calibration Date: 06/25/2019

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	LMT/GO-DS 1600 Lab 4 Test Dist.: 31.0'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27074V	10/31/2020
<i>Power Supply</i>	Chroma / 61604	616040003897	N/A
<i>Thermometer</i>	LMT / ATS-4Ch	10B623-3	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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