

Project Number
19.01614



HUBBELL
Lighting

Date
9/12/2019

Photometric Test Report

Lab 1
Sphere

Test Sample Description

Catalog Number: P500276-009-30
Description: LED Linear Pendant w/ Plastic Refractor [Higher Output LEDs and Reflective Plate]

Photometry

Test Method: IES LM-41-14
IES LM-79-08 §10
Preburn Time: 0:20
Time To Stabilize: 0:19
Total Operating Time: 1:00

Input Voltage (Volts): 120.1
Input Current (Amps): 0.316
Input Wattage (Watts): 37.9
Ambient Temp (°C): 25.9

Sphere

Test Method: IES LM-16-93
IES LM-79-08 §12.1
Preburn Time: 0:10
Time To Stabilize: 1:04
Total Operating Time: 1:38

Input Voltage (Volts): 120.0
Input Current (Amps): 0.316
Input Wattage (Watts): 37.7
Ambient Temp (°C): 24



Hubbell Lighting, Inc.

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

Checked (sphere): M. ELLMANN
Checked (photometry): D. ROBBINS
Approved: N. DeVOL

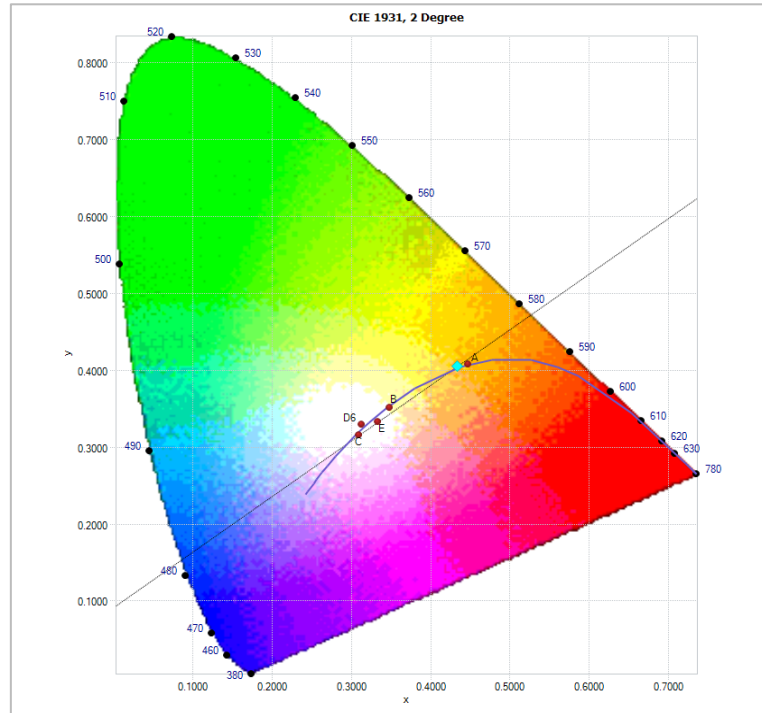


This report shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

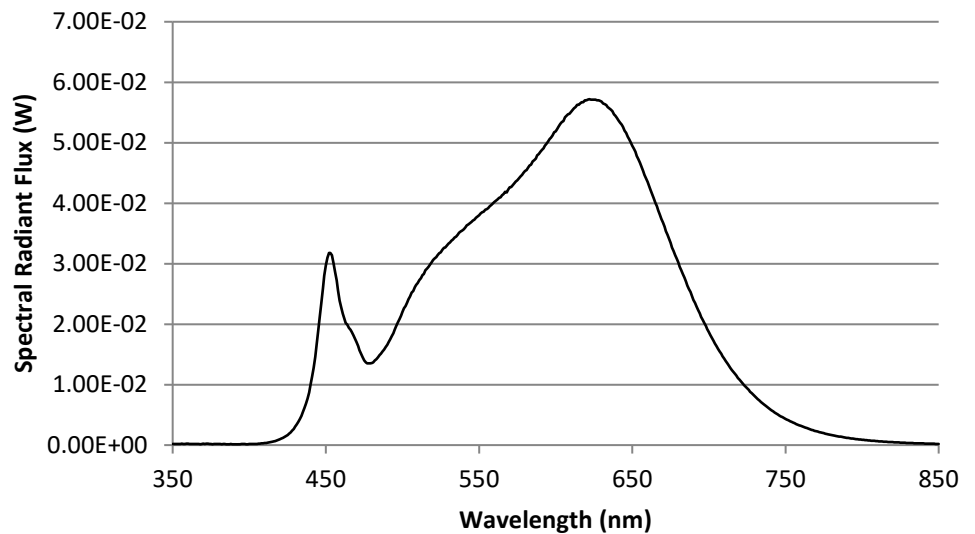
Lamp Cat#: 3528
 Lamp Desc: 208 - Seoul 3000K LEDs
 Driver Desc: 1 - L.T.F. DA40W700C3655 3001
 Programmed to 1000mA
 Efficacy: 77.1 LPW S/P Ratio: 1.4 LM/LM

Spectral Results

Name	Value	Unit
Φ	10.10	watts
$\Phi(v)$	2908	lumens
$\Phi(v')$	4202	lm'
Chrom x	0.4333	
Chrom y	0.4054	
Chrom u	0.2477	
Chrom v	0.3476	
Duv	0.0011	
Chrom u'	0.2477	
Chrom v'	0.5214	
CCT	3070	K
Purity	51.8	%
λ (dom)	582.1	nm
FWHM	168.2	nm
λ (peak)	622.6	nm
λ (center)	598.5	nm
λ (centroid)	593.6	nm
SDCM	Cool White	
RA	94	
Corr. Coef.	0.001078124	
Correlation	0.0054	
R1	94.1	
R2	96.3	
R3	97.2	
R4	94.1	
R5	93.3	
R6	95.1	
R7	94.1	
R8	85.5	
R9	66.1	
R10	90.2	
R11	94.8	
R12	78.5	
R13	94.7	
R14	97.7	



Spectral Distribution of Radiant Flux



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PREPARED FOR: PROGRESS

CATALOG NUMBER: P500276-009-30

LUMINAIRE: LED Linear Pendant w/ Plastic Refractor [Higher Output LEDs and Reflective Plate]

LAMP CAT. NO.: 3528

LAMP: 208- Seoul 3000K LEDs

BALLAST CATALOG NUMBER: DA40W700C3655 3001

BALLAST: 1- L.T.F.

MOUNTING: Pendant

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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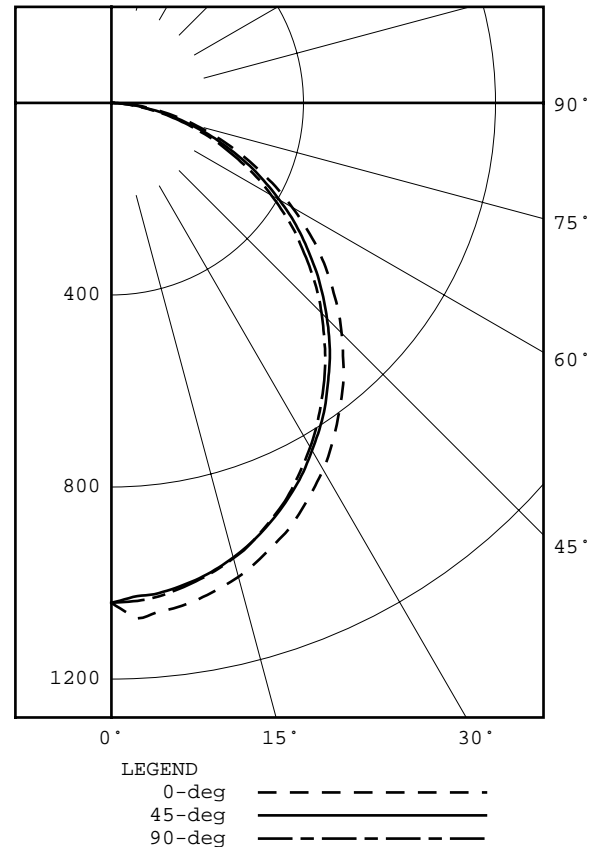
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CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	1041	1041	1041	1041	1041	
5	1066	1030	1027	1035	1034	98
15	1022	986	980	986	982	279
25	936	902	893	890	888	414
35	818	786	775	766	762	487
45	678	650	635	623	619	493
55	522	498	484	469	466	434
65	347	337	325	308	305	321
75	184	175	165	156	152	176
85	48	42	35	29	29	43
90	0	0	0	0	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	791	28.8
0- 40	1278	46.6
0- 60	2205	80.3
0- 90	2745	100.0
90-180	0	0.0
0-180	2745	100.0

EFFICACY = 72.4 lm/W
CIE TYPE - DIRECT
PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.25 1.19
SHIELDING ANGLES : 90 90
LUMINOUS LENGTH : 48.000 1.750

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE	AVERAGE	AVERAGE	AVERAGE
IN DEG	0-DEG	45-DEG	90-DEG
45	17693.	16571.	16153.
55	16793.	15571.	14992.
65	15151.	14190.	13317.
75	13118.	11764.	10837.
85	10162.	7410.	6140.





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CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	1041	1041	1041	1041	1041
2.5	1071	1035	1030	1040	1039
5.0	1066	1030	1027	1035	1034
7.5	1059	1024	1019	1027	1024
10.0	1049	1013	1009	1015	1012
12.5	1036	1001	996	1001	998
15.0	1022	986	980	986	982
17.5	1003	968	962	966	963
20.0	982	947	941	943	939
22.5	962	926	918	919	915
25.0	936	902	893	890	888
27.5	909	874	866	861	858
30.0	882	846	836	831	828
32.5	851	818	806	800	796
35.0	818	786	775	766	762
37.5	785	754	740	732	728
40.0	752	721	707	696	693
42.5	714	685	672	659	655
45.0	678	650	635	623	619
47.5	641	614	598	585	582
50.0	601	575	561	545	542
52.5	562	537	522	508	502
55.0	522	498	484	469	466
57.5	478	457	445	427	425
60.0	435	418	404	389	385
62.5	392	378	364	349	347
65.0	347	337	325	308	305
67.5	305	295	283	269	265
70.0	264	254	243	231	229
72.5	223	213	205	191	189
75.0	184	175	165	156	152
77.5	146	137	129	120	119
80.0	109	103	94	86	85
82.5	77	69	62	56	53
85.0	48	42	35	29	29
87.5	21	16	10	6	5
90.0	0	0	0	0	0



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		25
5- 10		73
10- 15		119
15- 20		160
20- 25		194
25- 30		220
30- 35		239
35- 40		249
40- 45		250
45- 50		243
50- 55		228
55- 60		206
60- 65		177
65- 70		143
70- 75		107
75- 80		70
80- 85		35
85- 90		8

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		98
0- 20		377
0- 30		791
0- 40		1278
0- 50		1771
0- 60		2205
0- 70		2526
0- 80		2702
0- 90		2745



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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	119	119	119	119	119	116	116	116	116	111	111	111	111	111	106	106	106	102	102	102	100	
1	109	104	100	96	96	106	102	98	95	98	95	92	94	91	89	90	88	86	90	88	86	84
2	99	91	84	79	79	97	89	83	78	86	81	76	83	78	74	79	76	73	79	76	73	71
3	91	80	72	66	66	88	79	71	65	76	69	64	73	67	63	70	66	62	70	66	62	60
4	83	71	63	56	56	81	70	62	56	67	60	55	65	59	54	63	58	53	63	58	53	51
5	76	64	55	48	48	74	63	54	48	61	53	47	59	52	47	57	51	46	57	51	46	44
6	71	57	49	42	42	69	57	48	42	55	47	42	53	46	41	51	46	41	51	46	41	39
7	66	52	43	37	37	64	51	43	37	50	42	37	48	42	37	47	41	36	47	41	36	34
8	61	48	39	33	33	60	47	39	33	46	38	33	44	38	33	43	37	33	43	37	33	31
9	57	44	36	30	30	56	43	35	30	42	35	30	41	34	30	40	34	30	40	34	30	28
10	54	40	33	27	27	52	40	32	27	39	32	27	38	32	27	37	31	27	37	31	27	25

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: 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 1 - Test Distance: 31.74'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27071V	10/31/2019
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	10/31/2019

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	10/31/2019
<i>Power Analyzer</i>	Yokogawa / WT332	C2QA27074V	10/31/2019
<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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