

Project Number
17.03114



HUBBELL
Lighting

Date
12/12/2017

Lab#6
Sphere

Test Sample Description

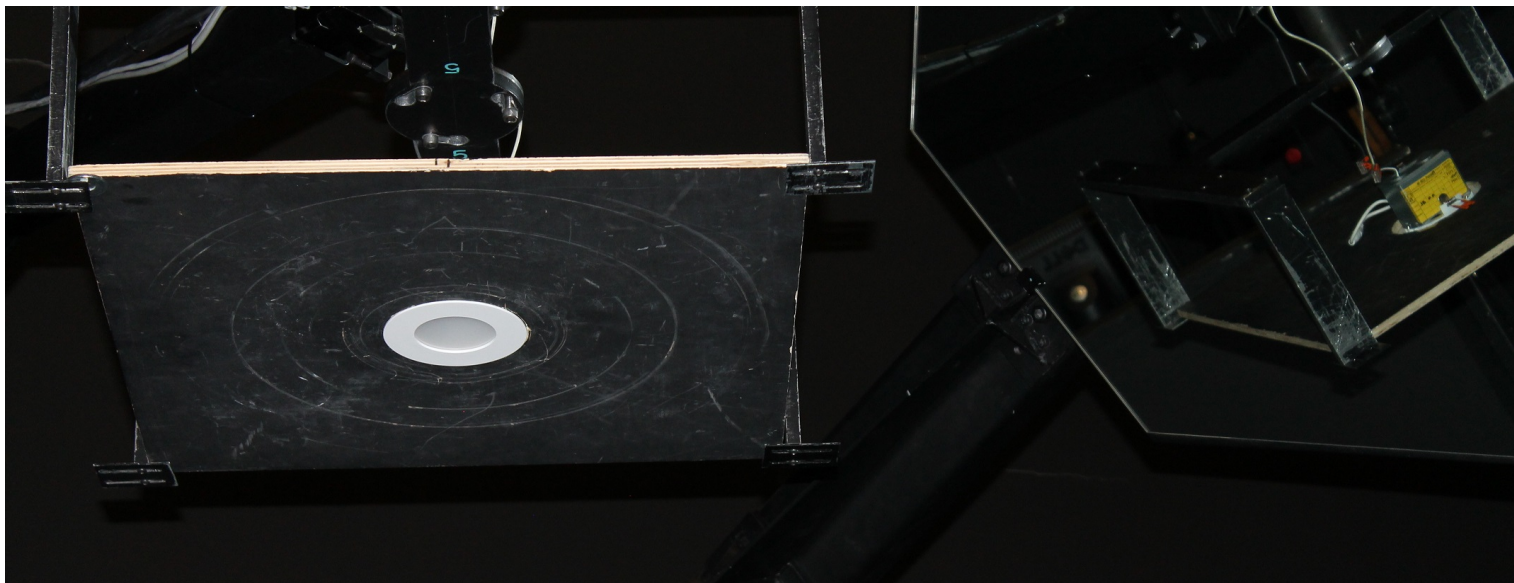
Catalog Number: P800004-028-30
Description: 5" Recessed edgelit. T2 Sample. White.

Photometry IES LM-46-04
Test Method: IES LM-79-08 § 10
Preburn Time: 17:00
Time To Stabilize: 0:40
Total Operating Time: 19:20

Input Voltage (Volts): 120.1
Input Current (Amps): 0.071
Input Wattage (Watts): 8.35
Ambient Temp (°C): 24.3

Sphere IES LM-16-93
Test Method: IES LM-79-08 § 9.1 & 12.1
Preburn Time: 8:00
Time To Stabilize: 1:01
Total Operating Time: 9:01

Input Voltage (Volts): 120.0
Input Current (Amps): 0.070
Input Wattage (Watts): 8.3
Ambient Temp (°C): 24.0



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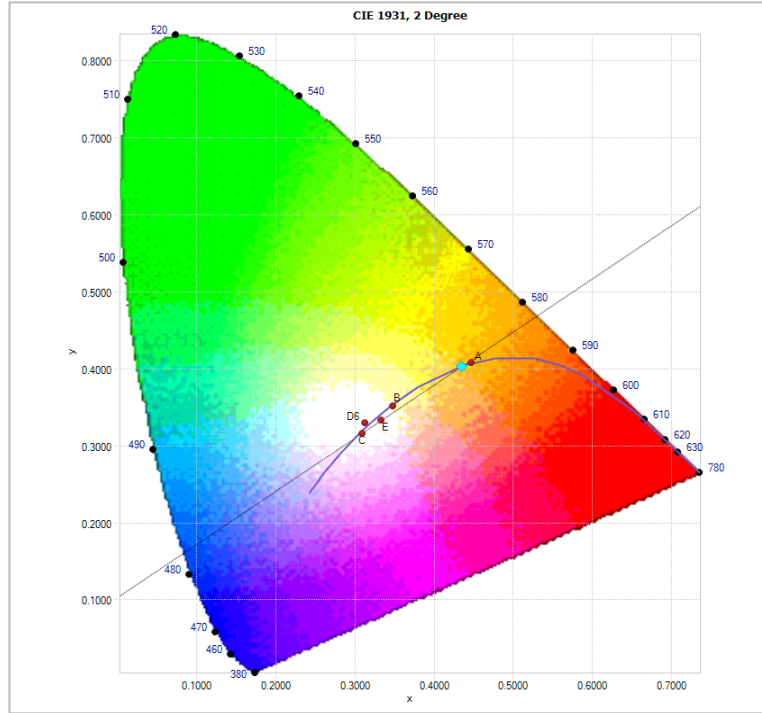
Checked (sphere): B.LEE
Checked (photometry): M.ELLMANN
Approved: _____



Lamp Cat#: 2835
 Lamp Desc: 28 - Seoul 3000K LEDs
 Driver Desc: 1 - Alpha D-PL-A53-01-A V2.0-Y2
 Programmed to 78mA

Efficacy: 73.5 LPW S/P Ratio: 1.4 LM/LM

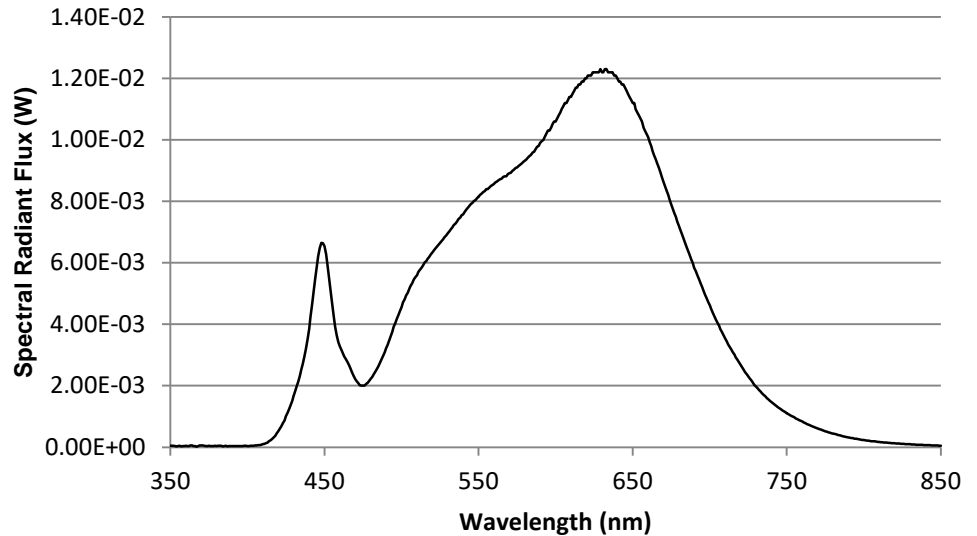
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	2.19	watts
$\Phi(v)$	610	lumens
$\Phi(v')$	855	lm'
Chrom x	0.435	
Chrom y	0.4034	
Chrom u	0.2496	
Chrom v	0.3472	
Duv	0.0001	
Chrom u'	0.2496	
Chrom v'	0.5208	
CCT	3025	K
Purity	51.6	%
λ (dom)	582.7	nm
FWHM	170.9	nm
λ (peak)	629.3	nm
λ (center)	602.4	nm
λ (centroid)	596.8	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000167957	
Correlation	0.0054	
R1	94.8	
R2	94.8	
R3	93.0	
R4	94.3	
R5	93.7	
R6	92.8	
R7	94.8	
R8	89.6	
R9	74.3	
R10	86.6	
R11	94.8	
R12	81.8	
R13	94.5	
R14	95.3	

Spectral Distribution of Radiant Flux



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



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PREPARED FOR: PROGRESS

CATALOG NUMBER: P800004-028-30

LUMINAIRE: 5" Recessed edgelit. T2 Sample. White.

LAMP CAT. NO.: 2835

LAMP: 28 - Seoul 3000K LEDs

BALLAST CATALOG NUMBER: D-PL-A53-01-A V2.0-Y2

BALLAST: 1-Alpha- set to 78mA

MOUNTING: Recessed

REFLECTOR: PET

REFRACTOR: Polycarbonate

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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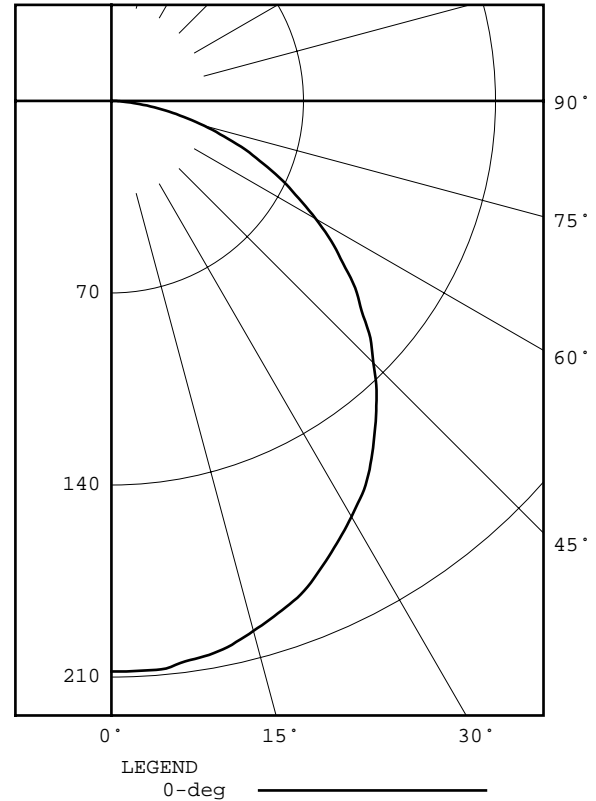
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DEG	CANDELA	LUMENS
0	208	
5	208	20
15	200	56
25	185	85
35	164	102
45	135	104
55	103	92
65	69	68
75	35	37
85	7	9
90	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	162	28.1
0- 40	264	45.9
0- 60	460	80.1
0- 90	575	100.0
90-180	0	0.0
0-180	575	100.0

EFFICACY = 68.9 lm/W
CIE TYPE - DIRECT
SPACING CRITERION: 1.25
LUMINOUS DIAMETER: 2.875

LUMINANCE DATA IN CANDELA/SQ M	
ANGLE	AVERAGE
IN DEG	
45	45584.
55	42876.
65	38982.
75	32288.
85	19176.





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CANDELA DISTRIBUTION

0.0	208
2.5	208
5.0	208
7.5	206
10.0	205
12.5	203
15.0	200
17.5	197
20.0	194
22.5	190
25.0	185
27.5	180
30.0	175
32.5	170
35.0	164
37.5	157
40.0	150
42.5	143
45.0	135
47.5	128
50.0	119
52.5	112
55.0	103
57.5	95
60.0	86
62.5	77
65.0	69
67.5	60
70.0	52
72.5	43
75.0	35
77.5	27
80.0	20
82.5	13
85.0	7
87.5	3
90.0	0



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5-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	5	5
5-	10	15
10-	15	24
15-	20	32
20-	25	40
25-	30	46
30-	35	50
35-	40	52
40-	45	53
45-	50	51
50-	55	48
55-	60	44
60-	65	38
65-	70	30
70-	75	23
75-	80	15
80-	85	7
85-	90	2

10-DEGREE		
ZONAL	LUMEN	SUMMARY
0-	10	20
0-	20	76
0-	30	162
0-	40	264
0-	50	368
0-	60	460
0-	70	528
0-	80	566
0-	90	575



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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			
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	80	76	82	78	74	79	76	72	79	76	72	70
3	90	80	72	65	65	88	78	71	65	75	69	64	73	67	63	70	66	62	70	66	62	59
4	83	71	62	56	56	81	70	61	55	67	60	54	65	59	54	63	57	53	63	57	53	51
5	76	63	54	48	48	74	62	54	48	60	53	47	58	52	47	56	51	46	56	51	46	44
6	70	57	48	42	42	69	56	48	42	54	47	41	53	46	41	51	45	41	51	45	41	38
7	65	52	43	37	37	64	51	43	37	49	42	37	48	41	36	47	41	36	47	41	36	34
8	61	47	39	33	33	59	47	39	33	45	38	33	44	37	32	43	37	32	43	37	32	30
9	57	43	35	30	30	55	43	35	30	42	34	29	41	34	29	40	34	29	40	34	29	27
10	53	40	32	27	27	52	40	32	27	39	32	27	38	31	27	37	31	26	37	31	26	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: ITL78966-1000-38

Calibration Current: 8.300 Amps DC

Total Luminous Flux: 25889.0 Lumens

Calibration Date: 09/02/16

Test Equipment Used

<i>Instrument</i>	<i>Manufacturer / Model</i>	<i>S/N</i>	<i>Calibration Due:</i>
<i>Goniophotometer</i>	ITL / HLI LAB 6 - Test Distance: 31.3'	N/A	N/A
<i>Power Analyzer</i>	Yokogawa / WT 332	C2QA27076V	10/25/2018
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	1912745	10/26/2018

Sphere Calibration

Calibration Lamp: EIKO 28V75W/E10

Lamp Number: SCL-1400-J136

Calibration Current: 2.679 Amps

Total Luminous Flux: 1427 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	10/26/2018
<i>LAMP Power Meter</i>	Yokogawa / WT332	C2QA27075V	10/25/2018
<i>Power Supply</i>	Chroma / 61602	616020002113	N/A
<i>Aux Lamp Supply</i>	Labsphere / LPS-100-0833	0331159372	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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