

Project Number  
18.00024



Date  
1/9/2018

Lab 1  
Sphere

**Test Sample Description**

Catalog Number: P730006-030-30  
Description: 14" Cloud LED C-T-C w/ White Contoured Acrylic Diffuser

**Photometry**

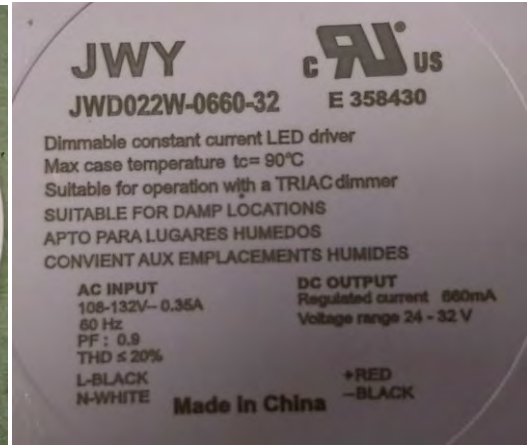
IES LM-46-04  
 Test Method: IES LM-79-08 § 10  
 Preburn Time: 00:30  
 Time To Stabilize: 0:15  
 Total Operating Time: 1:22

Input Voltage (Volts): 120.2  
 Input Current (Amps): 0.184  
 Input Wattage (Watts): 21.8  
 Ambient Temp (°C): 26

**Sphere**

IES LM-16-93  
 Test Method: IES LM-79-08 § 9.1 & 12.1  
 Preburn Time: 8:00  
 Time To Stabilize: 0:59  
 Total Operating Time: 8:59

Input Voltage (Volts): 120.0  
 Input Current (Amps): 0.183  
 Input Wattage (Watts): 21.7  
 Ambient Temp (°C): 24.0



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

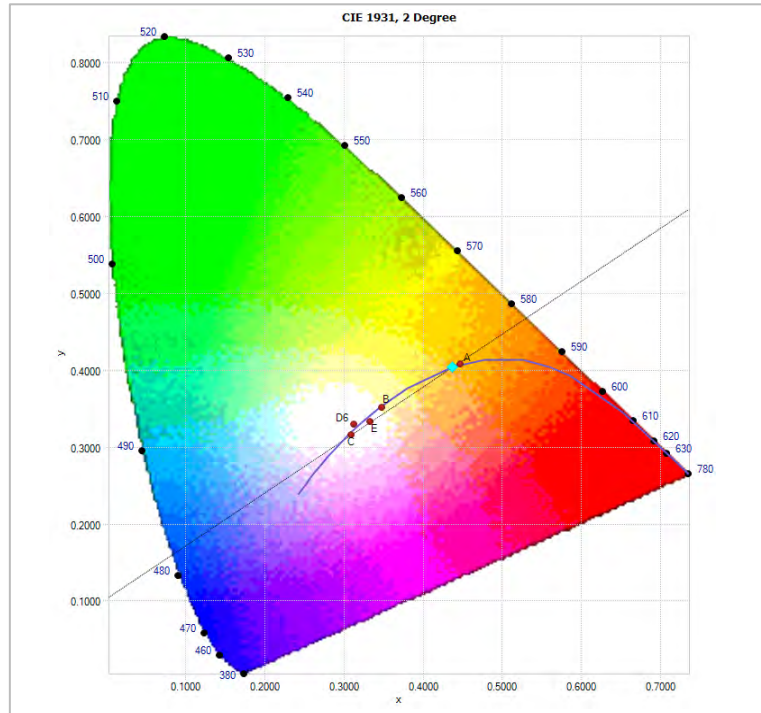




Lamp Cat#: 2835  
 Lamp Desc: 90 - Samsung 3000K LEDs  
 Driver Desc: 1 - JWY JWD022W-0660-32  
 Programmed to 660mA

Efficacy: 89.8 LPW      S/P Ratio: 1.4 LM'/LM

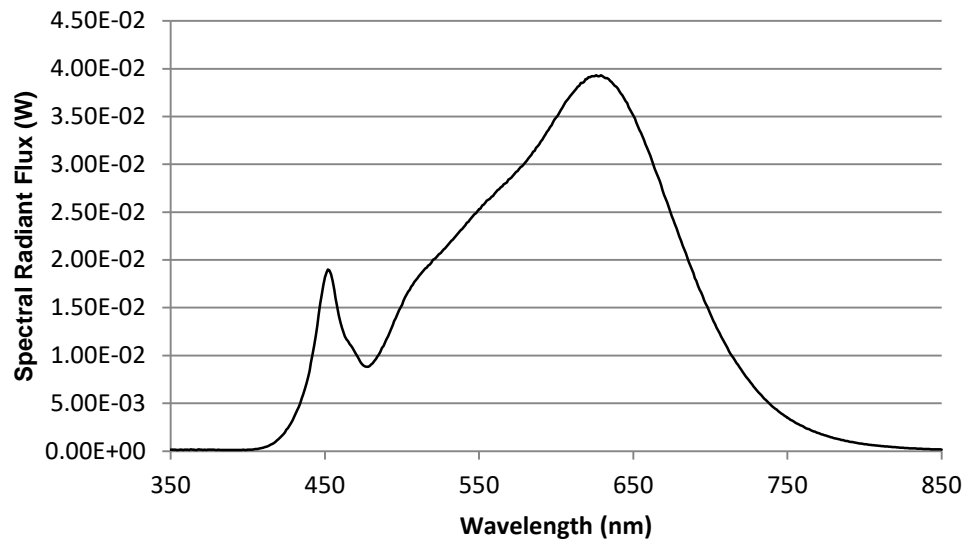
**Chromaticity Diagram**



**Spectral Results**

Name	Value	Unit
Φ	6.98	watts
Φ(v)	1948	lumens
Φ(v')	2783	lm'
Chrom x	0.4368	
Chrom y	0.4045	
Chrom u	0.2503	
Chrom v	0.3477	
Duv	0.0001	
Chrom u'	0.2503	
Chrom v'	0.5216	
CCT	3004	K
Purity	52.5	%
λ (dom)	582.7	nm
FWHM	168	nm
λ (peak)	625.7	nm
λ (center)	602.5	nm
λ (centroid)	596.6	nm
SDCM	Cool White	
RA	95	
Corr. Coef.	0.000252559	
Correlation	0.0054	
R1	95.2	
R2	97.0	
R3	97.4	
R4	95.4	
R5	94.8	
R6	96.2	
R7	94.7	
R8	87.6	
R9	71.3	
R10	92.1	
R11	96.2	
R12	84.4	
R13	95.7	
R14	97.9	

**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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**LUMINAIRE:** 14" Cloud LED C-T-C w/ White Contoured Acrylic Diffuser

**LAMP CAT. NO.:** 2835

**LAMP:** 90- SAMSUNG 3000K LEDs

**BALLAST CATALOG NUMBER:** JWD022W-0660-32

**BALLAST:** 1- JWY

**MOUNTING:** Ceiling

**NOTE:** DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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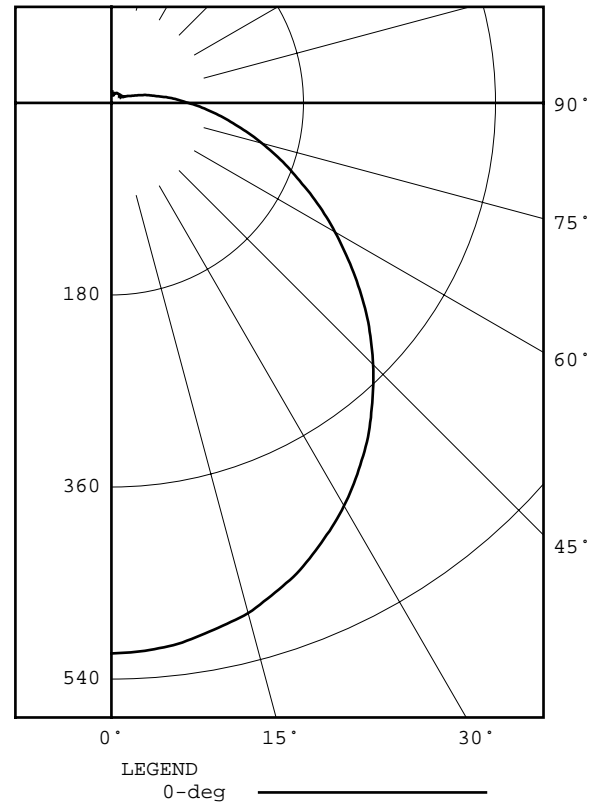
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DEG	CANDELA	LUMENS
0	516	
5	513	49
15	495	140
25	459	212
35	409	256
45	347	268
55	277	248
65	208	206
75	146	155
85	94	103
90	72	
95	55	60
105	28	30
115	14	14
125	10	9
135	10	8
145	11	7
155	10	5
165	8	2
175	10	1
180	11	

ZONAL ZONE	LUMEN LUMENS	SUMMARY LUMENS	%FIXT
0- 30		400	22.6
0- 40		656	37.0
0- 60		1172	66.1
0- 90		1636	92.3
90-120		105	5.9
90-130		114	6.4
90-150		129	7.3
90-180		137	7.7
0-180		1773	100.0

EFFICACY = 81.3 lm/W  
CIE TYPE - DIRECT  
SPACING CRITERION: 1.26  
PLANE : 0-DEG 90-DEG  
SHIELDING ANGLES : 90 90





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LUMINOUS DIAMETER: 14.000  
HEIGHT OF SIDE : 3.000

LUMINANCE DATA IN CANDELA/SQ M  
ANGLE AVERAGE  
IN DEG

45	3882.
55	3499.
65	3126.
75	2814.
85	2637.



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CANDELA DISTRIBUTION

0.0	516
5.0	513
10.0	505
15.0	495
20.0	479
25.0	459
30.0	436
35.0	409
40.0	379
45.0	347
50.0	313
55.0	277
60.0	242
65.0	208
70.0	176
75.0	146
80.0	118
85.0	94
90.0	72
95.0	55
100.0	39
105.0	28
110.0	19
115.0	14
120.0	11
125.0	10
130.0	11
135.0	10
140.0	11
145.0	11
150.0	11
155.0	10
160.0	10
165.0	8
170.0	7
175.0	10
180.0	11



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		12
5- 10		36
10- 15		59
15- 20		80
20- 25		98
25- 30		113
30- 35		124
35- 40		132
40- 45		134
45- 50		133
50- 55		128
55- 60		120
60- 65		109
65- 70		97
70- 75		84
75- 80		71
80- 85		58
85- 90		45
90- 95		35
95-100		25
100-105		18
105-110		12
110-115		8
115-120		6
120-125		5
125-130		4
130-135		4
135-140		4
140-145		4
145-150		3
150-155		3
155-160		2
160-165		1
165-170		1
170-175		1
175-180		0

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		49
0- 20		188
0- 30		400
0- 40		656
0- 50		924
0- 60		1172
0- 70		1378
0- 80		1533
0- 90		1636
0-100		1696
0-110		1726
0-120		1740
0-130		1749
0-140		1758
0-150		1765
0-160		1769
0-170		1772
0-180		1773



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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	117	117	117	117	117	114	114	114	114	114	107	107	107	107	101	101	101	101	95	95	95	92
1	105	99	94	90	90	101	96	92	88	88	91	87	83	83	85	82	80	80	80	78	76	73
2	95	86	78	72	72	91	83	76	70	70	78	73	68	68	74	69	65	65	70	66	62	60
3	86	75	66	59	59	83	73	65	58	58	68	62	56	56	65	59	54	54	61	56	52	50
4	79	66	57	50	50	76	64	56	49	49	61	53	47	47	57	51	46	46	54	49	44	42
5	72	59	49	43	43	69	57	48	42	42	54	47	41	41	51	45	40	40	49	43	38	36
6	67	53	44	37	37	64	51	43	36	36	49	41	36	36	46	40	35	35	44	38	34	31
7	62	48	39	33	33	59	47	38	32	32	44	37	31	31	42	36	31	31	40	34	30	28
8	57	44	35	29	29	55	43	34	29	29	41	33	28	28	39	32	27	27	37	31	27	25
9	54	40	32	26	26	52	39	31	26	26	37	30	25	25	36	29	25	25	34	28	24	22
10	50	37	29	23	23	49	36	28	23	23	34	28	23	23	33	27	22	22	32	26	22	20

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:* 07/10/17

### *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	10/25/2018
<i>Power Source</i>	Voltage-Regulated House Power	N/A	N/A
<i>Thermometer</i>	National Instruments / USB-TC01	176F4E3	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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