

Project Number
18.00026



Date
1/8/2018

Lab 1
Sphere

Test Sample Description

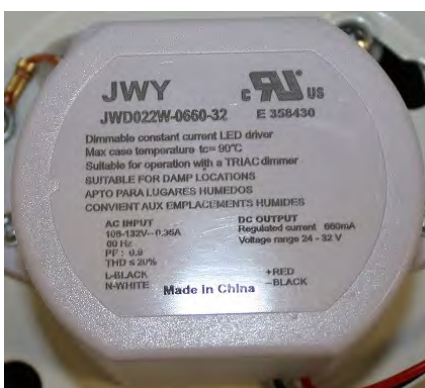
Catalog Number: P730005-030-30
Description: 11" Drum LED C-T-C w/ Etched Opal Acrylic Diffuser

Photometry
 Test Method: IES LM-46-04
 IES LM-79-08 § 10
 Preburn Time: 00:10
 Time To Stabilize: 0:50
 Total Operating Time: 1:30

Input Voltage (Volts): 119.9
 Input Current (Amps): 0.172
 Input Wattage (Watts): 20.4
 Ambient Temp (°C): 25.6

Sphere
 Test Method: IES LM-16-93
 IES LM-79-08 § 9.1 & 12.1
 Preburn Time: 4:00
 Time To Stabilize: 1:04
 Total Operating Time: 5:04

Input Voltage (Volts): 120.0
 Input Current (Amps): 0.171
 Input Wattage (Watts): 20.3
 Ambient Temp (°C): 24.0



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

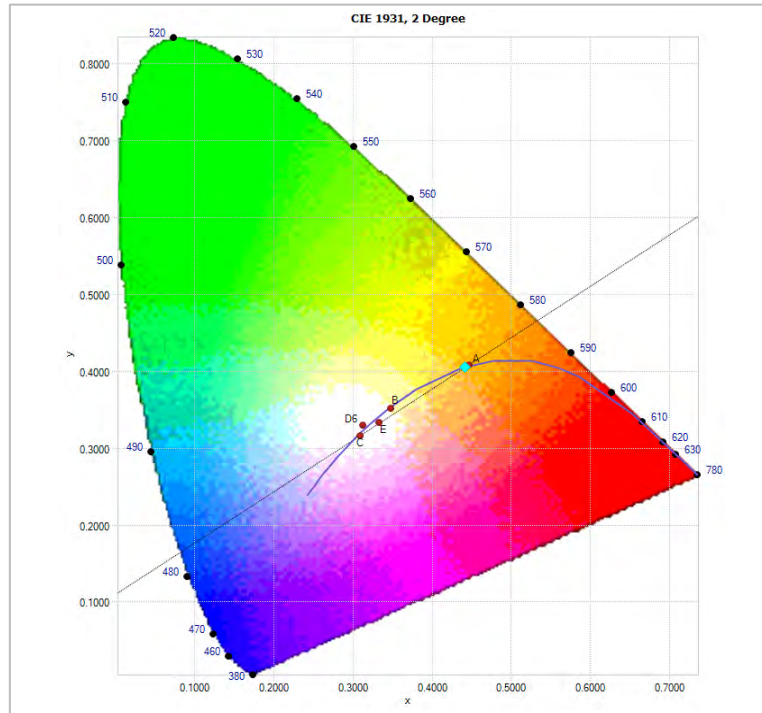




Lamp Cat#: 2835
 Lamp Desc: 24 - Samsung 3000K LEDs
 Driver Desc: 1 - JWY JWD022W-0660-32
 Programmed to 660mA

Efficacy: 76.0 LPW S/P Ratio: 1.4 LM/LM

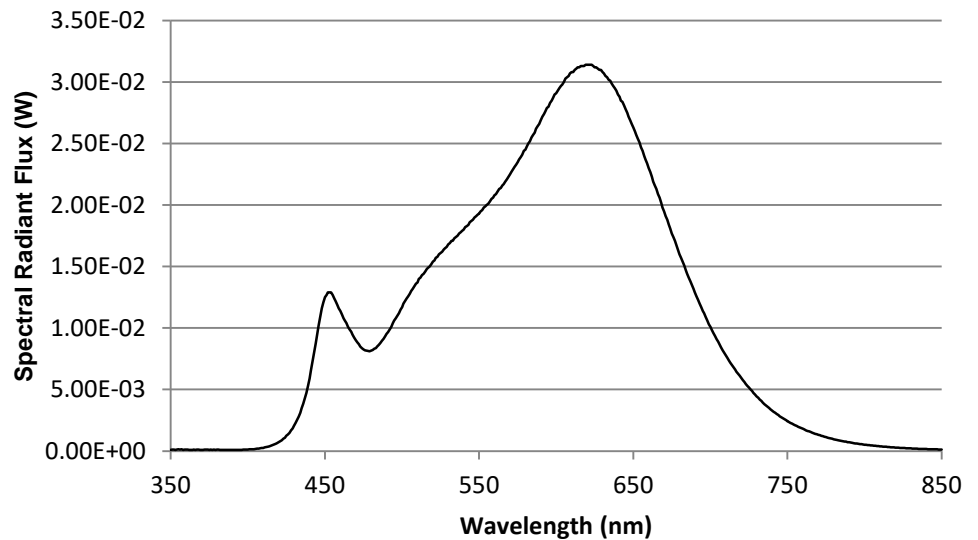
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	5.39	watts
Φ(v)	1543	lumens
Φ(v')	2177	lm'
Chrom x	0.4412	
Chrom y	0.4053	
Chrom u	0.2527	
Chrom v	0.3483	
Duv	0.0003	
Chrom u'	0.2527	
Chrom v'	0.5225	
CCT	2938	K
Purity	54.1	%
λ (dom)	583.1	nm
FWHM	158.8	nm
λ (peak)	619.9	nm
λ (center)	601.6	nm
λ (centroid)	595.0	nm
SDCM	Cool White	
RA	93	
Corr. Coef.	0.000194247	
Correlation	0.0054	
R1	93.7	
R2	97.7	
R3	98.8	
R4	93.3	
R5	93.7	
R6	97.1	
R7	91.4	
R8	81.5	
R9	59.7	
R10	93.8	
R11	94.7	
R12	85.1	
R13	95.0	
R14	99.6	

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: 11" Drum LED C-T-C w/ Etched Opal Acrylic Diffuser

LAMP CAT. NO.: 2835

LAMP: 24- 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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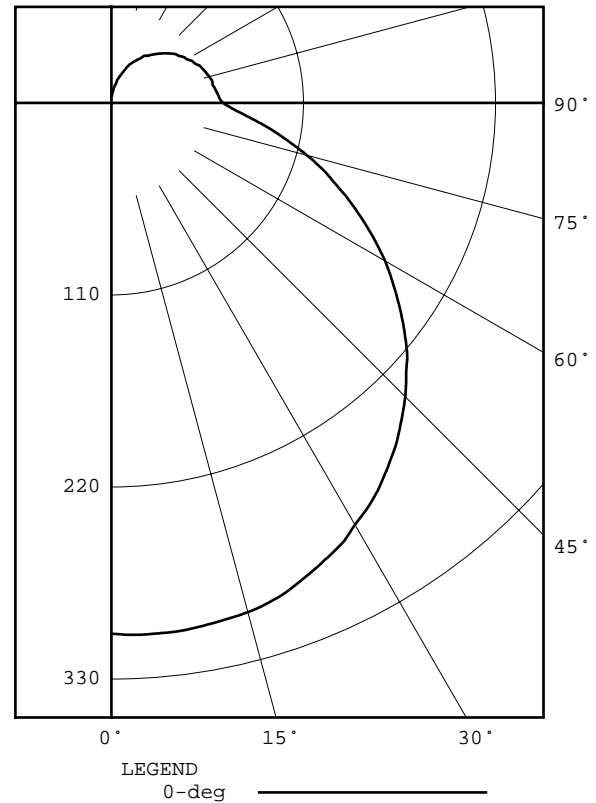
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DEG	CANDELA	LUMENS
0	304	
5	305	29
15	302	85
25	289	133
35	268	168
45	238	184
55	201	180
65	159	158
75	116	123
85	76	84
90	64	
95	61	67
105	58	61
115	53	53
125	47	42
135	40	31
145	33	20
155	24	11
165	14	4
175	5	1
180	4	

ZONAL ZONE	LUMEN LUMENS	SUMMARY %FIXT
0- 30	248	17.3
0- 40	415	29.0
0- 60	779	54.3
0- 90	1144	79.8
90-120	181	12.6
90-130	223	15.6
90-150	275	19.2
90-180	290	20.2
0-180	1434	100.0

EFFICACY = 70.3 lm/W
CIE TYPE - SEMI-DIRECT
SPACING CRITERION: 1.36
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90





®

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LUMINOUS DIAMETER: 11.000
HEIGHT OF SIDE : 3.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	4075.
55	3821.
65	3517.
75	3184.
85	2862.



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CANDELA DISTRIBUTION

0.0	304
5.0	305
10.0	304
15.0	302
20.0	297
25.0	289
30.0	279
35.0	268
40.0	254
45.0	238
50.0	221
55.0	201
60.0	181
65.0	159
70.0	137
75.0	116
80.0	95
85.0	76
90.0	64
95.0	61
100.0	59
105.0	58
110.0	56
115.0	53
120.0	50
125.0	47
130.0	44
135.0	40
140.0	36
145.0	33
150.0	28
155.0	24
160.0	18
165.0	14
170.0	9
175.0	5
180.0	4



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		7
5- 10		22
10- 15		36
15- 20		49
20- 25		61
25- 30		72
30- 35		81
35- 40		87
40- 45		91
45- 50		93
50- 55		92
55- 60		88
60- 65		83
65- 70		75
70- 75		66
75- 80		56
80- 85		46
85- 90		38
90- 95		34
95-100		33
100-105		31
105-110		30
110-115		28
115-120		25
120-125		23
125-130		20
130-135		17
135-140		14
140-145		11
145-150		9
150-155		7
155-160		4
160-165		3
165-170		1
170-175		1
175-180		0

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		29
0- 20		114
0- 30		248
0- 40		415
0- 50		599
0- 60		779
0- 70		937
0- 80		1059
0- 90		1144
0-100		1210
0-110		1272
0-120		1324
0-130		1367
0-140		1398
0-150		1418
0-160		1429
0-170		1433
0-180		1434



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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	114	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	80
1	102	96	91	87	87	97	92	87	83	84	80	77	76	74	71	70	67	65	62
2	92	83	75	69	69	87	79	72	66	72	66	62	66	61	57	60	56	53	50
3	83	72	63	56	56	79	69	61	54	63	56	51	57	52	47	52	48	44	41
4	76	63	54	47	47	72	60	52	45	55	48	42	50	45	40	46	41	37	34
5	69	56	47	40	40	66	54	45	39	49	42	36	45	39	34	41	36	32	29
6	64	50	41	34	34	60	48	39	33	44	37	31	41	34	30	37	32	28	25
7	59	45	36	30	30	56	43	35	29	40	33	27	37	31	26	34	28	24	22
8	55	41	32	26	26	52	39	31	26	36	29	24	34	27	23	31	26	22	20
9	51	37	29	24	24	48	36	28	23	33	27	22	31	25	21	29	23	19	17
10	48	34	26	21	21	45	33	26	21	31	24	20	29	23	19	26	21	18	16

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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