

Project Number
18.00023



Date
1/8/2018

Lab 1
Sphere

Test Sample Description

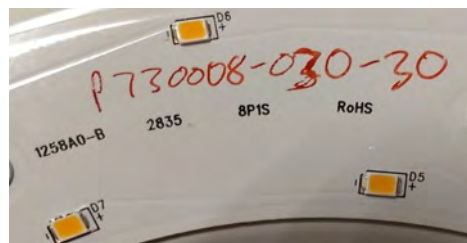
Catalog Number: P730008-030-30
Description: 11" Cloud LED C-T-C w/ White Contoured Acrylic Diffuser

Photometry
Test Method: IES LM-46-04
IES LM-79-08 § 10
Preburn Time: 00:10
Time To Stabilize: 0:40
Total Operating Time: 1:49

Input Voltage (Volts): 120.1
Input Current (Amps): 0.171
Input Wattage (Watts): 20.2
Ambient Temp (°C): 26.0

Sphere
Test Method: IES LM-16-93
IES LM-79-08 § 9.1 & 12.1
Preburn Time: 8:00
Time To Stabilize: 1:11
Total Operating Time: 9:11

Input Voltage (Volts): 120.0
Input Current (Amps): 0.170
Input Wattage (Watts): 20.1
Ambient Temp (°C): 24.0



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

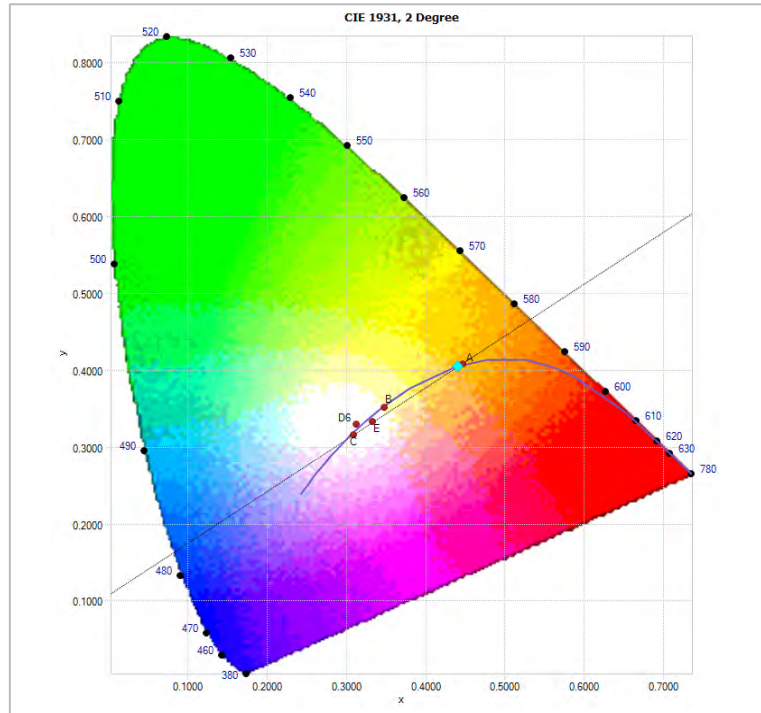




Lamp Cat#: 2835
 Lamp Desc: 24 - Samsung 3000K LEDs
 Driver Desc: 1 - JWY JWD022W-0660-32
 Programmed to 660mA

Efficacy: 72.8 LPW S/P Ratio: 1.4 LM/LM

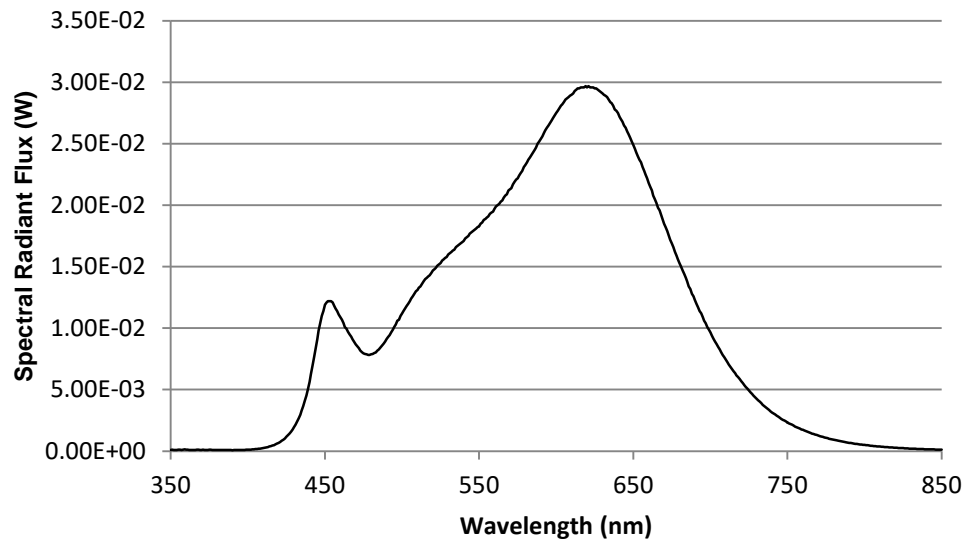
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	5.12	watts
Φ(v)	1463	lumens
Φ(v')	2075	lm'
Chrom x	0.4402	
Chrom y	0.4052	
Chrom u	0.2522	
Chrom v	0.3482	
Duv	0.0002	
Chrom u'	0.2522	
Chrom v'	0.5223	
CCT	2953	K
Purity	53.7	%
λ (dom)	583.0	nm
FWHM	160.1	nm
λ (peak)	620.3	nm
λ (center)	601.4	nm
λ (centroid)	594.9	nm
SDCM	Cool White	
RA	94	
Corr. Coef.	0.000158962	
Correlation	0.0054	
R1	93.9	
R2	97.8	
R3	98.8	
R4	93.5	
R5	93.9	
R6	97.1	
R7	91.6	
R8	81.9	
R9	60.5	
R10	93.9	
R11	94.9	
R12	85.1	
R13	95.2	
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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PREPARED FOR: PROGRESS

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LUMINAIRE: 11" Cloud LED C-T-C w/ White Contoured 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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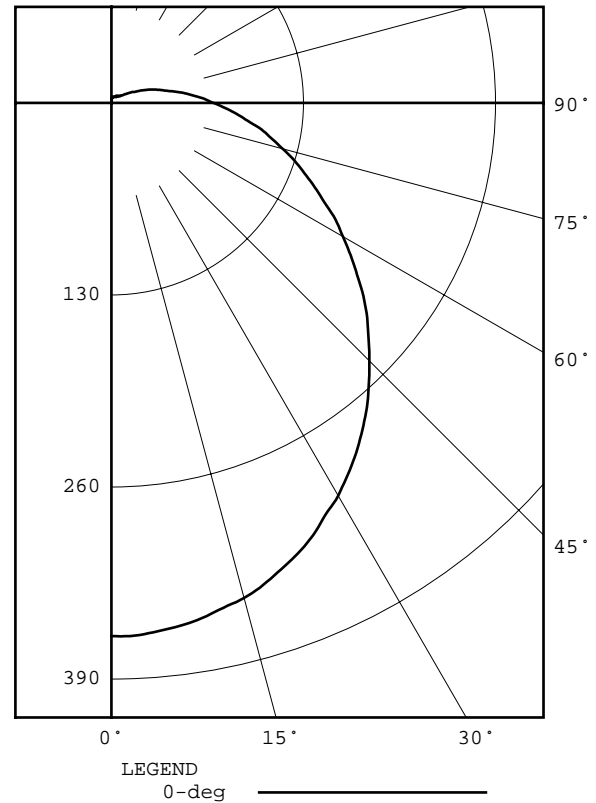
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DEG	CANDELA	LUMENS
0	361	
5	359	34
15	347	98
25	323	149
35	289	181
45	247	191
55	203	182
65	159	158
75	120	127
85	85	93
90	69	
95	56	62
105	34	36
115	18	19
125	9	9
135	6	5
145	6	3
155	5	2
165	4	1
175	3	0
180	3	

ZONAL ZONE	LUMEN LUMENS	SUMMARY LUMENS	%FIXT
0- 30		281	20.8
0- 40		461	34.2
0- 60		834	61.8
0- 90		1213	89.8
90-120		117	8.6
90-130		125	9.3
90-150		134	9.9
90-180		137	10.2
0-180		1350	100.0

EFFICACY = 66.8 lm/W
CIE TYPE - SEMI-DIRECT
SPACING CRITERION: 1.26
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	4229.
55	3859.
65	3517.
75	3294.
85	3201.



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CANDELA DISTRIBUTION

0.0	361
5.0	359
10.0	354
15.0	347
20.0	336
25.0	323
30.0	307
35.0	289
40.0	269
45.0	247
50.0	226
55.0	203
60.0	181
65.0	159
70.0	139
75.0	120
80.0	103
85.0	85
90.0	69
95.0	56
100.0	44
105.0	34
110.0	26
115.0	18
120.0	13
125.0	9
130.0	7
135.0	6
140.0	6
145.0	6
150.0	5
155.0	5
160.0	5
165.0	4
170.0	3
175.0	3
180.0	3



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		9
5- 10		26
10- 15		42
15- 20		56
20- 25		69
25- 30		80
30- 35		88
35- 40		93
40- 45		95
45- 50		95
50- 55		93
55- 60		89
60- 65		83
65- 70		75
70- 75		68
75- 80		60
80- 85		51
85- 90		42
90- 95		34
95-100		27
100-105		21
105-110		16
110-115		11
115-120		8
120-125		5
125-130		3
130-135		3
135-140		2
140-145		2
145-150		2
150-155		1
155-160		1
160-165		1
165-170		0
170-175		0
175-180		0

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		34
0- 20		132
0- 30		281
0- 40		461
0- 50		652
0- 60		834
0- 70		993
0- 80		1120
0- 90		1213
0-100		1275
0-110		1311
0-120		1330
0-130		1338
0-140		1343
0-150		1347
0-160		1349
0-170		1350
0-180		1350



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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	117	117	117	117	113	113	113	113	105	105	105	99	99	99	93	93	93	90
1	104	98	93	88	100	95	90	86	88	85	81	83	80	77	77	75	73	70
2	94	84	76	70	90	81	74	68	76	70	65	71	66	62	67	63	59	56
3	85	73	64	57	81	71	63	56	66	59	54	62	56	51	58	53	49	47
4	77	65	55	48	74	62	54	47	59	51	45	55	49	44	52	46	42	39
5	71	57	48	41	68	56	47	40	52	45	39	49	43	37	46	41	36	34
6	65	52	42	35	63	50	41	35	47	39	34	44	38	33	42	36	32	29
7	61	47	37	31	58	45	37	31	43	35	30	40	34	29	38	32	28	26
8	56	42	34	28	54	41	33	27	39	32	26	37	30	26	35	29	25	23
9	53	39	30	25	51	38	30	24	36	29	24	34	28	23	32	27	22	20
10	49	36	28	22	47	35	27	22	33	26	21	32	25	21	30	24	20	19

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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