

Project Number
18.00025



Date
1/9/2018

Lab 1
Sphere

Test Sample Description

Catalog Number: P730007-030-30
Description: 17" Cloud LED C-T-C w/ White Contoured Acrylic Diffuser

Photometry

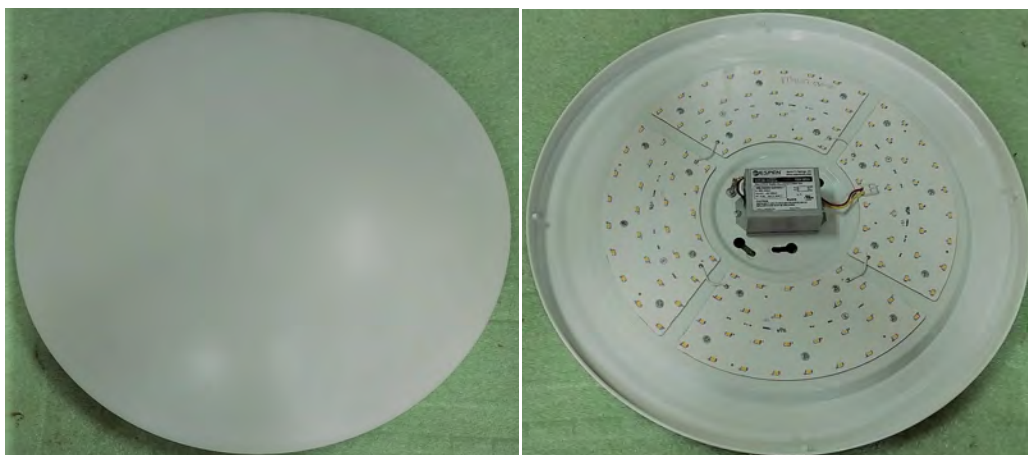
IES LM-46-04
 Test Method: IES LM-79-08 § 10
 Preburn Time: 01:30
 Time To Stabilize: 0:35
 Total Operating Time: 1:51

Input Voltage (Volts): 119.8
 Input Current (Amps): 0.216
 Input Wattage (Watts): 25.6
 Ambient Temp (°C): 26.1

Sphere

IES LM-16-93
 Test Method: IES LM-79-08 § 9.1 & 12.1
 Preburn Time: 8:00
 Time To Stabilize: 1:02
 Total Operating Time: 9:02

Input Voltage (Volts): 120.0
 Input Current (Amps): 0.214
 Input Wattage (Watts): 25.4
 Ambient Temp (°C): 24.0



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

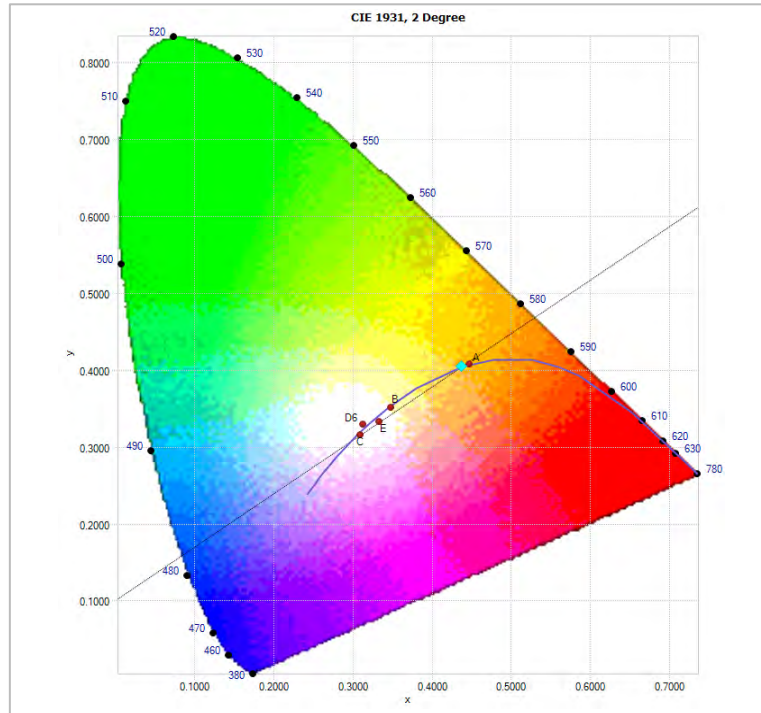




Lamp Cat#: 2835
 Lamp Desc: 112 - Samsung 3000K LEDs
 Driver Desc: 1 - ESPEN VEL25050120HDA-1
 Programmed to 500mA

Efficacy: 91.2 LPW S/P Ratio: 1.4 LM/LM

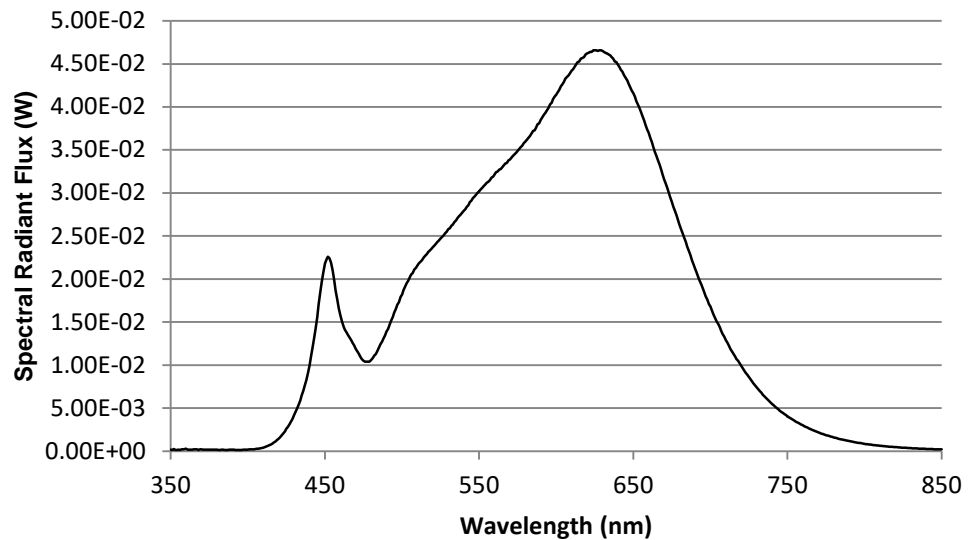
Chromaticity Diagram



Spectral Results

Name	Value	Unit
Φ	8.27	watts
Φ(v)	2317	lumens
Φ(v')	3306	lm'
Chrom x	0.4369	
Chrom y	0.4052	
Chrom u	0.25	
Chrom v	0.3479	
Duv	0.0004	
Chrom u'	0.25	
Chrom v'	0.5218	
CCT	3008	K
Purity	52.8	%
λ (dom)	582.6	nm
FWHM	167.8	nm
λ (peak)	625.1	nm
λ (center)	602.0	nm
λ (centroid)	596.3	nm
SDCM	Cool White	
RA	95	
Corr. Coef.	0.000499862	
Correlation	0.0054	
R1	94.9	
R2	96.8	
R3	97.2	
R4	95.2	
R5	94.4	
R6	95.9	
R7	94.7	
R8	87.3	
R9	70.5	
R10	91.5	
R11	96.0	
R12	83.8	
R13	95.4	
R14	97.8	

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: 17" Cloud LED C-T-C w/ White Contoured Acrylic Diffuser

LAMP CAT. NO.: 2835

LAMP: 112- SAMSUNG 3000K LEDs

BALLAST CATALOG NUMBER: VEL25050120HDA-1

BALLAST: 1- ESPEN

MOUNTING: Ceiling

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.



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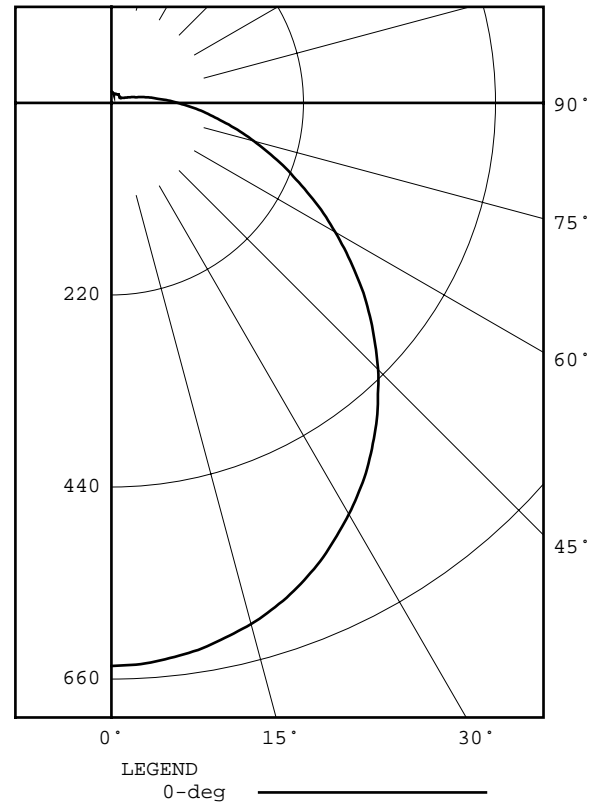
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DEG	CANDELA	LUMENS
0	645	
5	641	61
15	618	174
25	574	264
35	511	319
45	432	333
55	342	306
65	251	249
75	169	179
85	103	113
90	76	
95	54	61
105	26	28
115	14	14
125	11	10
135	12	9
145	12	8
155	11	5
165	10	3
175	12	1
180	13	

ZONAL ZONE	LUMEN LUMENS	SUMMARY LUMENS	%FIXT
0- 30		500	23.4
0- 40		819	38.3
0- 60		1458	68.2
0- 90		2000	93.5
90-120		102	4.8
90-130		113	5.3
90-150		130	6.1
90-180		139	6.5
0-180		2139	100.0

EFFICACY = 83.6 lm/W
CIE TYPE - DIRECT
SPACING CRITERION: 1.25
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90





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LUMINOUS DIAMETER: 17.000
HEIGHT OF SIDE : 3.000

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	3407.
55	3083.
65	2737.
75	2425.
85	2262.



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CANDELA DISTRIBUTION

0.0	645
5.0	641
10.0	632
15.0	618
20.0	599
25.0	574
30.0	544
35.0	511
40.0	473
45.0	432
50.0	388
55.0	342
60.0	296
65.0	251
70.0	209
75.0	169
80.0	133
85.0	103
90.0	76
95.0	54
100.0	38
105.0	26
110.0	18
115.0	14
120.0	12
125.0	11
130.0	12
135.0	12
140.0	13
145.0	12
150.0	12
155.0	11
160.0	11
165.0	10
170.0	12
175.0	12
180.0	13



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5-DEGREE ZONAL LUMEN SUMMARY		
0- 5		15
5- 10		46
10- 15		74
15- 20		100
20- 25		123
25- 30		141
30- 35		155
35- 40		164
40- 45		167
45- 50		166
50- 55		159
55- 60		147
60- 65		133
65- 70		116
70- 75		99
75- 80		81
80- 85		64
85- 90		49
90- 95		36
95-100		25
100-105		17
105-110		11
110-115		8
115-120		6
120-125		5
125-130		5
130-135		5
135-140		5
140-145		4
145-150		4
150-155		3
155-160		2
160-165		2
165-170		1
170-175		1
175-180		0

10-DEGREE ZONAL LUMEN SUMMARY		
0- 10		61
0- 20		235
0- 30		500
0- 40		819
0- 50		1152
0- 60		1458
0- 70		1708
0- 80		1887
0- 90		2000
0-100		2060
0-110		2088
0-120		2102
0-130		2112
0-140		2122
0-150		2129
0-160		2135
0-170		2138
0-180		2139



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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	114	114	114	114	107	107	107	102	102	102	96	96	96	93
1	106	100	95	91	102	97	93	89	92	88	85	87	84	81	82	80	77	75
2	95	86	79	73	92	84	77	71	79	74	69	75	70	66	71	67	64	61
3	87	76	67	60	84	73	65	59	69	63	57	66	60	55	62	58	54	51
4	79	67	58	51	76	65	56	50	62	54	48	58	52	47	56	50	46	43
5	73	59	50	43	70	58	49	43	55	47	42	52	46	41	50	44	40	37
6	67	53	44	38	65	52	44	37	50	42	36	47	41	36	45	39	35	32
7	62	48	39	33	60	47	39	33	45	38	32	43	36	31	41	35	31	29
8	58	44	35	29	56	43	35	29	41	34	29	39	33	28	38	32	28	25
9	54	40	32	26	52	40	32	26	38	31	26	36	30	25	35	29	25	23
10	51	37	29	24	49	37	29	24	35	28	23	34	27	23	32	27	23	21

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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