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Report No: L051603301

Date: 5/19/2016



NVLAP LAB CODE 200927-0

Report No: L051603301

Report Prepared For: Colt LED

Model Number: D12X6-GEN3-55W BiColor Fixture

Test: Electrical and Photometric tests

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Catalog number is D12X6-GEN3-55W BiColor Fixture. Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 5/13/16

Date of Tests: 5/18/16 - 5/18/16

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	11/18/16
Xitron Power Analyzer	2503AH	MT-EL01	11/30/16
ITECH DC Power Supply	IT6122	PSDC-03-S1	11/17/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	11/24/16
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

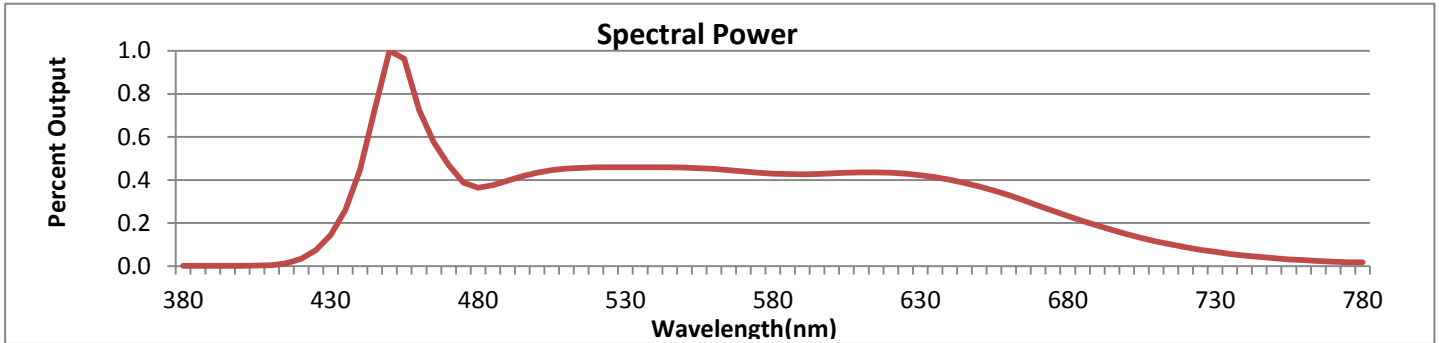
Test Summary

Manufacturer:	Colt LED
Model Number:	D12X6-GEN3-55W BiColor Fixture
Driver Model Number:	N/A
Total Lumens:	42201.87
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	5.15
Input Power (W):	617.30
Input Power Factor:	1.00
Current ATHD @ 120V(%):	4%
Current ATHD @ 277V(%):	N/A
Efficacy:	68
Color Rendering Index (CRI):	97
Correlated Color Temperature (K):	6294
Chromaticity Coordinate x:	0.3176
Chromaticity Coordinate y:	0.3207
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:35
Total Operating Time (Hours):	1:10
Off State Power(W):	0.00



FIG. 1 LUMINAIRE

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.



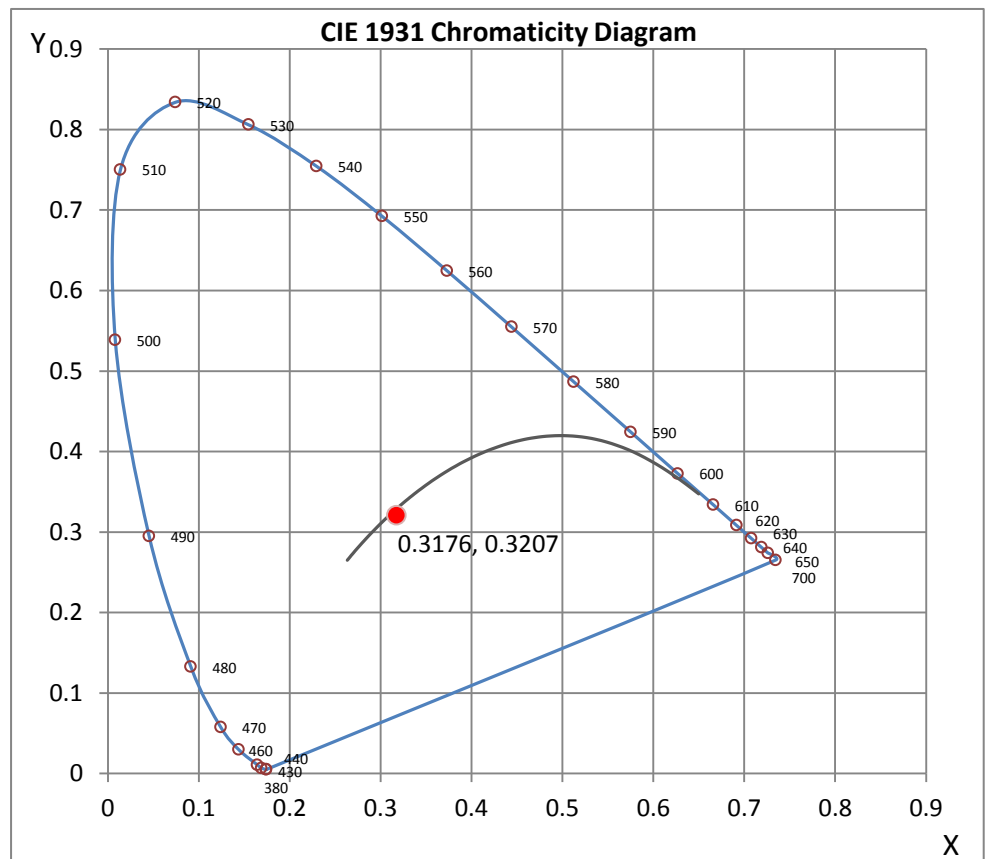
Wavelength	W/m ² nm	440	0.4472	510	0.4525	580	0.4296	650	0.3702	720	0.0876
380	0.0009	450	1.0000	520	0.4590	590	0.4263	660	0.3290	730	0.0661
390	0.0011	460	0.7235	530	0.4594	600	0.4312	670	0.2813	740	0.0493
400	0.0017	470	0.4689	540	0.4597	610	0.4351	680	0.2329	750	0.0365
410	0.0047	480	0.3634	550	0.4573	620	0.4339	690	0.1879	760	0.0272
420	0.0340	490	0.3963	560	0.4515	630	0.4220	700	0.1481	770	0.0198
430	0.1437	500	0.4343	570	0.4401	640	0.4010	710	0.1143	780	0.0171

CRI & CCT

x	0.3176
y	0.3207
u'	0.2045
v'	0.4645
CRI	96.50
CCT	6294
Duv	-0.00363

R Values

R1	94.98
R2	97.03
R3	96.76
R4	97.84
R5	95.70
R6	93.55
R7	98.22
R8	97.63
R9	92.13
R10	96.15
R11	95.34
R12	76.32
R13	95.61
R14	97.61



*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : JEFF AHN

Test Report Released by:



Jeff Ahn
Engineering Manager

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 9*



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Photometric Test Report

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051603301.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L051603301
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUEDATE] 5/19/2016
 [MANUFAC] Colt LED
 [LUMCAT] D12X6-GEN3-55W BiColor Fixture
 [LUMINAIRE] 50.5"L X 28.25"W. X 4"H. 12 Lamp LED Fixture - Daylight
 [BALLASTCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120VAC, 613.7W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	42202
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	613.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.75 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	18674	20030	21406
55	17530	20100	22215
65	16356	21247	23180
75	13296	21173	21248
85	6855	13298	12390

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051603301.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	14071	14071	14071	14071	14071
5	13979	13982	13996	14015	14026
10	13750	13762	13795	13831	13854
15	13373	13400	13466	13532	13561
20	12869	12912	13021	13133	13171
25	12240	12305	12466	12634	12701
30	11512	11600	11822	12060	12152
35	10700	10809	11104	11414	11543
40	9808	9946	10321	10708	10865
45	8841	9014	9483	9943	10134
50	7816	8037	8610	9145	9357
55	6732	7028	7719	8305	8531
60	5676	6063	6862	7455	7639
65	4628	5128	6012	6462	6559
70	3468	4121	4951	5152	5180
75	2304	3119	3669	3710	3682
80	1221	2004	2235	2195	2147
85	400	774	776	744	723
90	0	0	0	0	0

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L051603301.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	5130.16	N.A.	12.20
0-30	10878.48	N.A.	25.80
0-40	17833.75	N.A.	42.30
0-60	32026.48	N.A.	75.90
0-80	41260.97	N.A.	97.80
0-90	42201.87	N.A.	100.00
10-90	40871.94	N.A.	96.80
20-40	12703.59	N.A.	30.10
20-50	20024.15	N.A.	47.40
40-70	19888.1	N.A.	47.10
60-80	9234.48	N.A.	21.90
70-80	3539.11	N.A.	8.40
80-90	940.91	N.A.	2.20
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	42201.87	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1329.93
10-20	3800.23
20-30	5748.32
30-40	6955.27
40-50	7320.56
50-60	6872.17
60-70	5695.37
70-80	3539.11
80-90	940.91
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

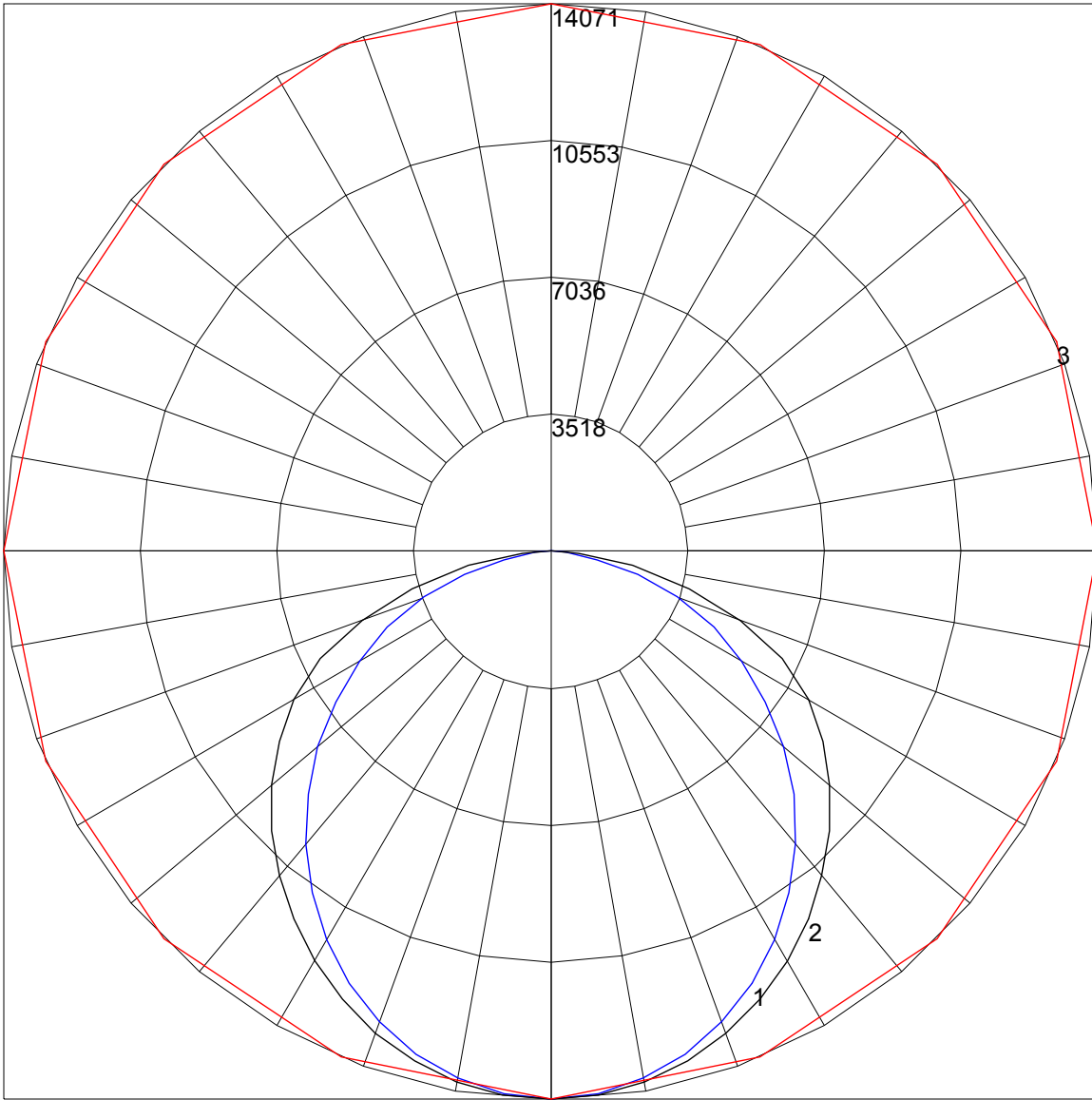
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83	
2	98	89	82	76	95	87	81	75	84	78	73	80	76	72	77	74	70	68	
3	89	78	70	63	86	76	69	62	73	67	61	71	65	60	68	63	59	57	
4	81	69	60	53	79	68	59	52	65	58	52	63	56	51	60	55	50	48	
5	75	61	52	45	72	60	52	45	58	50	45	56	49	44	54	48	44	41	
6	69	55	46	39	67	54	46	39	52	45	39	51	44	38	49	43	38	36	
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	38	34	32	
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30	28	
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25	
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23	

POLAR GRAPH



Maximum Candela = 14071 Located At Horizontal Angle = 0, Vertical Angle = 0

1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

2 - Vertical Plane Through Horizontal Angles (90 - 270)

3 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)