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ACCREDITED

NVLAP LAB CODE 201042-0

Photometric Test Report

Relevant Standards
IES LM-79-2008
ANSI C82.77-2002

Prepared For

Specialty Lighting Industries, Inc

Awi Salomon
1306 Doris Ave
Ocean, NJ 07712-4041
United States

Catalog Number
4501
Order Number
10825714
Test Number
1113760

Test Date

2015-06-23 - 2015-06-24

Prepared By

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Javier Caban, Technician

Approved By

Kyle Spaziani

Kyle Spaziani, Project Handler

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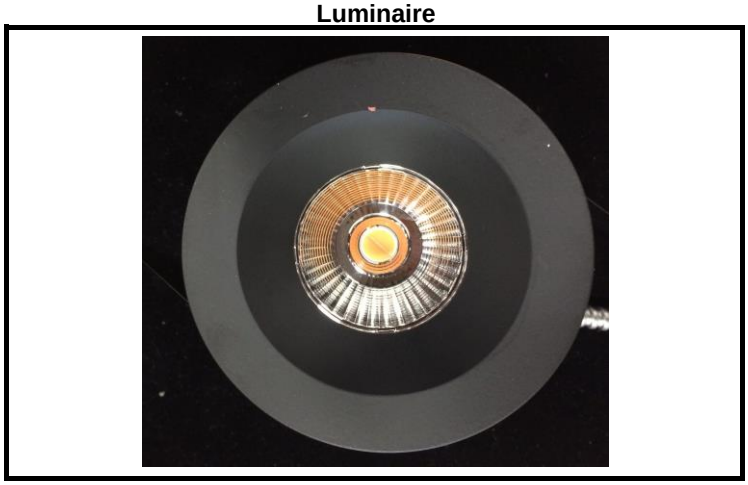
Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.

Absorption correction was employed for Sphere measurement

Luminaire Description:	Aluminum heatsink, black aluminum housing / trim, plastic faceted reflector, clear glass enclosure
Lamp:	One white LED
Mounting:	Recessed
Ballast/Driver:	One Cool LED CL33-700SA-UNI-B

Luminaire



Luminaire Characteristics

Luminous Diameter: 2.50 in.

Summary of Results

Integrating Sphere

Luminous Flux:	810	Lumens
Efficacy:	54.4	lm/w
CCT:	2988	K
CRI (Ra):	96.4	

Distribution

Total Luminaire Output:	802.8 Lumens
Luminaire Efficacy:	53.6 lm/w
Maximum Candela:	3706 Candela

Electrical Data at 120 VAC

Test Temperature:	24.2	°C
Voltage:	120.0	VAC
Current:	0.1266	A
Power:	14.89	W
Power Factor:	0.980	
Frequency:	60	Hz
Current THD:	4.60	%

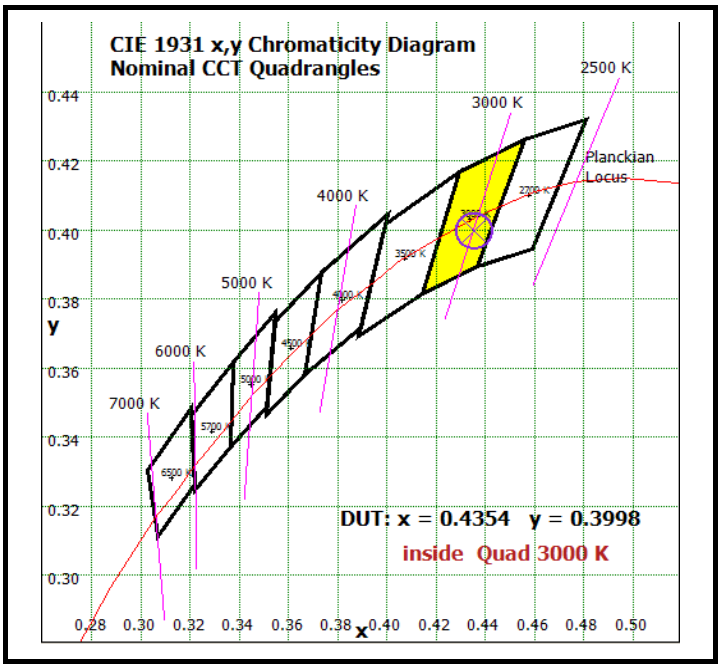
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.2 °C	120.0 VAC	0.1266 A	14.89 W	0.980	60 Hz	4.60 %

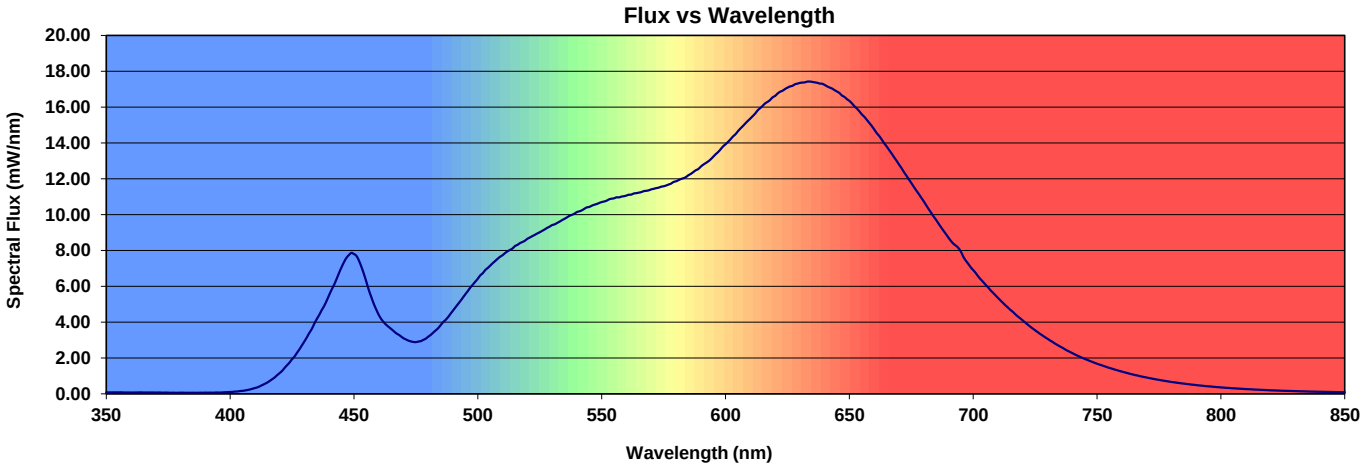
Summary of Results

Total Output:	810	Lumens
Efficacy:	54.4	lm/w
CCT:	2988	K
CRI (Ra):	96.4	
CRI (R9):	91.9	
Chromaticity (x):	0.4354	
Chromaticity (y):	0.3998	
Chromaticity (u):	0.2515	
Chromaticity (v):	0.3463	
Chromaticity (u'):	0.2515	
Chromaticity (v'):	0.5195	
Duv:	-0.0017	



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
96.4	99.8	97.6	92.9	94.2	98.1	96.8	95.7	96.2	91.9	92.9	93.1	91.1	99.3	95.1



Distribution - Goniophotometer

Distribution Test Conditions

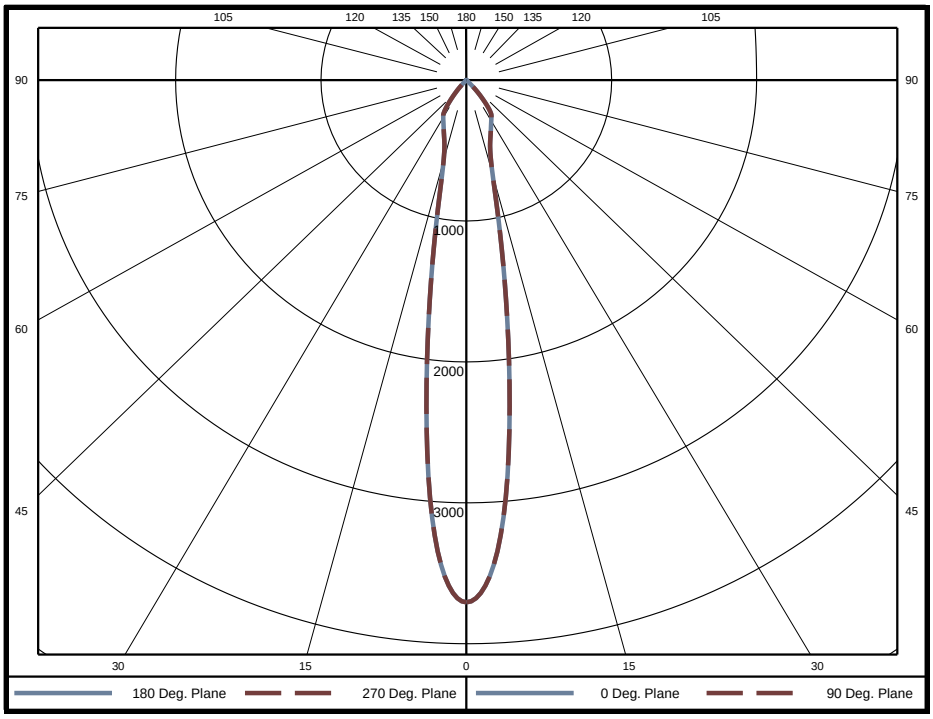
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.1272 A	14.97 W	0.981	60 Hz	4.19 %

Summary of Results

Spacing Criteria
0-180: 0.29
90-270: 0.29

Total Lumen Output: 802.8 Lumens
Luminaire Efficacy: 53.6 lm/w
Maximum Candela: 3706 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	80.1	10.0%	60-65	0.4	0.0%	120-125	0	0.0%
5-10	150.6	18.8%	65-70	0.3	0.0%	125-130	0	0.0%
10-15	112.5	14.0%	70-75	0.2	0.0%	130-135	0	0.0%
15-20	86.9	10.8%	75-80	0.1	0.0%	135-140	0	0.0%
20-25	87.4	10.9%	80-85	0.1	0.0%	140-145	0	0.0%
25-30	89.3	11.1%	85-90	0.1	0.0%	145-150	0	0.0%
30-35	89.9	11.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	69.9	8.7%	95-100	0	0.0%	155-160	0	0.0%
40-45	27.1	3.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	6.0	0.7%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.3	0.2%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.7	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	767	95.5%
0-60	802	99.9%
0-90	803	100.0%
90-180	0	0.0%

Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	3706	3706	3706	3706	3706	3706	3706	3706	3706	3706	3706	3706	3706	3706	3706	3706
5	2974	2974	2974	2974	2974	2974	2974	2974	2974	2974	2974	2974	2974	2974	2974	2974
10	1451	1451	1451	1451	1451	1451	1451	1451	1451	1451	1451	1451	1451	1451	1451	1451
15	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648	648
20	459	459	459	459	459	459	459	459	459	459	459	459	459	459	459	459
25	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382
30	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328	328
35	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
40	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
45	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
50	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
55	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
65	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Average Luminance (cd/m^2)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
0	1170000	1170000	1170000
45	10550	10550	10550
55	991	991	991
65	532	532	532
75	204	204	204
85	414	414	414

Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	956	956	956	956	933	933	933	933	892	892	892	854	854	854	819	819	819	803
1	917	897	880	864	898	880	864	850	848	835	824	818	809	800	791	784	777	763
2	879	844	816	792	862	831	805	783	805	784	766	782	765	750	760	747	735	722
3	842	797	762	735	827	786	754	729	766	739	717	747	725	706	729	711	696	684
4	807	755	716	687	794	746	710	683	729	699	675	714	688	667	699	678	660	649
5	774	716	676	646	762	709	672	643	696	663	638	683	655	632	671	647	627	617
6	743	682	641	611	733	676	637	609	664	630	605	654	624	601	644	618	597	587
7	714	651	609	580	705	646	606	579	636	601	576	627	596	573	619	591	570	560
8	688	622	581	553	679	618	579	552	610	575	550	602	571	547	595	567	545	536
9	663	596	556	529	655	593	554	528	586	551	526	579	547	525	573	544	523	514
10	639	573	533	507	632	570	532	506	564	529	505	558	526	504	553	524	502	494

Cone of Light Tabulation

Mounting Height	Footcandles at Nadir	Diameter (Feet)
4.00	232	1.17
6.00	103	1.76
8.00	57.9	2.34
10.0	37.1	2.93
12.0	25.7	3.52
14.0	18.9	4.10
16.0	14.5	4.69

Cone of Light Plot