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Photometric Test Report

Relevant Standards

IES LM-79-2008, ANSI C82.77-2002, CIE 13.3-1995
CIE 15-2004, ANSI C78.377-2015, IES TM-30-2015

Prepared For

I2 Systems

355 Bantam Lake Rd
Morris, CT 06763-1102
United States

Catalog Number

AT1SxWxxKxxXXxx

Order Number

12218527

Test Number

12218527.01

Test Date

2018-03-19 - 2018-03-20

Prepared By

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Approved By

Jeffrey Lockner, Project Engineer

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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: Formed aluminum housing, specular trim, frosted plastic lens enclosure
Lamp: Two white LEDs
Mounting: Recessed - Wall
Ballast/Driver: PS24-1.6 power adapter

Luminaire



Luminaire Characteristics

Luminous Length: 0.00 in.
Luminous Width: 1.000 in.
Luminous Height: 0.75 in.

Summary of Results

Integrating Sphere

Luminous Flux: 30 Lumens
Efficacy: 11.2 lm/w
CCT: 4694 K
CRI (Ra): 86.5

Distribution

Total Luminaire Output: 30.24 Lumens
Luminaire Efficacy: 11.4 lm/w
Maximum Candela: 30 Candela

Electrical Data at 120 VAC

Test Temperature: 24.6 °C
Voltage: 120.1 VAC
Current: 0.06310 A
Power: 2.663 W
Power Factor: 0.351
Frequency: 60 Hz
Current THD: 237 %



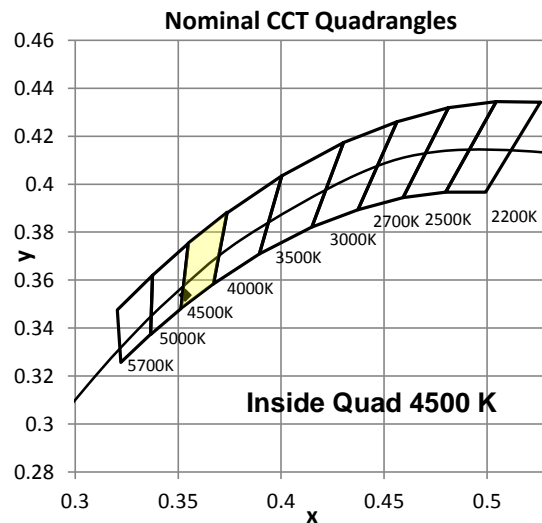
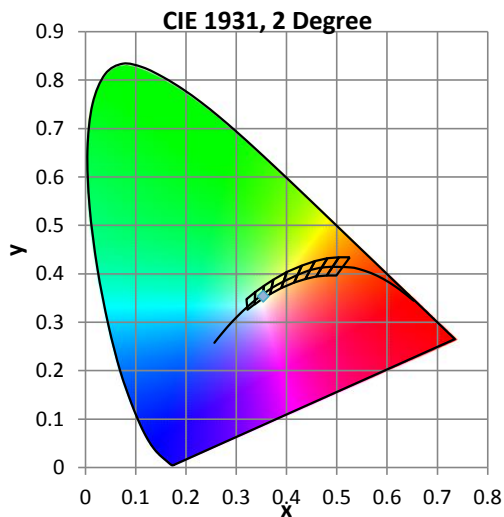
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.1 VAC	0.06310 A	2.663 W	0.351	60 Hz	237 %

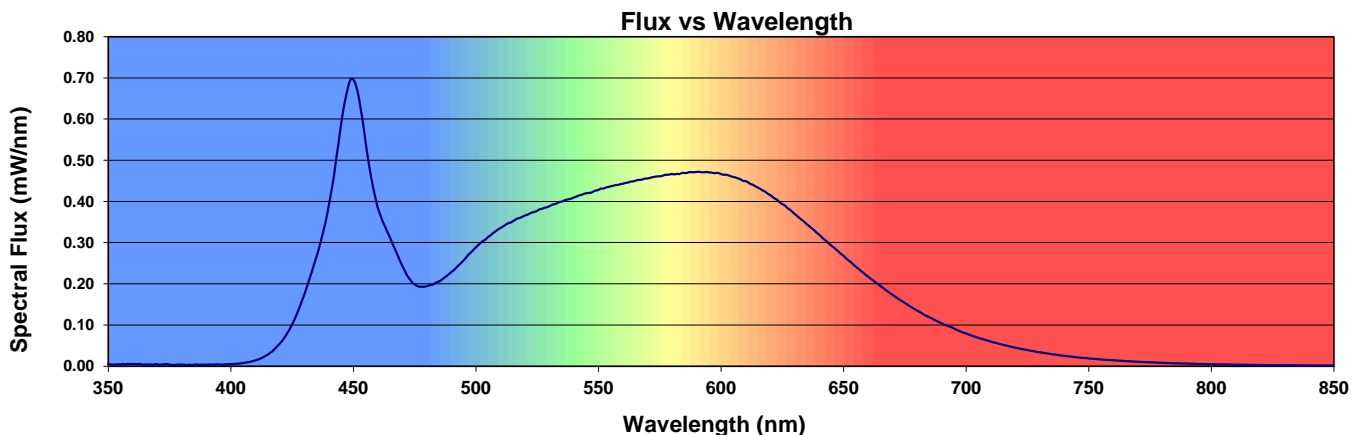
Summary of Results

Total Output:	30 Lumens	Chromaticity (x):	0.3535
Efficacy:	11.2 lm/w	Chromaticity (y):	0.3537
CCT:	4694 K	Chromaticity (u'):	0.2163
CRI (Ra):	86.5	Chromaticity (v'):	0.4870
CRI (R9):	30.4	TM-30 Rf:	84.4
Peak Wavelength:	449.5 nm	TM-30 Rg:	97.9
Dominant Wavelength:	577.9 nm	Duv:	-0.0025
S/P Ratio:	1.903		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
86.5	85.9	90.7	93.0	86.6	86.0	86.0	89.3	74.6	30.4	76.8	85.9	67.3	87.1	96.1	82.2





Distribution - Goniophotometer

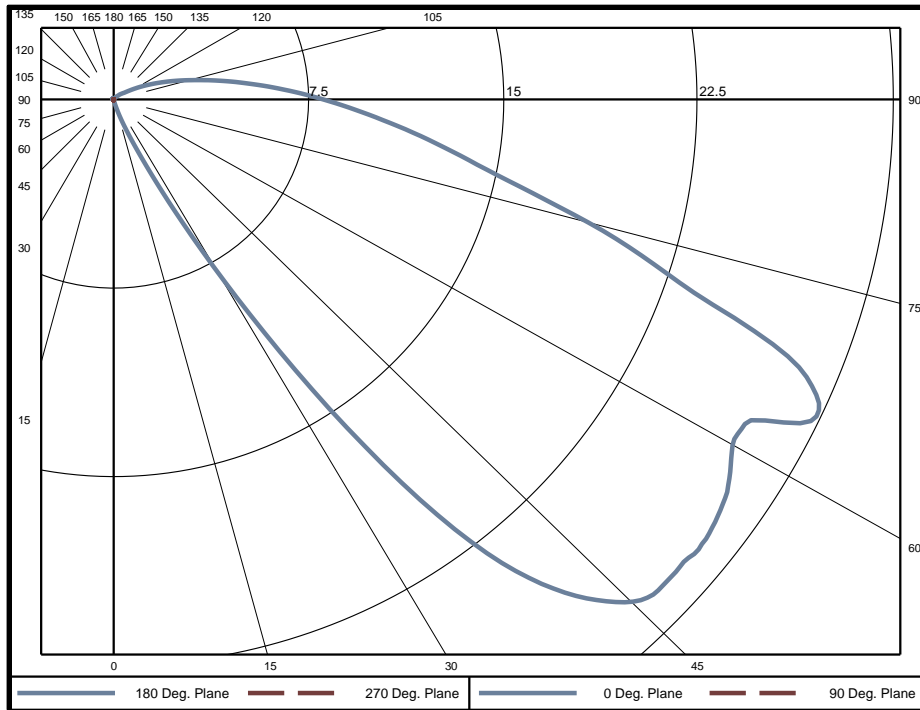
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.0 VAC	0.05780 A	2.662 W	0.384	60 Hz	216 %

Summary of Results

Total Lumen Output:	30.24 Lumens
Luminaire Efficacy:	11.4 lm/w
Maximum Candela:	30 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.000	0.0%	60-65	3.260	10.8%	120-125	0.052	0.2%
5-10	0.001	0.0%	65-70	3.483	11.5%	125-130	0.035	0.1%
10-15	0.003	0.0%	70-75	2.816	9.3%	130-135	0.023	0.1%
15-20	0.014	0.0%	75-80	2.080	6.9%	135-140	0.014	0.0%
20-25	0.063	0.2%	80-85	1.597	5.3%	140-145	0.008	0.0%
25-30	0.221	0.7%	85-90	1.216	4.0%	145-150	0.005	0.0%
30-35	0.637	2.1%	90-95	0.895	3.0%	150-155	0.002	0.0%
35-40	1.373	4.5%	95-100	0.628	2.1%	155-160	0.001	0.0%
40-45	2.121	7.0%	100-105	0.416	1.4%	160-165	0.001	0.0%
45-50	2.673	8.8%	105-110	0.262	0.9%	165-170	0.000	0.0%
50-55	2.979	9.9%	110-115	0.156	0.5%	170-175	0.000	0.0%
55-60	3.121	10.3%	115-120	0.089	0.3%	175-180	0.000	0.0%

Zone	Lumens	% of Luminaire
0-40	2	7.6%
0-60	13	43.7%
0-90	28	91.5%
90-180	3	8.6%



Candela Tabulation
Horizontal 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	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
5	0.00	0.01	0.02	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.01	0.01
10	0.02	0.03	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.03	0.03
15	0.13	0.08	0.04	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.04	0.05	0.12
20	0.83	0.52	0.09	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.04	0.17	0.73
25	2.62	1.74	0.43	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.05	0.69	2.25
30	7.65	4.68	1.21	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.08	1.76	6.16
35	16.83	11.31	2.80	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.16	3.93	14.15
40	24.84	19.86	5.82	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.29	7.41	22.02
45	28.25	24.99	9.86	0.25	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.43	10.85	25.99
50	28.62	26.72	13.11	0.35	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.57	12.61	26.75
55	28.49	26.27	14.38	0.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.68	12.96	26.31
60	27.49	25.26	13.99	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.74	12.37	25.66
65	29.83	27.04	12.94	0.60	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.76	11.41	29.05
70	25.40	27.14	13.73	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.71	11.09	23.17
75	18.90	17.12	9.46	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.65	8.79	16.80
80	13.87	12.75	6.89	0.51	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.57	6.62	12.38
85	10.67	9.71	5.18	0.40	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.47	5.02	9.39
90	8.08	7.35	3.79	0.29	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.35	3.65	6.96
95	5.96	5.39	2.63	0.18	0.00	0.00	0.01	0.02	0.02	0.02	0.01	0.00	0.01	0.23	2.52	5.05
100	4.27	3.78	1.68	0.10	0.00	0.00	0.01	0.03	0.03	0.03	0.02	0.00	0.00	0.13	1.58	3.52
105	2.98	2.53	0.93	0.05	0.00	0.00	0.02	0.04	0.04	0.03	0.02	0.00	0.00	0.07	0.89	2.37
110	2.03	1.62	0.42	0.03	0.00	0.00	0.02	0.05	0.05	0.04	0.02	0.01	0.00	0.05	0.41	1.52
115	1.31	0.97	0.15	0.03	0.00	0.00	0.02	0.05	0.05	0.04	0.02	0.01	0.00	0.03	0.16	0.90
120	0.76	0.50	0.11	0.02	0.00	0.00	0.02	0.04	0.05	0.04	0.02	0.00	0.00	0.03	0.12	0.47
125	0.46	0.33	0.08	0.01	0.00	0.00	0.02	0.04	0.05	0.04	0.02	0.00	0.00	0.02	0.09	0.32
130	0.33	0.22	0.06	0.01	0.00	0.00	0.02	0.03	0.04	0.04	0.02	0.00	0.00	0.01	0.06	0.21
135	0.20	0.16	0.04	0.01	0.00	0.00	0.01	0.03	0.04	0.03	0.02	0.00	0.00	0.01	0.04	0.15
140	0.12	0.10	0.03	0.01	0.00	0.00	0.01	0.02	0.03	0.02	0.01	0.00	0.00	0.01	0.03	0.09
145	0.07	0.06	0.02	0.01	0.00	0.00	0.01	0.01	0.02	0.02	0.01	0.00	0.00	0.01	0.02	0.05
150	0.04	0.03	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.00	0.00	0.01	0.01	0.03
155	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.02
160	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01
165	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vertical Angle (Degrees)



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	35	35	35	35	34	34	34	34	32	32	32	30	30	30	28	28	28	28
1	30	28	26	24	29	27	25	24	25	24	22	24	22	21	22	21	20	19
2	26	23	20	17	25	22	19	17	20	18	16	19	17	15	18	16	15	14
3	23	19	16	13	22	18	15	13	17	14	12	15	13	11	14	12	11	10
4	21	16	12	10	20	15	12	9	14	11	9	13	11	9	12	10	8	7
5	19	14	10	8	18	13	10	7	12	9	7	11	9	7	10	8	6	5
6	17	12	8	6	16	11	8	6	10	8	6	10	7	5	9	7	5	4
7	15	10	7	5	14	10	7	5	9	6	4	8	6	4	8	6	4	3
8	14	9	6	4	13	9	6	4	8	5	4	7	5	3	7	5	3	3
9	13	8	5	3	12	8	5	3	7	5	3	7	4	3	6	4	3	2
10	12	7	5	3	11	7	4	3	7	4	3	6	4	2	6	4	2	2