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Photometric Test Report

Relevant Standards
IES LM-79-2008, IES LM-35-2002 (Withdrawn)
ANSI C78.377-2011, ANSI C82.77-2002
CIE 13.3-1995, CIE 15-2004, IES TM-30-15

Prepared For
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Catalog Number
AR-LED-x54-SP-12

Order Number
11353040
Test Number
11353040.16

Test Date

2016-09-01

Prepared By

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Approved By

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The results contained in this report pertain only to the tested sample.
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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: Circular formed black aluminum adjustable cylinder housing with an internal linear specular plastic reflector and a prismatic glass lens

Lamp: One (1) White LED

Mounting: Surface

Ballast/Driver: One (1) Thomas Research Products LED 12W-36-C0350

Luminaire



Luminaire Characteristics

Luminous Diameter: 1.75 in.

Summary of Results

Integrating Sphere

Luminous Flux: 874 Lumens
Efficacy: 81.3 lm/w
CCT: 4076 K
CRI (Ra): 80.9

Distribution

Total Luminaire Output: 855.6 Lumens
Luminaire Efficacy: 79.6 lm/w
Maximum Candela: 2680 Candela

Electrical Data at 120 VAC

Test Temperature: 24.7 °C
Voltage: 120.0 VAC
Current: 0.09015 A
Power: 10.75 W
Power Factor: 0.993
Frequency: 60 Hz
Current THD: 8.18 %



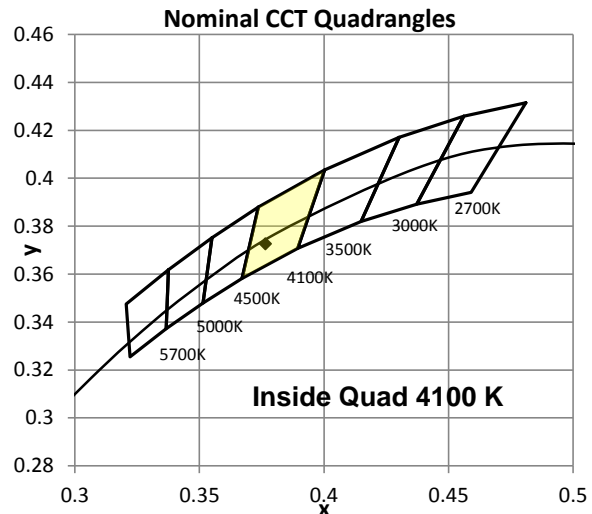
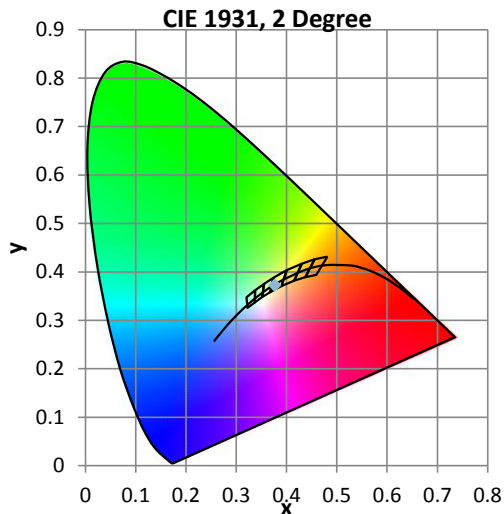
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.09015 A	10.75 W	0.993	60 Hz	8.18 %

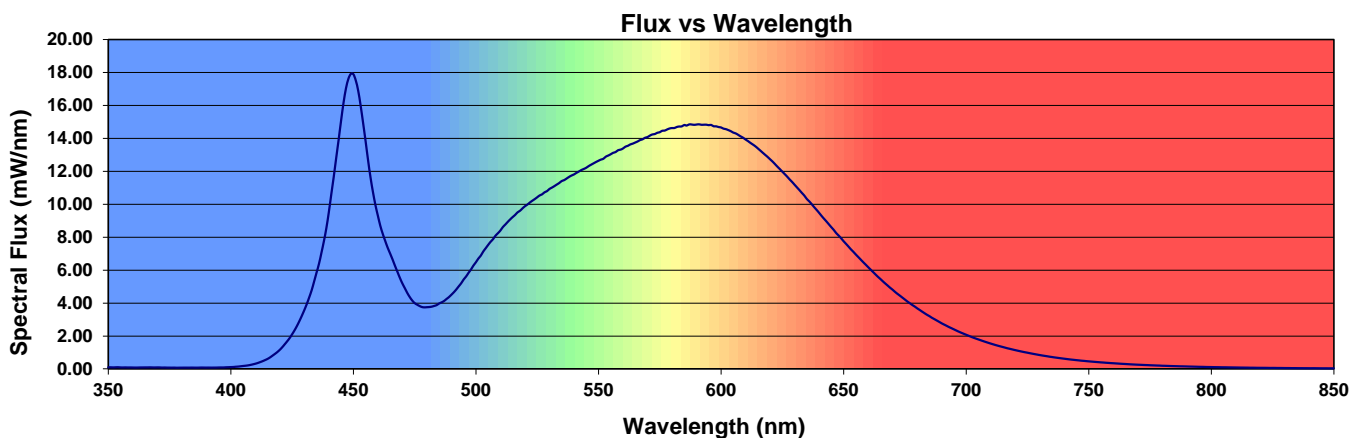
Summary of Results

Total Output:	874 Lumens	Chromaticity (x):	0.3765
Efficacy:	81.3 lm/w	Chromaticity (y):	0.3726
CCT:	4076 K	Chromaticity (u'):	0.2242
CRI (Ra):	80.9	Chromaticity (v'):	0.4991
CRI (R9):	6.7	TM-30 R _f :	79.7
Peak Wavelength:	449.4 nm	TM-30 R _g :	96.6
Dominant Wavelength:	579.2 nm	Duv:	-0.0014
S/P Ratio:	1.662		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
80.9	79.3	86.3	91.0	80.3	79.1	80.4	85.8	64.9	6.7	66.9	78.2	58.1	80.7	94.9





Distribution - Goniophotometer

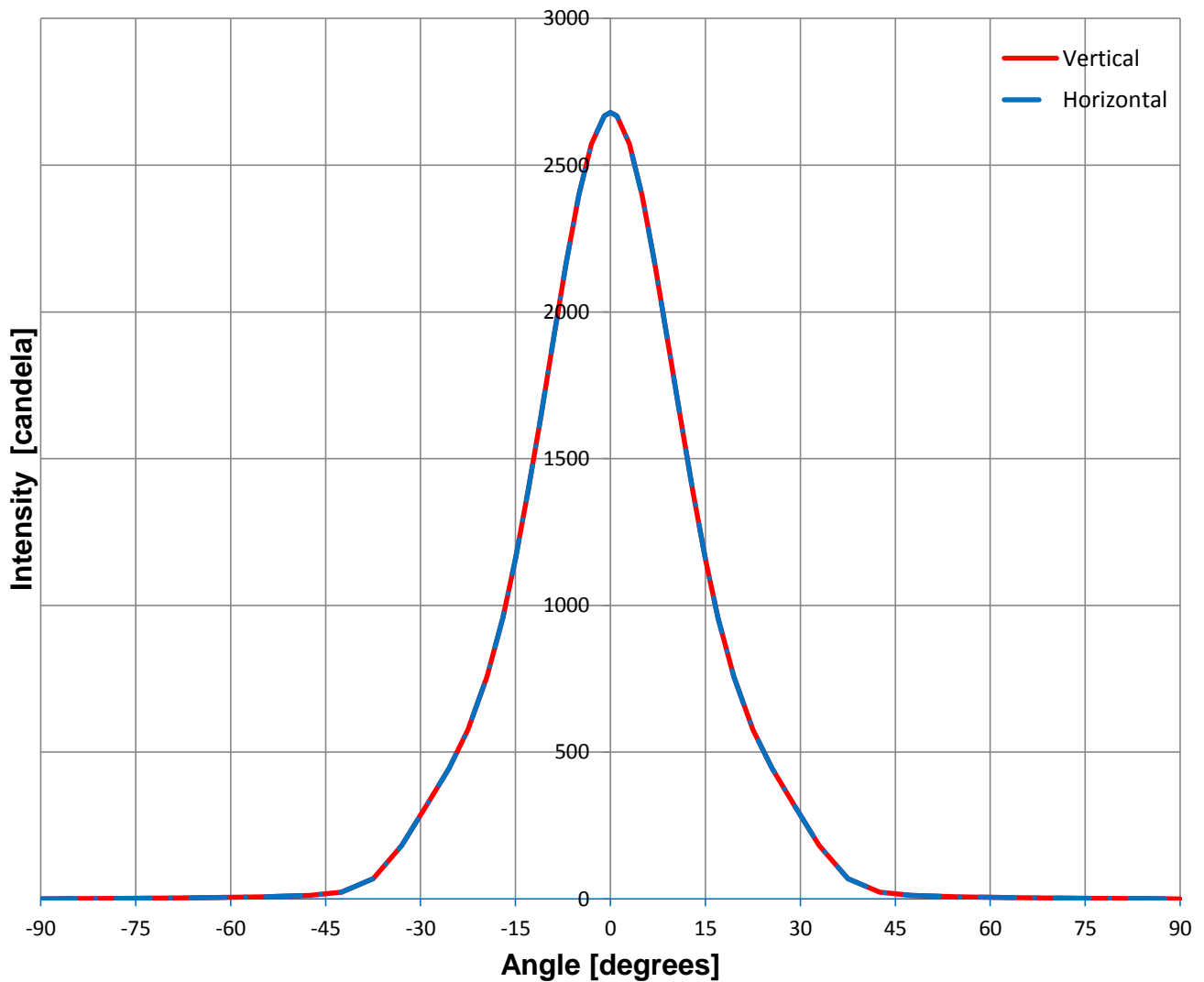
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.0 VAC	0.09020 A	10.75 W	0.993	60 Hz	8.11 %

Summary of Results

Total Lumen Output:	855.6 Lumens	Maximum Candela:	2680.1 Candela
Luminaire Efficacy:	79.6 Lumens/Watt	Maximum Angle:	0 H 0 V
Field Lumens:	759.7 Lumens	Field Angle :	61.0 H X 61.0 V
Beam Lumens:	335.7 Lumens	Beam Angle :	26.8 H X 26.8 V
Spill Light Lumens:	95.9 Lumens	IESNA Type:	4 H X 4 V

Maximum Candlepower Plot





Candela Tabulation

Lateral Angle (Degrees)

Vertical Angle (Degrees)	Lateral Angle (Degrees)										
	0	1	3	5	7	9	11	13	15	17	19.5
85.0	0	0	0	0	0	0	0	0	0	0	0
75.0	2	2	2	2	2	2	2	2	2	2	2
65.0	4	4	4	4	4	4	3	3	3	3	3
55.0	7	7	7	7	7	7	7	6	6	6	6
47.5	12	12	12	12	12	11	11	11	10	10	9
42.5	23	23	22	22	21	20	19	18	17	15	14
37.5	69	69	67	64	60	55	49	44	38	33	27
33.0	182	182	178	171	162	149	134	117	100	84	64
29.0	320	320	315	306	293	276	255	231	204	174	137
25.5	445	444	439	428	412	392	368	340	309	273	226
22.5	576	575	566	550	527	499	467	433	396	358	305
19.5	757	755	741	715	679	635	587	537	488	439	379
17.0	957	954	935	896	843	780	711	642	575	511	439
15.0	1158	1154	1127	1075	1003	919	829	739	653	575	488
13.0	1389	1385	1349	1281	1187	1077	960	846	739	642	537
11.0	1644	1638	1592	1506	1387	1250	1104	960	829	711	587
9.0	1908	1901	1844	1738	1594	1426	1250	1077	919	780	635
7.0	2167	2158	2089	1961	1791	1594	1387	1187	1003	843	679
5.0	2397	2386	2306	2158	1961	1738	1506	1281	1075	896	715
3.0	2572	2559	2470	2306	2089	1844	1592	1349	1127	935	741
1.0	2667	2652	2559	2386	2158	1901	1638	1385	1154	954	755
0.0	2680	2667	2572	2397	2167	1908	1644	1389	1158	957	757
-1.0	2667	2652	2559	2386	2158	1901	1638	1385	1154	954	755
-3.0	2572	2559	2470	2306	2089	1844	1592	1349	1127	935	741
-5.0	2397	2386	2306	2158	1961	1738	1506	1281	1075	896	715
-7.0	2167	2158	2089	1961	1791	1594	1387	1187	1003	843	679
-9.0	1908	1901	1844	1738	1594	1426	1250	1077	919	780	635
-11.0	1644	1638	1592	1506	1387	1250	1104	960	829	711	587
-13.0	1389	1385	1349	1281	1187	1077	960	846	739	642	537
-15.0	1158	1154	1127	1075	1003	919	829	739	653	575	488
-17.0	957	954	935	896	843	780	711	642	575	511	439
-19.5	757	755	741	715	679	635	587	537	488	439	379
-22.5	576	575	566	550	527	499	467	433	396	358	305
-25.5	445	444	439	428	412	392	368	340	309	273	226
-29.0	320	320	315	306	293	276	255	231	204	174	137
-33.0	182	182	178	171	162	149	134	117	100	84	64
-37.5	69	69	67	64	60	55	49	44	38	33	27
-42.5	23	23	22	22	21	20	19	18	17	15	14
-47.5	12	12	12	12	12	11	11	11	10	10	9
-55.0	7	7	7	7	7	7	7	6	6	6	6
-65.0	4	4	4	4	4	4	3	3	3	3	3
-75.0	2	2	2	2	2	2	2	2	2	2	2
-85.0	0	0	0	0	0	0	0	0	0	0	0



Candela Tabulation

Lateral Angle (Degrees)

Vertical Angle (Degrees)

	22.5	25.5	29	33	37.5	42.5	47.5	55	65	75	85
85.0	0	0	0	0	0	0	0	0	0	0	0
75.0	2	2	2	1	1	1	1	1	1	0	0
65.0	3	3	3	3	3	2	2	2	1	1	0
55.0	6	5	5	5	4	4	3	3	2	1	0
47.5	9	8	7	7	6	5	4	3	2	1	0
42.5	12	11	10	9	7	6	5	4	2	1	0
37.5	21	17	14	11	9	7	6	4	3	1	0
33.0	45	32	22	15	11	9	7	5	3	1	0
29.0	96	63	37	22	14	10	7	5	3	2	0
25.5	166	111	63	32	17	11	8	5	3	2	0
22.5	236	166	96	45	21	12	9	6	3	2	0
19.5	305	226	137	64	27	14	9	6	3	2	0
17.0	358	273	174	84	33	15	10	6	3	2	0
15.0	396	309	204	100	38	17	10	6	3	2	0
13.0	433	340	231	117	44	18	11	6	3	2	0
11.0	467	368	255	134	49	19	11	7	3	2	0
9.0	499	392	276	149	55	20	11	7	4	2	0
7.0	527	412	293	162	60	21	12	7	4	2	0
5.0	550	428	306	171	64	22	12	7	4	2	0
3.0	566	439	315	178	67	22	12	7	4	2	0
1.0	575	444	320	182	69	23	12	7	4	2	0
0.0	576	445	320	182	69	23	12	7	4	2	0
-1.0	575	444	320	182	69	23	12	7	4	2	0
-3.0	566	439	315	178	67	22	12	7	4	2	0
-5.0	550	428	306	171	64	22	12	7	4	2	0
-7.0	527	412	293	162	60	21	12	7	4	2	0
-9.0	499	392	276	149	55	20	11	7	4	2	0
-11.0	467	368	255	134	49	19	11	7	3	2	0
-13.0	433	340	231	117	44	18	11	6	3	2	0
-15.0	396	309	204	100	38	17	10	6	3	2	0
-17.0	358	273	174	84	33	15	10	6	3	2	0
-19.5	305	226	137	64	27	14	9	6	3	2	0
-22.5	236	166	96	45	21	12	9	6	3	2	0
-25.5	166	111	63	32	17	11	8	5	3	2	0
-29.0	96	63	37	22	14	10	7	5	3	2	0
-33.0	45	32	22	15	11	9	7	5	3	1	0
-37.5	21	17	14	11	9	7	6	4	3	1	0
-42.5	12	11	10	9	7	6	5	4	2	1	0
-47.5	9	8	7	7	6	5	4	3	2	1	0
-55.0	6	5	5	5	4	4	3	3	2	1	0
-65.0	3	3	3	3	3	2	2	2	1	1	0
-75.0	2	2	2	1	1	1	1	1	1	0	0
-85.0	0	0	0	0	0	0	0	0	0	0	0



Isocandela Diagram (Percent of Maximum Intensity)

