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## Indoor Distribution Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-10-2014

Prepared For  
**H E Williams Inc**  
831 W Fairview Ave  
PO Box 837  
Carthage, MO 64836-0837  
United States

Catalog Number  
**2AR-L12/835-DIM-UNV-OM-OF-CS-x-xx (0° TILT)**  
Order Number  
13257190  
Test Number  
13257190.09

Test Date

2020-03-16

Prepared By

Jesse Litchfield, Technician

Approved By

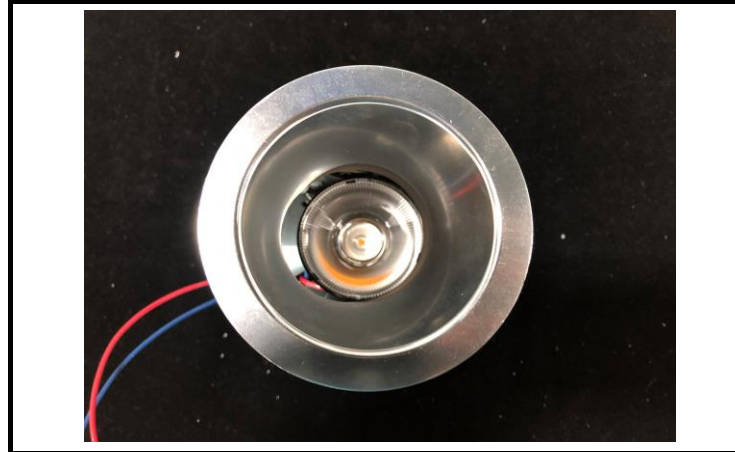
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Aluminum housing, optics, and trim enclosure  
**Lamp:** One white LED  
**Mounting:** Recessed  
**Ballast/Driver:** One Philips Advance XI025C070V054DSM1 Driver

**Luminaire**



**Luminaire Characteristics**  
Luminous Diameter: 2.50 in.

**Summary of Results**

Total Luminaire Output:	915.4 Lumens
Luminaire Efficacy:	43.7 lm/w
Maximum Candela:	7996 Candela

**Test Conditions**

Test Temperature:	24.5 °C
Voltage:	120.0 VAC
Current:	0.1756 A
Power:	20.96 W
Power Factor:	0.995
Frequency:	60 Hz
Current THD:	8.84 %

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



## Distribution - Goniophotometer

### Distribution Test Conditions

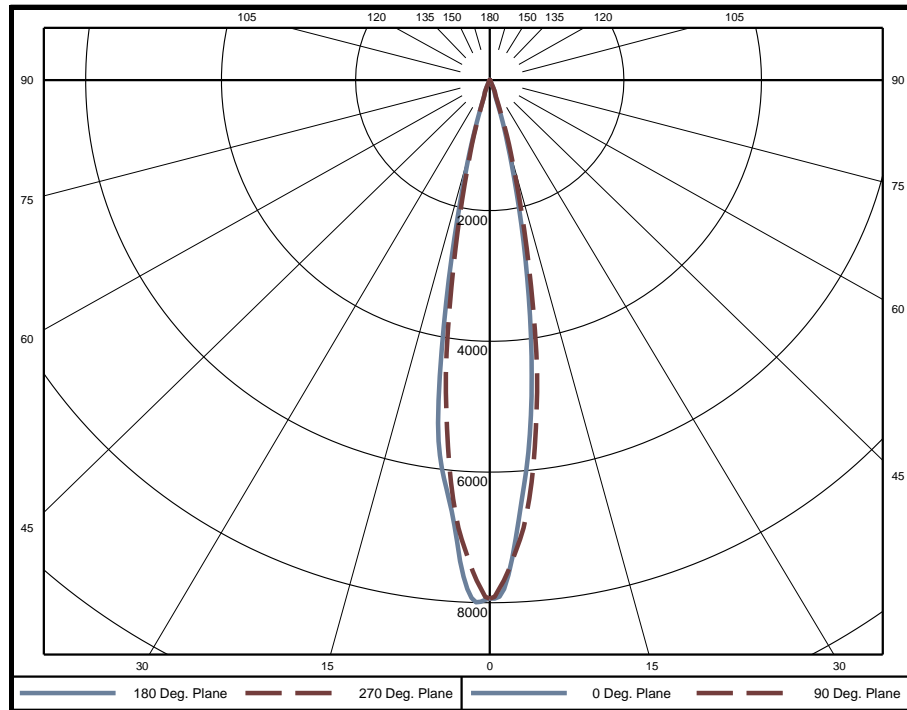
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.0 VAC	0.1756 A	20.96 W	0.995	60 Hz	8.84 %

### Summary of Results

**Spacing Criteria**  
0-180: 0.29  
90-270: 0.32

**Total Lumen Output:** 915.4 Lumens  
**Luminaire Efficacy:** 43.7 lm/w  
**Maximum Candela:** 7996 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	169.4	18.5%	60-65	0.2	0.0%	120-125	0	0.0%
5-10	354.2	38.7%	65-70	0.1	0.0%	125-130	0	0.0%
10-15	252.3	27.6%	70-75	0.1	0.0%	130-135	0	0.0%
15-20	86.4	9.4%	75-80	0.1	0.0%	135-140	0	0.0%
20-25	30.2	3.3%	80-85	0.0	0.0%	140-145	0	0.0%
25-30	9.0	1.0%	85-90	0.2	0.0%	145-150	0	0.0%
30-35	5.0	0.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	3.8	0.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	2.0	0.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	1.2	0.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	0.8	0.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.5	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	910	99.4%
0-60	915	99.9%
0-90	916	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	7935	7935	7935	7935	7935	7935	7935	7935	7935	7935	7935	7935	7935	7935	7935
	5	5978	5848	6049	6236	6434	6614	6700	6736	6623	6736	6700	6614	6434	6236	6049
	10	3058	2960	3109	3302	3543	3827	4085	4313	4204	4313	4085	3827	3543	3302	3109
	15	897	869	937	1021	1145	1252	1343	1395	1299	1395	1343	1252	1145	1021	937
	20	203	204	209	221	236	242	246	251	238	251	246	242	236	221	209
	25	49	48	49	53	59	62	65	70	67	70	65	62	59	53	49
	30	13	15	17	21	24	23	23	24	23	24	23	23	24	21	17
	35	13	14	14	15	19	20	17	17	18	17	17	20	19	15	14
	40	4	4	5	6	9	10	8	8	8	8	8	10	9	6	5
	45	2	2	2	3	5	5	4	4	4	4	4	5	5	3	2
	50	1	1	2	2	3	3	3	3	3	3	3	3	3	2	2
	55	1	1	1	1	2	1	1	1	1	1	1	1	2	1	1
	60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	65	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1
	70	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
	80	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
	90	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
	100	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
	110	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
	120	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
	130	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
	140	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
	150	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
	160	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
	170	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
	180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	2506000	2506000
	45	719	989
	55	609	714
	65	447	392
	75	241	134
	85	515	303



### Coefficients of Utilization - 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 percent of total lumen output delivered to the task surface **																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	116	114	112	111	113	112	110	109	108	107	106	104	103	103	101	100	100	98
2	113	110	107	105	111	108	106	104	105	103	102	102	101	100	100	98	98	96
3	110	106	103	101	108	105	102	100	102	100	98	100	98	97	98	97	96	94
4	108	103	100	97	106	102	99	97	100	98	96	98	96	95	97	95	94	93
5	105	101	97	95	104	100	97	94	98	96	94	97	95	93	95	94	92	91
6	103	98	95	92	102	98	94	92	96	94	92	95	93	91	94	92	91	90
7	101	96	93	91	100	96	93	90	95	92	90	94	91	90	93	91	89	88
8	99	94	91	89	99	94	91	89	93	90	88	92	90	88	91	89	88	87
9	98	93	89	87	97	92	89	87	91	89	87	91	88	87	90	88	86	86
10	96	91	88	86	95	91	88	86	90	87	86	89	87	85	89	87	85	84

### Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	7935 Candela
Central Cone Intensity:	7326 Candela
Beam Flux:	486.5 Lumens
Beam Angle (0-180):	18.8 Degrees
Beam Angle (90-270):	18.7 Degrees
Field Angle (0-180):	31.9 Degrees
Field Angle (90-270):	32.6 Degrees

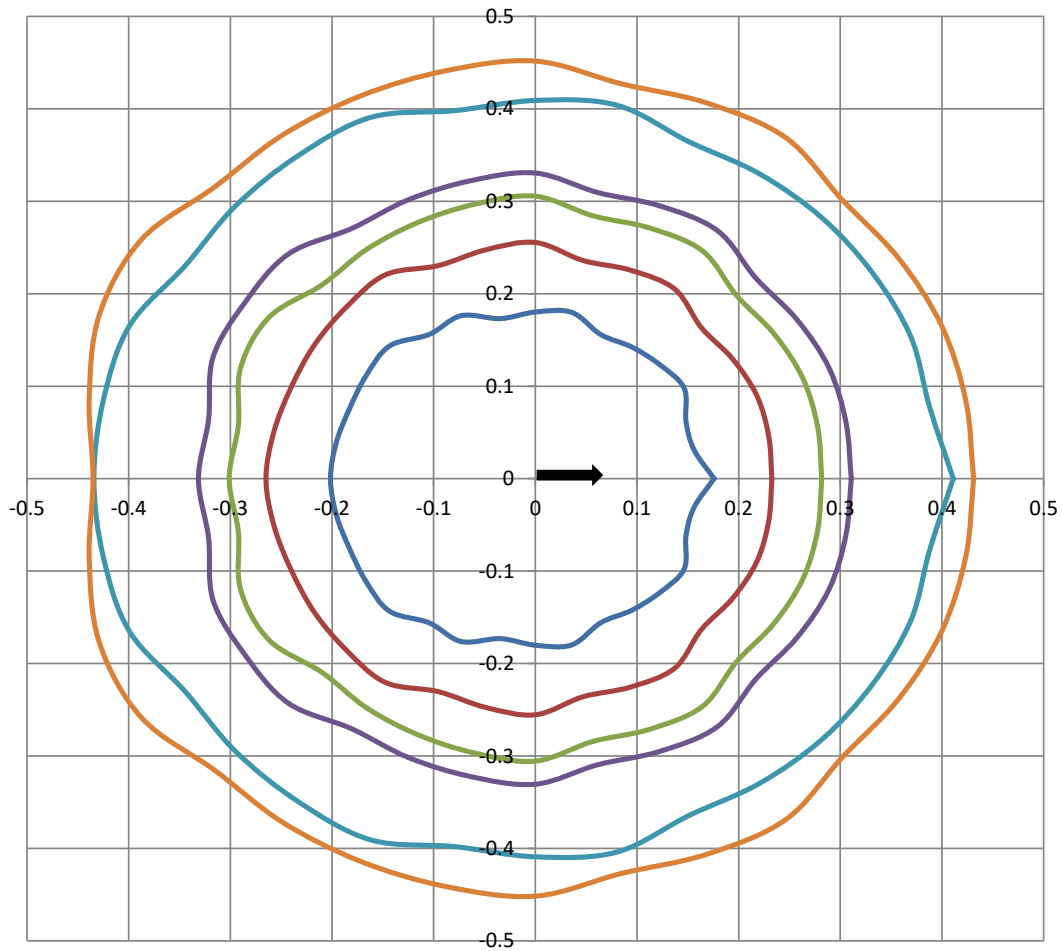
### Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		496	1.30
6.00		220	1.95
8.00		124	2.60
10.0		79.3	3.25
12.0		55.1	3.90
14.0		40.5	4.55
16.0		31.0	5.20



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

50 fc    20 fc    10 fc    5 fc    2 fc    1 fc