



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
610-774-1300



## 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**  
**2DR-L12/9DW-DIM-UNV-ON-OFF-CS-x-xx**  
Order Number  
13131414  
Test Number  
13131414.31

Test Date

2019-12-03

Prepared By

Derek Smarr, Technician

Approved By

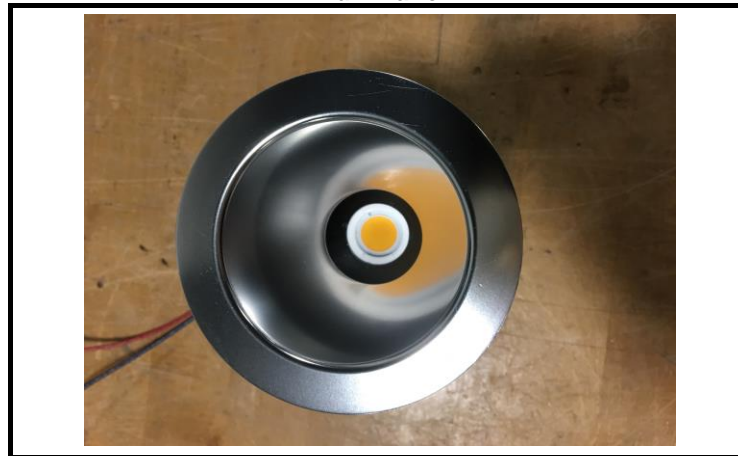
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Aluminum housing and reflector, no lens enclosure  
**Lamp:** One white LED  
**Mounting:** Recessed  
**Ballast/Driver:** Philips Advance XI025C070V054DSM1

**Luminaire**



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

**Summary of Results**

Total Luminaire Output:	941.1 Lumens
Luminaire Efficacy:	40.4 lm/w
Maximum Candela:	5457 Candela

**Test Conditions**

Test Temperature:	24.9 °C
Voltage:	120.1 VAC
Current:	0.1950 A
Power:	23.32 W
Power Factor:	0.996
Frequency:	60 Hz
Current THD:	7.78 %

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



## Distribution - Goniophotometer

### Distribution Test Conditions

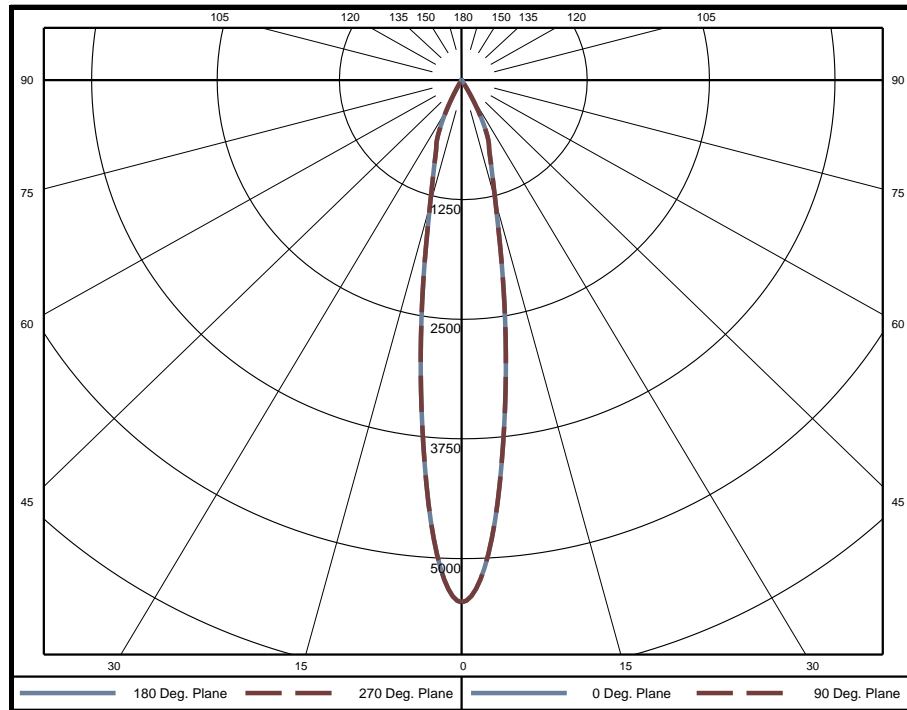
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.1 VAC	0.1950 A	23.32 W	0.996	60 Hz	7.78 %

### Summary of Results

**Spacing Criteria**  
 0-180: 0.31  
 90-270: 0.31

**Total Lumen Output:** 941.1 Lumens  
**Luminaire Efficacy:** 40.4 lm/w  
**Maximum Candela:** 5457 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	115.2	12.2%	60-65	0.6	0.1%	120-125	0	0.0%
5-10	227.9	24.2%	65-70	0.4	0.0%	125-130	0	0.0%
10-15	201.3	21.4%	70-75	0.2	0.0%	130-135	0	0.0%
15-20	159.7	17.0%	75-80	0.1	0.0%	135-140	0	0.0%
20-25	137.6	14.6%	80-85	0.0	0.0%	140-145	0	0.0%
25-30	72.1	7.7%	85-90	0.0	0.0%	145-150	0	0.0%
30-35	11.4	1.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	5.8	0.6%	95-100	0	0.0%	155-160	0	0.0%
40-45	4.1	0.4%	100-105	0	0.0%	160-165	0	0.0%
45-50	2.4	0.3%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.5	0.2%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.9	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	931	98.9%
0-60	940	99.9%
0-90	941	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	5457	5457	5457	5457	5457	5457	5457	5457	5457	5457	5457	5457	5457	5457	5457
	5	4239	4239	4239	4239	4239	4239	4239	4239	4239	4239	4239	4239	4239	4239	4239
	10	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397	2397
	15	1236	1236	1236	1236	1236	1236	1236	1236	1236	1236	1236	1236	1236	1236	1236
	20	786	786	786	786	786	786	786	786	786	786	786	786	786	786	786
	25	494	494	494	494	494	494	494	494	494	494	494	494	494	494	494
	30	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
	35	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
	40	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
	45	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	50	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	55	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	60	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	65	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	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)

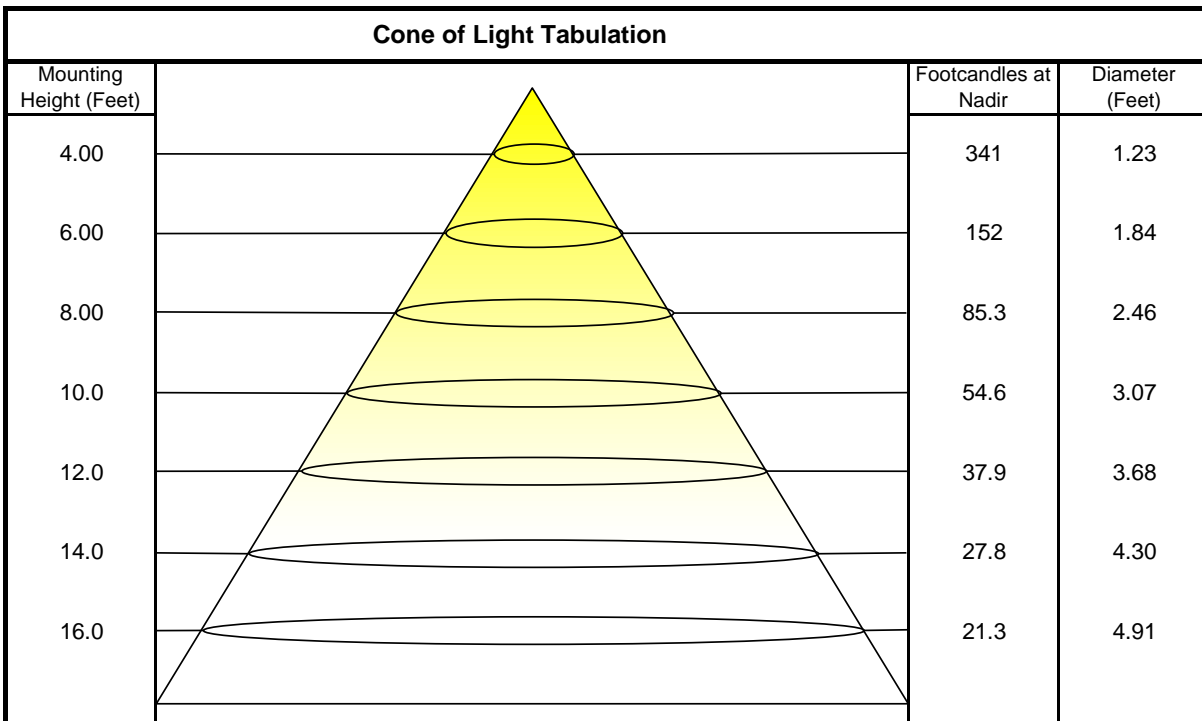
Vertical Angle (Degrees)	0	45	90
	0	1723000	1723000
	45	3577	3577
	55	1413	1413
	65	685	685
	75	330	330
	85	192	192



### 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	115	113	111	109	113	111	109	108	107	105	104	103	102	101	100	99	98	97
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	99	97	106	102	98	96	99	97	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	91	96	93	90	94	92	89	92	90	88	87
5	101	95	91	88	100	94	91	88	93	90	87	91	89	86	90	88	86	85
6	98	92	88	85	97	91	87	85	90	87	84	89	86	84	88	85	83	82
7	95	89	85	82	94	88	84	82	87	84	81	86	83	81	85	83	81	80
8	93	86	82	79	92	86	82	79	85	81	79	84	81	79	83	80	78	77
9	90	84	80	77	89	83	79	77	82	79	77	82	79	76	81	78	76	75
10	88	81	77	75	87	81	77	75	80	77	74	80	76	74	79	76	74	73

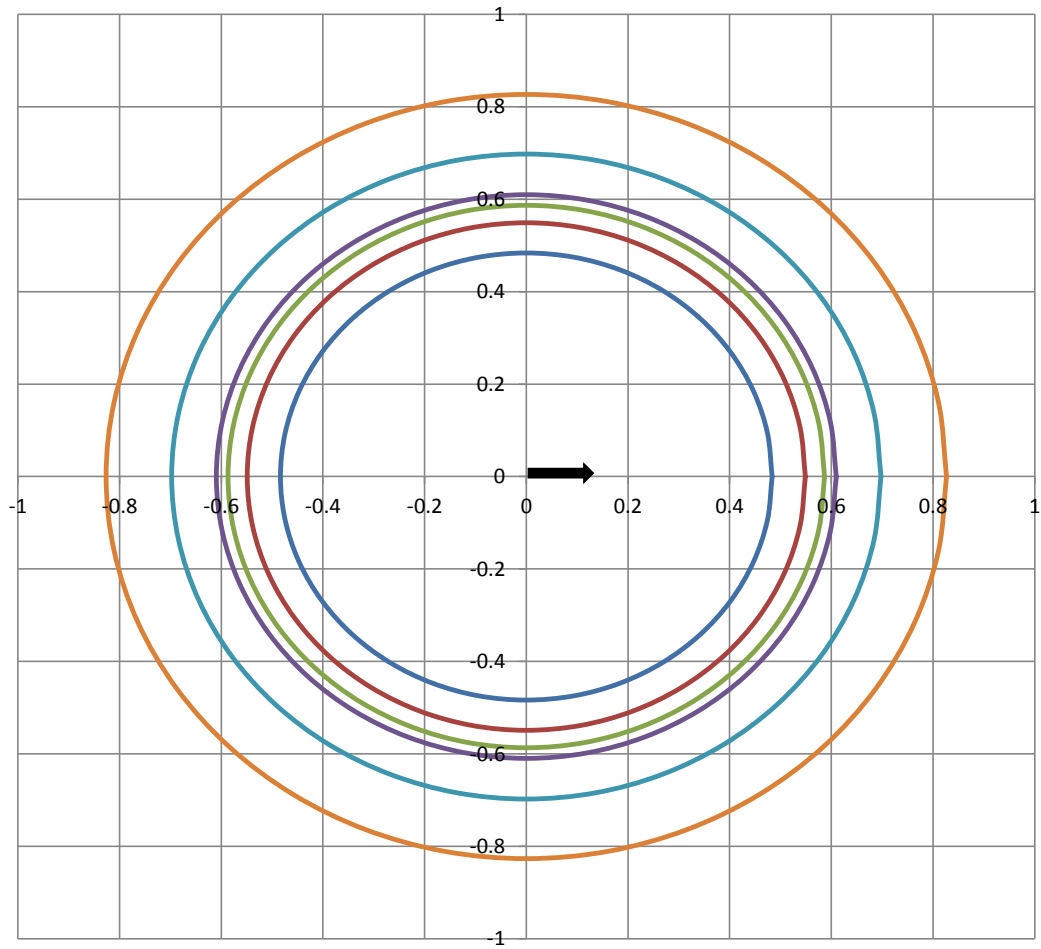
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	5457 Candela
Central Cone Intensity:	5000 Candela
Beam Flux:	298.6 Lumens
Beam Angle (0-180):	18.0 Degrees
Beam Angle (90-270):	18.0 Degrees
Field Angle (0-180):	48.7 Degrees
Field Angle (90-270):	48.7 Degrees





## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

5 fc    2 fc    1 fc    0.5 fc    0.2 fc    0.1 fc