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Allentown, PA 18106  
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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  
**2DR-L12/835-DIM-UNV-RS-OF-WH-x-xx**  
Order Number  
13257153  
Test Number  
13257153.11

Test Date

2020-03-11

Prepared By

Jesse Litchfield, Technician

Approved By

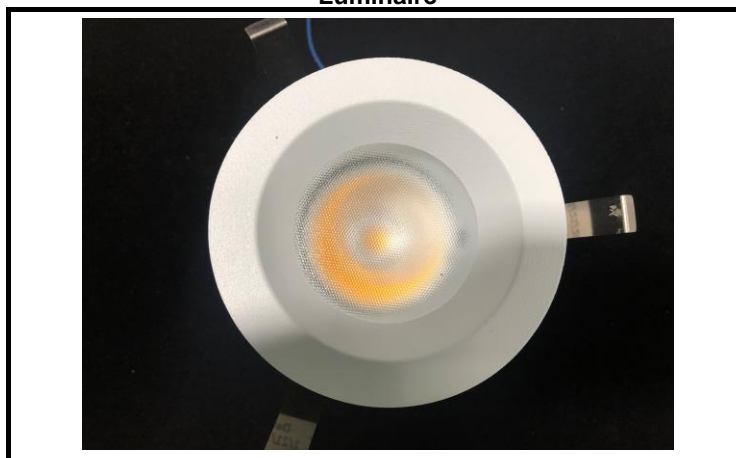
Alexa Lambert, Project Handler

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:	1427 Lumens
Luminaire Efficacy:	69.7 lm/w
Maximum Candela:	13945 Candela

**Test Conditions**

Test Temperature:	25.3 °C
Voltage:	120.1 VAC
Current:	0.1715 A
Power:	20.47 W
Power Factor:	0.994
Frequency:	60 Hz
Current THD:	9.24 %

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



## Distribution - Goniophotometer

### Distribution Test Conditions

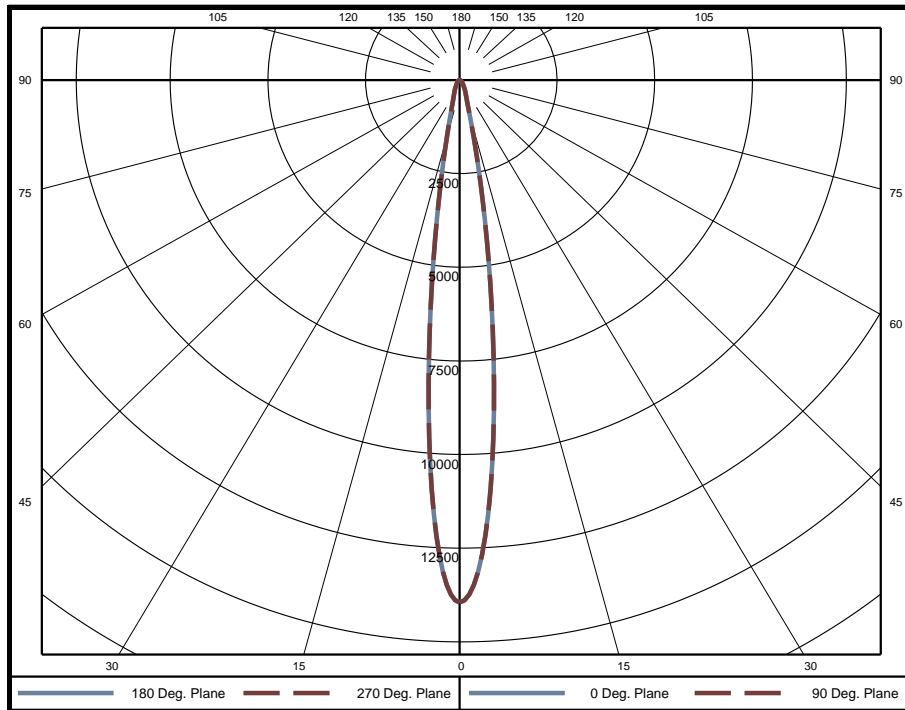
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.3 °C	120.1 VAC	0.1715 A	20.47 W	0.994	60 Hz	9.24 %

### Summary of Results

**Spacing Criteria**  
 0-180: 0.24  
 90-270: 0.24

**Total Lumen Output:** 1427 Lumens  
**Luminaire Efficacy:** 69.7 lm/w  
**Maximum Candela:** 13945 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	278.9	19.5%	60-65	16.3	1.1%	120-125	0	0.0%
5-10	419.2	29.4%	65-70	11.4	0.8%	125-130	0	0.0%
10-15	212.6	14.9%	70-75	6.7	0.5%	130-135	0	0.0%
15-20	108.1	7.6%	75-80	3.1	0.2%	135-140	0	0.0%
20-25	82.5	5.8%	80-85	1.5	0.1%	140-145	0	0.0%
25-30	68.7	4.8%	85-90	0.4	0.0%	145-150	0	0.0%
30-35	54.4	3.8%	90-95	0	0.0%	150-155	0	0.0%
35-40	45.8	3.2%	95-100	0	0.0%	155-160	0	0.0%
40-45	38.5	2.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	31.7	2.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	26.1	1.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	21.1	1.5%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1270	89.0%
0-60	1388	97.2%
0-90	1427	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	13950	13950	13950	13950	13950	13950	13950	13950	13950	13950	13950	13950	13950	13950	13950
	5	9578	9578	9578	9578	9578	9578	9578	9578	9578	9578	9578	9578	9578	9578	9578
	10	3332	3332	3332	3332	3332	3332	3332	3332	3332	3332	3332	3332	3332	3332	3332
	15	969	969	969	969	969	969	969	969	969	969	969	969	969	969	969
	20	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484
	25	327	327	327	327	327	327	327	327	327	327	327	327	327	327	327
	30	223	223	223	223	223	223	223	223	223	223	223	223	223	223	223
	35	157	157	157	157	157	157	157	157	157	157	157	157	157	157	157
	40	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
	45	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
	50	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
	55	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
	60	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
	65	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
	70	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
	75	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	80	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	85	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	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)

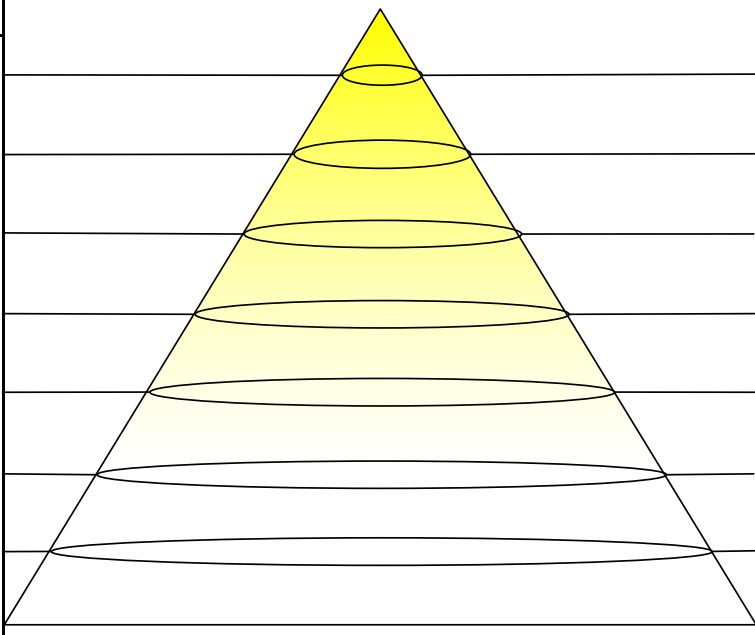
Vertical Angle (Degrees)	0	45	90
	0	4403000	4403000
	45	40180	40180
	55	28880	28880
	65	20740	20740
	75	10440	10440
	85	6235	6235



### 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	112	110	108	112	110	108	106	106	105	103	102	101	100	99	98	97	96
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	97	94	104	100	96	93	97	94	92	95	92	90	93	91	89	88
4	103	97	92	89	101	96	92	88	94	90	87	92	89	87	90	88	86	84
5	99	93	88	85	98	92	88	85	90	87	84	89	86	83	87	85	83	81
6	96	90	85	82	95	89	85	82	88	84	81	86	83	81	85	82	80	79
7	94	87	82	79	93	86	82	79	85	81	79	84	81	78	83	80	78	77
8	91	84	80	77	90	84	80	77	83	79	76	82	79	76	81	78	76	75
9	89	82	78	75	88	82	78	75	81	77	75	80	77	74	79	76	74	73
10	87	80	76	73	86	80	76	73	79	75	73	78	75	73	78	75	73	72

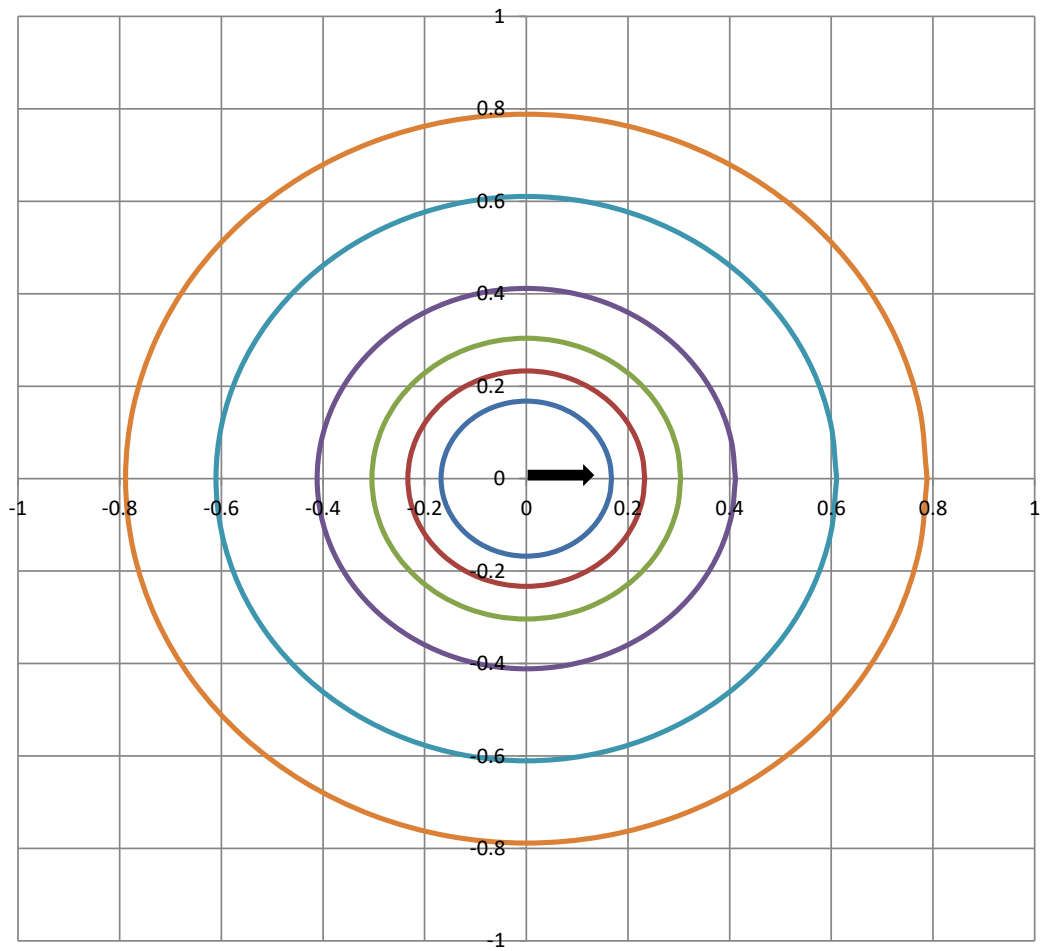
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	13950 Candela
Central Cone Intensity:	12318 Candela
Beam Flux:	449.2 Lumens
Beam Angle (0-180):	13.7 Degrees
Beam Angle (90-270):	13.7 Degrees
Field Angle (0-180):	26.7 Degrees
Field Angle (90-270):	26.7 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		872	0.943
6.00		387	1.41
8.00		218	1.89
10.0		139	2.36
12.0		96.8	2.83
14.0		71.2	3.30
16.0		54.5	3.77



## 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