



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
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## Indoor Distribution Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-2002

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

**Catalog Number**  
**4DR-L50/835-DIM-UNV-O-M-OF-CS**  
Order Number  
12316380  
Test Number  
12316380.27

Test Date

2018-06-11

Prepared By

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Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Black formed aluminum housing, specular reflector, no lens enclosure  
**Lamp:** One white LED  
**Mounting:** Recessed  
**Ballast/Driver:** Philips XI050C140V054DSM5

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 4.50 in.

**Summary of Results**

Total Luminaire Output:	4956 Lumens
Luminaire Efficacy:	109.9 lm/w
Maximum Candela:	9889 Candela

**Test Conditions**

Test Temperature:	25.1 °C
Voltage:	119.9 VAC
Current:	0.3768 A
Power:	45.10 W
Power Factor:	0.998
Frequency:	60 Hz
Current THD:	5.35 %

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



## Distribution - Goniophotometer

### Distribution Test Conditions

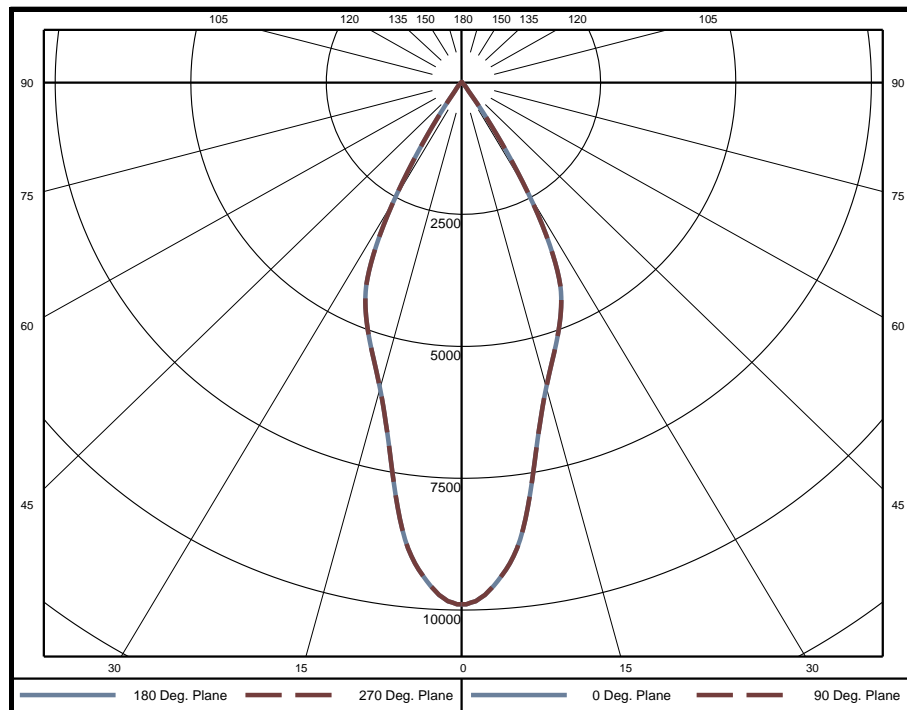
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.1 °C	119.9 VAC	0.3768 A	45.10 W	0.998	60 Hz	5.35 %

### Summary of Results

**Spacing Criteria**  
 0-180: 0.60  
 90-270: 0.60

**Total Lumen Output:** 4956 Lumens  
**Luminaire Efficacy:** 109.9 lm/w  
**Maximum Candela:** 9889 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	228.8	4.6%	60-65	3.7	0.1%	120-125	0	0.0%
5-10	600.3	12.1%	65-70	2.1	0.0%	125-130	0	0.0%
10-15	781.7	15.8%	70-75	1.1	0.0%	130-135	0	0.0%
15-20	905.0	18.3%	75-80	0.6	0.0%	135-140	0	0.0%
20-25	982.9	19.8%	80-85	0.3	0.0%	140-145	0	0.0%
25-30	859.7	17.3%	85-90	0.2	0.0%	145-150	0	0.0%
30-35	404.1	8.2%	90-95	0	0.0%	150-155	0	0.0%
35-40	93.6	1.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	44.7	0.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	27.0	0.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	13.6	0.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	6.8	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	4856	98.0%
0-60	4948	99.8%
0-90	4956	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	9888	9888	9888	9888	9888	9888	9888	9888	9888	9888	9888	9888	9888	9888	9888	9888
5	9265	9265	9265	9265	9265	9265	9265	9265	9265	9265	9265	9265	9265	9265	9265	9265
10	7499	7499	7499	7499	7499	7499	7499	7499	7499	7499	7499	7499	7499	7499	7499	7499
15	5960	5960	5960	5960	5960	5960	5960	5960	5960	5960	5960	5960	5960	5960	5960	5960
20	5105	5105	5105	5105	5105	5105	5105	5105	5105	5105	5105	5105	5105	5105	5105	5105
25	4242	4242	4242	4242	4242	4242	4242	4242	4242	4242	4242	4242	4242	4242	4242	4242
30	2416	2416	2416	2416	2416	2416	2416	2416	2416	2416	2416	2416	2416	2416	2416	2416
35	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588	588
40	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
45	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
50	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46	46
55	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
60	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
65	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
70	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
75	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
80	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
85	0	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	0
95	0	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	0
105	0	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	0
115	0	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	0
125	0	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	0
135	0	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	0
145	0	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	0
155	0	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	0
165	0	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	0
175	0	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	0

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

Horizontal Angle (Degrees)

Vertical Angle (Degrees)

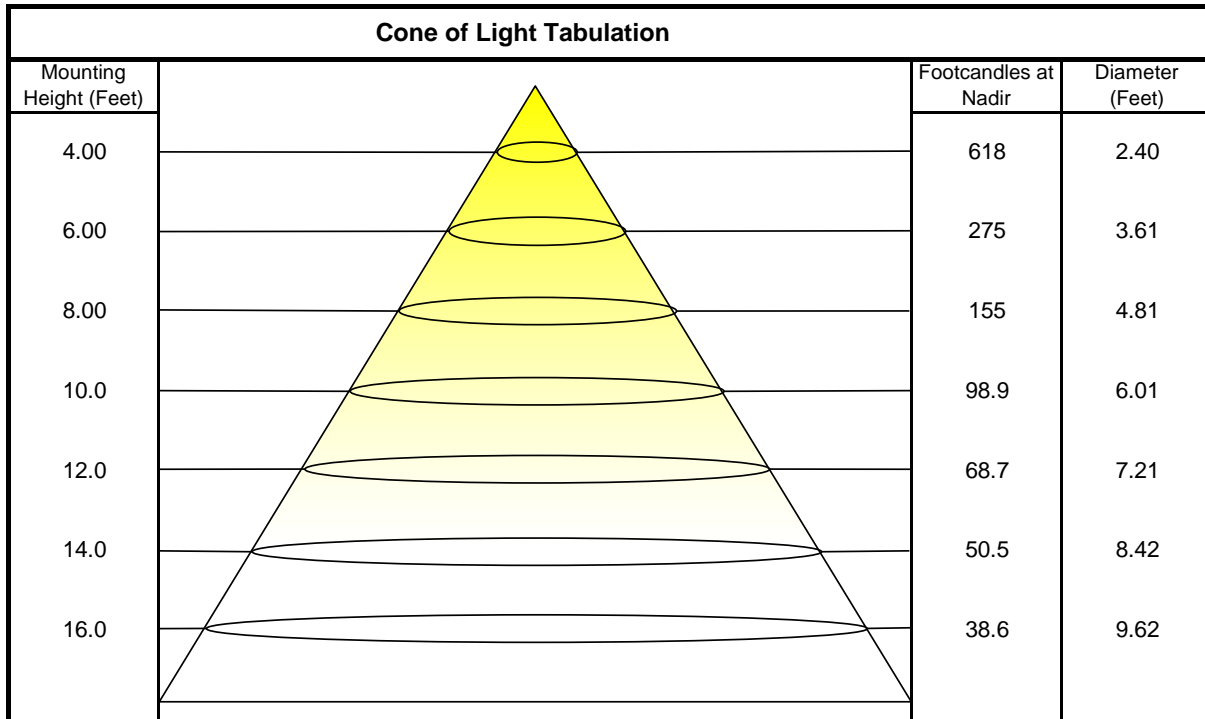
	0	45	90
0	963700	963700	963700
45	12520	12520	12520
55	3533	3533	3533
65	1265	1265	1265
75	560	560	560
85	439	439	439



### 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	114	112	109	107	112	110	108	106	106	104	102	102	101	99	98	97	97	95
2	109	105	101	98	107	103	100	97	100	98	95	97	95	93	95	93	91	90
3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	88	86	85
4	100	94	89	85	99	93	88	85	91	87	84	89	85	83	87	84	82	80
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76
6	92	84	79	75	91	84	79	75	82	78	75	81	77	74	80	76	74	72
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69
8	85	76	71	68	84	76	71	68	75	70	67	74	70	67	73	69	67	65
9	81	73	68	64	80	73	68	64	72	67	64	71	67	64	70	66	64	62
10	78	70	65	61	77	69	64	61	69	64	61	68	64	61	67	63	61	60

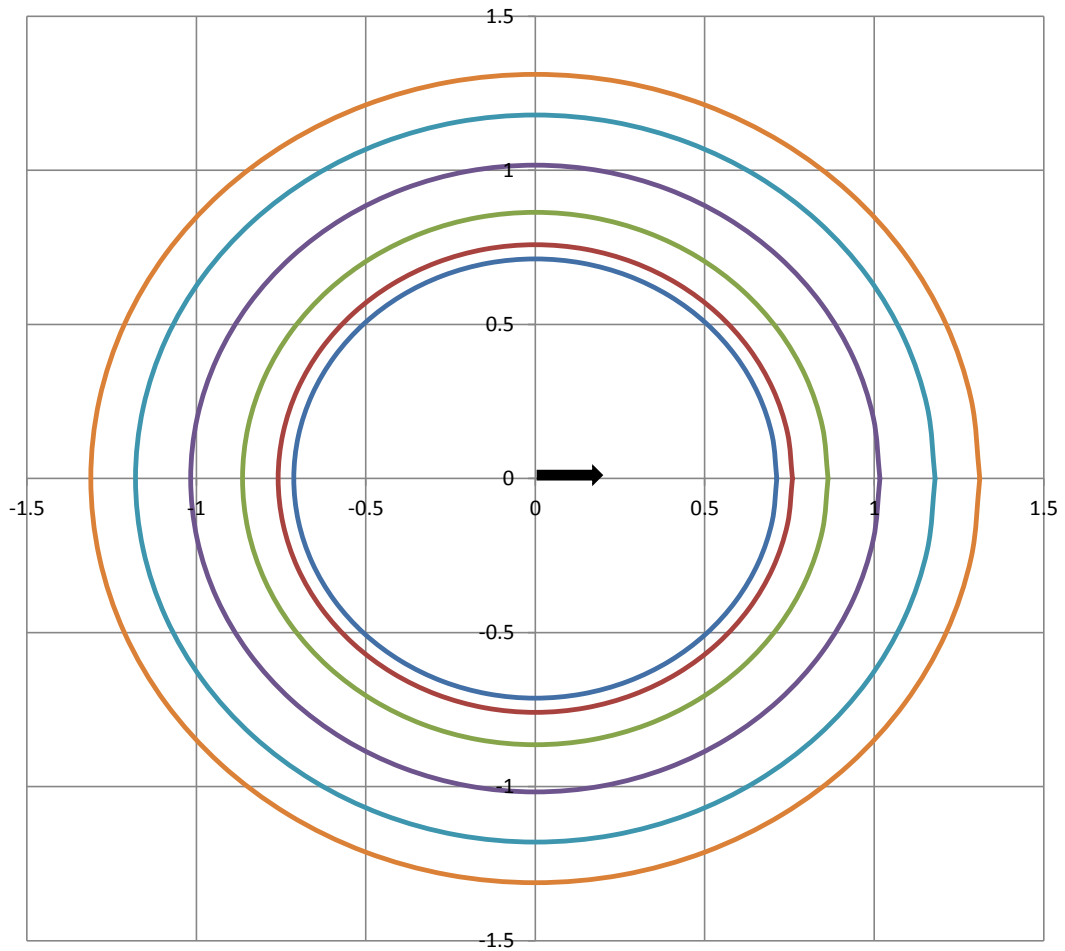
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	9888 Candela
Central Cone Intensity:	9659 Candela
Beam Flux:	2717.9 Lumens
Beam Angle (0-180):	42.1 Degrees
Beam Angle (90-270):	42.1 Degrees
Field Angle (0-180):	67.0 Degrees
Field Angle (90-270):	67.0 Degrees





## 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