



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



## Indoor Distribution Test Report

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

**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-N-OF-CS**  
Order Number  
12316380  
Test Number  
12316380.28

Test Date

2018-06-12

Prepared By

Cordaryl Cousar, Technician

Approved By

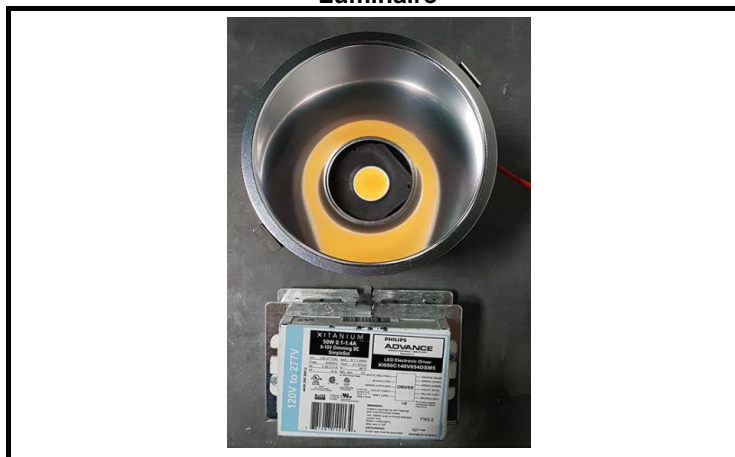
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** 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:	4818 Lumens
Luminaire Efficacy:	106.9 lm/w
Maximum Candela:	26890 Candela

**Test Conditions**

Test Temperature:	25.1 °C
Voltage:	119.9 VAC
Current:	0.3767 A
Power:	45.09 W
Power Factor:	0.998
Frequency:	60 Hz
Current THD:	5.34 %

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	0.3767 A	45.09 W	0.998	60 Hz	5.34 %

### Summary of Results

#### Spacing Criteria

0-180: 0.28

90-270: 0.28

Total Lumen Output:

4818 Lumens

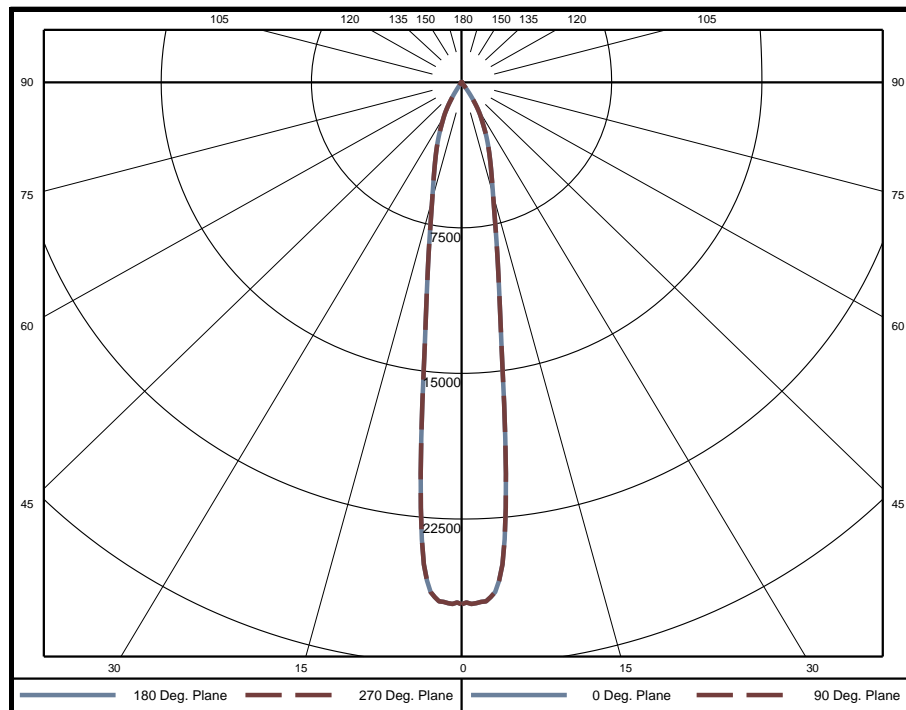
Luminaire Efficacy:

106.9 lm/w

Maximum Candela:

26890 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	621	12.9%	60-65	2	0.0%	120-125	0	0.0%
5-10	1078	22.4%	65-70	2	0.0%	125-130	0	0.0%
10-15	885	18.4%	70-75	2	0.0%	130-135	0	0.0%
15-20	771	16.0%	75-80	1	0.0%	135-140	0	0.0%
20-25	660	13.7%	80-85	1	0.0%	140-145	0	0.0%
25-30	494	10.3%	85-90	1	0.0%	145-150	0	0.0%
30-35	240	5.0%	90-95	0	0.0%	150-155	0	0.0%
35-40	31	0.6%	95-100	0	0.0%	155-160	0	0.0%
40-45	13	0.3%	100-105	0	0.0%	160-165	0	0.0%
45-50	8	0.2%	105-110	0	0.0%	165-170	0	0.0%
50-55	5	0.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	3	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	4780	99.2%
0-60	4809	99.8%
0-90	4818	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	26890	26890	26890	26890	26890	26890	26890	26890	26890	26890	26890	26890	26890	26890	26890	26890
5	23630	23630	23630	23630	23630	23630	23630	23630	23630	23630	23630	23630	23630	23630	23630	23630
10	10160	10160	10160	10160	10160	10160	10160	10160	10160	10160	10160	10160	10160	10160	10160	10160
15	5746	5746	5746	5746	5746	5746	5746	5746	5746	5746	5746	5746	5746	5746	5746	5746
20	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862	3862
25	2499	2499	2499	2499	2499	2499	2499	2499	2499	2499	2499	2499	2499	2499	2499	2499
30	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422	1422
35	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286
40	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
45	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
50	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
55	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
60	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
65	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
70	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
75	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
80	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
85	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
90	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
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)

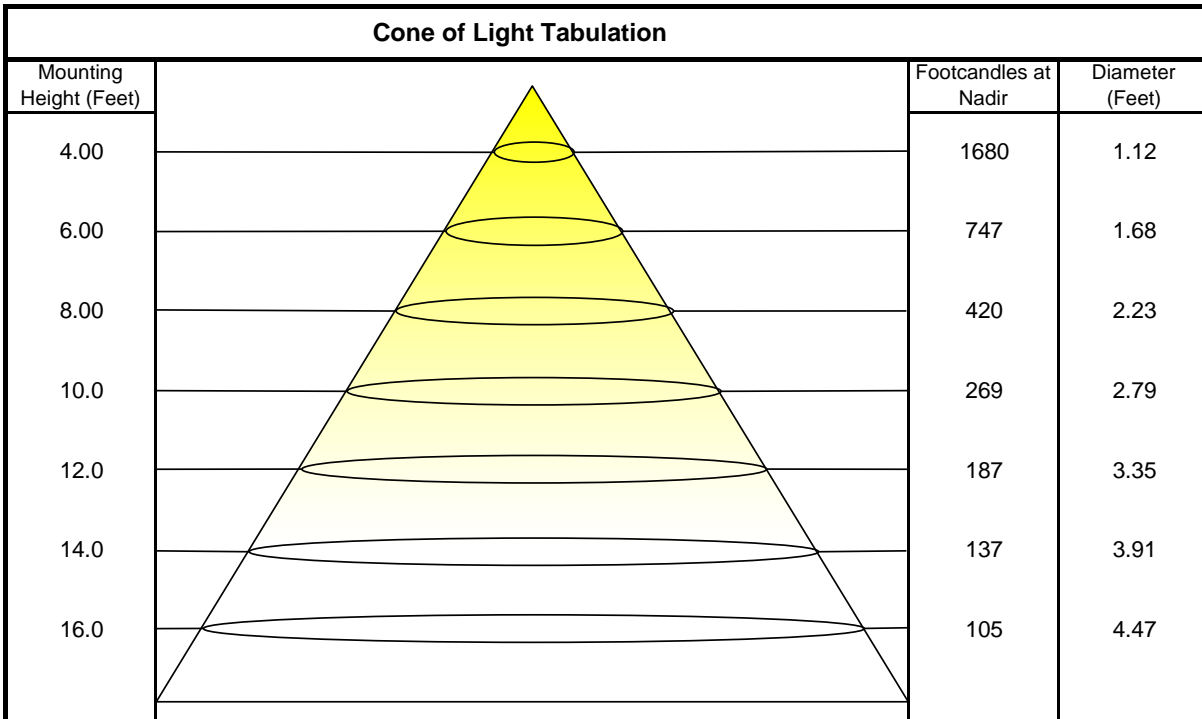
	0	45	90
0	2621000	2621000	2621000
45	3744	3744	3744
55	1365	1365	1365
65	922	922	922
75	1116	1116	1116
85	2875	2875	2875



### 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	112	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	101	109	105	103	100	102	100	98	99	98	96	97	95	94	93
3	107	102	99	96	105	101	98	95	99	96	93	96	94	92	94	92	91	89
4	104	98	94	91	102	97	93	90	95	92	89	93	90	88	91	89	87	86
5	100	94	90	87	99	93	89	86	92	88	86	90	87	85	89	86	84	83
6	97	91	86	83	96	90	86	83	89	85	82	87	84	82	86	84	81	80
7	94	88	83	80	93	87	83	80	86	82	80	85	82	79	84	81	79	78
8	92	85	80	77	91	84	80	77	83	80	77	82	79	77	81	79	76	75
9	89	82	78	75	88	82	77	75	81	77	74	80	77	74	79	76	74	73
10	86	79	75	73	86	79	75	72	78	75	72	78	74	72	77	74	72	71

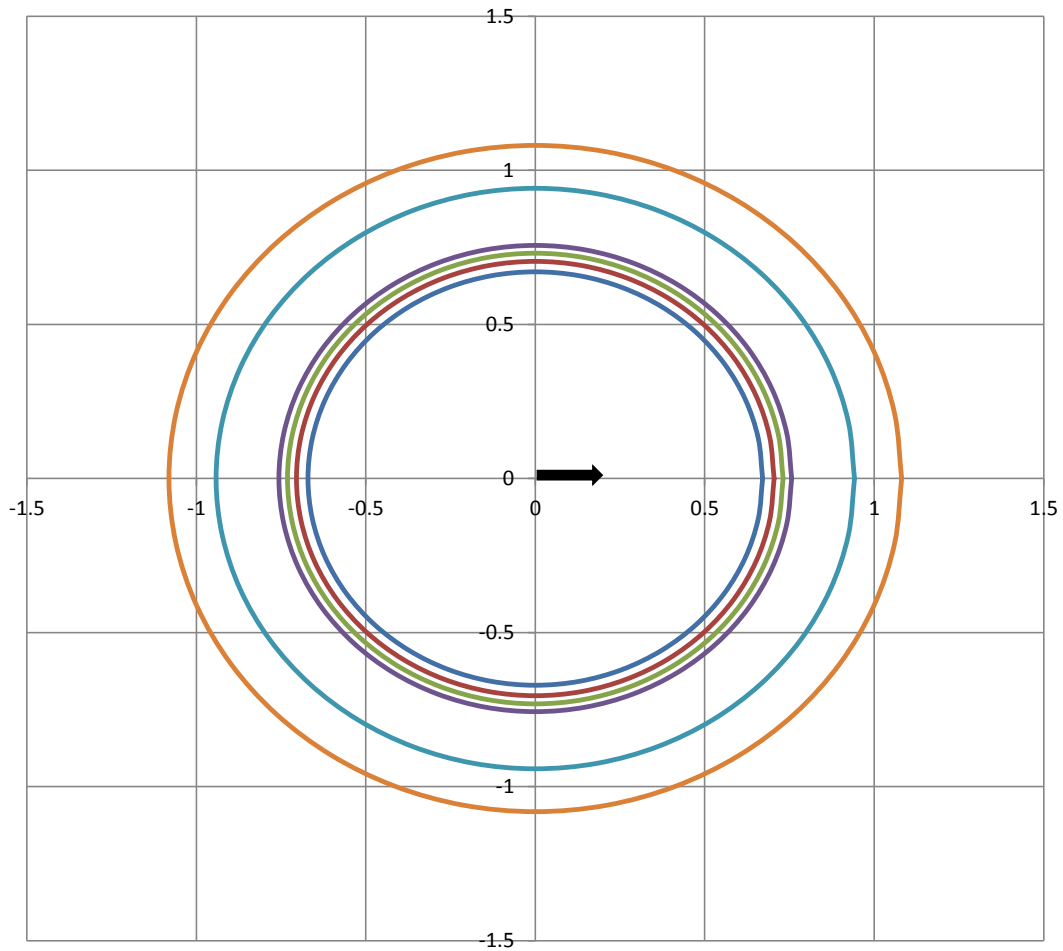
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	26890 Candela
Central Cone Intensity:	26189 Candela
Beam Flux:	1325.5 Lumens
Beam Angle (0-180):	16.2 Degrees
Beam Angle (90-270):	16.2 Degrees
Field Angle (0-180):	48.6 Degrees
Field Angle (90-270):	48.6 Degrees





## 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