



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
2AR-L12/835-DIM-UNV-LW-OF-WH-x-xx (45° TILT)
Order Number
13257190
Test Number
13257190.04

Test Date

2020-03-16

Prepared By

Jesse Litchfield, Technician

Approved By

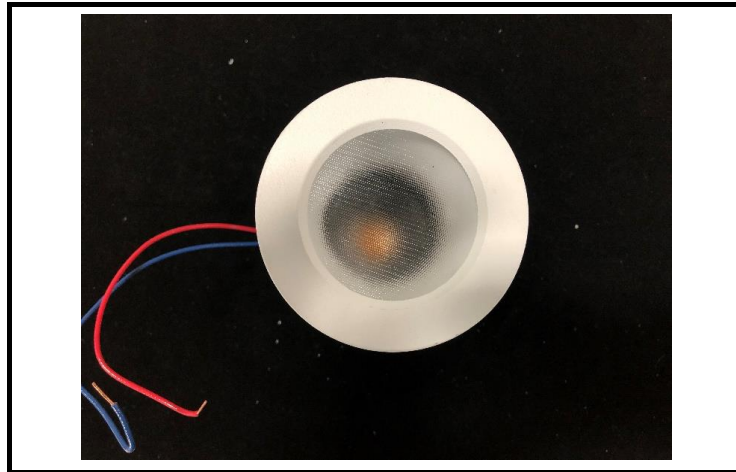
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.
This report must not be used by the client to claim product certification, approval, or endorsement by
NVLAP, NIST, or any agency of the Federal Government.



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:	740.4 Lumens
Luminaire Efficacy:	35.4 lm/w
Maximum Candela:	2828 Candela

Test Conditions

Test Temperature:	25.2 °C
Voltage:	120.0 VAC
Current:	0.1752 A
Power:	20.91 W
Power Factor:	0.995
Frequency:	60 Hz
Current THD:	8.87 %

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



Distribution - Goniophotometer

Distribution Test Conditions

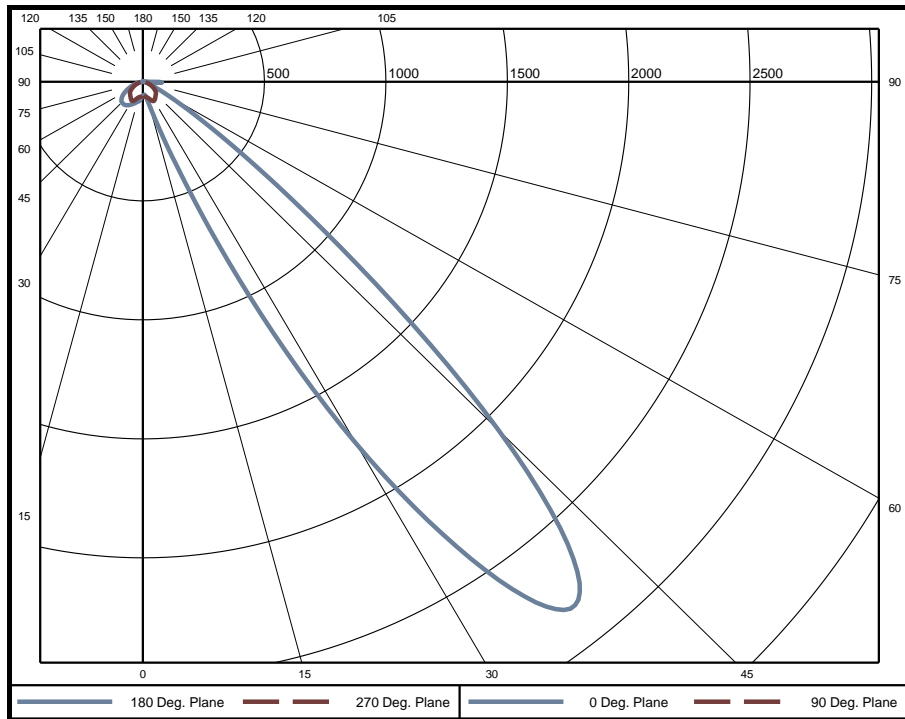
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.2 °C	120.0 VAC	0.1752 A	20.91 W	0.995	60 Hz	8.87 %

Summary of Results

Spacing Criteria
0-180: 3.21
90-270: 1.83

Total Lumen Output: 740.4 Lumens
Luminaire Efficacy: 35.4 lm/w
Maximum Candela: 2828 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.5	0.2%	60-65	25.9	3.5%	120-125	0	0.0%
5-10	4.6	0.6%	65-70	18.9	2.6%	125-130	0	0.0%
10-15	8.6	1.2%	70-75	13.3	1.8%	130-135	0	0.0%
15-20	14.6	2.0%	75-80	8.3	1.1%	135-140	0	0.0%
20-25	28.0	3.8%	80-85	3.9	0.5%	140-145	0	0.0%
25-30	58.0	7.8%	85-90	4.7	0.6%	145-150	0	0.0%
30-35	100.9	13.6%	90-95	0	0.0%	150-155	0	0.0%
35-40	136.0	18.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	131.1	17.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	91.3	12.3%	105-110	0	0.0%	165-170	0	0.0%
50-55	55.0	7.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	36.1	4.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	352	47.6%
0-60	666	89.9%
0-90	741	100.0%
90-180	0	0.0%



Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal 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	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
	5	55	56	57	60	63	66	68	68	68	68	66	63	60	57	56
	10	60	58	57	59	64	71	78	82	82	82	78	71	64	59	58
	15	97	80	62	61	68	82	87	88	88	88	87	82	68	61	80
	20	267	154	74	64	77	90	90	94	96	94	90	90	77	64	154
	25	831	375	87	68	88	92	95	103	105	103	95	92	88	68	375
	30	1752	788	98	73	92	94	101	111	114	111	101	94	92	73	788
	35	2556	1208	95	74	86	93	106	116	121	116	106	93	86	74	1208
	40	2798	1206	78	69	80	93	108	120	124	120	108	93	80	69	78
	45	2074	736	62	62	74	91	107	119	123	119	107	91	74	62	736
	50	977	310	51	56	69	85	100	112	116	112	100	85	69	56	310
	55	375	124	43	48	59	74	88	99	102	99	88	74	59	48	124
	60	143	58	35	39	48	60	72	81	84	81	72	60	48	39	58
	65	61	35	27	30	37	46	55	62	63	62	55	46	37	30	27
	70	32	24	20	22	27	33	39	44	45	44	39	33	27	22	20
	75	18	15	14	15	18	22	26	29	29	29	26	22	18	15	14
	80	8	8	8	8	10	12	15	16	16	16	15	12	10	8	8
	85	5	3	2	2	3	3	5	5	5	5	5	3	3	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/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	19440	19440	19440
	45	926100	27770	33210
	55	206300	23650	32670
	65	45920	20490	27470
	75	21350	16790	21510
	85	16950	8343	9536



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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	81	98	91	85	80	88	83	79	84	80	77	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	72	64	57	82	71	63	57	69	62	56	66	60	55	64	59	55	53
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38
7	65	51	42	36	63	50	42	36	49	41	35	47	40	35	46	40	35	33
8	59	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	30	28
9	55	41	33	27	53	41	32	27	39	32	27	38	32	27	37	31	27	25
10	51	37	29	24	50	37	29	24	36	28	23	35	28	23	34	28	23	21

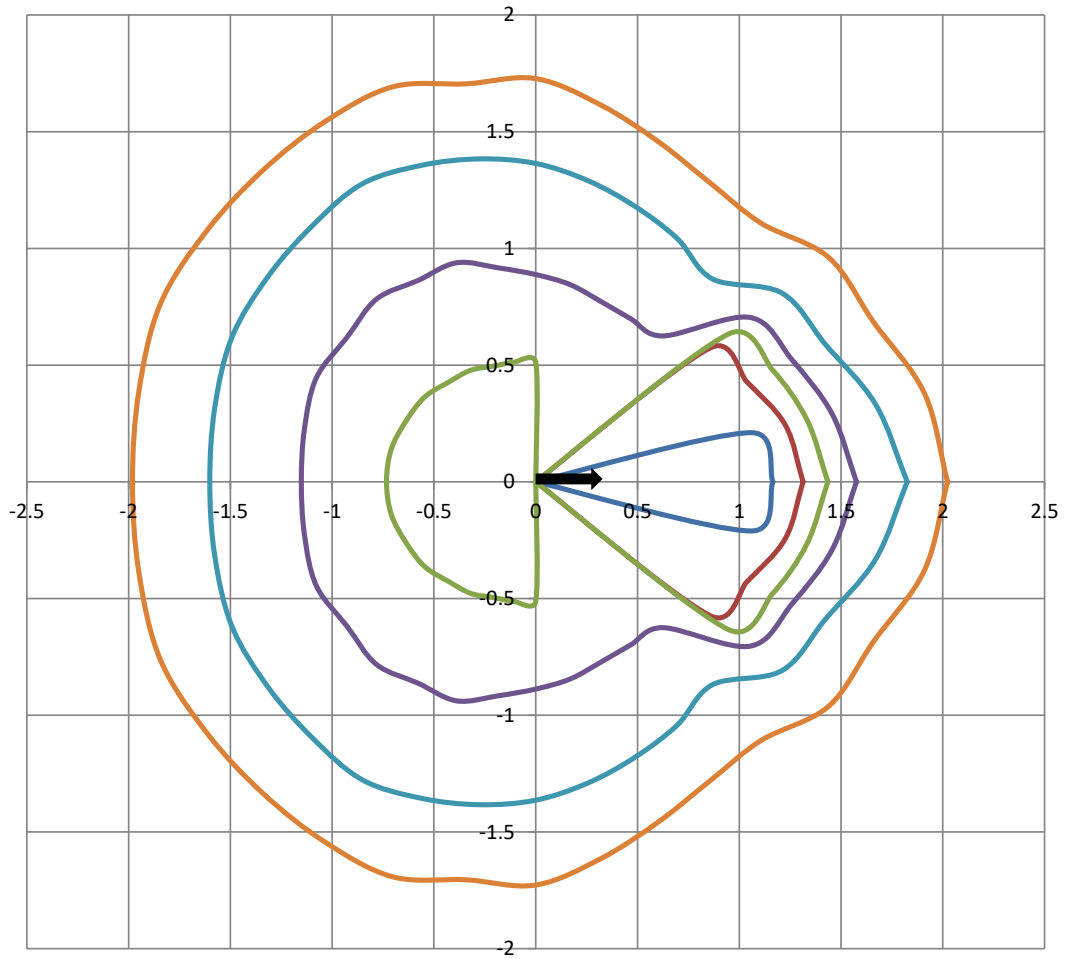
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	62 Candela
Central Cone Intensity:	62 Candela
Beam Flux:	712.4 Lumens
Beam Angle (0-180):	144.7 Degrees
Beam Angle (90-270):	135.6 Degrees
Field Angle (0-180):	165.7 Degrees
Field Angle (90-270):	165.1 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		3.85	10.2
6.00		1.71	15.4
8.00		0.962	20.5
10.0		0.616	25.6
12.0		0.427	30.7
14.0		0.314	35.8
16.0		0.240	41.0



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