



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-OM-OF-CS-x-xx (45° TILT)
Order Number
13257190
Test Number
13257190.10

Test Date

2020-03-17

Prepared By

Jesse Litchfield, Technician

Approved By

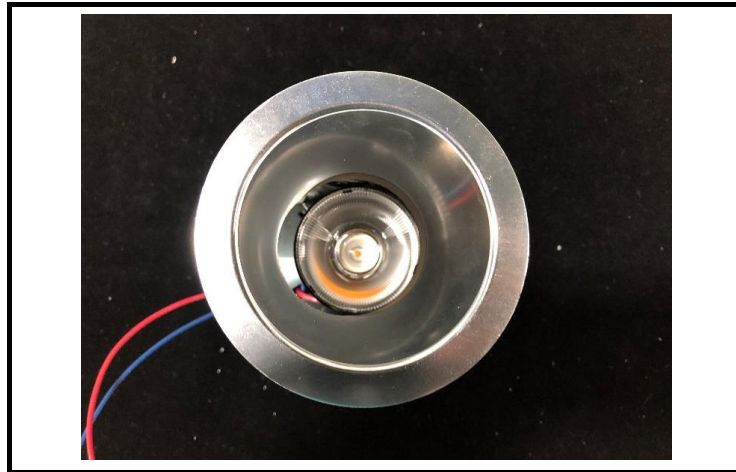
Alexa Lambert, Project Handler

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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:	456.5 Lumens
Luminaire Efficacy:	21.8 lm/w
Maximum Candela:	2635 Candela

Test Conditions

Test Temperature:	24.3 °C
Voltage:	120.0 VAC
Current:	0.1753 A
Power:	20.92 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

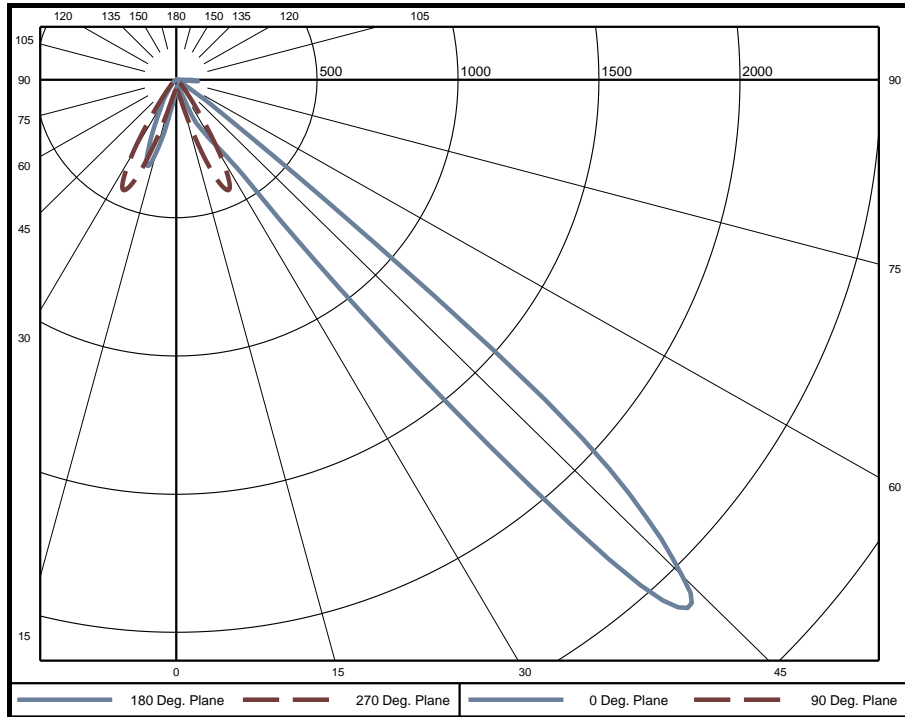
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.3 °C	120.0 VAC	0.1753 A	20.92 W	0.995	60 Hz	8.87 %

Summary of Results

Spacing Criteria
 0-180: 2.88
 90-270: 1.76

Total Lumen Output: 456.5 Lumens
Luminaire Efficacy: 21.8 lm/w
Maximum Candela: 2635 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.87	0.2%	60-65	1.27	0.3%	120-125	0	0.0%
5-10	3.62	0.8%	65-70	0.53	0.1%	125-130	0	0.0%
10-15	11.44	2.5%	70-75	0.28	0.1%	130-135	0	0.0%
15-20	30.16	6.6%	75-80	0.15	0.0%	135-140	0	0.0%
20-25	50.78	11.1%	80-85	0.08	0.0%	140-145	0	0.0%
25-30	66.73	14.6%	85-90	3.53	0.8%	145-150	0	0.0%
30-35	67.76	14.8%	90-95	0	0.0%	150-155	0	0.0%
35-40	63.28	13.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	78.54	17.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	59.72	13.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	14.11	3.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	3.66	0.8%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	295	64.5%
0-60	451	98.7%
0-90	457	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	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
	5	25	26	28	33	38	45	51	55	56	55	51	45	38	33	28
	10	25	23	28	39	55	77	98	111	116	111	98	77	55	39	28
	15	24	25	37	63	120	185	236	260	270	260	236	185	120	63	37
	20	46	36	67	178	314	347	332	311	305	311	332	347	314	178	67
	25	181	84	203	412	441	324	232	184	175	184	232	324	441	412	203
	30	262	247	421	511	311	172	115	99	97	99	115	172	311	511	421
	35	467	352	388	281	121	78	63	54	52	54	63	78	121	281	388
	40	1730	291	156	91	49	38	33	30	30	30	33	38	49	91	156
	45	2538	191	31	29	25	23	21	20	19	20	21	23	25	29	31
	50	922	41	12	12	14	15	14	15	15	15	14	15	14	12	12
	55	102	13	5	5	8	9	9	9	9	9	9	9	8	5	5
	60	18	3	1	2	4	4	4	5	5	5	4	4	4	2	1
	65	1	1	0	1	2	2	2	2	2	2	2	2	2	1	0
	70	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0
	75	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0
	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	85	15	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	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)

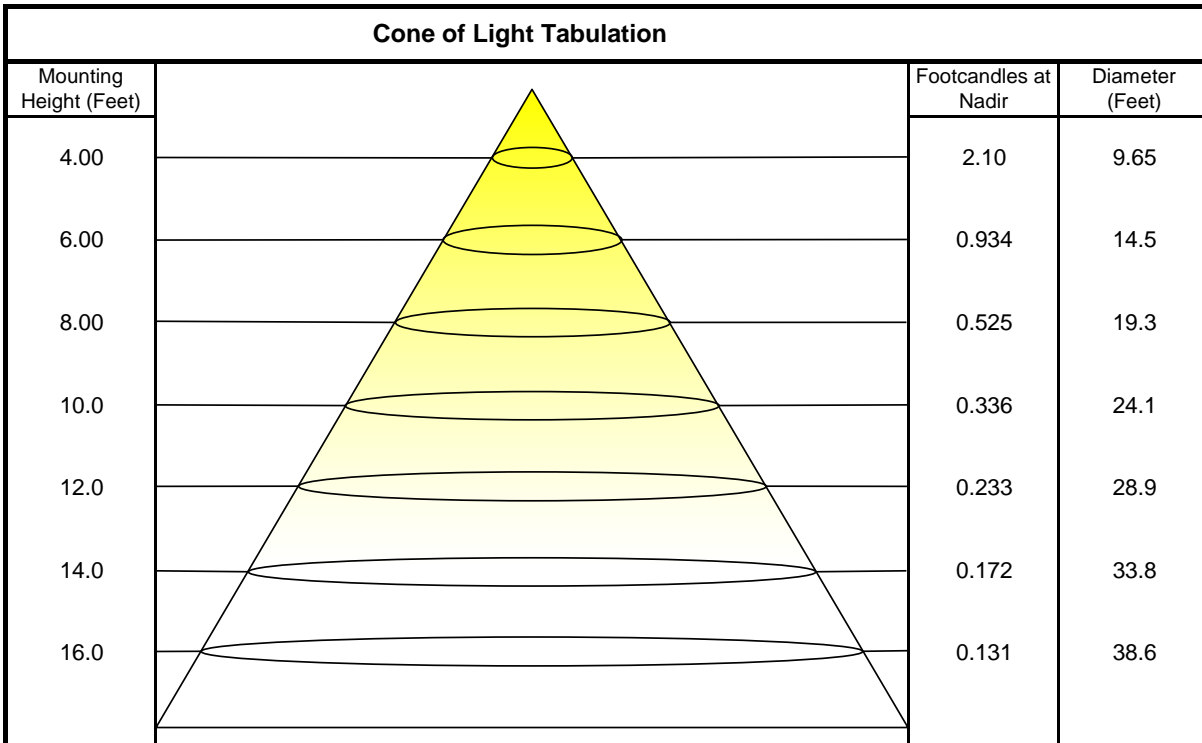
Vertical Angle (Degrees)	0	45	90
	0	10620	10620
	45	1133000	13820
	55	56260	2698
	65	891	373
	75	200	139
	85	55000	250



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	112	108	105	102	109	106	103	101	102	100	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	88	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62
5	83	72	65	59	81	71	64	59	69	63	58	67	62	58	66	61	57	55
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49
7	72	60	52	46	70	59	51	46	57	51	46	56	50	46	55	49	45	43
8	66	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39
9	62	50	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	35
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

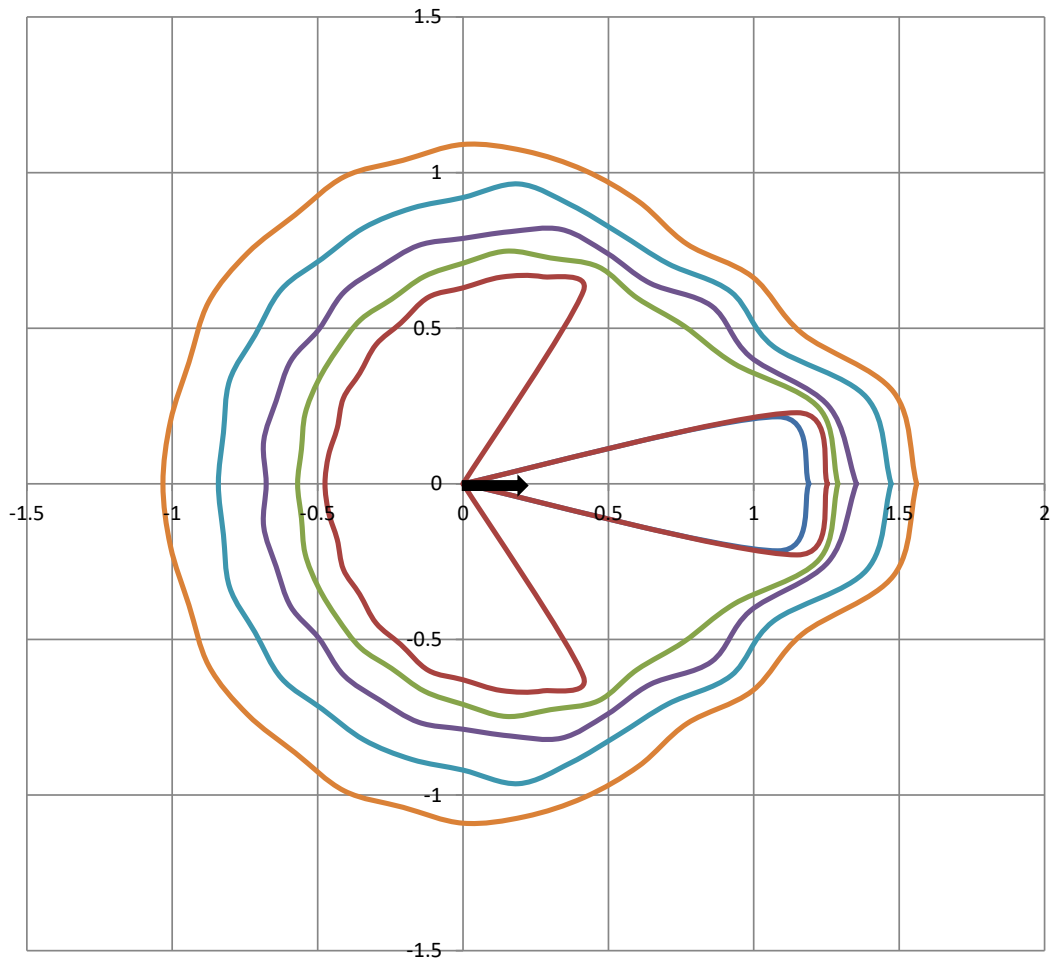
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	34 Candela
Central Cone Intensity:	36 Candela
Beam Flux:	445.4 Lumens
Beam Angle (0-180):	107.9 Degrees
Beam Angle (90-270):	97.3 Degrees
Field Angle (0-180):	124.8 Degrees
Field Angle (90-270):	120.5 Degrees





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