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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
2AR-L12/835-DIM-UNV-AW-OF-WH-x-xx (45° TILT)
Order Number
13257190
Test Number
13257190.08

Test Date

2020-03-16

Prepared By

Jesse Litchfield, Technician

Approved By

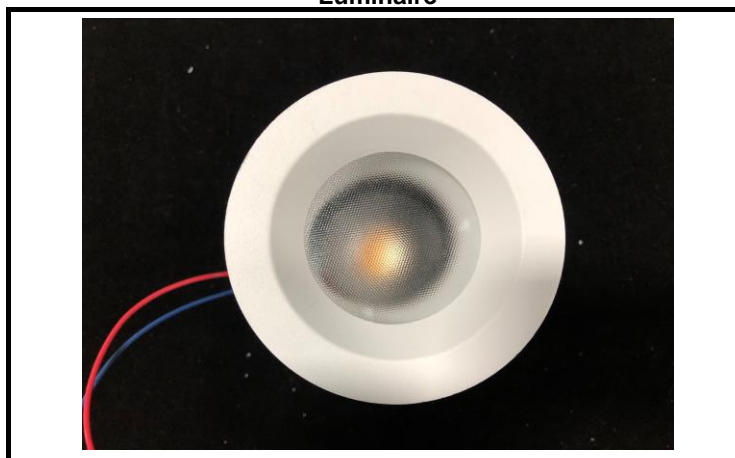
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
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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:	655.0 Lumens
Luminaire Efficacy:	31.3 lm/w
Maximum Candela:	2224 Candela

Test Conditions

Test Temperature:	24.7 °C
Voltage:	120.0 VAC
Current:	0.1755 A
Power:	20.95 W
Power Factor:	0.995
Frequency:	60 Hz
Current THD:	8.85 %

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



Distribution - Goniophotometer

Distribution Test Conditions

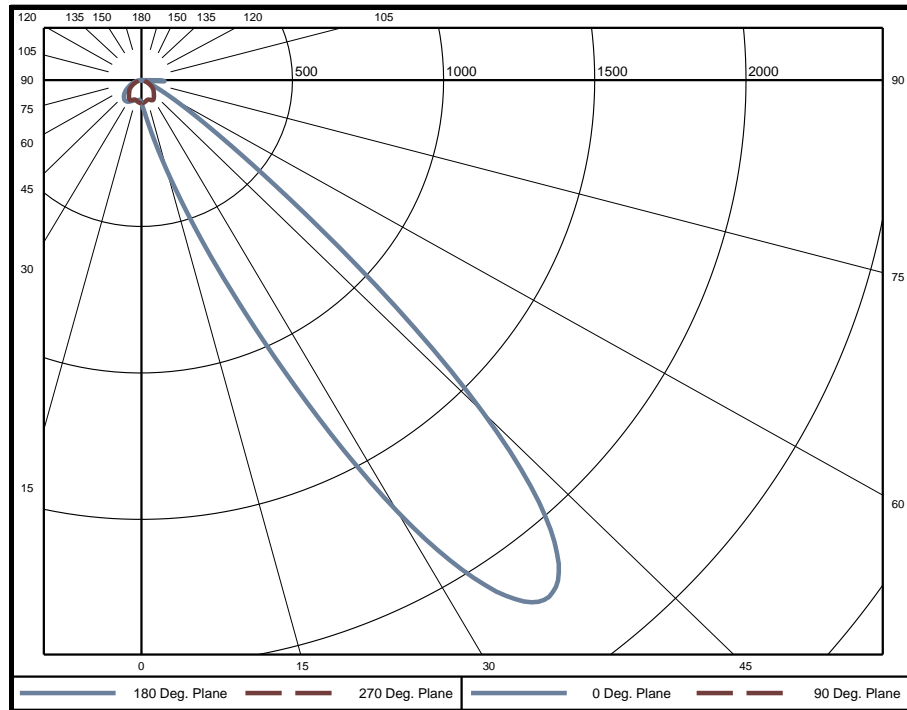
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.1755 A	20.95 W	0.995	60 Hz	8.85 %

Summary of Results

Spacing Criteria
 0-180: 2.93
 90-270: 1.36

Total Lumen Output: 655.0 Lumens
Luminaire Efficacy: 31.3 lm/w
Maximum Candela: 2224 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	1.9	0.3%	60-65	16.5	2.5%	120-125	0	0.0%
5-10	6.4	1.0%	65-70	11.6	1.8%	125-130	0	0.0%
10-15	12.8	2.0%	70-75	8.2	1.3%	130-135	0	0.0%
15-20	23.0	3.5%	75-80	5.3	0.8%	135-140	0	0.0%
20-25	39.9	6.1%	80-85	2.8	0.4%	140-145	0	0.0%
25-30	66.6	10.2%	85-90	4.8	0.7%	145-150	0	0.0%
30-35	97.4	14.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	115.7	17.7%	95-100	0	0.0%	155-160	0	0.0%
40-45	106.3	16.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	71.2	10.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	39.9	6.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	24.8	3.8%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	364	55.5%
0-60	606	92.5%
0-90	655	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	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
	5	107	103	94	85	78	74	71	69	68	69	71	74	78	85	94
	10	172	152	116	88	74	70	73	74	73	74	73	70	74	88	116
	15	307	245	145	89	71	75	74	71	71	71	74	75	71	89	145
	20	574	400	177	85	72	77	72	75	75	75	72	77	72	85	177
	25	1038	632	204	79	77	76	76	80	81	80	76	76	77	79	204
	30	1703	915	214	75	76	75	79	84	86	84	79	75	76	75	214
	35	2163	1108	191	69	69	71	79	85	87	85	79	71	69	69	191
	40	2156	1032	142	59	61	69	78	83	85	83	78	69	61	59	142
	45	1603	629	94	49	55	64	72	77	78	77	72	64	55	49	94
	50	710	268	60	41	48	57	64	68	69	68	64	57	48	41	60
	55	251	118	39	34	40	48	54	58	59	58	54	48	40	34	39
	60	97	55	27	26	31	37	42	46	47	46	42	37	31	26	27
	65	39	26	19	19	23	27	32	36	37	36	32	27	23	19	19
	70	17	15	13	14	16	19	24	28	29	28	24	19	16	14	13
	75	10	9	9	9	10	13	17	19	20	19	17	13	10	9	9
	80	5	5	5	5	6	8	10	12	12	12	10	8	6	5	5
	85	5	2	2	2	3	3	4	5	5	5	4	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)

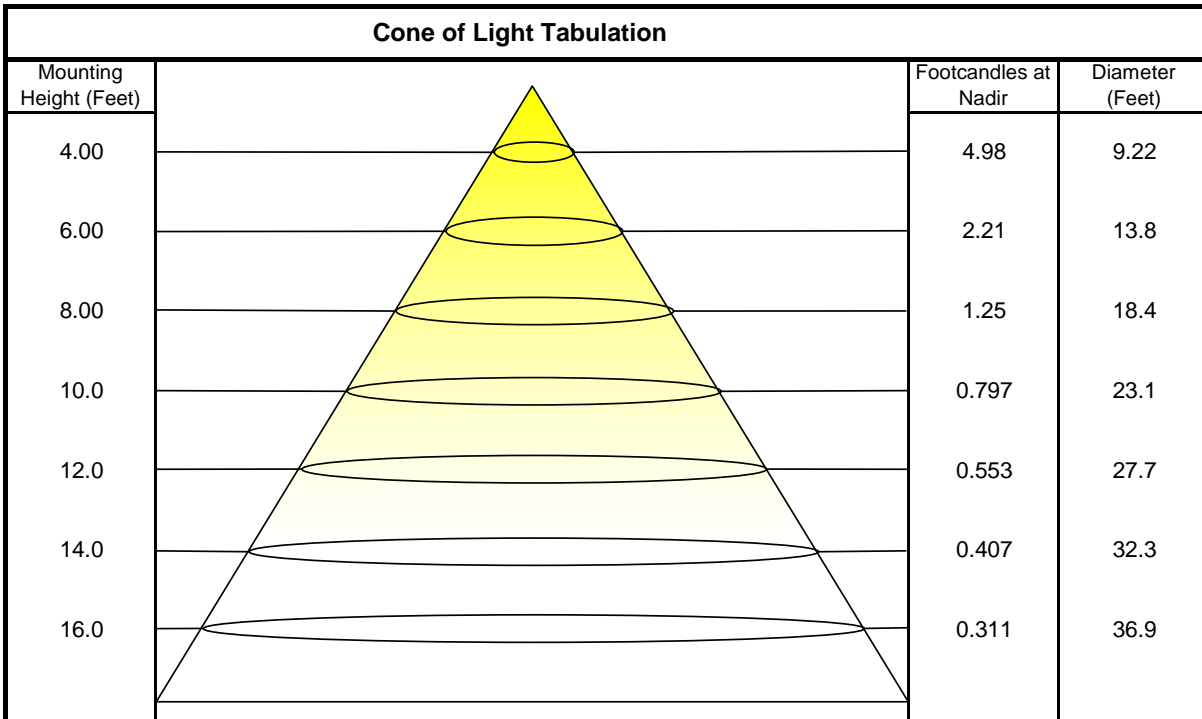
Vertical Angle (Degrees)	0	45	90
	0	25170	25170
	45	715600	41920
	55	138300	21390
	65	29240	14060
	75	11630	10820
	85	19290	7204



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	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65
4	86	75	67	61	84	74	66	61	71	65	60	69	63	59	67	62	58	56
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44	42
7	67	54	46	40	66	53	45	40	52	45	39	50	44	39	49	43	39	37
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32
9	58	44	36	31	56	44	36	31	43	36	31	42	35	30	41	35	30	29
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

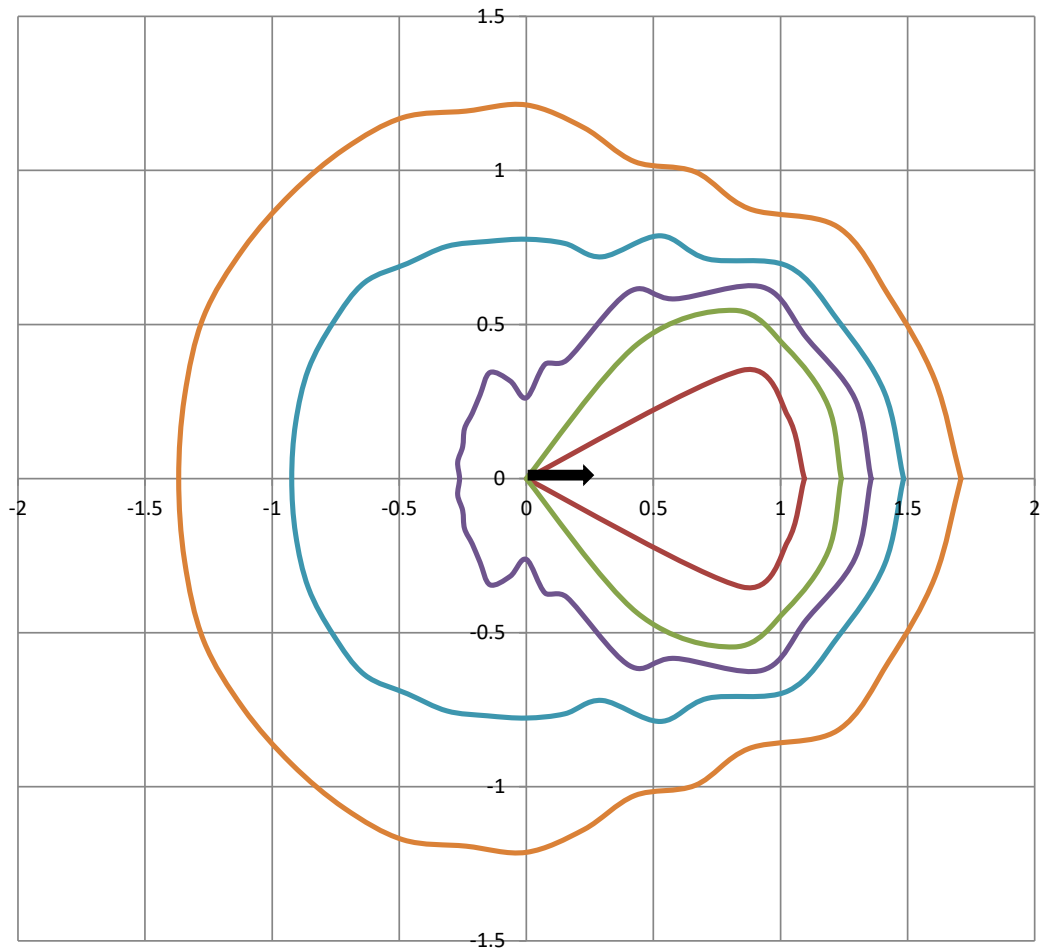
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	80 Candela
Central Cone Intensity:	81 Candela
Beam Flux:	605.8 Lumens
Beam Angle (0-180):	128.6 Degrees
Beam Angle (90-270):	110.0 Degrees
Field Angle (0-180):	159.7 Degrees
Field Angle (90-270):	154.6 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

10 fc 5 fc 2 fc 1 fc 0.5 fc 0.2 fc