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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
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United States

Catalog Number
2AR-L12/835-DIM-UNV-LN-OF-WH-x-xx (0° TILT)
Order Number
13257190
Test Number
13257190.19

Test Date

2020-03-18

Prepared By

Jesse Litchfield, Technician

Approved By

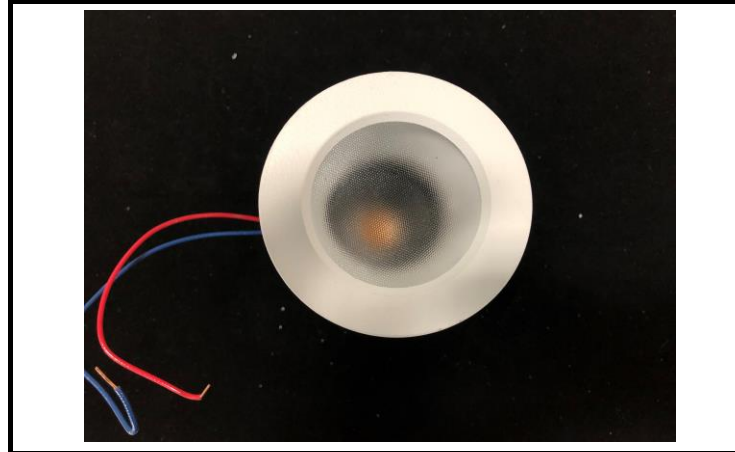
Alexa Lambert, Project Handler

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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:	954.2 Lumens
Luminaire Efficacy:	45.6 lm/w
Maximum Candela:	13077 Candela

Test Conditions

Test Temperature:	24.6 °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

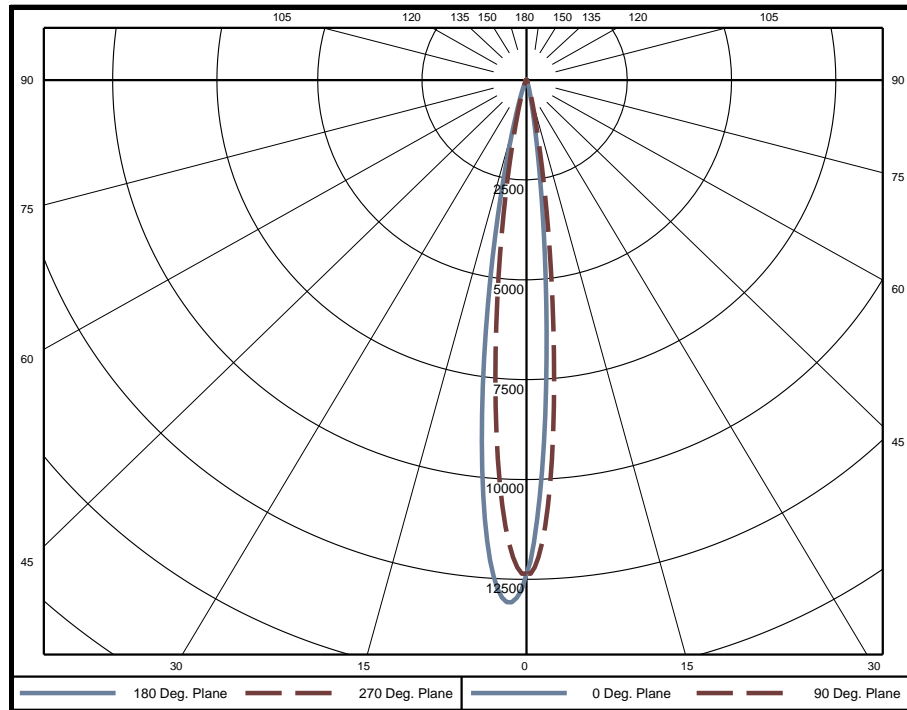
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.0 VAC	0.1753 A	20.92 W	0.995	60 Hz	8.87 %

Summary of Results

Spacing Criteria
0-180: 0.18
90-270: 0.22

Total Lumen Output: 954.2 Lumens
Luminaire Efficacy: 45.6 lm/w
Maximum Candela: 13077 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	245.7	25.7%	60-65	4.9	0.5%	120-125	0	0.0%
5-10	366.4	38.4%	65-70	4.0	0.4%	125-130	0	0.0%
10-15	172.1	18.0%	70-75	3.0	0.3%	130-135	0	0.0%
15-20	62.7	6.6%	75-80	2.0	0.2%	135-140	0	0.0%
20-25	28.5	3.0%	80-85	1.0	0.1%	140-145	0	0.0%
25-30	15.5	1.6%	85-90	0.2	0.0%	145-150	0	0.0%
30-35	10.7	1.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	8.9	0.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	8.1	0.8%	100-105	0	0.0%	160-165	0	0.0%
45-50	7.7	0.8%	105-110	0	0.0%	165-170	0	0.0%
50-55	7.0	0.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	6.0	0.6%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	911	95.4%
0-60	939	98.4%
0-90	954	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	12350	12350	12350	12350	12350	12350	12350	12350	12350	12350	12350	12350	12350	12350	12350
	5	6318	6044	6509	7161	8195	9332	10370	11100	11030	11100	10370	9332	8195	7161	6509
	10	1615	1540	1718	2024	2551	3293	4050	4702	4500	4702	4050	3293	2551	2024	1718
	15	401	386	418	484	593	768	960	1116	1032	1116	960	768	593	484	418
	20	142	137	151	173	205	245	281	308	291	308	281	245	205	173	151
	25	58	58	63	72	83	100	110	119	116	119	110	100	83	72	63
	30	31	32	35	39	44	50	55	58	57	58	55	50	44	39	35
	35	21	22	24	27	31	34	36	37	38	37	36	34	31	27	24
	40	17	18	19	22	25	28	28	29	29	29	28	28	25	22	19
	45	15	15	17	19	22	24	24	24	23	24	24	24	22	19	17
	50	13	14	15	17	18	19	20	20	20	20	20	19	18	17	15
	55	12	13	13	14	15	15	16	15	15	15	16	15	15	14	13
	60	10	11	11	12	12	12	12	12	12	12	12	12	12	11	11
	65	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9
	70	6	6	6	7	7	7	7	7	7	7	7	7	7	6	6
	75	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	80	2	2	2	2	2	3	3	3	2	3	3	3	2	2	2
	85	0	0	0	1	1	1	1	1	0	1	1	1	1	0	0
	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)

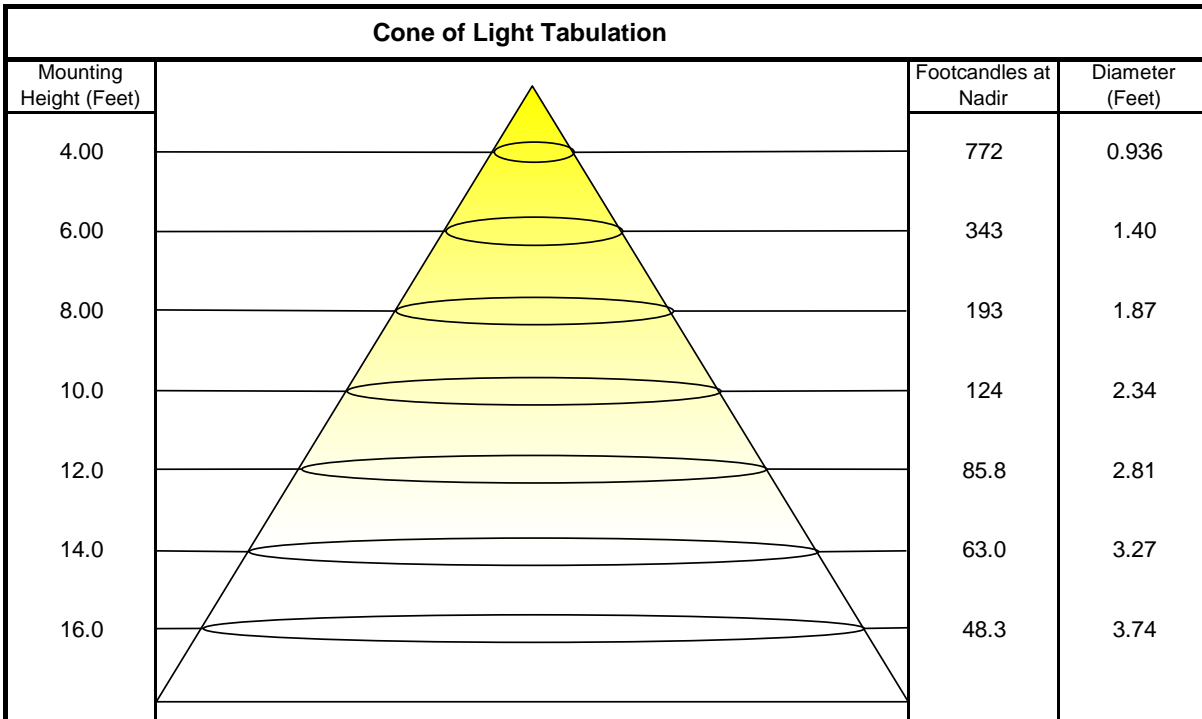
Vertical Angle (Degrees)	0	45	90
	0	3901000	3901000
	45	6538	7386
	55	6756	7382
	65	6730	6557
	75	4859	5965
	85	0	1154



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	112	110	113	111	110	108	107	106	105	104	103	102	100	98	97	97
2	112	109	106	104	110	107	105	103	104	102	101	101	100	99	99	98	97	95
3	109	105	102	99	108	104	101	99	101	99	97	99	97	96	97	96	94	93
4	107	102	99	96	105	101	98	95	99	96	94	97	95	93	96	94	92	91
5	104	99	96	93	103	99	95	93	97	94	92	96	93	91	94	92	91	90
6	102	97	94	91	101	96	93	91	95	92	90	94	92	90	93	91	89	88
7	100	95	92	89	99	95	91	89	94	91	89	93	90	88	92	89	88	87
8	99	93	90	88	98	93	90	88	92	89	87	91	89	87	90	88	87	86
9	97	92	88	86	96	91	88	86	91	88	86	90	87	86	89	87	85	85
10	96	90	87	85	95	90	87	85	89	87	85	89	86	85	88	86	84	84

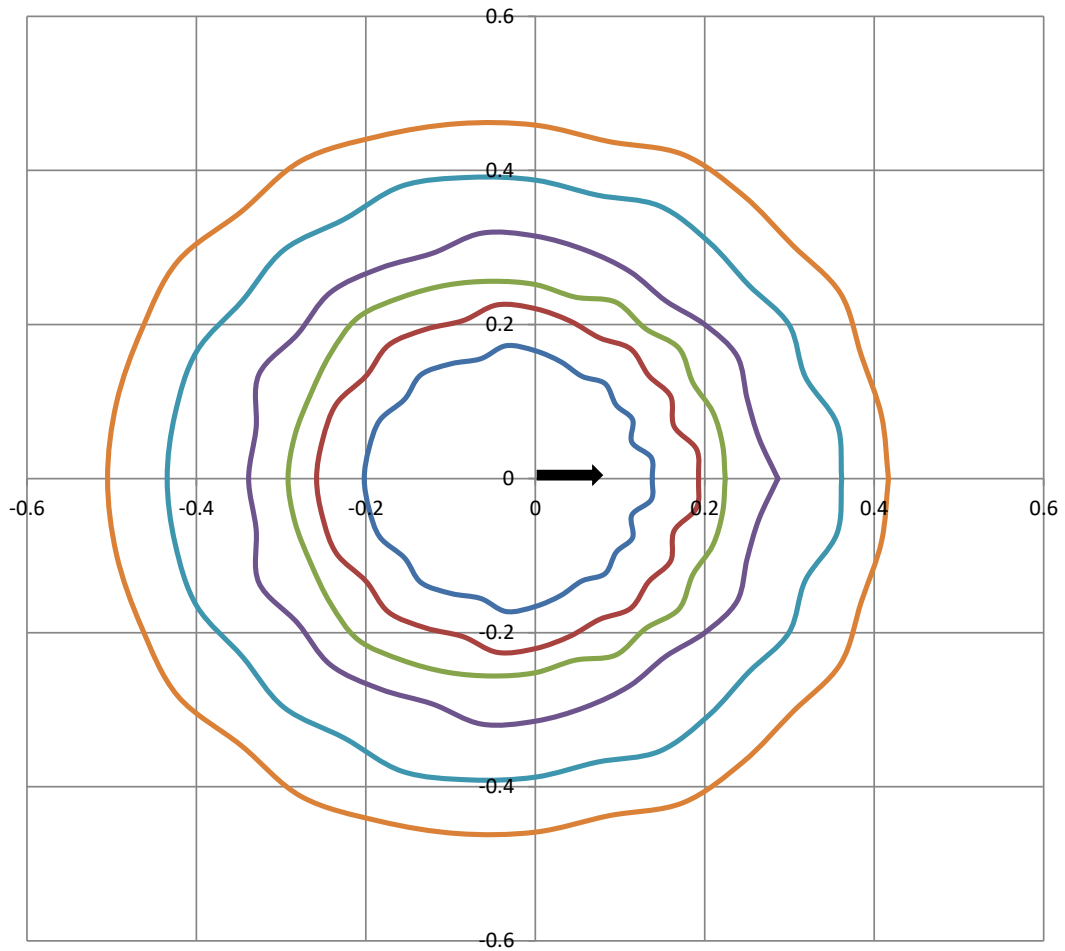
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	12350 Candela
Central Cone Intensity:	10870 Candela
Beam Flux:	412.1 Lumens
Beam Angle (0-180):	13.7 Degrees
Beam Angle (90-270):	13.0 Degrees
Field Angle (0-180):	25.3 Degrees
Field Angle (90-270):	24.8 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

50 fc 20 fc 10 fc 5 fc 2 fc 1 fc