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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
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Carthage, MO 64836-0837
United States

Catalog Number
2DS-L12/835-DIM-UNV-OS-OF-CS-x-xx
Order Number
13257153
Test Number
13257153.24

Test Date

2020-03-13

Prepared By

Jesse Litchfield, Technician

Approved By

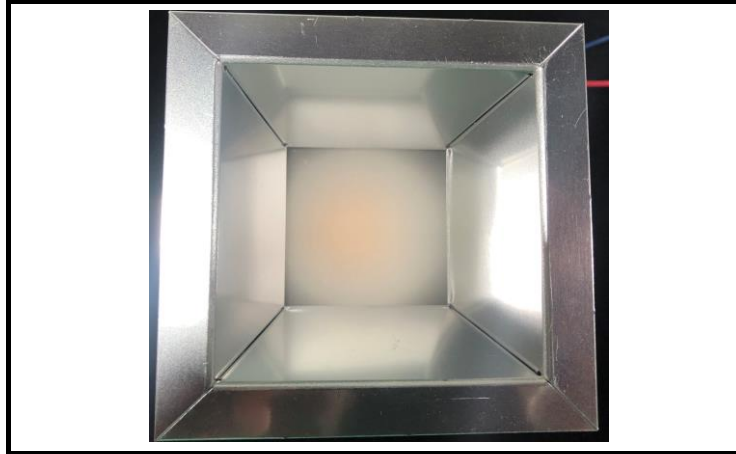
Alexa Lambert, Project Handler

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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 Length: 2.50 in.
Luminous Width: 2.500 in.

Summary of Results

Total Luminaire Output: 1031 Lumens
Luminaire Efficacy: 50.6 lm/w
Maximum Candela: 1490 Candela

Test Conditions

Test Temperature: 25.0 °C
Voltage: 120.1 VAC
Current: 0.1709 A
Power: 20.40 W
Power Factor: 0.994
Frequency: 60 Hz
Current THD: 9.39 %

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



Distribution - Goniophotometer

Distribution Test Conditions

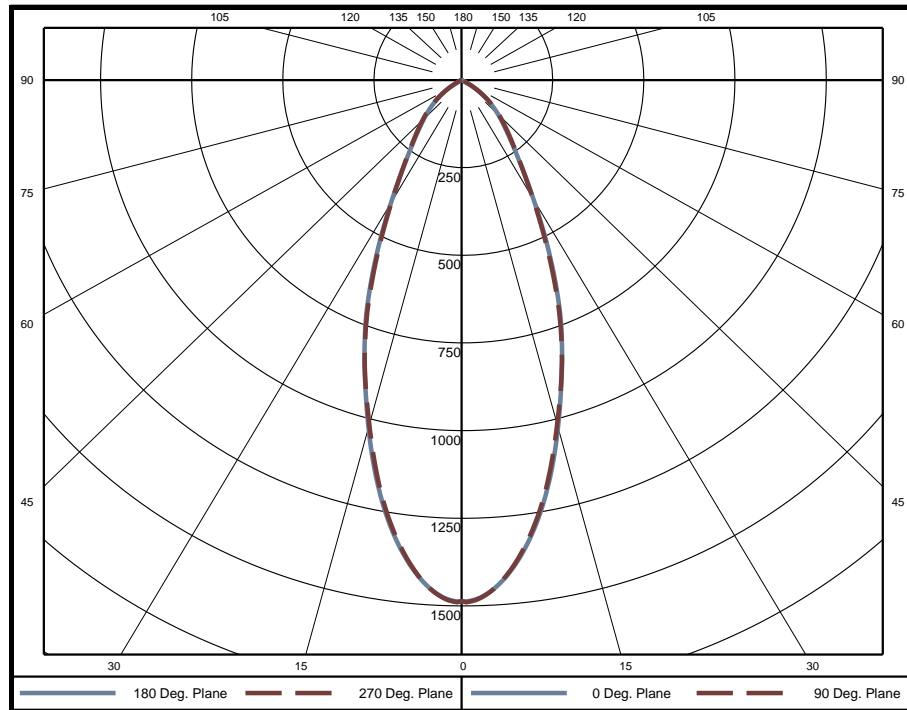
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.1 VAC	0.1709 A	20.40 W	0.994	60 Hz	9.39 %

Summary of Results

Spacing Criteria
 0-180: 0.66
 90-270: 0.66

Total Lumen Output: 1031 Lumens
Luminaire Efficacy: 50.6 lm/w
Maximum Candela: 1490 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	34.7	3.4%	60-65	8.0	0.8%	120-125	0	0.0%
5-10	95.0	9.2%	65-70	0.9	0.1%	125-130	0	0.0%
10-15	133.8	13.0%	70-75	0.3	0.0%	130-135	0	0.0%
15-20	149.5	14.5%	75-80	0.2	0.0%	135-140	0	0.0%
20-25	145.7	14.1%	80-85	0.1	0.0%	140-145	0	0.0%
25-30	123.6	12.0%	85-90	0.0	0.0%	145-150	0	0.0%
30-35	97.7	9.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	76.4	7.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	60.1	5.8%	100-105	0	0.0%	160-165	0	0.0%
45-50	47.4	4.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	35.1	3.4%	110-115	0	0.0%	170-175	0	0.0%
55-60	22.2	2.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	856	83.1%
0-60	1021	99.0%
0-90	1031	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	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486	1486
	5	1419	1416	1415	1415	1417	1415	1415	1416	1419	1416	1415	1415	1417	1415	1416
	10	1248	1248	1245	1242	1241	1242	1245	1248	1248	1248	1245	1242	1241	1242	1245
	15	1020	1024	1024	1017	1011	1017	1024	1024	1020	1024	1024	1017	1011	1017	1024
	20	803	809	811	805	799	805	811	809	803	809	811	805	799	805	809
	25	587	595	593	586	576	586	593	595	587	595	593	586	576	586	593
	30	394	406	412	400	390	400	412	406	394	406	412	400	390	400	412
	35	267	272	282	272	270	272	282	272	267	272	282	272	270	272	282
	40	194	189	188	193	200	193	188	189	194	189	188	193	200	193	188
	45	145	136	127	141	150	141	127	136	145	136	127	141	150	141	127
	50	103	97	90	101	107	101	90	97	103	97	90	101	107	101	90
	55	63	65	61	67	65	67	61	65	63	65	61	67	65	67	61
	60	26	34	34	35	25	35	34	34	26	34	34	35	25	35	34
	65	1	4	9	4	2	4	9	4	1	4	9	4	2	4	9
	70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	85	0	0	0	0	0	0	0	0	0	0	0	0	0	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)

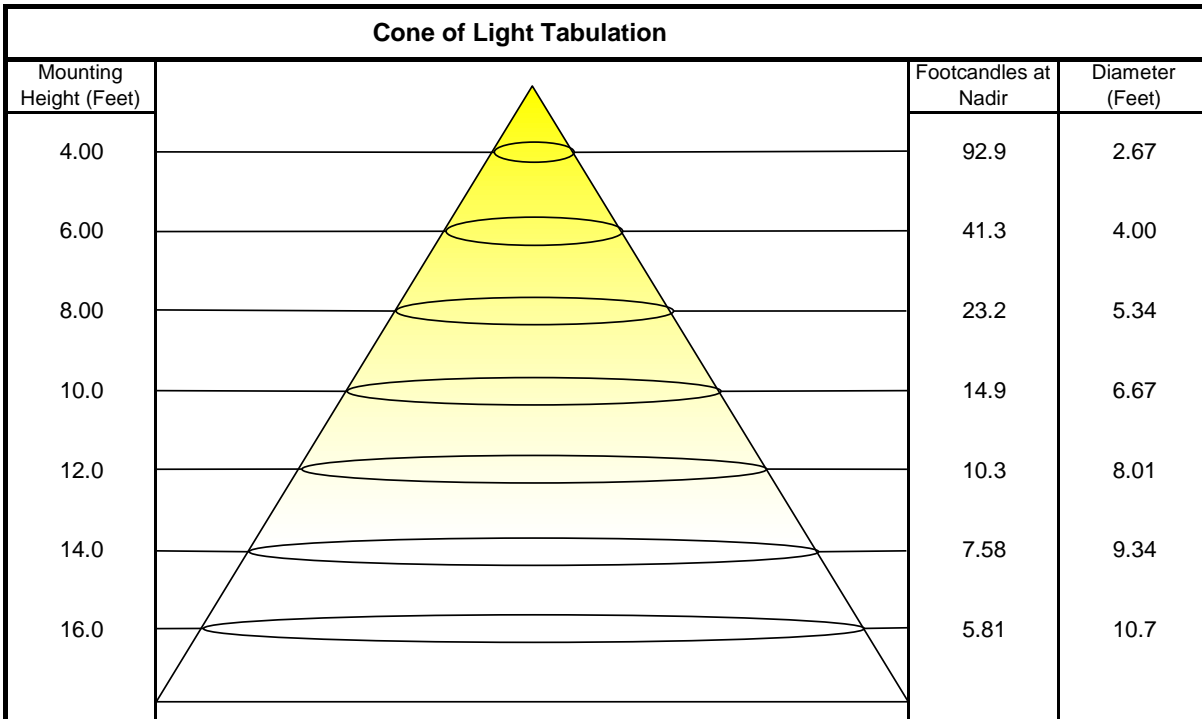
Vertical Angle (Degrees)	0	45	90
	0	368600	368600
	45	50710	44600
	55	27030	26490
	65	864	5480
	75	403	390
	85	286	300



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	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93
2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86
3	102	95	90	85	99	93	89	85	91	87	83	88	85	82	86	83	81	79
4	96	88	82	78	94	87	82	78	85	80	77	83	79	76	81	78	75	73
5	91	82	76	72	89	81	76	71	80	75	71	78	74	70	76	73	69	68
6	86	77	71	66	85	76	70	66	75	70	66	73	69	65	72	68	65	63
7	82	72	66	62	81	72	66	62	70	65	61	69	64	61	68	64	61	59
8	78	68	62	58	77	68	62	58	66	61	57	65	61	57	64	60	57	55
9	74	64	58	54	73	64	58	54	63	58	54	62	57	54	61	57	54	52
10	71	61	55	51	70	61	55	51	60	54	51	59	54	51	58	54	51	49

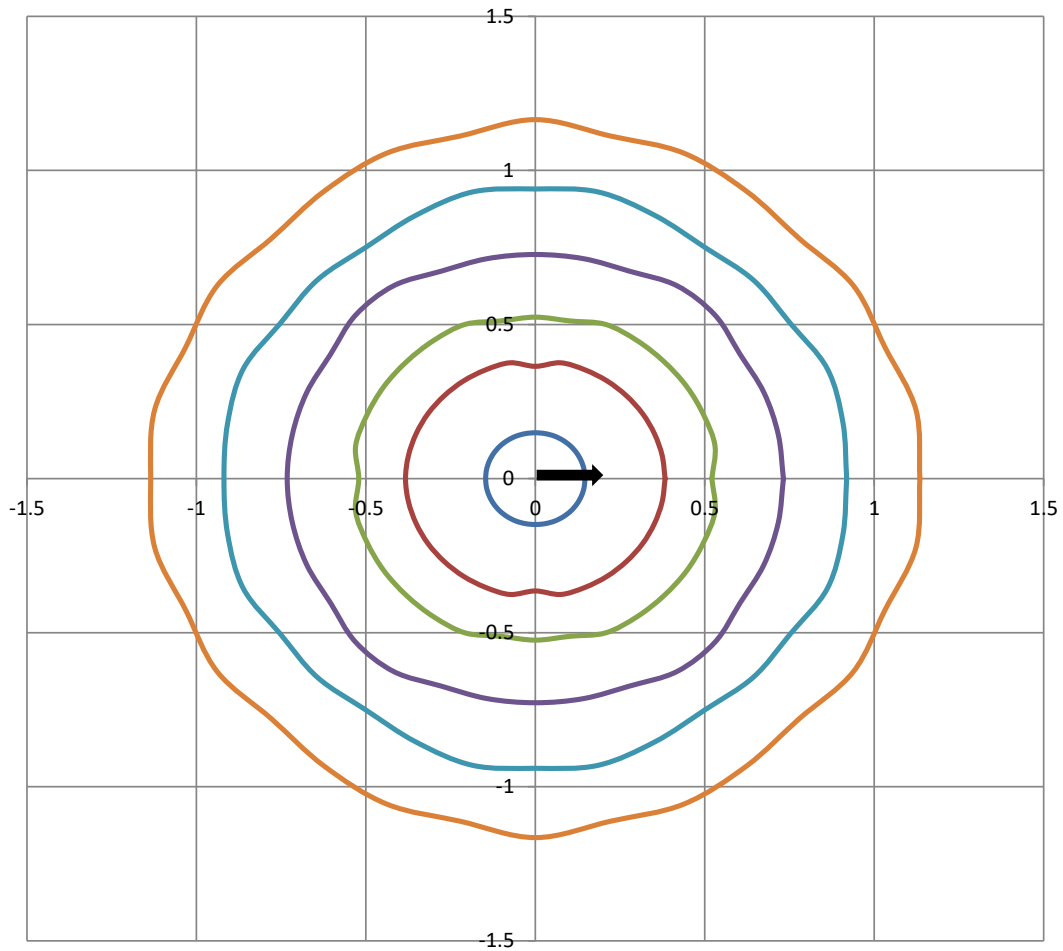
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1486 Candela
Central Cone Intensity:	1462 Candela
Beam Flux:	457.2 Lumens
Beam Angle (0-180):	42.9 Degrees
Beam Angle (90-270):	42.6 Degrees
Field Angle (0-180):	89.0 Degrees
Field Angle (90-270):	90.3 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

20 fc 10 fc 5 fc 2 fc 1 fc 0.5 fc