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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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United States

Catalog Number
2DR-L25/835-DIM-UNV-OM-OF-CS-x-xx
Order Number
13131414
Test Number
13131414.06

Test Date

2019-11-26

Prepared By

Jesse Litchfield, Technician

Approved By

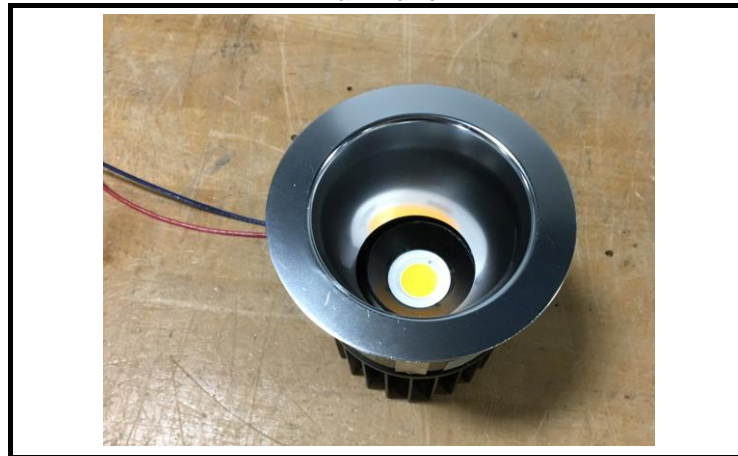
Alexa Lambert, Project Handler

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Luminaire Description: Aluminum housing and reflector, no lens enclosure
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: Philips Advance XI036C100V054DSM1

Luminaire



Luminaire Characteristics
Luminous Diameter: 2.50 in.

Summary of Results

Total Luminaire Output:	2395 Lumens
Luminaire Efficacy:	79.7 lm/w
Maximum Candela:	5405 Candela

Test Conditions

Test Temperature:	24.5 °C
Voltage:	120.0 VAC
Current:	0.2513 A
Power:	30.06 W
Power Factor:	0.996
Frequency:	60 Hz
Current THD:	6.67 %

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



Distribution - Goniophotometer

Distribution Test Conditions

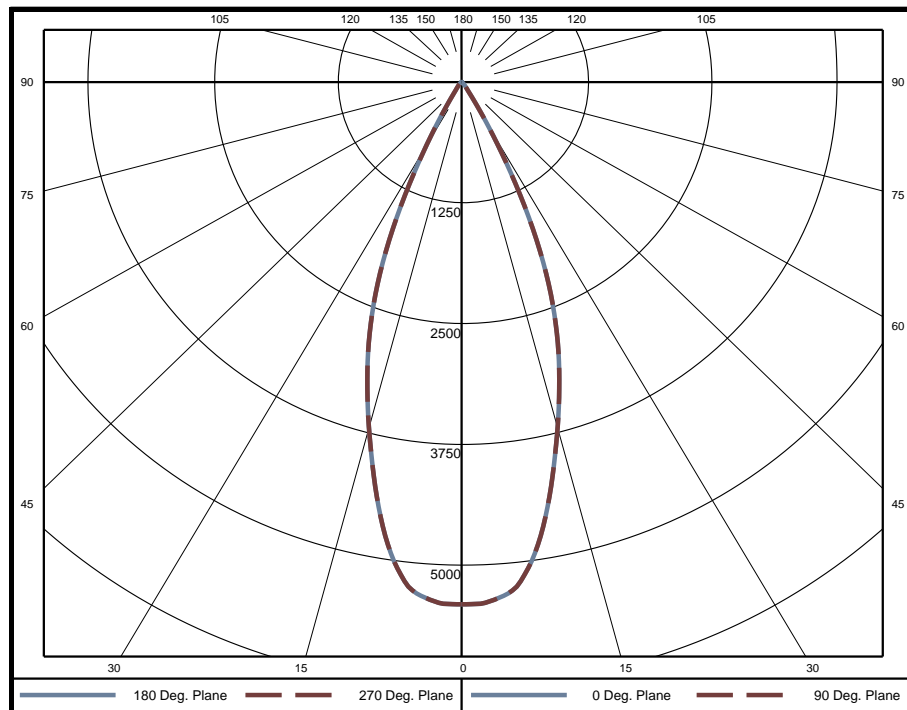
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.0 VAC	0.2513 A	30.06 W	0.996	60 Hz	6.67 %

Summary of Results

Spacing Criteria
 0-180: 0.65
 90-270: 0.65

Total Lumen Output: 2395 Lumens
Luminaire Efficacy: 79.7 lm/w
Maximum Candela: 5405 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	128.3	5.4%	60-65	1.5	0.1%	120-125	0	0.0%
5-10	358.8	15.0%	65-70	0.8	0.0%	125-130	0	0.0%
10-15	492.0	20.5%	70-75	0.5	0.0%	130-135	0	0.0%
15-20	529.0	22.1%	75-80	0.2	0.0%	135-140	0	0.0%
20-25	467.4	19.5%	80-85	0.1	0.0%	140-145	0	0.0%
25-30	268.9	11.2%	85-90	0.0	0.0%	145-150	0	0.0%
30-35	81.5	3.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	28.3	1.2%	95-100	0	0.0%	155-160	0	0.0%
40-45	17.8	0.7%	100-105	0	0.0%	160-165	0	0.0%
45-50	11.1	0.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	5.9	0.2%	110-115	0	0.0%	170-175	0	0.0%
55-60	2.9	0.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	2354	98.3%
0-60	2392	99.9%
0-90	2395	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	5405	5405	5405	5405	5405	5405	5405	5405	5405	5405	5405	5405	5405	5405	5405	5405
5	5313	5313	5313	5313	5313	5313	5313	5313	5313	5313	5313	5313	5313	5313	5313	5313
10	4671	4671	4671	4671	4671	4671	4671	4671	4671	4671	4671	4671	4671	4671	4671	4671
15	3690	3690	3690	3690	3690	3690	3690	3690	3690	3690	3690	3690	3690	3690	3690	3690
20	2768	2768	2768	2768	2768	2768	2768	2768	2768	2768	2768	2768	2768	2768	2768	2768
25	1675	1675	1675	1675	1675	1675	1675	1675	1675	1675	1675	1675	1675	1675	1675	1675
30	558	558	558	558	558	558	558	558	558	558	558	558	558	558	558	558
35	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
40	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
45	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
50	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
55	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
60	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
65	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
75	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
80	0	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	0
90	0	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	0
100	0	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	0
110	0	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	0
120	0	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	0
130	0	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	0
140	0	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	0
150	0	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	0
160	0	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	0
170	0	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	0
180	0	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	1707000	1707000	1707000
45	11670	11670	11670
55	2851	2851	2851
65	707	707	707
75	191	191	191
85	33	33	33



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	114	112	110	108	112	110	108	106	106	105	103	102	101	100	99	98	97	96
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	94	87	82	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73
8	88	80	75	72	87	80	75	72	79	75	72	78	74	71	77	74	71	70
9	85	77	72	69	84	77	72	69	76	72	69	75	71	68	74	71	68	67
10	82	74	69	66	81	74	69	66	73	69	66	72	68	66	72	68	66	65

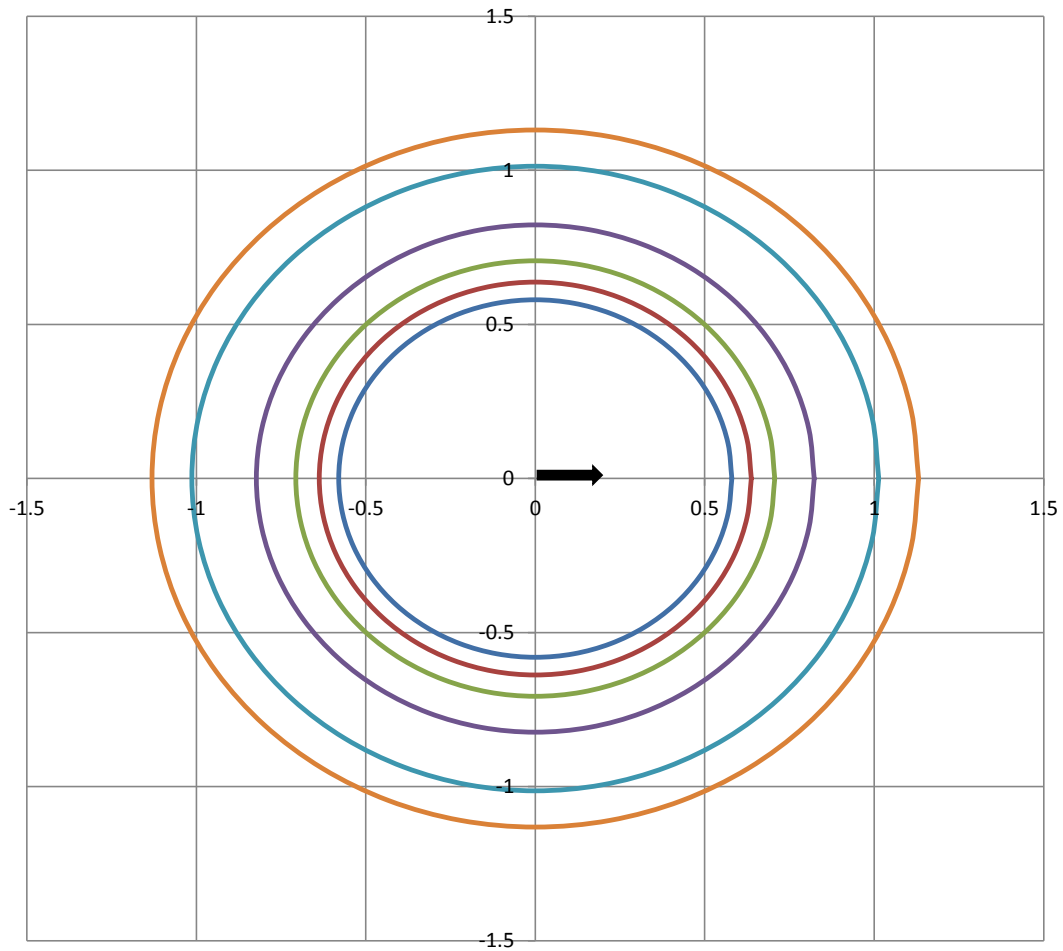
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	5405 Candela
Central Cone Intensity:	5378 Candela
Beam Flux:	1543.8 Lumens
Beam Angle (0-180):	40.7 Degrees
Beam Angle (90-270):	40.7 Degrees
Field Angle (0-180):	60.2 Degrees
Field Angle (90-270):	60.2 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		338	2.60
6.00		150	3.90
8.00		84.5	5.19
10.0		54.0	6.49
12.0		37.5	7.79
14.0		27.6	9.09
16.0		21.1	10.4



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