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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
2DS-L12/835-DIM-UNV-LS-OF-WH-x-xx
Order Number
13257153
Test Number
13257153.25

Test Date

2020-03-13

Prepared By

Jesse Litchfield, Technician

Approved By

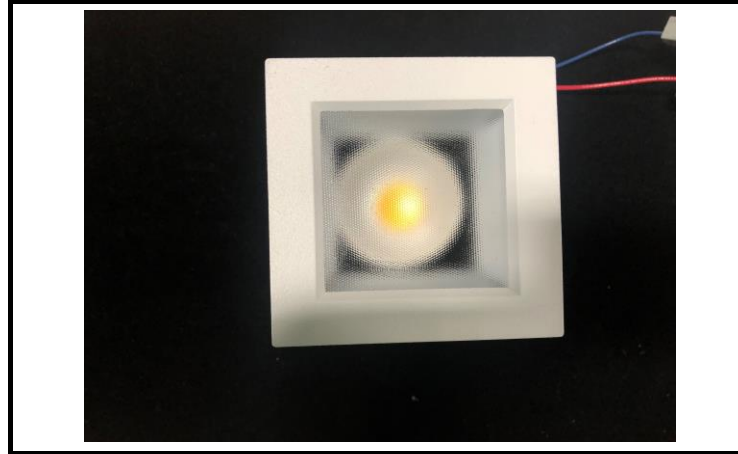
Alexa Lambert, Project Handler

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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: 1440 Lumens
Luminaire Efficacy: 70.6 lm/w
Maximum Candela: 14245 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

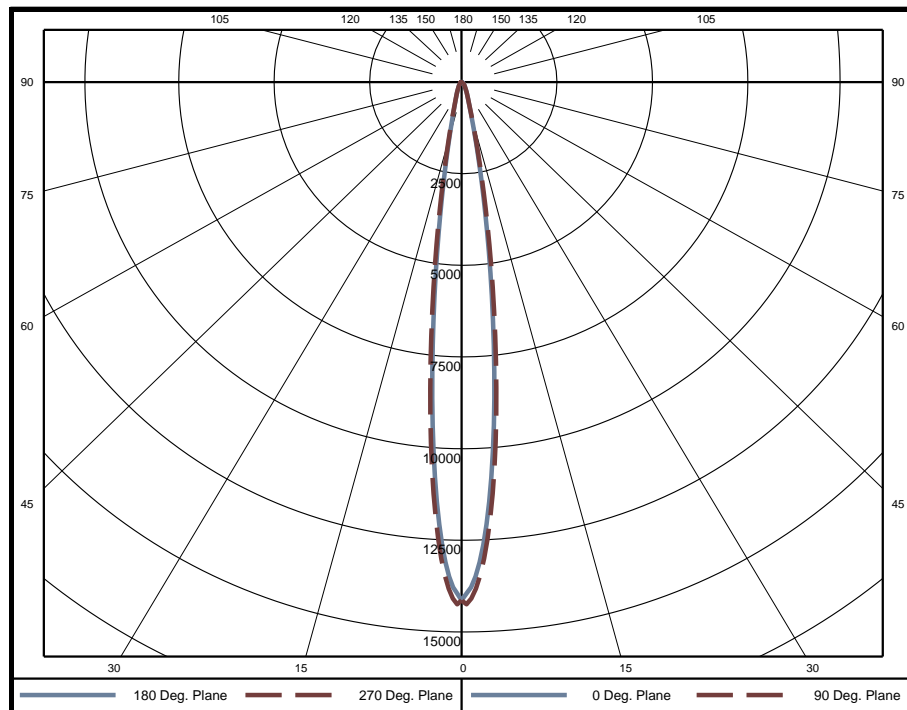
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.1 VAC	0.1709 A	20.40 W	0.994	60 Hz	9.39 %

Summary of Results

Spacing Criteria
 0-180: 0.23
 90-270: 0.24

Total Lumen Output: 1440 Lumens
Luminaire Efficacy: 70.6 lm/w
Maximum Candela: 14245 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	281.7	19.6%	60-65	16.1	1.1%	120-125	0	0.0%
5-10	423.8	29.4%	65-70	12.3	0.9%	125-130	0	0.0%
10-15	220.1	15.3%	70-75	8.7	0.6%	130-135	0	0.0%
15-20	112.2	7.8%	75-80	5.4	0.4%	135-140	0	0.0%
20-25	83.5	5.8%	80-85	2.7	0.2%	140-145	0	0.0%
25-30	67.1	4.7%	85-90	0.8	0.1%	145-150	0	0.0%
30-35	53.2	3.7%	90-95	0	0.0%	150-155	0	0.0%
35-40	43.6	3.0%	95-100	0	0.0%	155-160	0	0.0%
40-45	35.9	2.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	29.1	2.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	23.8	1.7%	110-115	0	0.0%	170-175	0	0.0%
55-60	19.8	1.4%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1285	89.3%
0-60	1394	96.8%
0-90	1440	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	14140	14140	14140	14140	14140	14140	14140	14140	14140	14140	14140	14140	14140	14140	14140
	5	9394	9529	9686	9798	9865	9798	9686	9529	9394	9529	9686	9798	9865	9798	9686
	10	3225	3370	3426	3469	3501	3469	3426	3370	3225	3370	3426	3469	3501	3469	3426
	15	964	1010	1026	1028	1013	1028	1026	1010	964	1010	1026	1028	1013	1028	1026
	20	470	495	523	500	469	500	523	495	470	495	523	500	469	500	523
	25	294	322	360	321	292	321	360	322	294	322	360	321	292	321	360
	30	192	213	254	210	188	210	254	213	192	213	254	210	188	210	254
	35	139	149	171	149	139	149	171	149	139	149	171	149	139	149	171
	40	105	113	120	113	105	113	120	113	105	113	120	113	105	113	120
	45	76	84	89	85	77	85	89	84	76	84	89	85	77	85	89
	50	57	63	66	63	58	63	66	63	57	63	66	63	58	63	66
	55	45	48	50	49	46	49	50	48	45	48	50	49	46	49	50
	60	37	38	38	39	37	39	38	38	37	38	38	39	37	39	38
	65	28	29	28	29	28	29	28	29	28	29	28	29	28	29	28
	70	19	21	20	21	20	21	20	21	19	21	20	21	20	21	20
	75	12	13	13	13	13	13	13	13	12	13	13	13	13	13	13
	80	7	7	7	8	8	8	7	7	7	7	8	8	8	7	7
	85	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	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)

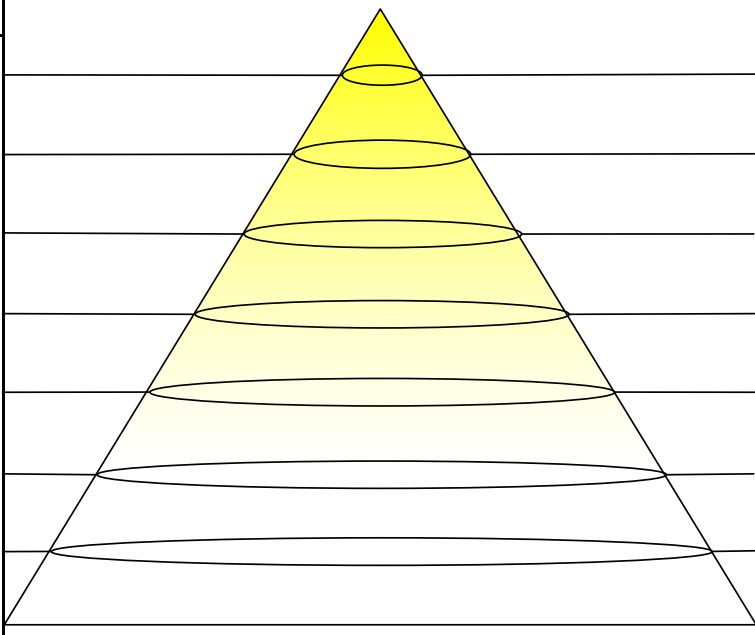
Vertical Angle (Degrees)	0	45	90
	0	3506000	3506000
	45	26700	31080
	55	19480	21470
	65	16180	16680
	75	11880	12200
	85	7135	7506



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

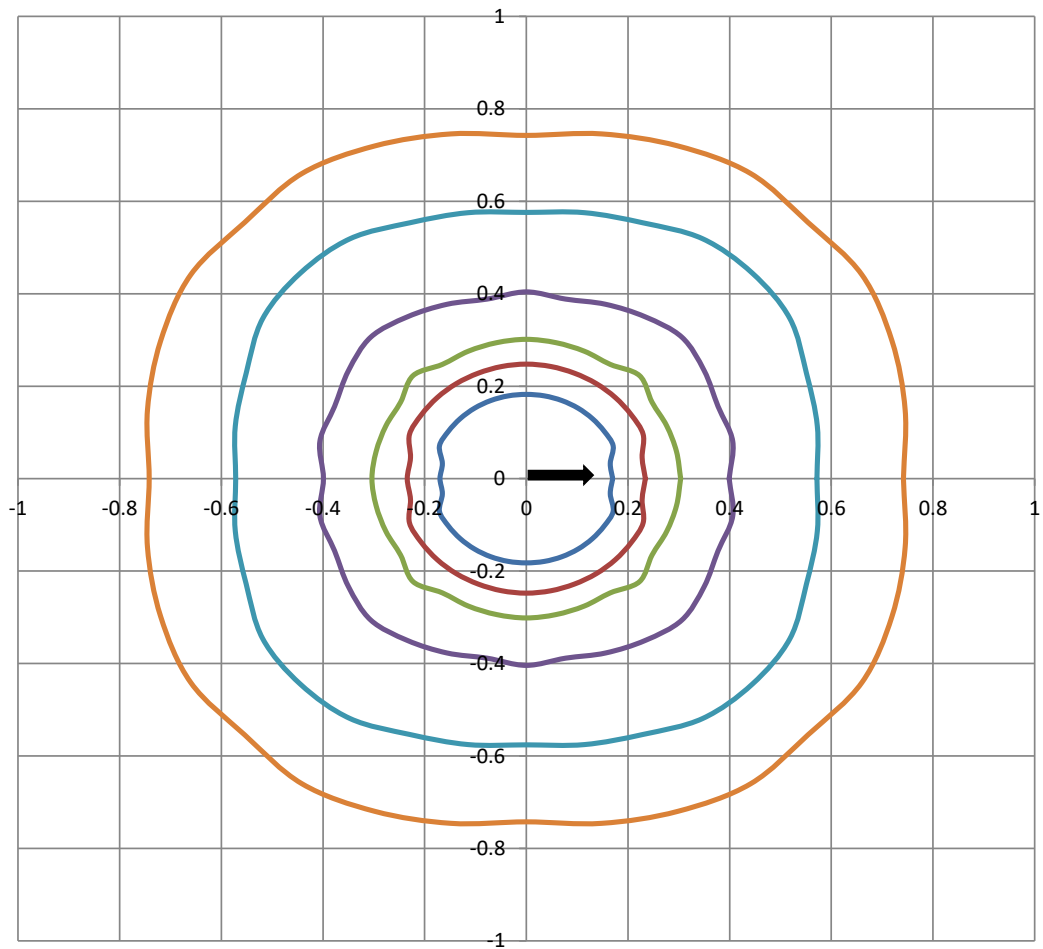
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	14140 Candela
Central Cone Intensity:	12456 Candela
Beam Flux:	450.1 Lumens
Beam Angle (0-180):	13.2 Degrees
Beam Angle (90-270):	13.9 Degrees
Field Angle (0-180):	26.5 Degrees
Field Angle (90-270):	27.0 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		884	0.939
6.00		393	1.41
8.00		221	1.88
10.0		141	2.35
12.0		98.2	2.82
14.0		72.1	3.29
16.0		55.2	3.76



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