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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002

Prepared For
H E Williams Inc

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United States

Catalog Number
4DR-L20/835-DIM-UNV-L-N-OF-WH

Order Number
12316380
Test Number
12316380.10

Test Date

2018-06-11

Prepared By

Josh Mitchell, Technician

Approved By

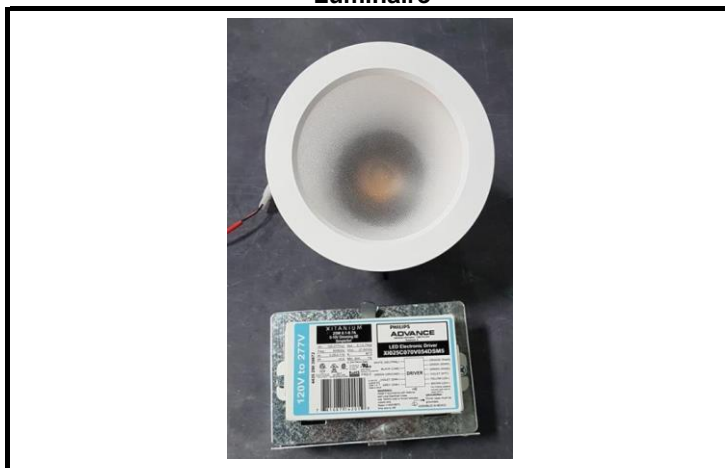
Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
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Luminaire Description: Black formed aluminum housing, white reflector, clear plastic optic, clear glass patterned enclosure
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: Philips XI025C070V054DSM5

Luminaire



Luminaire Characteristics

Luminous Diameter: 4.25 in.

Summary of Results

Total Luminaire Output:	1833 Lumens
Luminaire Efficacy:	92.6 lm/w
Maximum Candela:	6885 Candela

Test Conditions

Test Temperature:	25.2 °C
Voltage:	120.1 VAC
Current:	0.1657 A
Power:	19.79 W
Power Factor:	0.995
Frequency:	60 Hz
Current THD:	9.21 %

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
25.2 °C	120.1 VAC	0.1657 A	19.79 W	0.995	60 Hz	9.21 %

Summary of Results

Spacing Criteria

0-180: 0.43

90-270: 0.43

Total Lumen Output:

1833 Lumens

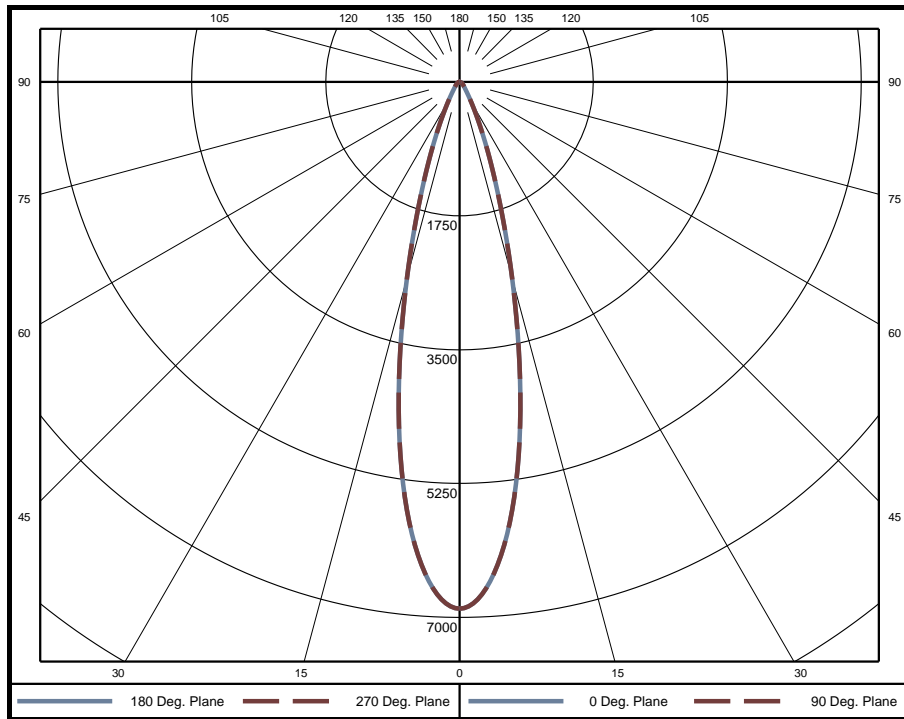
Luminaire Efficacy:

92.6 lm/w

Maximum Candela:

6885 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	156.5	8.5%	60-65	16.0	0.9%	120-125	0	0.0%
5-10	383.1	20.9%	65-70	12.7	0.7%	125-130	0	0.0%
10-15	417.5	22.8%	70-75	9.3	0.5%	130-135	0	0.0%
15-20	312.2	17.0%	75-80	6.0	0.3%	135-140	0	0.0%
20-25	193.5	10.6%	80-85	2.9	0.2%	140-145	0	0.0%
25-30	110.1	6.0%	85-90	0.6	0.0%	145-150	0	0.0%
30-35	65.0	3.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	43.6	2.4%	95-100	0	0.0%	155-160	0	0.0%
40-45	33.5	1.8%	100-105	0	0.0%	160-165	0	0.0%
45-50	27.7	1.5%	105-110	0	0.0%	165-170	0	0.0%
50-55	23.3	1.3%	110-115	0	0.0%	170-175	0	0.0%
55-60	19.5	1.1%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1682	91.7%
0-60	1786	97.4%
0-90	1833	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	6885	6885	6885	6885	6885	6885	6885	6885	6885	6885	6885	6885	6885	6885	6885
	5	6211	6211	6211	6211	6211	6211	6211	6211	6211	6211	6211	6211	6211	6211	6211
	10	4555	4555	4555	4555	4555	4555	4555	4555	4555	4555	4555	4555	4555	4555	4555
	15	2650	2650	2650	2650	2650	2650	2650	2650	2650	2650	2650	2650	2650	2650	2650
	20	1326	1326	1326	1326	1326	1326	1326	1326	1326	1326	1326	1326	1326	1326	1326
	25	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625
	30	301	301	301	301	301	301	301	301	301	301	301	301	301	301	301
	35	164	164	164	164	164	164	164	164	164	164	164	164	164	164	164
	40	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106
	45	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	55	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	60	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
	65	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
	70	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
	75	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
	80	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	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	752200	752200
	45	12040	12040
	55	9028	9028
	65	7467	7467
	75	6069	6069
	85	3436	3436



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	109	107	112	110	108	106	106	104	103	102	101	100	98	98	97	95
2	110	105	102	99	107	104	100	98	100	98	96	98	95	94	95	93	92	90
3	105	100	96	92	103	98	95	91	96	93	90	94	91	89	91	89	87	86
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	86	83	82
5	98	91	86	82	96	90	85	82	88	84	81	87	83	81	85	82	80	79
6	94	87	82	79	93	86	82	78	85	81	78	84	80	77	82	79	77	76
7	91	84	79	75	90	83	78	75	82	78	75	81	77	74	80	77	74	73
8	88	81	76	73	87	80	76	72	79	75	72	78	75	72	77	74	72	70
9	85	78	73	70	85	77	73	70	77	72	70	76	72	69	75	72	69	68
10	83	75	71	68	82	75	71	68	74	70	67	73	70	67	73	69	67	66

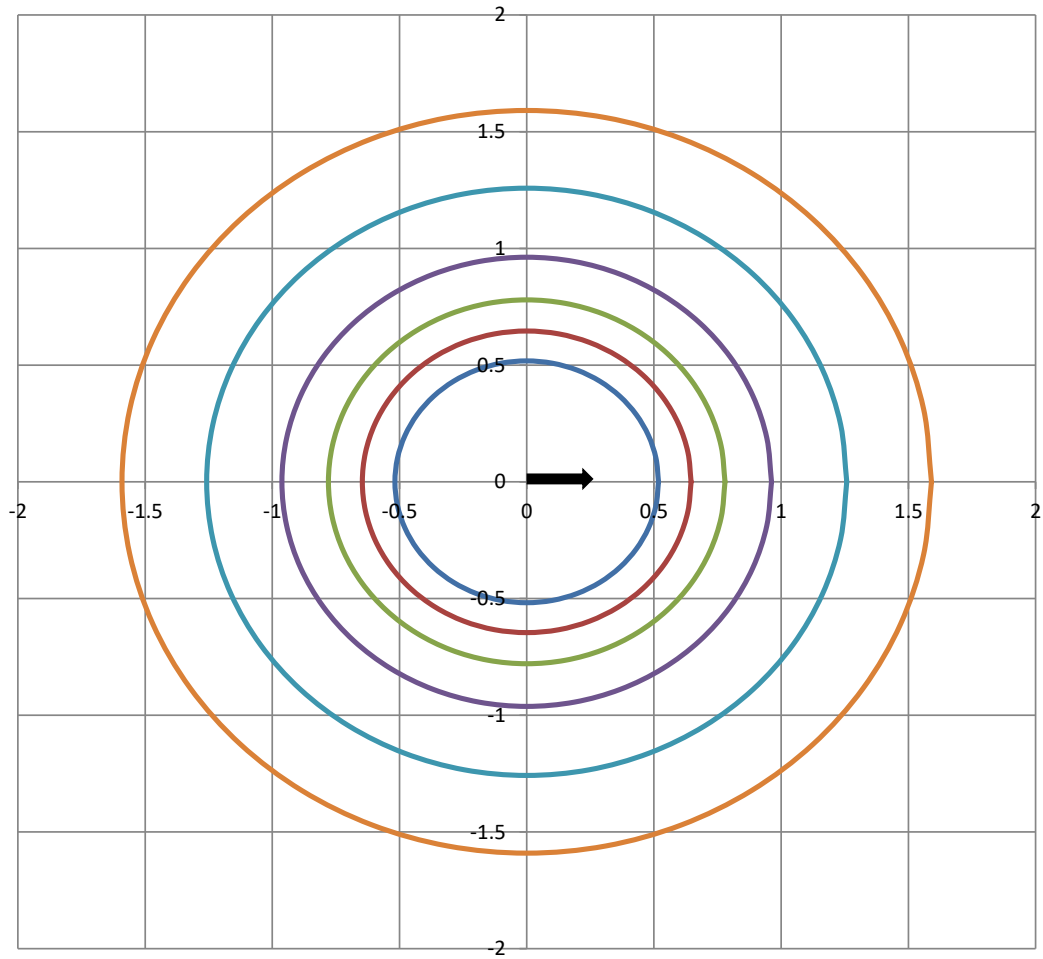
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	6885 Candela
Central Cone Intensity:	6641 Candela
Beam Flux:	784.8 Lumens
Beam Angle (0-180):	25.7 Degrees
Beam Angle (90-270):	25.7 Degrees
Field Angle (0-180):	48.7 Degrees
Field Angle (90-270):	48.7 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		430	1.73
6.00		191	2.59
8.00		108	3.46
10.0		68.8	4.32
12.0		47.8	5.19
14.0		35.1	6.05
16.0		26.9	6.92



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