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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-M-OF-WH

Order Number
12316380
Test Number
12316380.09

Test Date

2018-06-11

Prepared By

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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:	1794 Lumens
Luminaire Efficacy:	90.6 lm/w
Maximum Candela:	4642 Candela

Test Conditions

Test Temperature:	25.0 °C
Voltage:	120.1 VAC
Current:	0.1658 A
Power:	19.79 W
Power Factor:	0.995
Frequency:	60 Hz
Current THD:	9.20 %

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



Distribution - Goniophotometer

Distribution Test Conditions

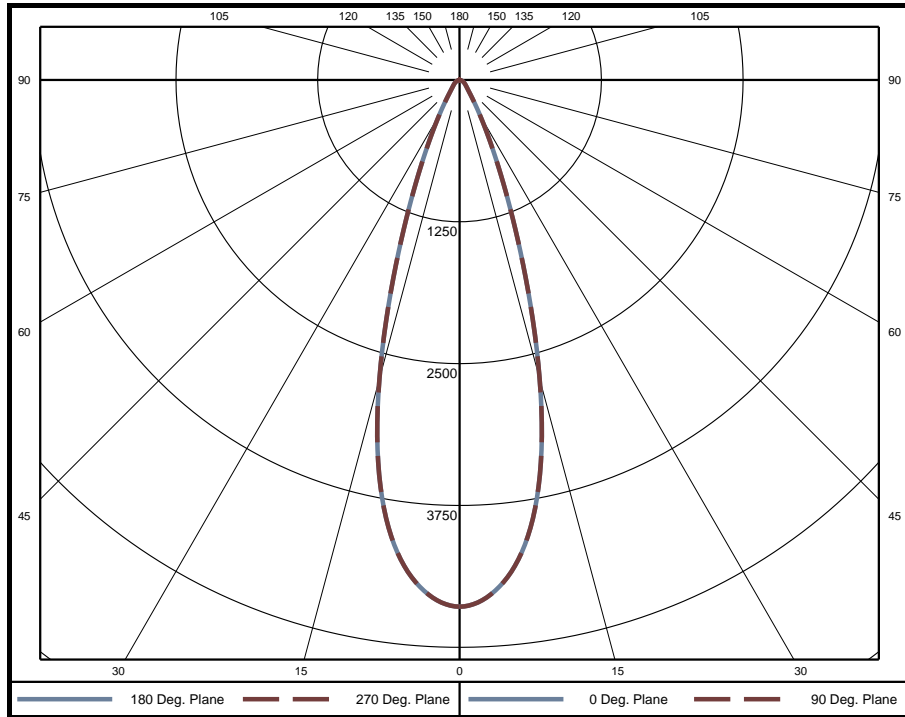
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.1 VAC	0.1658 A	19.79 W	0.995	60 Hz	9.20 %

Summary of Results

Spacing Criteria
 0-180: 0.56
 90-270: 0.56

Total Lumen Output: 1794 Lumens
Luminaire Efficacy: 90.6 lm/w
Maximum Candela: 4642 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	108.6	6.1%	60-65	19.1	1.1%	120-125	0	0.0%
5-10	296.7	16.5%	65-70	15.0	0.8%	125-130	0	0.0%
10-15	389.6	21.7%	70-75	11.0	0.6%	130-135	0	0.0%
15-20	340.2	19.0%	75-80	7.0	0.4%	135-140	0	0.0%
20-25	223.4	12.5%	80-85	3.4	0.2%	140-145	0	0.0%
25-30	131.8	7.3%	85-90	0.8	0.0%	145-150	0	0.0%
30-35	77.8	4.3%	90-95	0	0.0%	150-155	0	0.0%
35-40	50.3	2.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	37.9	2.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	31.5	1.8%	105-110	0	0.0%	165-170	0	0.0%
50-55	27.0	1.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	23.0	1.3%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1618	90.2%
0-60	1738	96.9%
0-90	1794	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	4642	4642	4642	4642	4642	4642	4642	4642	4642	4642	4642	4642	4642	4642	4642
	5	4443	4443	4443	4443	4443	4443	4443	4443	4443	4443	4443	4443	4443	4443	4443
	10	3834	3834	3834	3834	3834	3834	3834	3834	3834	3834	3834	3834	3834	3834	3834
	15	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727	2727
	20	1504	1504	1504	1504	1504	1504	1504	1504	1504	1504	1504	1504	1504	1504	1504
	25	737	737	737	737	737	737	737	737	737	737	737	737	737	737	737
	30	363	363	363	363	363	363	363	363	363	363	363	363	363	363	363
	35	193	193	193	193	193	193	193	193	193	193	193	193	193	193	193
	40	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
	45	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
	50	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
	55	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
	60	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
	65	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
	70	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	75	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
	80	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
	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	507200	507200
	45	13620	13620
	55	10610	10610
	65	8876	8876
	75	7126	7126
	85	4260	4260



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	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	109	104	101	97	107	103	99	96	99	97	94	96	94	92	94	92	90	89
3	104	98	94	90	102	97	93	89	94	91	88	92	89	87	90	87	85	84
4	100	93	88	84	98	92	87	84	90	86	83	88	85	82	86	83	81	80
5	96	88	83	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76
6	92	84	79	75	91	84	79	75	82	78	75	81	77	74	80	76	74	72
7	89	81	76	72	88	80	75	72	79	75	71	78	74	71	77	73	71	69
8	86	77	72	69	84	77	72	69	76	71	68	75	71	68	74	70	68	67
9	83	74	69	66	82	74	69	66	73	69	66	72	68	65	71	68	65	64
10	80	72	67	63	79	71	66	63	70	66	63	70	66	63	69	65	63	62

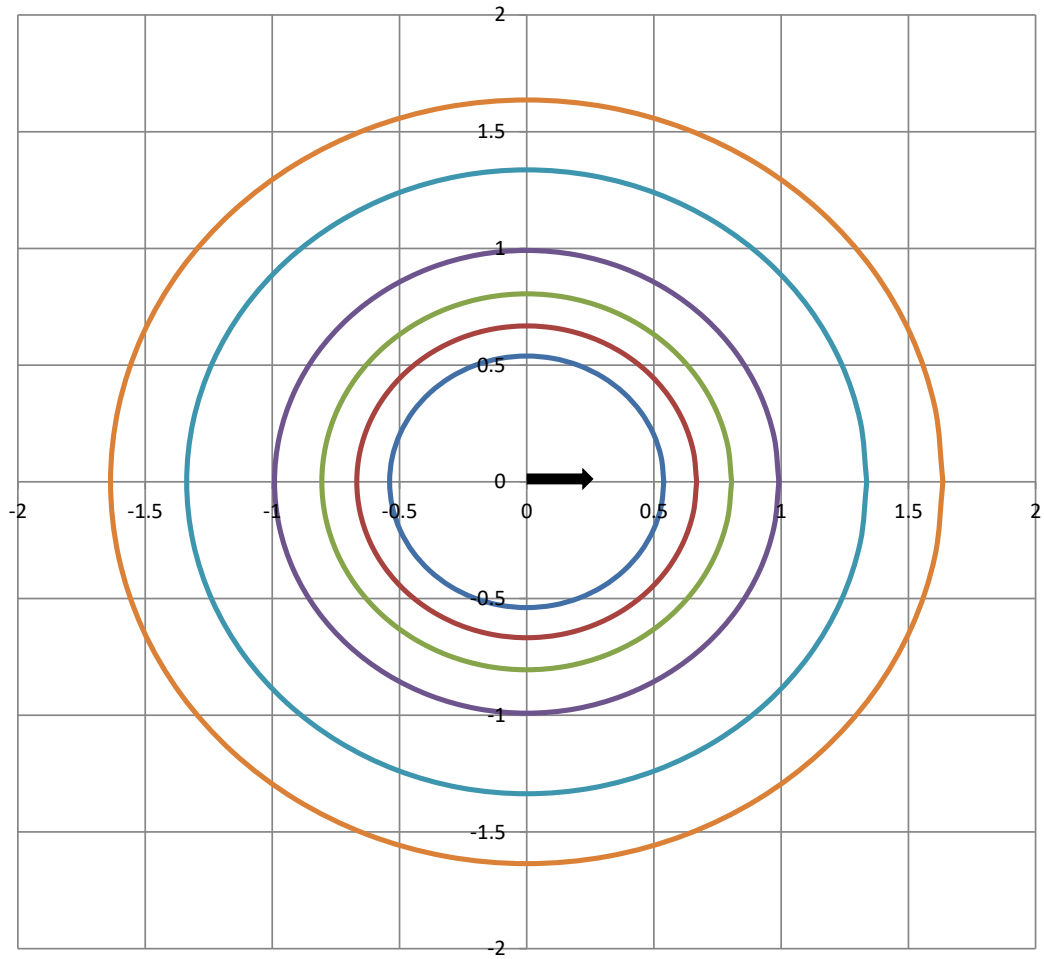
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	4642 Candela
Central Cone Intensity:	4570 Candela
Beam Flux:	910.9 Lumens
Beam Angle (0-180):	33.1 Degrees
Beam Angle (90-270):	33.1 Degrees
Field Angle (0-180):	56.5 Degrees
Field Angle (90-270):	56.5 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		290	2.22
6.00		129	3.33
8.00		72.5	4.44
10.0		46.4	5.55
12.0		32.2	6.66
14.0		23.7	7.77
16.0		18.1	8.88



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

