



UL Verification Services Inc.
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Indoor Distribution Test Report

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

Prepared For
H E Williams Inc
831 W Fairview Ave
PO Box 837
Carthage, MO 64836-0837
United States

Catalog Number
4DR-L20/835-DIM-UNV-L-WW-OF-WH
Order Number
12316380
Test Number
12316380.17

Test Date

2018-06-05

Prepared By

Cordaryl Cousar, 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 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:	1022 Lumens
Luminaire Efficacy:	51.6 lm/w
Maximum Candela:	882 Candela

Test Conditions

Test Temperature:	25.6 °C
Voltage:	120.0 VAC
Current:	0.1659 A
Power:	19.79 W
Power Factor:	0.995
Frequency:	60 Hz
Current THD:	9.22 %

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



Distribution - Goniophotometer

Distribution Test Conditions

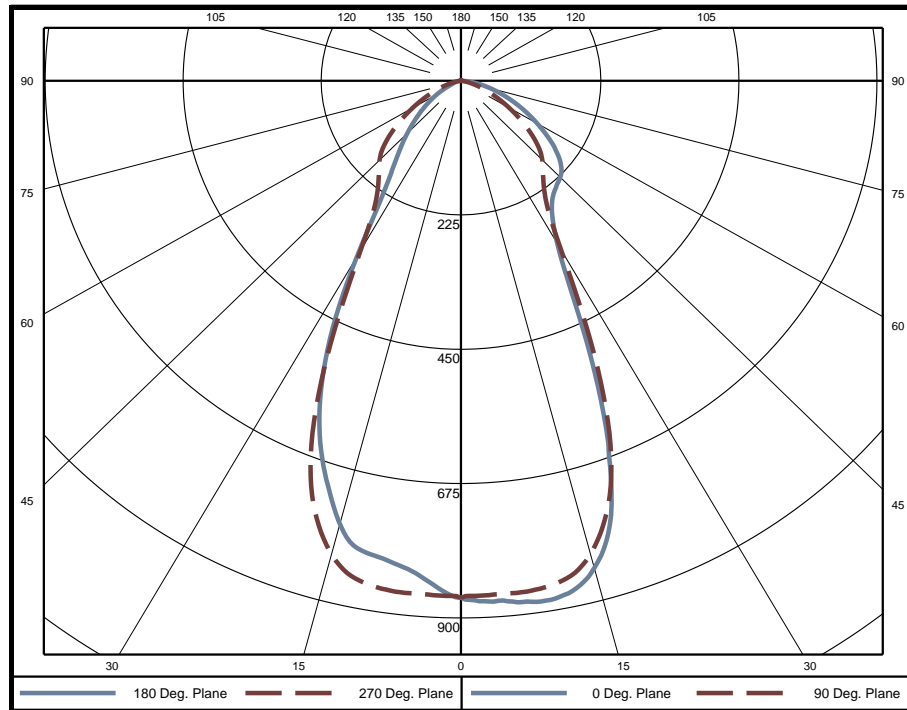
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.6 °C	120.0 VAC	0.1659 A	19.79 W	0.995	60 Hz	9.22 %

Summary of Results

Spacing Criteria
 0-180: 0.87
 90-270: 0.88

Total Lumen Output: 1022 Lumens
Luminaire Efficacy: 51.6 lm/w
Maximum Candela: 882 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	20.6	2.0%	60-65	36.8	3.6%	120-125	0	0.0%
5-10	61.1	6.0%	65-70	25.6	2.5%	125-130	0	0.0%
10-15	99.0	9.7%	70-75	16.3	1.6%	130-135	0	0.0%
15-20	124.3	12.2%	75-80	9.3	0.9%	135-140	0	0.0%
20-25	125.4	12.3%	80-85	4.0	0.4%	140-145	0	0.0%
25-30	101.6	9.9%	85-90	0.8	0.1%	145-150	0	0.0%
30-35	79.9	7.8%	90-95	0	0.0%	150-155	0	0.0%
35-40	72.4	7.1%	95-100	0	0.0%	155-160	0	0.0%
40-45	70.4	6.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	67.0	6.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	59.3	5.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	48.5	4.7%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	684	67.0%
0-60	930	90.9%
0-90	1022	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	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2	866.2
	5	875.5	877.3	874.8	869.9	862.1	852.3	842.4	837.5	828.4	837.5	842.4	852.3	862.1	869.9	874.8
	10	881.1	872.6	871.8	866.7	857.1	843.4	828.2	819.8	807.4	819.8	828.2	843.4	857.1	866.7	871.8
	15	842.4	818.5	822.9	823.5	815.2	805.3	795.1	784.5	762.6	784.5	795.1	805.3	815.2	823.5	822.9
	20	713.1	672.1	689.4	702.7	705.3	703.0	694.1	685.4	658.6	685.4	694.1	703.0	705.3	702.7	689.4
	25	484.1	442.7	461.7	487.8	506.4	522.6	533.7	546.3	516.1	546.3	533.7	522.6	506.4	487.8	461.7
	30	311.5	295.8	295.9	303.3	313.9	331.9	351.2	362.7	324.4	362.7	351.2	331.9	313.9	303.3	295.9
	35	257.3	247.0	240.5	235.8	235.6	235.8	237.1	229.6	203.5	229.6	237.1	235.8	235.6	235.8	240.5
	40	237.9	230.4	222.9	213.6	204.9	195.8	180.7	170.7	155.0	170.7	180.7	195.8	204.9	213.6	222.9
	45	228.1	221.1	212.2	199.0	184.0	163.9	144.0	132.1	119.8	132.1	144.0	163.9	184.0	199.0	212.2
	50	210.4	199.6	191.2	177.0	155.8	130.3	111.3	100.0	89.9	100.0	111.3	130.3	155.8	177.0	191.2
	55	179.5	167.3	158.7	143.9	120.9	98.4	82.0	72.9	64.3	72.9	82.0	98.4	120.9	143.9	158.7
	60	142.9	131.9	123.2	107.9	87.5	69.4	56.9	50.0	42.6	50.0	56.9	69.4	87.5	107.9	123.2
	65	108.9	97.9	89.8	75.4	59.0	45.1	35.7	30.1	23.7	30.1	35.7	45.1	59.0	75.4	89.8
	70	77.4	67.9	59.8	48.4	35.9	25.6	18.9	16.1	14.4	16.1	18.9	25.6	35.9	48.4	59.8
	75	50.5	42.4	36.4	27.7	18.8	12.3	10.3	10.8	9.8	10.8	10.3	12.3	18.8	27.7	36.4
	80	28.1	22.0	17.6	12.2	7.3	5.8	6.3	6.6	5.8	6.6	6.3	5.8	7.3	12.2	17.6
	85	9.5	5.4	4.1	2.7	2.3	2.7	2.9	3.1	2.4	3.1	2.9	2.7	2.3	2.7	4.1
	90	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.5	0.1	0.5	0.5	0.5	0.4	0.3	0.3
	95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

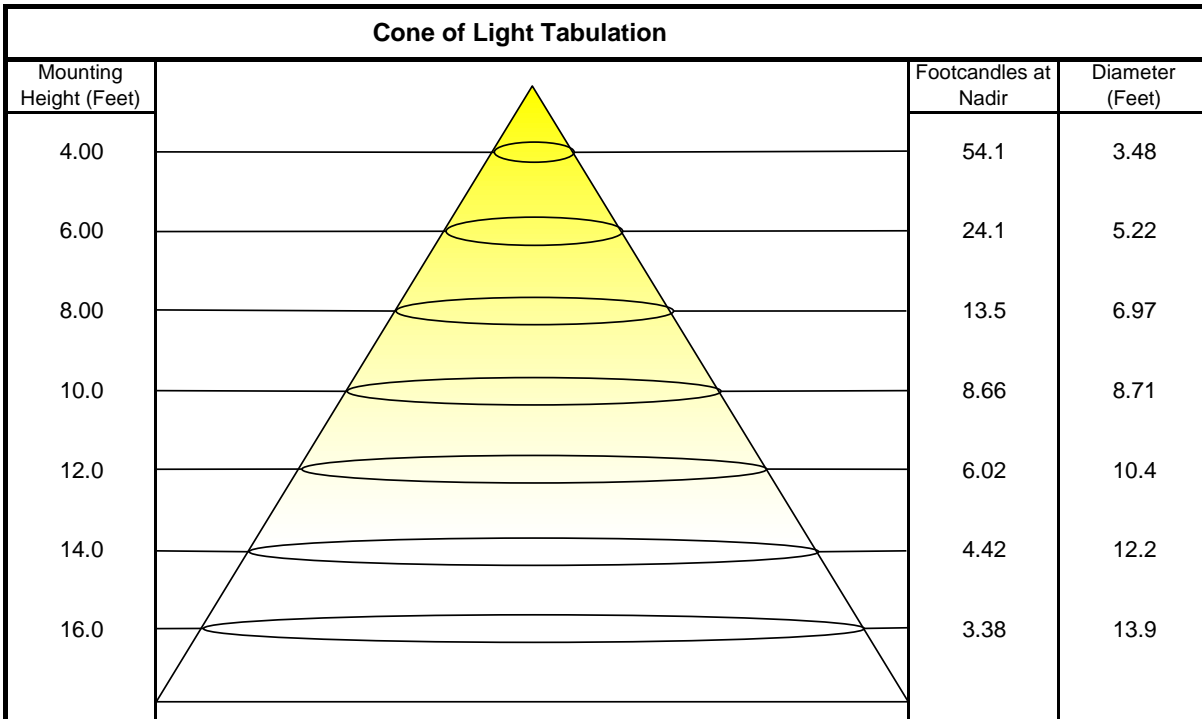
Vertical Angle (Degrees)	0	45	90
	0	94640	94640
	45	35250	28440
	55	34200	23030
	65	28160	15250
	75	21340	7942
	85	11880	2936



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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89
2	104	98	92	88	102	96	91	87	92	88	85	89	86	83	86	84	81	79
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73	71
4	91	81	74	69	89	80	73	68	77	72	67	75	70	66	73	69	66	64
5	85	74	67	62	83	73	67	61	71	65	61	70	64	60	68	63	60	58
6	80	69	61	56	78	68	61	56	66	60	56	65	59	55	63	58	55	53
7	75	64	57	51	74	63	56	51	62	55	51	60	55	51	59	54	50	49
8	71	60	52	47	69	59	52	47	58	52	47	57	51	47	55	50	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	43	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	39

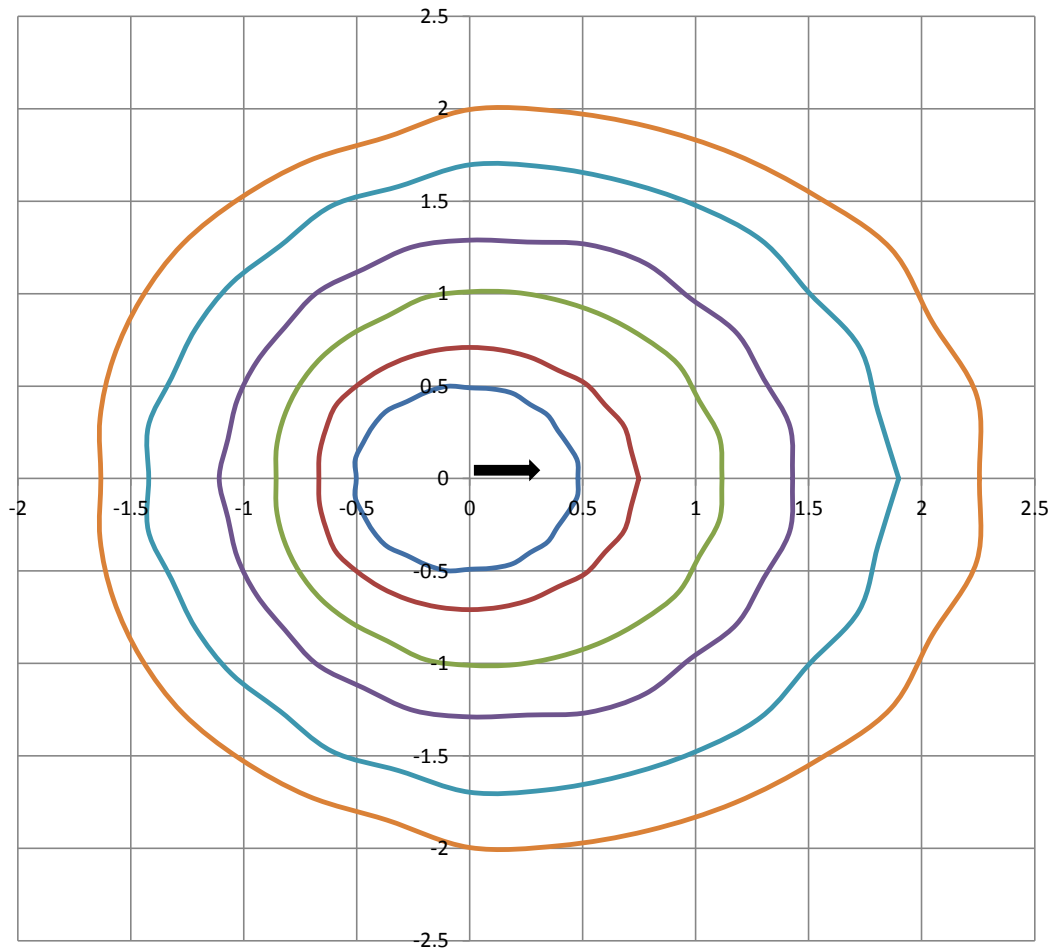
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	866.2 Candela
Central Cone Intensity:	863 Candela
Beam Flux:	468.4 Lumens
Beam Angle (0-180):	53.3 Degrees
Beam Angle (90-270):	53.3 Degrees
Field Angle (0-180):	119.1 Degrees
Field Angle (90-270):	120.3 Degrees





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