



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300



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-O-N-OF-CS
Order Number
12316380
Test Number
12316380.05

Test Date

2018-06-07

Prepared By

Cordaryl Cousar, Technician

Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.
This report shall not be reproduced, except in full, without written approval of Underwriters Laboratories.
This report must not be used by the client to claim product certification, approval, or endorsement by
NVLAP, NIST, or any agency of the Federal Government.



Luminaire Description: Black formed aluminum housing, specular reflector, no lens enclosure
Lamp: One white LED
Mounting: Recessed
Ballast/Driver: Philips XI025C070V054DSM5

Luminaire



Luminaire Characteristics

Luminous Diameter: 4.50 in.

Summary of Results

Total Luminaire Output:	2004 Lumens
Luminaire Efficacy:	101.1 lm/w
Maximum Candela:	21307 Candela

Test Conditions

Test Temperature:	25.5 °C
Voltage:	120.0 VAC
Current:	0.1661 A
Power:	19.82 W
Power Factor:	0.995
Frequency:	60 Hz
Current THD:	9.18 %

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



Distribution - Goniophotometer

Distribution Test Conditions

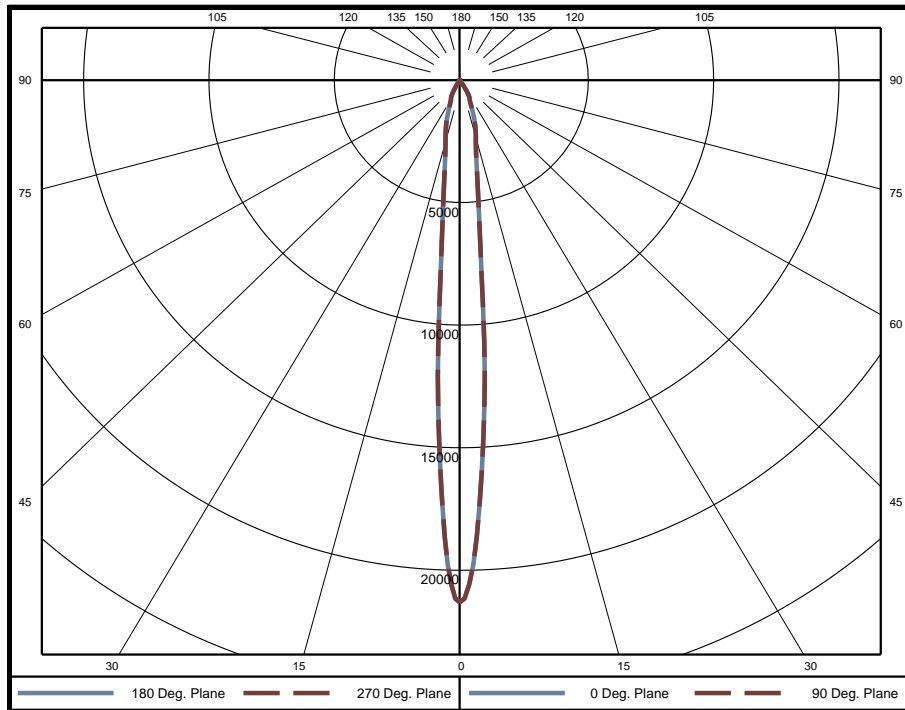
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.5 °C	120.0 VAC	0.1661 A	19.82 W	0.995	60 Hz	9.18 %

Summary of Results

Spacing Criteria
 0-180: 0.17
 90-270: 0.17

Total Lumen Output: 2004 Lumens
Luminaire Efficacy: 101.1 lm/w
Maximum Candela: 21307 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	362.7	18.1%	60-65	0.5	0.0%	120-125	0	0.0%
5-10	415.3	20.7%	65-70	0.3	0.0%	125-130	0	0.0%
10-15	342.2	17.1%	70-75	0.2	0.0%	130-135	0	0.0%
15-20	321.5	16.0%	75-80	0.1	0.0%	135-140	0	0.0%
20-25	246.5	12.3%	80-85	0.1	0.0%	140-145	0	0.0%
25-30	199.3	9.9%	85-90	0.0	0.0%	145-150	0	0.0%
30-35	95.8	4.8%	90-95	0	0.0%	150-155	0	0.0%
35-40	9.8	0.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	5.0	0.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	3.0	0.1%	105-110	0	0.0%	165-170	0	0.0%
50-55	1.5	0.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	0.8	0.0%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1993	99.5%
0-60	2003	100.0%
0-90	2005	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	21310	21310	21310	21310	21310	21310	21310	21310	21310	21310	21310	21310	21310	21310	21310
	5	10690	10690	10690	10690	10690	10690	10690	10690	10690	10690	10690	10690	10690	10690	10690
	10	3779	3779	3779	3779	3779	3779	3779	3779	3779	3779	3779	3779	3779	3779	3779
	15	2372	2372	2372	2372	2372	2372	2372	2372	2372	2372	2372	2372	2372	2372	2372
	20	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555	1555
	25	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912
	30	620	620	620	620	620	620	620	620	620	620	620	620	620	620	620
	35	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
	40	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
	45	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	50	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	55	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	65	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	80	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
	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)

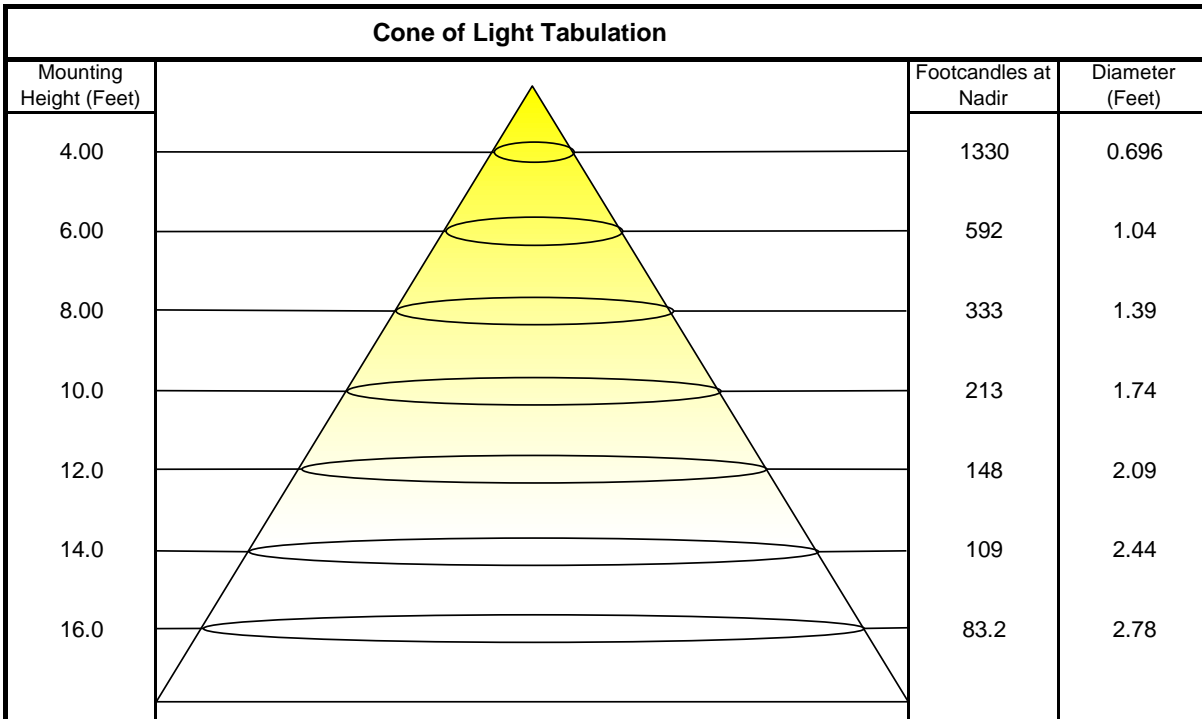
Vertical Angle (Degrees)	0	45	90
	0	2077000	2077000
	45	1400	1400
	55	404	404
	65	156	156
	75	70	70
	85	92	92



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	115	113	111	109	113	111	109	108	107	105	104	103	102	101	100	99	98	97
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	99	96	106	102	98	96	99	96	94	97	95	93	95	93	91	90
4	104	99	95	92	103	98	94	91	96	93	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	88	93	89	87	91	88	86	90	87	85	84
6	98	92	88	85	97	91	87	84	90	86	84	89	86	83	87	85	83	82
7	95	89	85	82	94	88	84	81	87	84	81	86	83	81	85	82	80	79
8	93	86	82	79	92	85	82	79	85	81	78	84	81	78	83	80	78	77
9	90	83	79	77	89	83	79	76	82	79	76	81	78	76	81	78	76	75
10	88	81	77	74	87	81	77	74	80	76	74	79	76	74	79	76	74	73

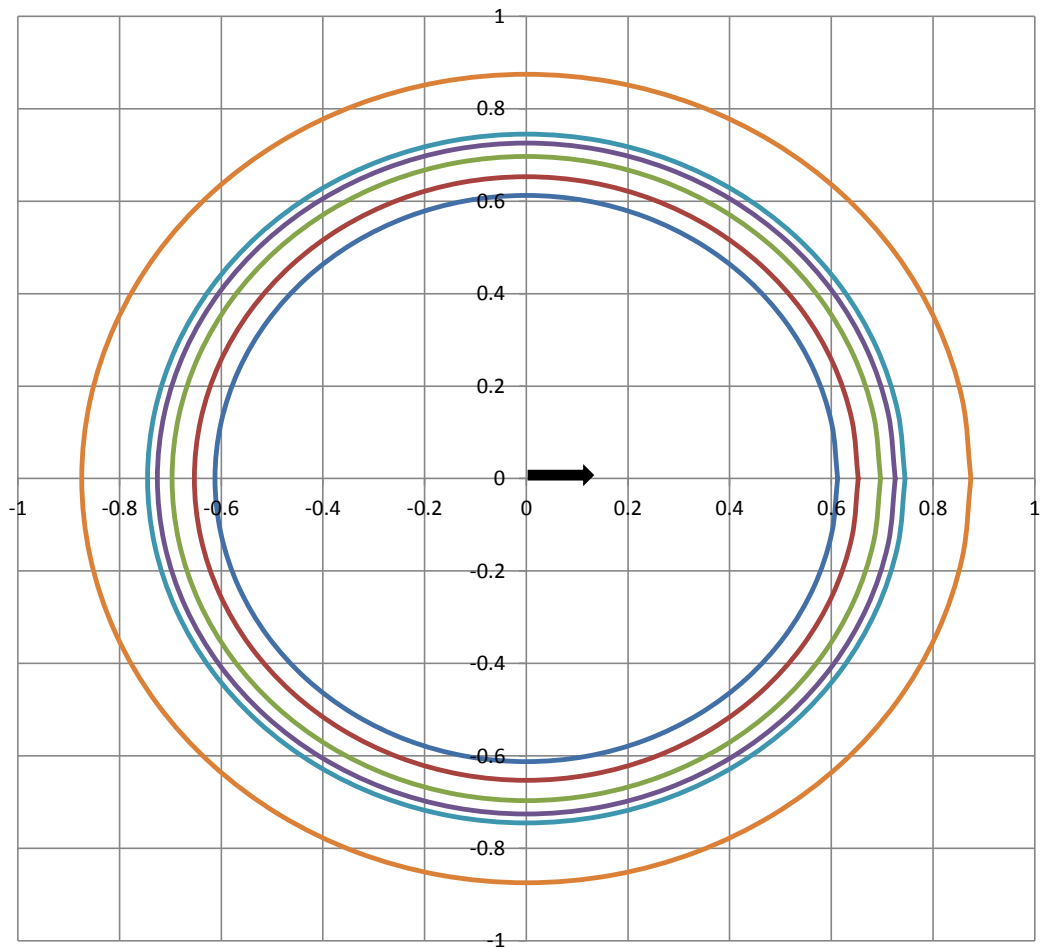
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	21310 Candela
Central Cone Intensity:	16888 Candela
Beam Flux:	365.5 Lumens
Beam Angle (0-180):	10.0 Degrees
Beam Angle (90-270):	10.0 Degrees
Field Angle (0-180):	33.0 Degrees
Field Angle (90-270):	33.0 Degrees





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