



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-WW-OF-CS
Order Number
12316380
Test Number
12316380.06

Test Date

2018-06-11

Revised 2018-06-26

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, specular/semi-specular reflector, white/black baffle, 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:	1131 Lumens
Luminaire Efficacy:	57.2 lm/w
Maximum Candela:	1729 Candela

Test Conditions

Test Temperature:	25.2 °C
Voltage:	120.1 VAC
Current:	0.1657 A
Power:	19.78 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	19.78 W	0.995	60 Hz	9.21 %

Summary of Results

Spacing Criteria

0-180: 1.28
90-270: 1.07

Total Lumen Output:

1131 Lumens

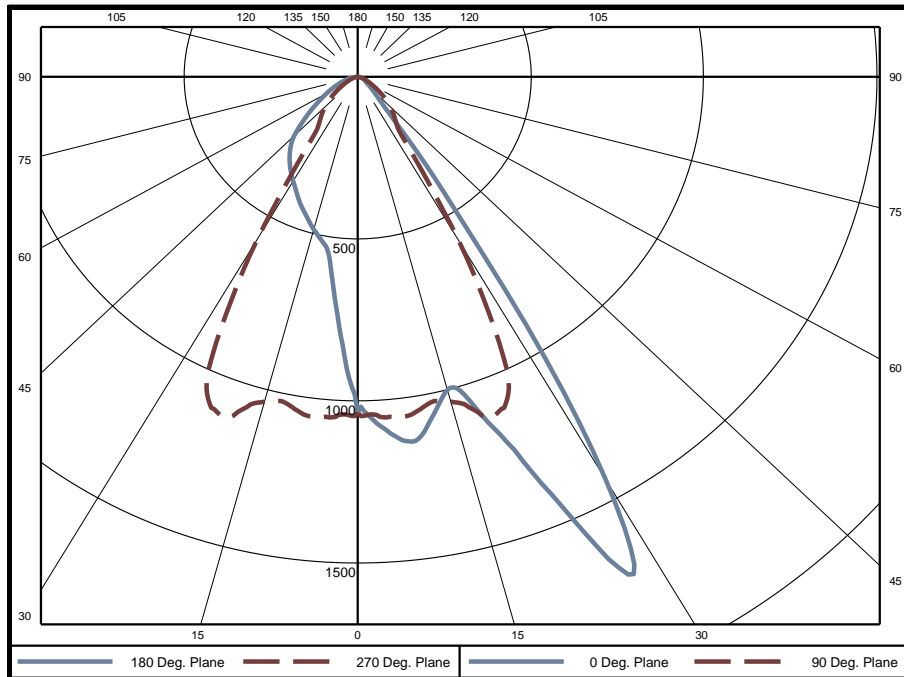
Luminaire Efficacy:

57.2 lm/w

Maximum Candela:

1729 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	23.8	2.1%	60-65	24.8	2.2%	120-125	0	0.0%
5-10	64.6	5.7%	65-70	18.2	1.6%	125-130	0	0.0%
10-15	95.6	8.5%	70-75	12.5	1.1%	130-135	0	0.0%
15-20	126.5	11.2%	75-80	7.3	0.6%	135-140	0	0.0%
20-25	171.1	15.1%	80-85	2.8	0.2%	140-145	0	0.0%
25-30	194.2	17.2%	85-90	0.3	0.0%	145-150	0	0.0%
30-35	124.8	11.0%	90-95	0	0.0%	150-155	0	0.0%
35-40	73.9	6.5%	95-100	0	0.0%	155-160	0	0.0%
40-45	62.1	5.5%	100-105	0	0.0%	160-165	0	0.0%
45-50	53.7	4.7%	105-110	0	0.0%	165-170	0	0.0%
50-55	42.6	3.8%	110-115	0	0.0%	170-175	0	0.0%
55-60	32.6	2.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	875	77.3%
0-60	1066	94.2%
0-90	1131	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	1036	1036	1036	1036	1036	1036	1036	1036	1036	1036	1036	1036	1036	1036	1036
	5	1105	1089	1057	1054	1053	945	805	770	713	770	805	945	1053	1054	1057
	10	1111	1078	1057	1009	1041	705	573	553	530	553	573	705	1041	1009	1057
	15	1000	986	993	985	1037	511	443	481	488	481	443	511	1037	985	993
	20	1154	1115	970	1003	1118	398	397	442	447	442	397	398	1118	1003	970
	25	1550	1507	1154	992	1030	339	364	407	408	407	364	339	1030	992	1154
	30	1434	1082	843	537	582	291	333	370	372	370	333	291	582	537	843
	35	434	309	258	157	223	256	305	336	340	336	305	256	223	157	258
	40	118	103	95	103	166	231	276	303	305	303	276	231	166	103	95
	45	67	59	62	78	136	201	242	266	261	266	242	201	136	78	62
	50	44	39	42	56	102	157	193	210	197	210	193	157	102	56	42
	55	30	28	28	38	70	114	143	154	144	154	143	114	70	38	28
	60	26	24	23	27	46	79	102	112	105	112	102	79	46	27	23
	65	21	18	18	19	30	56	74	81	75	81	74	56	30	19	18
	70	13	12	11	12	20	39	53	57	52	57	53	39	20	12	11
	75	7	5	5	6	11	26	36	38	34	38	36	26	11	6	5
	80	1	1	1	2	5	14	20	21	17	21	20	14	5	2	1
	85	0	0	0	0	1	4	5	4	0	4	5	4	1	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)

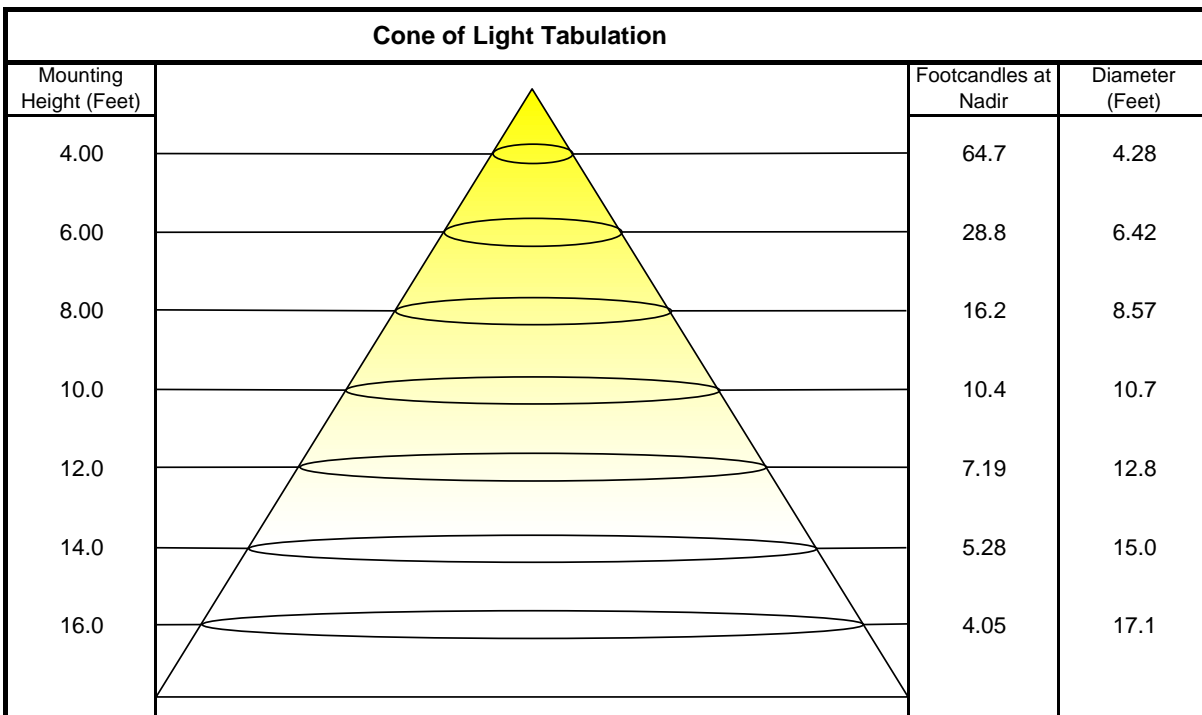
Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
		0	45	90
	0	100900	100900	100900
	45	9224	8518	18740
	55	5057	4690	11870
	65	4813	4106	6845
	75	2646	1808	4256
	85	258	240	1530



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	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91
2	105	99	95	90	103	98	93	89	94	91	87	91	88	86	88	86	84	82
3	99	91	85	80	97	90	84	80	87	82	78	84	80	77	82	79	76	74
4	93	84	77	72	91	83	77	72	80	75	71	78	74	70	76	72	69	68
5	87	77	71	66	85	76	70	65	75	69	65	73	68	64	71	67	63	62
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	67	62	58	57
7	78	67	60	55	76	66	60	55	65	59	55	64	58	54	62	58	54	52
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	59	54	50	49
9	69	58	52	47	68	58	52	47	57	51	47	56	51	47	55	50	47	45
10	66	55	48	44	65	54	48	44	54	48	44	53	47	44	52	47	44	42

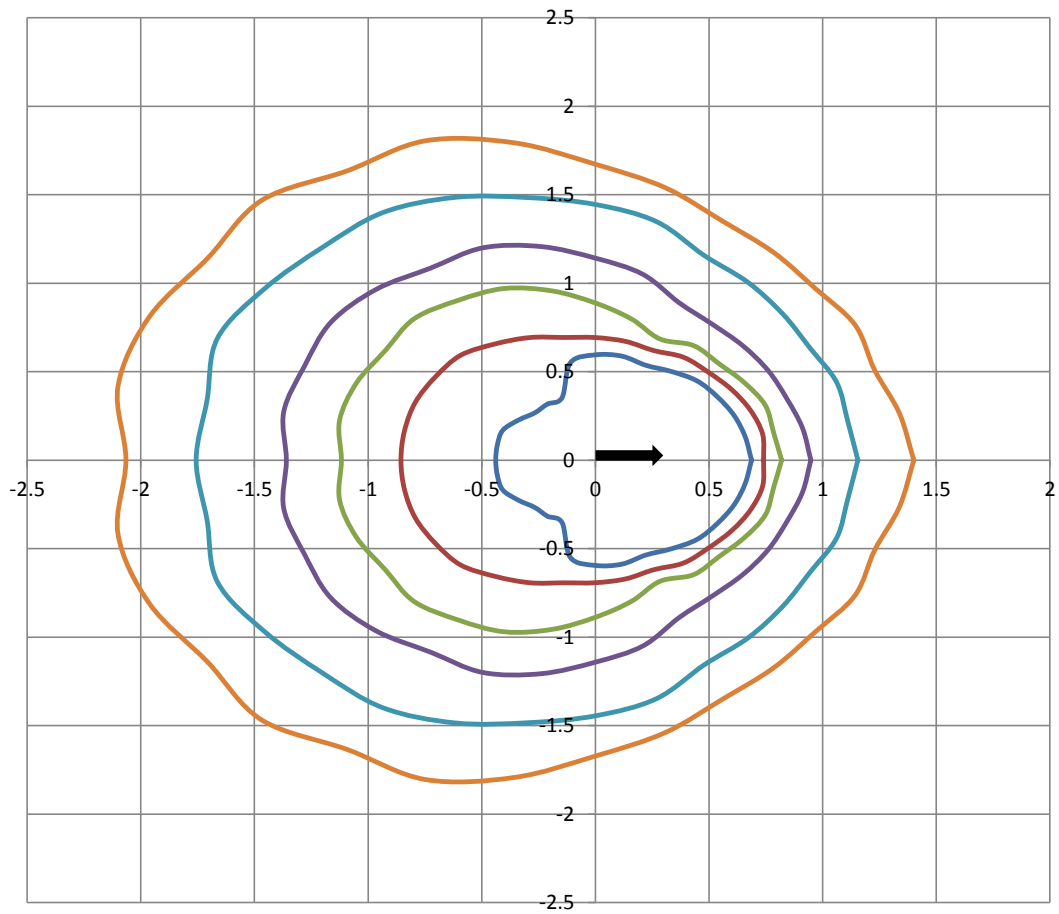
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1036 Candela
Central Cone Intensity:	1006 Candela
Beam Flux:	601.7 Lumens
Beam Angle (0-180):	45.7 Degrees
Beam Angle (90-270):	61.3 Degrees
Field Angle (0-180):	101.1 Degrees
Field Angle (90-270):	99.6 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

