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Allentown, PA 18106  
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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**  
**4PR-L20/835-DIM-UNV-L-N-OF-WH**

Order Number  
12316380  
Test Number  
12316380.32

Test Date

2018-06-13

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, clear plastic optic, white reflector, clear glass patterned lens 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:	2114 Lumens
Luminaire Efficacy:	92.9 lm/w
Maximum Candela:	7096 Candela

**Test Conditions**

Test Temperature:	25.1 °C
Voltage:	120.1 VAC
Current:	0.1902 A
Power:	22.75 W
Power Factor:	0.996
Frequency:	60 Hz
Current THD:	7.82 %

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
25.1 °C	120.1 VAC	0.1902 A	22.75 W	0.996	60 Hz	7.82 %

### Summary of Results

#### Spacing Criteria

0-180: 0.45

90-270: 0.45

Total Lumen Output:

2114 Lumens

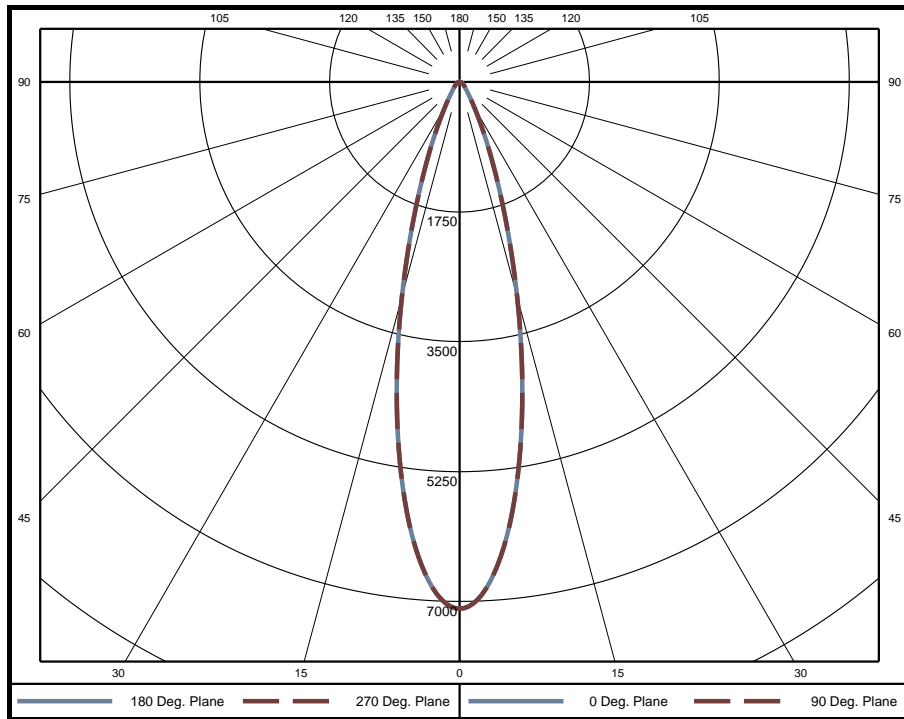
Luminaire Efficacy:

92.9 lm/w

Maximum Candela:

7096 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	161.3	7.6%	60-65	21.1	1.0%	120-125	0	0.0%
5-10	398.1	18.8%	65-70	16.5	0.8%	125-130	0	0.0%
10-15	454.4	21.5%	70-75	12.1	0.6%	130-135	0	0.0%
15-20	366.3	17.3%	75-80	8.0	0.4%	135-140	0	0.0%
20-25	241.1	11.4%	80-85	4.1	0.2%	140-145	0	0.0%
25-30	144.2	6.8%	85-90	1.2	0.1%	145-150	0	0.0%
30-35	87.6	4.1%	90-95	0	0.0%	150-155	0	0.0%
35-40	59.0	2.8%	95-100	0	0.0%	155-160	0	0.0%
40-45	45.1	2.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	37.0	1.8%	105-110	0	0.0%	165-170	0	0.0%
50-55	31.0	1.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	25.9	1.2%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1912	90.4%
0-60	2051	97.0%
0-90	2114	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	7096	7096	7096	7096	7096	7096	7096	7096	7096	7096	7096	7096	7096	7096	7096	7096
5	6408	6408	6408	6408	6408	6408	6408	6408	6408	6408	6408	6408	6408	6408	6408	6408
10	4797	4797	4797	4797	4797	4797	4797	4797	4797	4797	4797	4797	4797	4797	4797	4797
15	3003	3003	3003	3003	3003	3003	3003	3003	3003	3003	3003	3003	3003	3003	3003	3003
20	1608	1608	1608	1608	1608	1608	1608	1608	1608	1608	1608	1608	1608	1608	1608	1608
25	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802	802
30	401	401	401	401	401	401	401	401	401	401	401	401	401	401	401	401
35	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222
40	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
45	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
50	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81
55	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63	63
60	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
65	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
70	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
75	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
80	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
85	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
95	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
105	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
115	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
125	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
135	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
145	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
155	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
165	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
175	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

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)

	0	45	90
0	775300	775300	775300
45	16150	16150	16150
55	12050	12050	12050
65	9778	9778	9778
75	8021	8021	8021
85	5433	5433	5433



### 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	112	109	107	105	105	104	102	102	100	99	98	97	96	94
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85
4	100	94	89	85	99	93	88	85	91	87	84	89	86	83	87	84	82	81
5	97	89	84	81	95	88	84	80	87	83	80	85	82	79	84	81	78	77
6	93	85	80	77	92	85	80	76	83	79	76	82	78	75	81	78	75	74
7	90	82	77	73	88	81	76	73	80	76	73	79	75	72	78	75	72	71
8	87	79	74	70	86	78	73	70	77	73	70	76	72	70	75	72	69	68
9	84	76	71	68	83	75	71	67	74	70	67	74	70	67	73	69	67	66
10	81	73	68	65	80	73	68	65	72	68	65	71	67	65	71	67	65	64

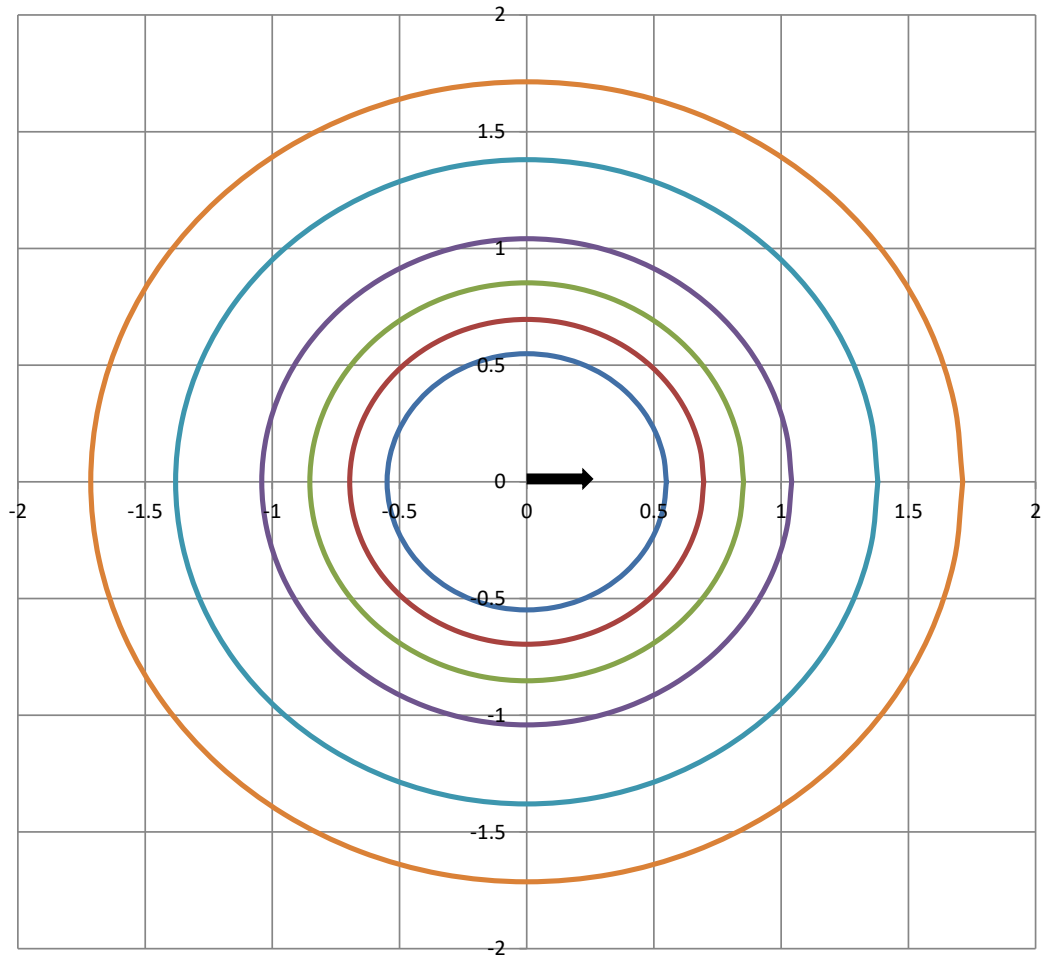
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	7096 Candela
Central Cone Intensity:	6848 Candela
Beam Flux:	876.8 Lumens
Beam Angle (0-180):	26.9 Degrees
Beam Angle (90-270):	26.9 Degrees
Field Angle (0-180):	51.7 Degrees
Field Angle (90-270):	51.7 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		443	1.80
6.00		197	2.70
8.00		111	3.60
10.0		71.0	4.50
12.0		49.3	5.40
14.0		36.2	6.29
16.0		27.7	7.19



## ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

