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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-10-2014

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

Catalog Number
GH-2-L240/840-FA-DIM-UNV
Order Number
13309242
Test Number
13309242.03A

Revision of Test Number 13309242.03 on:

2020-04-16
Test Date

2020-04-10

Prepared By

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Approved By

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The results contained in this report pertain only to the tested sample.
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Luminaire Description: Formed white steel housing, lens enclosures
Lamp: 336 White LEDs
Mounting: Pendant
Ballast/Driver: Two Everline ULT D21CC80UNVPW-C Drivers

Luminaire



Luminaire Characteristics

Luminous Length: 22.00 in.
Luminous Width: 17.00 in.
Luminous Height: 2.50 in.

Summary of Results

Total Luminaire Output: 23470 Lumens
Luminaire Efficacy: 132.7 lm/w
Maximum Candela: 7875 Candela

Test Conditions

Test Temperature: 25.2 °C
Voltage: 120.2 VAC
Current: 1.474 A
Power: 176.8 W
Power Factor: 0.998
Frequency: 60 Hz
Current THD: 5.23 %

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	120.2 VAC	1.474 A	176.8 W	0.998	60 Hz	5.23 %

Summary of Results

Spacing Criteria

0-180: 1.19

90-270: 1.31

Total Lumen Output:

23470 Lumens

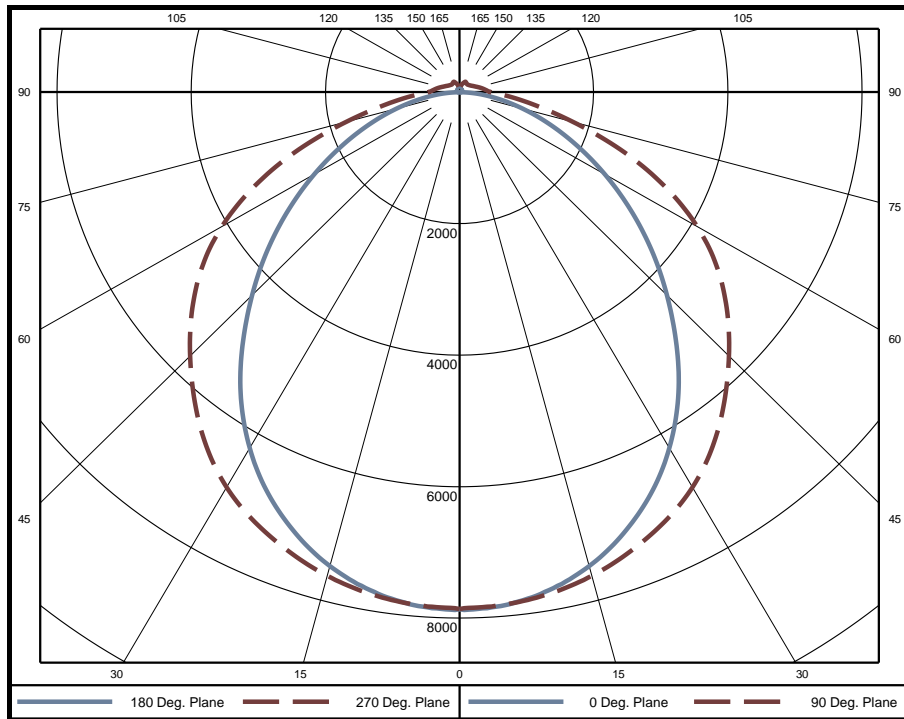
Luminaire Efficacy:

132.7 lm/w

Maximum Candela:

7875 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	188	0.8%	60-65	1507	6.4%	120-125	64	0.3%
5-10	557	2.4%	65-70	1258	5.4%	125-130	59	0.3%
10-15	906	3.9%	70-75	970	4.1%	130-135	53	0.2%
15-20	1224	5.2%	75-80	677	2.9%	135-140	49	0.2%
20-25	1499	6.4%	80-85	421	1.8%	140-145	44	0.2%
25-30	1723	7.3%	85-90	219	0.9%	145-150	38	0.2%
30-35	1882	8.0%	90-95	140	0.6%	150-155	30	0.1%
35-40	1967	8.4%	95-100	119	0.5%	155-160	22	0.1%
40-45	1983	8.4%	100-105	101	0.4%	160-165	15	0.1%
45-50	1945	8.3%	105-110	87	0.4%	165-170	9	0.0%
50-55	1854	7.9%	110-115	77	0.3%	170-175	4	0.0%
55-60	1708	7.3%	115-120	69	0.3%	175-180	1	0.0%

Zone	Lumens	% of Luminaire
0-40	9946	42.4%
0-60	17436	74.3%
0-90	22488	95.8%
90-180	981	4.2%



Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal 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	7864	7864	7864	7864	7864	7864	7864	7864	7864	7864	7864	7864	7864	7864	7864	7864
5	7830	7824	7838	7835	7828	7835	7838	7824	7830	7824	7838	7835	7828	7835	7838	7824
10	7689	7693	7733	7749	7742	7749	7733	7693	7689	7693	7733	7749	7742	7749	7733	7693
15	7462	7484	7557	7607	7617	7607	7557	7484	7462	7484	7557	7607	7617	7607	7557	7484
20	7142	7190	7316	7406	7437	7406	7316	7190	7142	7190	7316	7406	7437	7406	7316	7190
25	6743	6822	7012	7162	7218	7162	7012	6822	6743	6822	7012	7162	7218	7162	7012	6822
30	6253	6373	6639	6861	6943	6861	6639	6373	6253	6373	6639	6861	6943	6861	6639	6373
35	5682	5839	6194	6478	6579	6478	6194	5839	5682	5839	6194	6478	6579	6478	6194	5839
40	5035	5238	5675	6024	6142	6024	5675	5238	5035	5238	5675	6024	6142	6024	5675	5238
45	4375	4627	5143	5550	5680	5550	5143	4627	4375	4627	5143	5550	5680	5550	5143	4627
50	3738	4027	4611	5063	5210	5063	4611	4027	3738	4027	4611	5063	5210	5063	4611	4027
55	3108	3436	4068	4542	4699	4542	4068	3436	3108	3436	4068	4542	4699	4542	4068	3436
60	2505	2855	3501	3962	4092	3962	3501	2855	2505	2855	3501	3962	4092	3962	3501	2855
65	1942	2315	2930	3290	3361	3290	2930	2315	1942	2315	2930	3290	3361	3290	2930	2315
70	1435	1812	2333	2550	2549	2550	2333	1812	1435	1812	2333	2550	2549	2550	2333	1812
75	982	1327	1717	1781	1749	1781	1717	1327	982	1327	1717	1781	1749	1781	1717	1327
80	590	870	1118	1149	1142	1149	1118	870	590	870	1118	1149	1142	1149	1118	870
85	267	449	619	706	733	706	619	449	267	449	619	706	733	706	619	449
90	9	129	301	422	458	422	301	129	9	129	301	422	458	422	301	129
95	25	112	261	363	389	363	261	112	25	112	261	363	389	363	261	112
100	36	94	220	313	337	313	220	94	36	94	220	313	337	313	220	94
105	38	88	187	267	289	267	187	88	38	88	187	267	289	267	187	88
110	40	90	166	231	248	231	166	90	40	90	166	231	248	231	166	90
115	42	98	152	205	220	205	152	98	42	98	152	205	220	205	152	98
120	44	109	144	185	197	185	144	109	44	109	144	185	197	185	144	109
125	46	117	141	172	181	172	141	117	46	117	141	172	181	172	141	117
130	49	115	145	163	171	163	145	115	49	115	145	163	171	163	145	115
135	50	109	152	160	163	160	152	109	50	109	152	160	163	160	152	109
140	52	98	159	166	166	166	159	98	52	98	159	166	166	166	159	98
145	45	88	153	172	174	172	153	88	45	88	153	172	174	172	153	88
150	50	84	136	172	180	172	136	84	50	84	136	172	180	172	136	84
155	53	75	117	149	164	149	117	75	53	75	117	149	164	149	117	75
160	49	65	102	126	139	126	102	65	49	65	102	126	139	126	102	65
165	48	57	83	105	118	105	83	57	48	57	83	105	118	105	83	57
170	49	53	64	76	80	76	64	53	49	53	64	76	80	76	64	53
175	51	53	56	55	55	55	56	53	51	53	56	55	55	55	56	53
180	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54

Average Luminance (cd/m²)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	Horizontal Angle (Degrees)		
	0	45	90
0	32590	32590	32590
45	23030	25450	29020
55	19320	23270	28060
65	15310	20590	25060
75	11050	16290	18080
85	5515	9472	13000



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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	107	102	98	94	104	100	96	92	95	91	88	90	87	85	86	84	82	79
2	98	89	82	76	94	87	80	75	83	77	73	79	74	70	75	71	68	66
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55
4	81	69	60	54	79	68	59	53	65	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	47	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	43	38	48	42	38	36
7	64	50	42	35	62	49	41	35	47	40	35	46	39	34	44	38	34	31
8	60	46	37	32	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23

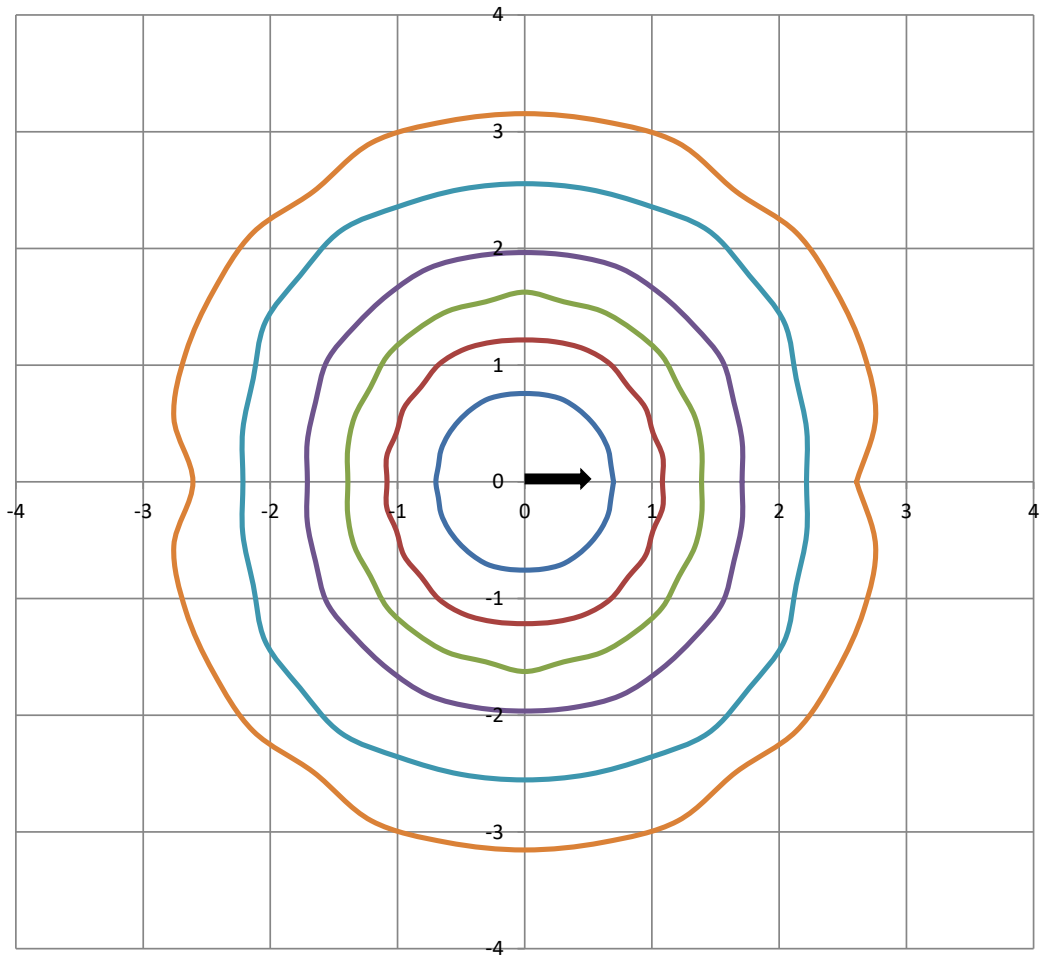
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	7864 Candela
Central Cone Intensity:	7853 Candela
Beam Flux:	16083.0 Lumens
Beam Angle (0-180):	97.0 Degrees
Beam Angle (90-270):	122.3 Degrees
Field Angle (0-180):	154.8 Degrees
Field Angle (90-270):	168.5 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		491	5.00
6.00		218	7.50
8.00		123	10.00
10.0		78.6	12.5
12.0		54.6	15.0
14.0		40.1	17.5
16.0		30.7	20.0



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

— 50 fc — 20 fc — 10 fc — 5 fc — 2 fc — 1 fc