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Allentown, PA 18106
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Indoor Distribution Test Report

Relevant Standards
IES LM-79-2019, 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
MX2D-4-00-L12-835-S-FW-S2458D/W-DIM-UNV

Order Number
15034137
Test Number
15034137.01

Test Date

2023-11-02

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: Long white metal housing with plastic frosted lens
Lamp: 144 LEDs
Mounting: Pendant
Ballast/Driver: eldoLED Optotronic OTI50/120-277/1A4 DIM-1 L G2 #57452

Luminaire



Luminaire Characteristics

Luminous Length: 48.00 in.
Luminous Width: 2.000 in.

Summary of Results

Total Luminaire Output:	4437 Lumens
Luminaire Efficacy:	111 lm/w
Maximum Candela:	1547 Candela

Test Conditions

Test Temperature:	24.9 °C
Voltage:	120.0 VAC
Current:	0.3383 A
Power:	39.97 W
Power Factor:	0.985
Frequency:	60 Hz
Current THD:	9.10 %

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

Distribution - Goniophotometer

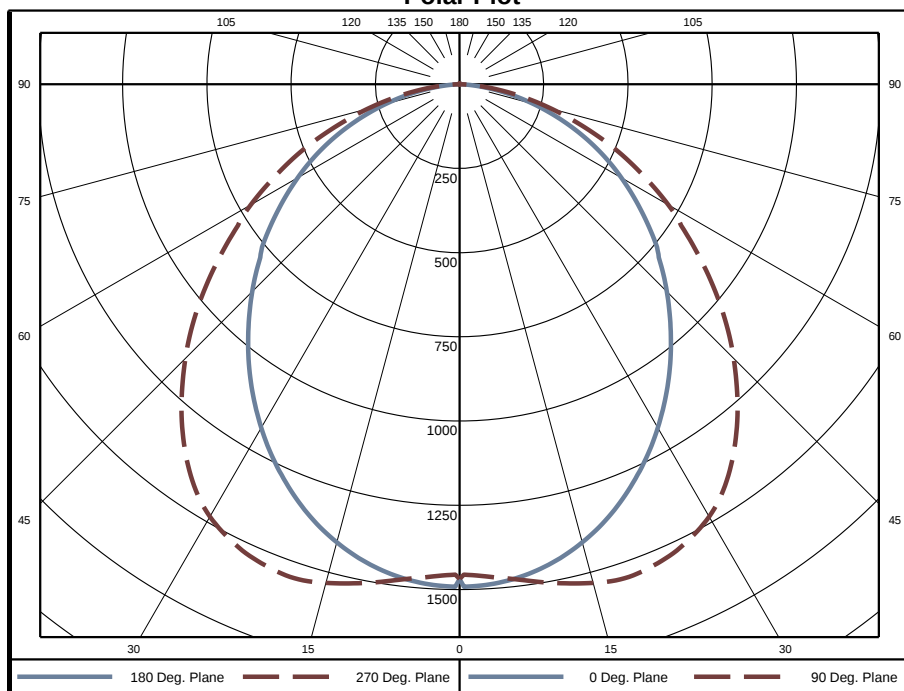
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.0 VAC	0.3383 A	39.97 W	0.985	60 Hz	9.10 %

Summary of Results

Spacing Criteria	Total Lumen Output:	4437 Lumens
0-180: 1.20	Luminaire Efficacy:	111.0 lm/w
90-270: 1.45	Maximum Candela:	1547 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)		
Crosswise: 26.2	Endwise: 27.4	

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	35.2	0.8%	60-65	295.8	6.7%	120-125	0.3	0.0%
5-10	105.4	2.4%	65-70	240.0	5.4%	125-130	0.4	0.0%
10-15	174.8	3.9%	70-75	176.8	4.0%	130-135	0.4	0.0%
15-20	241.0	5.4%	75-80	114.0	2.6%	135-140	0.5	0.0%
20-25	300.5	6.8%	80-85	55.5	1.3%	140-145	0.5	0.0%
25-30	350.3	7.9%	85-90	12.9	0.3%	145-150	0.5	0.0%
30-35	387.5	8.7%	90-95	0.3	0.0%	150-155	0.5	0.0%
35-40	408.4	9.2%	95-100	0.2	0.0%	155-160	0.4	0.0%
40-45	412.9	9.3%	100-105	0.2	0.0%	160-165	0.4	0.0%
45-50	402.4	9.1%	105-110	0.2	0.0%	165-170	0.3	0.0%
50-55	377.0	8.5%	110-115	0.2	0.0%	170-175	0.2	0.0%
55-60	340.8	7.7%	115-120	0.2	0.0%	175-180	0.1	0.0%

Zone	Lumens	% of Luminaire
0-40	2003	45.1%
0-60	3536	79.7%
0-90	4431	99.9%
90-180	6	0.1%

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	1468	1468	1468	1468	1468	1468	1468	1468	1468	1468	1468	1468	1468	1468	1468
	5	1482	1465	1466	1479	1471	1479	1466	1465	1482	1465	1466	1479	1471	1479	1466
	10	1454	1448	1470	1502	1502	1502	1470	1448	1454	1448	1470	1502	1502	1502	1470
	15	1407	1418	1468	1524	1532	1524	1468	1418	1407	1418	1468	1524	1532	1524	1468
	20	1344	1374	1455	1532	1546	1532	1455	1374	1344	1374	1455	1532	1546	1532	1455
	25	1266	1314	1426	1511	1527	1511	1426	1314	1266	1314	1426	1511	1527	1511	1426
	30	1177	1240	1378	1470	1482	1470	1378	1240	1177	1240	1378	1470	1482	1470	1378
	35	1080	1157	1309	1393	1399	1393	1309	1157	1080	1157	1309	1393	1399	1393	1309
	40	976	1058	1216	1285	1284	1285	1216	1058	976	1058	1216	1285	1284	1285	1216
	45	870	954	1108	1159	1151	1159	1108	954	870	954	1108	1159	1151	1159	1108
	50	768	841	983	1021	1008	1021	983	841	768	841	983	1021	1008	1021	983
	55	661	731	848	872	855	872	848	731	661	731	848	872	855	872	848
	60	554	614	719	733	716	733	719	614	554	614	719	733	716	733	719
	65	448	495	581	585	569	585	581	495	448	495	581	585	569	585	581
	70	337	371	435	436	423	436	435	371	337	371	435	436	423	436	435
	75	229	253	294	294	285	294	294	253	229	253	294	294	285	294	294
	80	129	141	166	165	161	165	166	141	129	141	166	165	161	165	166
	85	45	50	60	61	60	61	60	50	45	50	60	61	60	61	60
	90	1	1	2	3	3	3	2	1	1	1	2	3	3	3	2
	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	1	1	1	1	1	1	0	1	1	1	1	1	1	1
	125	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	130	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	135	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	140	1	1	1	2	2	2	1	1	1	1	2	2	2	1	1
	145	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	150	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	155	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	160	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	165	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	170	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	175	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	180	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Average Luminance (cd/m²)

		Horizontal Angle (Degrees)		
		0	45	90
Vertical Angle (Degrees)	0	23710	23710	23710
	45	19870	25290	26290
	55	18600	23860	24070
	65	17100	22180	21750
	75	14270	18330	17770
	85	8372	11120	11120



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	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	64	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	53	47	60	52	47	58	51	46	56	50	46	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	51	45	40	38
7	65	51	43	36	63	51	42	36	49	41	36	48	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	44	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	29	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	26	24

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	1468 Candela
Central Cone Intensity:	1470 Candela
Beam Flux:	3379.3 Lumens
Beam Angle (0-180):	103.3 Degrees
Beam Angle (90-270):	118.8 Degrees
Field Angle (0-180):	158.1 Degrees
Field Angle (90-270):	161.3 Degrees

Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		91.8	5.41
6.00		40.8	8.11
8.00		22.9	10.8
10.0		14.7	13.5
12.0		10.2	16.2
14.0		7.49	18.9
16.0		5.74	21.6

ISOFootcandle Plot

Mounting Height - 8 Feet

