



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-3-00-L15-935-P-AWNS-DSR-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20650.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 29 AUG, 2024

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 72 & 36 LED ARRAYS 3' DOWNLIGHT LUMINAIRE

[MORE] WHITE ALUM BODY w/WHITE REFL & 5/16" FROST DROP LENS

[LUMCAT] MX4D-3-00-L15-935-P-AWNS/DSR-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3413
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	99
Total Luminaire Watts	34.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.99 ft
Luminous Width (90-270)	0.31 ft
Luminous Height	0.02 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	12607	12150	11818
55	11308	10888	10482
65	9615	9170	9012
75	7034	7271	7318
85	2577	4670	5624

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	1335.795	1335.795	1335.795	1335.795	1335.795
5	1335.795	1329.582	1323.369	1323.369	1323.369
10	1304.730	1298.517	1294.375	1294.375	1290.233
15	1265.381	1252.955	1250.884	1252.955	1248.813
20	1205.322	1197.038	1199.109	1190.825	1188.754
25	1139.050	1132.837	1130.766	1126.624	1126.624
30	1056.210	1045.855	1049.997	1043.784	1039.642
35	969.228	963.015	958.873	958.873	954.731
40	871.891	869.820	867.749	859.465	859.465
45	766.270	772.483	772.483	766.270	762.128
50	662.720	671.004	671.004	673.075	668.933
55	559.170	571.596	573.667	569.525	563.312
60	449.407	461.833	470.117	472.188	470.117
65	352.070	362.425	368.638	370.709	372.780
70	250.591	258.875	273.372	285.798	285.798
75	159.467	169.822	192.603	202.958	202.958
80	78.698	95.266	109.763	124.260	128.402
85	20.710	37.278	55.917	72.485	74.556
90	0.000	10.355	24.852	37.278	39.349
95	2.071	10.355	26.923	37.278	37.278
100	2.071	10.355	24.852	35.207	37.278
105	0.000	12.426	24.852	33.136	37.278
110	0.000	6.213	20.710	28.994	31.065
115	0.000	6.213	18.639	28.994	31.065
120	0.000	6.213	14.497	24.852	24.852
125	0.000	6.213	12.426	20.710	20.710
130	0.000	2.071	10.355	14.497	18.639
135	0.000	0.000	6.213	12.426	12.426
140	0.000	0.000	6.213	12.426	12.426
145	0.000	0.000	6.213	10.355	12.426
150	0.000	0.000	4.142	6.213	8.284
155	0.000	0.000	0.000	6.213	6.213
160	0.000	0.000	0.000	0.000	2.071
165	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	478.76	N.A.	14.00
0-30	998.38	N.A.	29.30
0-40	1598.73	N.A.	46.80
0-60	2700.85	N.A.	79.10
0-80	3263.22	N.A.	95.60
0-90	3328.03	N.A.	97.50
10-90	3202.38	N.A.	93.80
20-40	1119.96	N.A.	32.80
20-50	1713.4	N.A.	50.20
40-70	1465.83	N.A.	42.90
60-80	562.38	N.A.	16.50
70-80	198.66	N.A.	5.80
80-90	64.80	N.A.	1.90
90-110	47.75	N.A.	1.40
90-120	64.41	N.A.	1.90
90-130	75.30	N.A.	2.20
90-150	84.05	N.A.	2.50
90-180	85.09	N.A.	2.50
110-180	37.34	N.A.	1.10
0-180	3413.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	125.65
10-20	353.12
20-30	519.62
30-40	600.34
40-50	593.44
50-60	508.68
60-70	363.71
70-80	198.66
80-90	64.80
90-100	25.28
100-110	22.47
110-120	16.66
120-130	10.90
130-140	5.39
140-150	3.36
150-160	1.03
160-170	0.02
170-180	0.00

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	188	188	188	188	184	184	184	184	175	175	175	166	166	166	159	159	159	155
1	173	165	159	153	168	161	155	150	154	149	144	147	143	139	141	137	134	131
2	157	145	134	125	153	141	132	124	135	127	120	129	123	117	124	119	114	110
3	144	128	115	105	140	125	113	104	120	110	102	115	106	99	110	103	97	94
4	132	114	100	90	128	111	99	89	107	96	87	103	93	86	99	91	84	80
5	122	102	88	78	118	100	87	77	96	85	76	92	82	75	89	80	73	70
6	113	92	78	68	109	90	77	68	87	75	67	84	74	66	81	72	65	62
7	105	84	70	60	102	82	69	60	79	68	59	77	66	59	74	65	58	55
8	97	76	63	54	95	75	63	54	73	61	53	70	60	53	68	59	52	49
9	91	70	57	49	89	69	57	49	67	56	48	65	55	48	63	54	47	44
10	86	65	53	44	83	64	52	44	62	51	44	60	50	43	59	50	43	40

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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

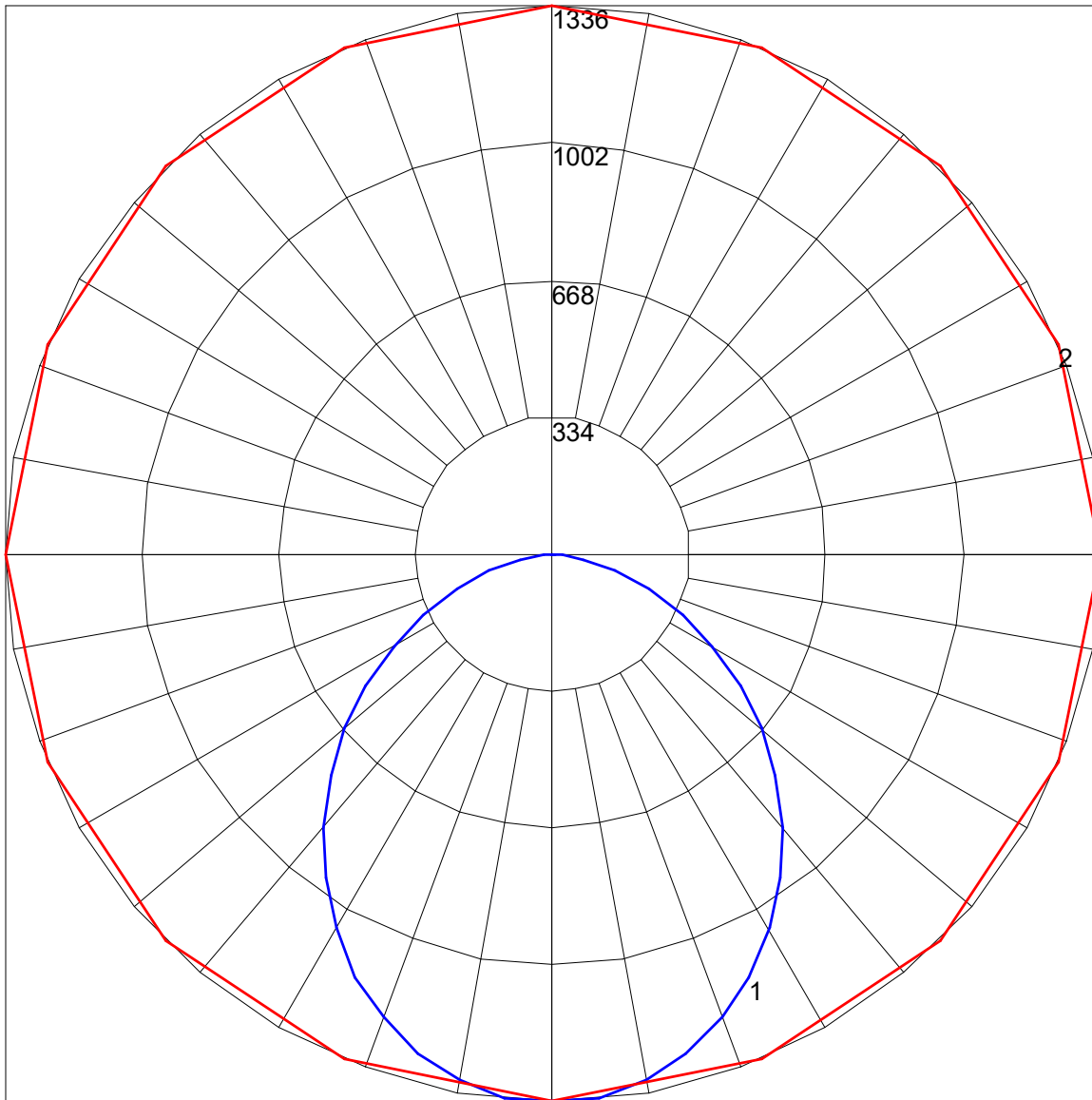
X=2H	Y=2H	19.7	21.3	20.1	21.6	22.0	20.0	21.5	20.4	21.9	22.3
	3H	21.1	22.5	21.5	22.9	23.3	21.7	23.1	22.1	23.4	23.8
	4H	21.6	22.9	22.0	23.3	23.7	22.3	23.6	22.7	24.0	24.4
	6H	21.8	23.0	22.2	23.4	23.9	22.8	24.0	23.3	24.4	24.9
	8H	21.8	23.0	22.3	23.4	23.9	23.0	24.2	23.5	24.6	25.1
	12H	21.8	23.0	22.3	23.4	23.9	23.2	24.3	23.6	24.7	25.2

UGR Viewed Endwise

4H	2H	20.3	21.6	20.7	22.0	22.4	20.5	21.8	20.9	22.2	22.6
	3H	21.9	23.0	22.3	23.5	23.9	22.4	23.5	22.8	23.9	24.4
	4H	22.4	23.4	22.9	23.9	24.4	23.2	24.2	23.6	24.6	25.1
	6H	22.8	23.7	23.3	24.1	24.6	23.8	24.7	24.3	25.2	25.7
	8H	22.9	23.7	23.3	24.1	24.7	24.1	24.9	24.6	25.4	25.9
	12H	22.9	23.6	23.4	24.1	24.6	24.3	25.0	24.8	25.5	26.1
8H	4H	22.7	23.6	23.2	24.0	24.6	23.4	24.2	23.9	24.7	25.2
	6H	23.2	23.8	23.7	24.4	24.9	24.1	24.8	24.7	25.3	25.9
	8H	23.3	23.9	23.8	24.4	25.0	24.5	25.1	25.0	25.6	26.2
	12H	23.3	23.9	23.9	24.4	25.0	24.8	25.4	25.3	25.9	26.5
12H	4H	22.8	23.5	23.3	24.0	24.5	23.4	24.1	23.9	24.6	25.2
	6H	23.2	23.9	23.8	24.3	24.9	24.2	24.8	24.7	25.3	25.9
	8H	23.4	23.9	23.9	24.5	25.1	24.5	25.1	25.1	25.6	26.2

Maximum UGR = 26.5

POLAR GRAPH



Maximum Candela = 1335.795 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)