



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-4-00-L15-840-P-(L12.5)-DIM-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] 03-11-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4' LED SUSPENDED LUMINAIRE

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

[LUMCAT] MX4D-4-00-L15-840-P-(L12.5)-DIM-UNV

[LAMPCAT] HLMX 80 CRI 4000K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5171
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	40.5
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)	4.00 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	14303	13777	13385
55	12838	12351	11871
65	10930	10410	10206
75	8018	8267	8288
85	2974	5336	6370

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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	2023.844	2023.844	2023.844	2023.844	2023.844
5	2023.844	2014.431	2005.018	2005.018	2005.018
10	1976.778	1967.365	1961.089	1961.089	1954.814
15	1917.161	1898.335	1895.197	1898.335	1892.059
20	1826.166	1813.615	1816.753	1804.202	1801.064
25	1725.759	1716.345	1713.208	1706.932	1706.932
30	1600.249	1584.560	1590.836	1581.422	1575.147
35	1468.464	1459.050	1452.775	1452.775	1446.500
40	1320.990	1317.852	1314.714	1302.163	1302.163
45	1160.965	1170.378	1170.378	1160.965	1154.689
50	1004.078	1016.629	1016.629	1019.766	1013.491
55	847.191	866.017	869.155	862.879	853.466
60	680.890	699.717	712.268	715.405	712.268
65	533.416	549.105	558.518	561.656	564.794
70	379.667	392.218	414.182	433.009	433.009
75	241.606	257.295	291.810	307.499	307.499
80	119.234	144.336	166.300	188.265	194.540
85	31.377	56.479	84.719	109.821	112.959
90	0.000	15.689	37.653	56.479	59.617
95	3.138	15.689	40.791	56.479	56.479
100	3.138	15.689	37.653	53.342	56.479
105	0.000	18.826	37.653	50.204	56.479
110	0.000	9.413	31.377	43.928	47.066
115	0.000	9.413	28.240	43.928	47.066
120	0.000	9.413	21.964	37.653	37.653
125	0.000	9.413	18.826	31.377	31.377
130	0.000	3.138	15.689	21.964	28.240
135	0.000	0.000	9.413	18.826	18.826
140	0.000	0.000	9.413	18.826	18.826
145	0.000	0.000	9.413	15.689	18.826
150	0.000	0.000	6.275	9.413	12.551
155	0.000	0.000	0.000	9.413	9.413
160	0.000	0.000	0.000	0.000	3.138
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : MX4D-4-00-L15-840-P-(L12.5)-DIM-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	725.37	N.A.	14.00
0-30	1512.63	N.A.	29.30
0-40	2422.21	N.A.	46.80
0-60	4092.02	N.A.	79.10
0-80	4944.07	N.A.	95.60
0-90	5042.25	N.A.	97.50
10-90	4851.88	N.A.	93.80
20-40	1696.84	N.A.	32.80
20-50	2595.95	N.A.	50.20
40-70	2220.86	N.A.	42.90
60-80	852.05	N.A.	16.50
70-80	300.99	N.A.	5.80
80-90	98.18	N.A.	1.90
90-110	72.35	N.A.	1.40
90-120	97.58	N.A.	1.90
90-130	114.09	N.A.	2.20
90-150	127.34	N.A.	2.50
90-180	128.92	N.A.	2.50
110-180	56.58	N.A.	1.10
0-180	5171.17	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	190.37
10-20	535.00
20-30	787.27
30-40	909.57
40-50	899.11
50-60	770.70
60-70	551.06
70-80	300.99
80-90	98.18
90-100	38.30
100-110	34.05
110-120	25.23
120-130	16.51
130-140	8.16
140-150	5.09
150-160	1.55
160-170	0.03
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	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	88	86	85	82
2	99	91	84	79	96	89	83	78	85	80	76	81	77	73	78	75	71	69
3	91	80	72	66	88	79	71	65	75	69	64	72	67	62	69	65	61	59
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	62	57	53	51
5	77	64	55	49	74	63	55	48	60	53	48	58	52	47	56	51	46	44
6	71	58	49	43	69	57	48	43	55	47	42	53	46	41	51	45	41	39
7	66	53	44	38	64	52	43	38	50	43	37	48	42	37	47	41	36	34
8	61	48	40	34	60	47	39	34	46	39	33	44	38	33	43	37	33	31
9	57	44	36	31	56	43	36	31	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	28	38	32	27	37	31	27	25

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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

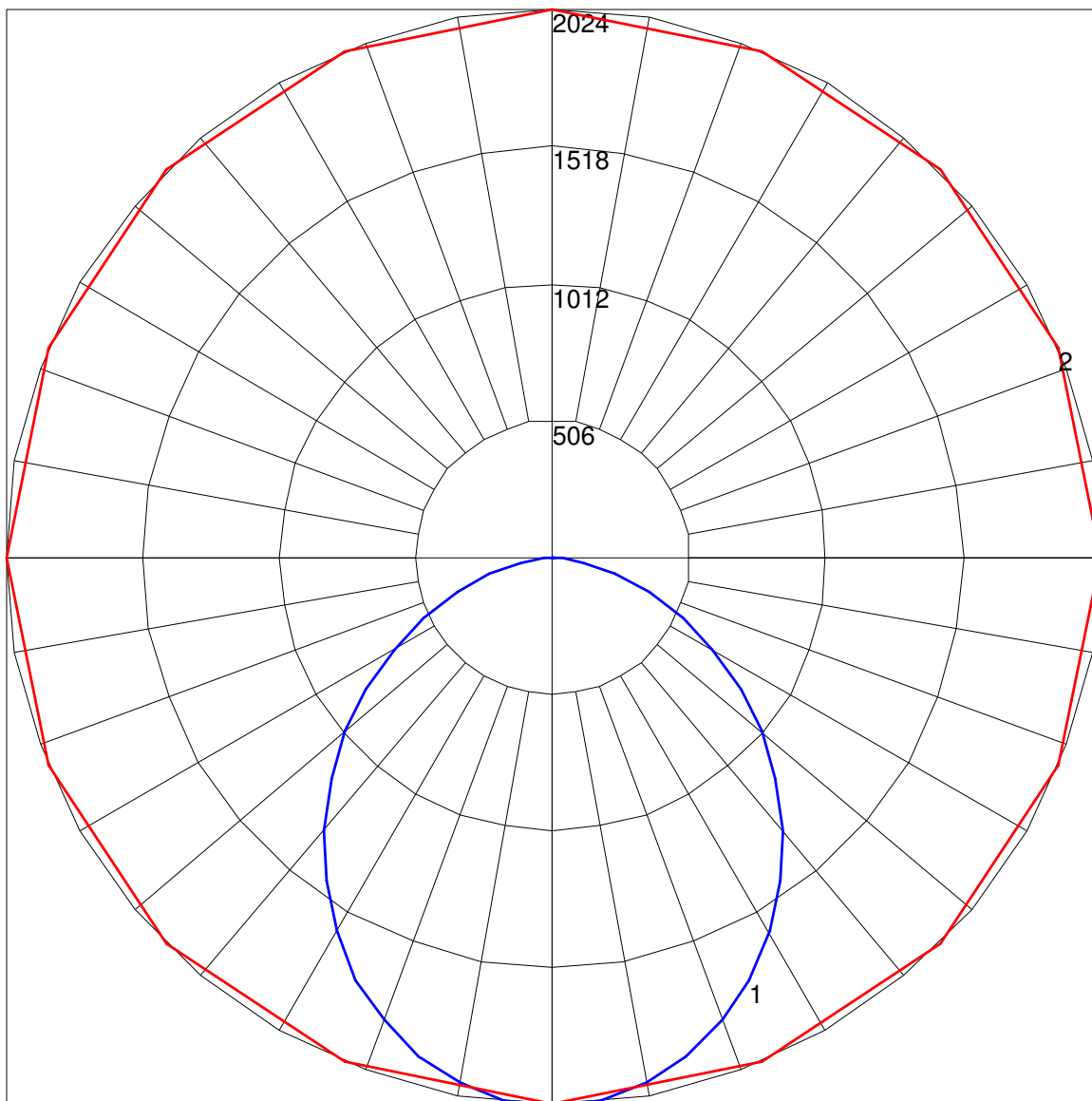
X=2H	Y=2H	20.3	21.8	20.7	22.2	22.6	20.6	22.1	21.0	22.5	22.9
	3H	21.7	23.1	22.1	23.5	23.9	22.3	23.7	22.7	24.0	24.5
	4H	22.1	23.5	22.6	23.8	24.3	22.9	24.2	23.3	24.6	25.1
	6H	22.4	23.6	22.8	24.0	24.4	23.4	24.7	23.9	25.1	25.5
	8H	22.4	23.6	22.9	24.0	24.5	23.6	24.8	24.1	25.2	25.7
	12H	22.4	23.5	22.9	24.0	24.4	23.8	24.9	24.3	25.4	25.8

### UGR Viewed Endwise

4H	2H	20.9	22.2	21.3	22.6	23.0	21.1	22.4	21.5	22.8	23.2
	3H	22.5	23.6	22.9	24.0	24.5	23.0	24.1	23.4	24.6	25.0
	4H	23.0	24.0	23.5	24.5	25.0	23.8	24.8	24.3	25.2	25.7
	6H	23.4	24.2	23.9	24.7	25.2	24.4	25.3	24.9	25.8	26.3
	8H	23.4	24.3	23.9	24.7	25.2	24.7	25.5	25.2	26.0	26.5
	12H	23.5	24.2	24.0	24.7	25.2	24.9	25.7	25.4	26.2	26.7
8H	4H	23.3	24.1	23.8	24.6	25.1	24.0	24.8	24.5	25.3	25.8
	6H	23.7	24.4	24.3	25.0	25.5	24.7	25.4	25.3	26.0	26.5
	8H	23.9	24.5	24.4	25.0	25.6	25.1	25.7	25.6	26.3	26.8
	12H	23.9	24.5	24.5	25.0	25.6	25.4	26.0	26.0	26.5	27.1
12H	4H	23.4	24.1	23.9	24.6	25.1	24.0	24.8	24.5	25.3	25.8
	6H	23.8	24.4	24.4	24.9	25.5	24.8	25.4	25.3	25.9	26.5
	8H	24.0	24.5	24.5	25.0	25.7	25.2	25.7	25.7	26.2	26.8

Maximum UGR = 27.1

POLAR GRAPH



Maximum Candela = 2023.844 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.)